adult primary care

Symptom-based integrated approach to the adult in primary care

TB

HIV

ASTHMA/COPD

CARDIOVASCULAR DISEASE

DIABETES

MENTAL HEALTH CONDITIONS

EPILEPSY

MUSCULOSKELETAL DISORDERS

WOMEN'S HEALTH

health
Department:
Health
REPUBLIC OF SOUTH AFRICA

2016/2017

PREFACE

ADULT PRIMARY CARE (APC) GUIDE 2016/2017

Commissioned and published by: The National Department of Health Private Bag x828 Pretoria 0001.

Developed by the Knowledge Translation Unit of the University of Cape Town Lung Institute for the National Department of Health.

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What is Adult Primary Care?

Adult Primary Care is the new name for Primary Care 101 (PC 101).

Adult Primary Care is a symptom-based integrated clinical management tool using a series of algorithms and checklists to guide the management of common symptoms and chronic conditions in adults. APC has been developed using the approved clinical policies and guidelines issued by the National Department of Health. It is intended for use by all health care practitioners working at primary care level in South Africa.

Rationale and ethos of Adult Primary Care

The aim is to standardise the approach to adults presenting to primary care with symptoms, or attending for review of their chronic condition or conditions. APC is aimed at assisting primary healthcare practitioners in providing the best evidence-informed clinical care for patients whilst being fully cognisant that this is only one element of good quality care. The other key values that must be practised during all interactions with patients are:

- To accept that each person is unique and must be approached with due regard for their multiple roles as individuals, within families and as a member of their community
- To respect your patient's concerns and choices
- To develop a relationship of mutual trust with your patient
- To communicate effectively, courteously and with empathy
- To actively arrange follow-up care especially for patients with chronic conditions
- To link the patient to community-based resources and support
- To ensure continuity of care, if possible.

Development of Adult Primary Care

Adult Primary Care is an expansion by the KTU of the Practical Approach to Lung Health and HIV/AIDS in South Africa (PALSA PLUS), which originally drew on the World Health Organisation's Practical Approach to Lung Health. Adult Primary Care was finalised through a rigorous process of consultation with health managers in the public sector, clinicians, patient advocacy groups and inputs from the Colleges of Medicine of South Africa, the South African Nursing Council, the South African Pharmacy Council and Medicines Control Council. More details regarding the development and the role of contributors can be found at *www.knowledgetranslation.co.za*.

Adult Primary Care 2016/2017 edition is aligned with the following Department of Health policies and clinical protocols inter-alia:

- National Consolidated Guidelines for the Prevention of Mother-To-Child Transmission of HIV (PMTCT) and the Management of HIV in Children, Adolescents and Adults (April 2015)
- National Department of Health HIV Testing Services Policy 2016
- National Tuberculosis Management Guidelines 2014
- Management of Drug-Resistant Tuberculosis (January 2013)
- National Infection Prevention and Control Policy and Strategy 2007
- Sexually Transmitted Infections Management Guidelines 2015
- National Contraception Clinical Guidelines 2012 (including circular updates)
- Guidelines for Maternity Care in South Africa 2016 (4th edition)

Adult Primary Care 2016/2017 contains new guidance to support the National Department of Health's programme for the universal testing and treatment of people living with HIV, including a revised approach to the inconclusive HIV test result and recommendations to start ART regardless of CD4 count or clinical stage, from 1 September 2016.

Implementing Adult Primary Care

The Adult Primary Care training programme recognises that guidelines alone are insufficient to improve practice. Active implementation is recommended, and this guide is combined with short on-site training sessions, repeated over several months to allow primary healthcare practitioners to integrate recommendations into their clinical practice, and feedback experiences. APC is being implemented as part of the ICSM (Integrated Clinical Services Management), a health system strengthening model that aims to improve the quality of care and health outcomes for all patients. The ICSM integrates chronic disease care at primary care clinics for patients with both communicable and non-communicable conditions, and is aligned with the PHC Re-engineering Framework. The ICSM engages stakeholders at multiple levels to strengthen the quality of care provided at clinics, to assist individuals to assume responsibility for their health, and for communities to participate in screening and health promotion activities.

Using Adult Primary Care

Adult Primary Care is divided into two main sections: symptoms and chronic conditions. In patients presenting with symptoms, start by identifying your patient's main symptom. Use the symptoms contents page to find the relevant symptom page in the guide. Then follow the algorithms to either a management plan for that symptom or to the relevant chronic condition in the second section of the guide.

In patients presenting with a known chronic condition, use the chronic conditions contents page to find that condition in the guide. Now go to the routine care pages for that condition to manage your patient using the assess, advise and treat framework. The goal of routine care is to achieve control of the chronic condition to prevent complications and early death. The definition of control with each condition (e.g. BP <140/90 for hypertension, undetectable viral load for HIV on ART). The majority (60—75%) of patients with a chronic condition attending primary care clinics do not currently meet criteria for clinical control and require education, adherence support and if appropriate intensification of treatment. Patients who are clinically controlled, adherent and attend regularly should be considered for spaced/fast lane appointments and decentralised medication collection to facilitate long term adherence.

Patients with chronic conditions may also have other symptoms - these can be managed using the relevant symptom pages.

All medication names are highlighted in either orange or blue.

- Orange-highlighted medications may be prescribed by a doctor or a nurse according to his/her scope of practice.
- Blue-highlighted medications may only be prescribed by a doctor.

Furthermore, APC prompts the inclusion of health promotion in the primary care consultation. Refer to the Health for All health promotion tool when you see the icon below.

Health for All

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COMMUNICATING EFFECTIVELY

Communicating effectively with your patient during a consultation need not take much time or specialised skills.
Try to use straightforward language and take into account your patient's culture and belief system.

Integrate these four communication principles into every consultation:

LISTEN

Listening effectively helps to build an open and trusting relationship with the patient.

DO	The patient might feel:	DON'T	The patient might feel:
• give all your attention • recognise non-verbal behaviour • be honest, open and warm • avoid distractions e.g. phones	• 'I can trust this person' • 'I feel respected and valued' • 'I feel hopeful' • 'I feel heard'	• talk too much • rush the consultation • give advice • interrupt	• 'I am not being listened to' • 'I feel disempowered' • 'I am not valued' • 'I cannot trust this person'

DISCUSS

Discussing a problem and its solution can help the overwhelmed patient to develop a manageable plan.

DO	The patient might feel:	DON'T	The patient might feel:
• use open ended questions • offer information • encourage patient to find solutions • respect the patient's right to choose	• 'I choose what I want to deal with' • 'I can help myself" • 'I feel supported in my choice' • 'I can cope with my problems'	• force your ideas onto the patient • be a 'fix-it' specialist • let the patient take on too many problems at once	• 'I am not respected' • 'I am unable to make my own decisions' • 'I am expected to change too fast'

EMPATHISE

Empathy is the ability to imagine and share the patient's situation and feelings.

DO	The patient might feel:	DON'T	The patient might feel:
• listen for, and identify his/her feelings e.g. 'you sound very upset' • allow the patient to express emotion • be supportive	• 'I can get through this' • 'I can deal with my situation' • 'My health worker understands me' • 'I feel supported'	• judge, criticise or blame the patient • disagree or argue • be uncomfortable with high levels of emotions and burden of the problems	• 'I am being judged' • 'I am too much to deal with' • 'I can't cope' • 'My health worker is unfeeling'

SUMMARISE

Summarising what has been discussed helps to check the patient's understanding and to agree on a plan for a solution.

DO	The patient might feel:	DON'T	The patient might feel:
• get the patient to summarise • agree on a plan • offer to write a list of his/her options • offer a follow-up appointment	• 'I can make changes in my life' • 'I have something to work on' • 'I feel supported' • 'I can come back when I need to'	• direct the decisions • be abrupt • force a decision	• 'My health worker disapproves of my decisions' • 'I feel resentful' • 'I feel misunderstood'

CONTENTS: SYMPTOMS

Assess and manage the patient using his/her symptoms as a starting point

CONTENTS: CHRONIC CONDITIONS

An approach to the diagnosis and routine care of the patient with a chronic condition

ROUTINE CARE SUMMARY

CVD RISK

Assess

Assess at least every 5 years

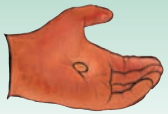
Advise

Urge patient to stop smoking

Assess Advise Treat

Control BP to prevent stroke/ heart attack

Treat



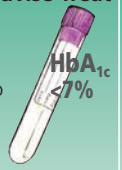
Give statin

DIABETES

Assess Advise Treat

Control BP to prevent stroke/ heart attack

Assess Advise Treat



Control glucose to save eyes, kidneys, feet

Assess

Screen for complications

HYPERTENSION

Assess Advise Treat

Control BP to prevent stroke/ heart attack

Advise

Assess at least every 5 years

STROKE

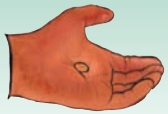
Assess Advise Treat

Control BP to prevent another stroke

Advise

Urge patient to stop smoking

Treat



Give statin

TB

Assess

Test for HIV

Advise

Urge adherence to prevent resistance

HIV

Assess

Screen for TB

Treat

Start ART as soon as needed

PREGNANCY

Assess Advise Treat

Start routine antenatal care early

DEPRESSION

Assess

Screen for substance abuse

Assess

Identify depression

CHRONIC RESPIRATORY DISEASE

Advise

Urge patient with COPD to stop smoking

Treat

Control asthma with inhaled steroids

INITIAL ASSESSMENT OF THE PATIENT

Recognise the patient needing urgent attention:

- Decreased consciousness
- Fitting
- Difficulty breathing or breathless while talking
- Respiratory rate ≥ 30 breaths/minute
- Chest pain
- Headache *and* vomiting
- Aggressive, confused or agitated
- Unable to walk unaided
- Overdose of drugs/medication
- Recent sexual assault
- Vomiting or coughing blood
- Bleeding
- Burn
- Eye injury
- Severe pain
- Suspected fracture or joint dislocation
- Recent sudden onset weakness, numbness or visual disturbance
- Unable to pass urine
- Sudden onset facial swelling
- Pregnant *with* abdominal pain/backache/vaginal bleeding
- Purple/red rash that does not disappear with gentle pressure

Management:
Check BP, pulse, respiratory rate, temperature and glucose and ensure patient is urgently seen by nurse or doctor.

Do routine prep room tests on the patient not needing urgent attention

- Routinely check and record weight, BP, pulse and temperature.
- If coughing/difficulty breathing, also check respiratory rate.
- If known diabetic *and* feeling unwell, also check glucose.

Ensure the patient with any of the following is seen promptly by nurse or doctor:

- BP ≥ 220/120 or BP < 90/60
- Pregnant with BP ≥ 140/90
- Pulse irregular, ≥ 100 or < 50
- Temperature ≥ 38°C
- Respiratory rate ≥ 30
- Glucose < 4 or ≥ 18

Avoid unnecessary urine and BP checks. Do prep room tests according to condition:

Patient has hypertension, stroke, ischaemic heart disease and/or peripheral vascular disease.

Check at every visit:
- BP
- At first visit also check height to calculate BMI[1].

Check once a year:
- Weight, waist circumference (also check 3 monthly if trying to lose weight)
- Urine dipstick
- Fingerprick glucose (also check if glucose on urine dipstick)

Patient has diabetes

Check at every visit:
- BP
- Finger prick glucose only if feeling unwell
- Urine dipstick only if finger-prick glucose ≥15

At first visit also check height to calculate BMI.

Check once a year:
- Weight, waist circumference (also check 3 monthly if trying to lose weight)
- Urine dipstick

Patient is pregnant

Check at booking visit:
- Mid Upper Arm Circumference (MUAC)
- Height to calculate BMI
- Hb
- Rapid rhesus
- RPR

Check at every visit:
- Weight
- BP
- Urine dipstick
- Fingerprick glucose only if glucose on urine dipstick

Not known with chronic condition

The patient over 40 years needs a cardiovascular disease risk calculated every 5 years ↻ 75:
- Weight and height for BMI[1]
- BP
- Finger prick glucose
- Waist circumference

[1]BMI is weight (kg)/[height (m) x height (m)].

PRESCRIBE RATIONALLY

Assess the patient needing a prescription

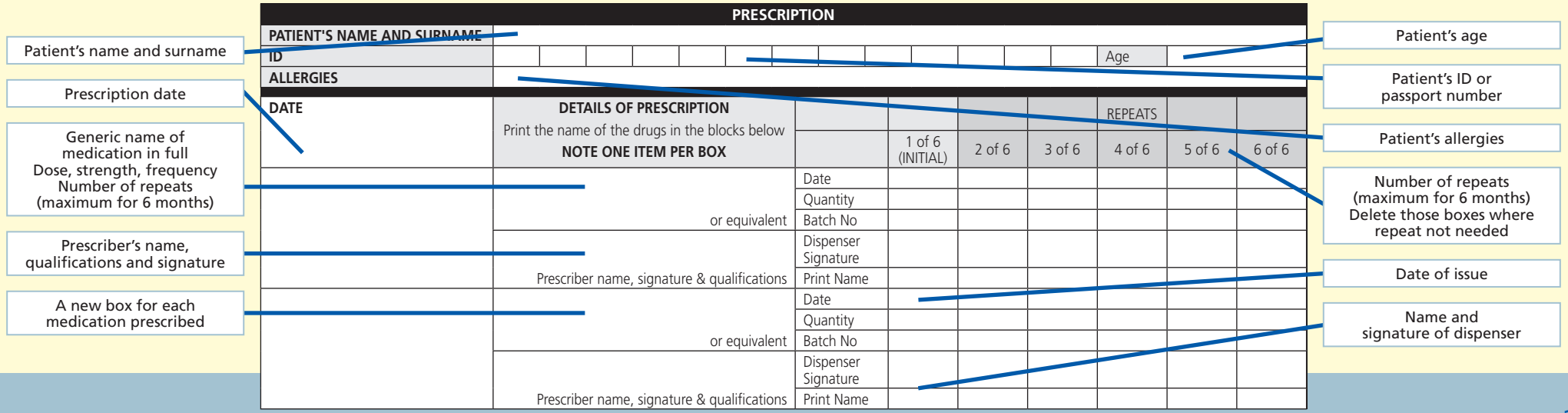
Assess	Note
Diagnosis	Confirm the patient's diagnosis, that the medication is necessary and that its benefits outweigh the risks.
Other conditions	Dose adjustment (e.g. simvastatin, hydrochlorothiazide, in liver disease; tenofovir, glimepiride in kidney disease) or alternative medication (e.g. avoid ibuprofen in hypertension, asthma) may be necessary.
Other medications	Check all medication (prescribed, over-the-counter, herbal) is necessary and for possible interactions especially if on hormonal contraceptive or treatment for TB, HIV, epilepsy.
Allergies	If known allergy or previous bad reaction to medication, discuss alternative with doctor.
Age	If > 65 years consider lowering the dose or frequency of medication. Discuss with doctor if patient on amitriptyline, theophylline, ibuprofen, amlodipine or fluoxetine.
Pregnant/breastfeeding	If pregnant or breastfeeding check if the medication is safe. Ensure patient receives routine antenatal care ↴ 103.
Response to treatment	• If the patient's condition does not improve consider changing the treatment or an alternative diagnosis. • Check for side effects and report a possible adverse reaction to the medication. Fax adverse drug reaction (ADR) form to (012) 395 8468 or (021) 448 6181. Or phone 080 1111 452.

Advise the patient needing a prescription

- Explain to the patient when and how to take the medication. Ask the patient to repeat your explanation to ensure s/he understands how to take the medication.
- Advise the patient of possible side effects to the medication and what to do if they occur.
- Educate the patient on the importance of adherence and that not adhering to medication may lead to relapse or worsening of the condition and in some instances, resistance to the medication.
- Over-the counter medications and herbal treatments may interfere with prescribed medication. Encourage patient to discuss with prescriber before using them.

Treat the patient needing a prescription

- Ensure that the appropriate prescriber writes the prescription: Orange-highlighted medications may be prescribed by a doctor or a nurse according to his/her scope of practice. Blue-highlighted medications may be prescribed by a doctor only.
- Consult the South African Medicines Formulary (SAMF) or MIC hotline 021 406 6829 if unsure about your medicine choice and dosing, side-effects or drug interactions.
- Ensure that the prescription contains all the detail it needs - see sample prescription below. Write legibly.



PRESCRIPTION

PATIENT'S NAME AND SURNAME

ID | Age

ALLERGIES

DATE	**DETAILS OF PRESCRIPTION** Print the name of the drugs in the blocks below **NOTE ONE ITEM PER BOX**		REPEATS: 1 of 6 (INITIAL)	2 of 6	3 of 6	4 of 6	5 of 6	6 of 6
		Date						
		Quantity						
	or equivalent	Batch No						
		Dispenser Signature						
	Prescriber name, signature & qualifications	Print Name						
		Date						
		Quantity						
	or equivalent	Batch No						
		Dispenser Signature						
	Prescriber name, signature & qualifications	Print Name						

THE EMERGENCY PATIENT

Give urgent attention to the emergency patient:

Does the patient respond to your voice?

No: call for help and defibrillator
Feel for carotid pulse for maximum of 10 seconds.

Yes

No pulse felt or unsure

Start CPR[1]:
- Give cycles of 30 chest compressions and 2 breaths (at rate of at least 100 compressions/minute).
- When defibrillator arrives, check rhythm. If shockable, give 1 shock and immediately resume CPR.
- Give adrenaline[2] 1mL (1:1000 solution) IV, followed by 5mL sterile water. Repeat every 3-5 minutes.
- Check rhythm every 2 minutes (5 cycles) and shock if needed. If not shockable, check for pulse.
- If definite pulse returns, stop CPR and check breathing (as adjacent). If no pulse, continue CPR for at least 30 minutes[3].

Pulse felt

Is the patient breathing?

No
- Give 1 breath every 6 seconds.
- Recheck pulse every 2 minutes.
- If no pulse, start CPR (as adjacent).

Yes

Assess and manage airway, breathing, circulation and level of consciousness:

Airway
- If airway obstructed (snoring, gurgling, noisy breathing), open with head- tilt and chin-lift. If injured, use jaw-thrust instead, keeping neck stable.
- Remove foreign bodies from mouth and suction fluids.
- If unconscious, insert oropharyngeal airway. If patient resists, gags or vomits, use lubricated nasopharyngeal airway instead.
- Intubate if unable to maintain airway with oro- or nasopharyngeal airway.

Breathing
- If difficulty breathing or oxygen saturation < 90%, give face mask oxygen.
- If respiratory rate < 9 or blue lips/tongue,connect bag valve mask to oxygen and slowly deliver each breath with the patient.
- Intubate if using bag valve mask and still difficulty breathing, oxygen saturation < 90% or blue lips/tongue.
- If sudden breathlessness, more resonant/decreased breath sounds/pain on 1 side, deviated trachea: **tension pneumothorax** likely:
  - Insert large bore cannula above 3rd rib in mid-clavicular line.
  - Arrange urgent chest tube.

Circulation
- Establish IV access.
- If BP < 90/60, pulse ≥ 100 or heavy bleeding, give sodium chloride 0.9% 500mL IV rapidly, repeat until systolic BP > 90. Continue 1L 6 hourly. Stop if breathing worsens.
- Stop bleeding: apply pressure and elevate limb. If bleeding severe and persists, apply tourniquet above injury.

Level of consciousness
- Assess GCS:

Glasgow Coma Score (GCS)

Best motor response	Best verbal response	Eye opening
6 Obeys commands	5 Orientated	4 Spontaneous
5 Localises to pain	4 Confused	3 To voice
4 Withdraws from pain	3 Inappropriate words	2 To pain
3 Abnormal flexion to pain	2 Incomprehensible sounds	1 None
2 Extends to pain	1 None	
1 None		

- Add scores to give a single score out of 15:
  - If GCS ≤ 8, intubate patient.

Manage further according to disability and symptoms:
- If pupils unequal or respond poorly to light, raise head by 30 degrees. If injured, keep body straight and tilt to raise head (do not bend spine).
- Apply rigid neck collar and sandbags/blocks on either side of head if injured with: head injury, GCS < 15, neck/spine tenderness, weak/numb limb or abnormal pupils. Use spine board if needing to move patient.
- Identify all injuries and look for cause: undress patient and assess front and back. If injured, use log-roll to turn. Then cover and keep warm.
- Assess patient further according to symptoms. Manage symptoms on symptom pages. If unconscious →4. If injured →5.

[1]If the patient has a life-limiting illness and you would not be surprised if s/he dies within the next year, consider whether or not to proceed. [2]Adrenaline is also known as epinephrine. [3]Continue CPR for longer if temperature ≤ 35°C, patient drowned, poisoned or took medication overdose.

THE UNCONSCIOUS PATIENT

Give urgent attention to the unconscious patient:

- First assess and manage airway, breathing, circulation and level of consciousness ⮌ 3.
- Identify all injuries and look for cause: undress patient and assess front and back. If injured, use log-roll to turn. Then cover and keep warm.
- If fits, injuries or burns, also manage on symptom pages.
- If sudden onset diffuse rash or facial/tongue swelling, **anaphylaxis** likely:
  - Elevate legs and give face mask oxygen.
  - Give immediately adrenaline[1] 1mL (1:1000 solution) IM into mid outer thigh. Repeat every 5 minutes if no improvement.
  - Give sodium chloride 0.9% 1-2L IV rapidly regardless of BP. Then, if BP < 90/60, also give sodium chloride 0.9% 500mL IV rapidly, repeat until systolic BP > 90. Continue 1L 6 hourly. Stop if breathing worsens.
  - While patient receiving fluids, give hydrocortisone 100mg IM/slow IV and promethazine 50mg IM/slow IV.
- Check glucose, temperature and pupils:

Glucose

< 4 or unable to measure in known diabetic

- Give 50mL dextrose 50% IV over 1-3 minutes.
- Repeat after 15 minutes if still < 4 or unconscious.
- If known alcohol user, give thiamine 100mg IV/IM before dextrose.
- Continue dextrose 5% 1L 6 hourly IV.

≥11.1

- Give sodium chloride 0.9% 1L IV over 1 hour, then 1L every 2 hours.
- Stop if breathing worsens.
- If known diabetes and transfer expected to take > 2 hours, give 10IU short-acting insulin IM[2] (*not IV*).

Temperature

≤ 35°C

- Remove cold/ wet clothing and cover with warm blankets.
- Warm IV fluids to 40°C (avoid cold fluids).
- If no response or temperature ≤ 32°C, also use a warming device.

≥ 38°C

- Give ceftriaxone[3] 2g IV/IM.
- If patient was in malaria area and malaria test[4] positive, also give artesunate 2.4mg/kg IM. If unavailable, give quinine:
  - Dilute quinine 20mg/kg in 5% dextrose 5-10mL/kg.
  - Give as slow IV infusion over 4 hours.
  - If IV not possible, give IM[5].
- If temperature > 40°C:
  - Remove clothing.
  - Use fan and water spray to cool patient.
  - Apply ice-packs to axillae, groin and neck.
  - Stop once temperature < 39°C.

Pupils

Pinpoint

Illegal drug use and/ or respiratory rate < 12

Opioid overdose likely

- Give 100% face mask oxygen.
- Give naloxone 0.4-2mg IV immediately.
- Repeat naloxone 0.4mg every 5 minutes until respiratory rate > 12, maximum 10mg.

Excessive secretions or muscle twitching

Organophosphate poisoning likely

- Give atropine 1mg IV immediately.
- Then give atropine 2-4mg every 10 minutes until secretions controlled.
- Remove contaminated clothes and wash skin.

Both equally dilated

Stimulant or other drug overdose likely

Unequal or respond poorly to light:

- Raise head by 30 degrees.
- If injured, keep body straight and tilt to raise head (do not bend spine).

If no response or overdose/poisoning with other or unknown substance, discuss with specialist or local poison helpline ⮌111.

- Refer the unconscious patient urgently.
- While awaiting transport:
  - Check BP, pulse, respiratory rate, oxygen saturation and GCS every 15 minutes. Insert urinary catheter.
  - If BP < 90/60, pulse > 100 or < 50, respiratory rate > 20 or < 9, oxygen saturation < 90% or drop in GCS, reassess and manage airway, breathing, circulation and level of consciousness ⮌ 3.

[1]Adrenaline is also known as epinephrine. [2]Do not give IV insulin without checking electrolytes, as it may cause low potassium and heart dysrhythmia. [3]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. [4]Test for malaria with parasite slide microscopy or if unavailable, rapid diagnostic test. [5]To give IM quinine: first calculate volume of sodium chloride 0.9% in mL: weight x 20 ÷ 100. Then add this volume of sodium chloride 0.9% to quinine 20mg/kg and inject half the volume into each thigh.

THE INJURED PATIENT

Give urgent attention to the injured patient:

- First assess and manage airway, breathing, circulation and level of consciousness ↴ 3.
- Identify all injuries and look for cause: undress patient and assess front and back. If head or spine injury, use log-roll to turn. Then cover and keep warm.

Bruising and blood in urine

- Give sodium chloride 0.9% 1L IV hourly for 2 hours.
- Once urine output > 200mL/hour, give 500mL hourly.
- Stop if breathing worsens.

Wound and one or more of:

- Poor perfusion (cold, pale, numb, no pulse) below injury
- Excessive or pulsatile bleeding
- Penetrating wound to head/ neck/ chest/abdomen

- Give sodium chloride 0.9% 500mL IV rapidly, repeat until systolic BP > 90. Continue 1L 6 hourly. Stop if breathing worsens.
- If excessive or pulsatile bleeding, apply direct pressure and elevate limb.
- If bleeding severe and persists, apply tourniquet above injury.

Fracture and one or more of:

- Poor perfusion (cold, pale, numb, no pulse) below fracture
- Increasing pain, muscle tightness, numbness in limb
- Suspected femur, pelvis or spine fracture
- Weakness/ numbness below fracture
- Open fracture
- > 3 rib fractures
- Severe deformity

- If pain severe, give morphine 10-15mg IM.
- If poor perfusion, weakness/numbness below fracture: gently re-align into normal position.
- If open fracture: remove foreign material, irrigate with sodium chloride 0.9% and cover with saline-soaked gauze. Give ceftriaxone[1] 1g IV.
- Splint limb to immobilise joint above and below fracture.
- If pelvic fracture, tie sheet tightly around hips to immobilise.

Head injury and one or more of:

- Any loss of consciousness
- Seizure/fit
- Severe headache
- Amnesia
- Suspected skull fracture
- Bruising around eyes or behind ears
- Blood behind eardrum
- Blood or clear fluid leaking from nose or ear
- Pupils unequal or respond poorly to light
- Weak/numb limb/s
- Vomiting ≥ 2 times
- ≥ 1 other injury
- Drug or alcohol intoxication

- If GCS < 15, neck/spine tenderness, weak/numb limb or abnormal pupils, apply rigid neck collar and sandbags/ blocks on either side of head.
- If pupils unequal or respond poorly to light, keep body straight and tilt to raise head (do not bend spine).
- If fits, give phenytoin 20mg/kg IV over 60 minutes (do not give lorazepam/diazepam).

- Refer urgently. While awaiting transport, check BP, pulse, respiratory rate, oxygen saturation and GCS every 15 minutes.
- If BP < 90/60, pulse > 100 or < 50, respiratory rate > 20 or < 9, oxygen saturation < 90% or drop in GCS, reassess airway, breathing, circulation, level of consciousness ↴ 3.

Approach to the injured patient not needing urgent attention:

- Refer same day if pregnant, known bleeding disorder, on anticoagulant, involved in high-speed collision, ejected from or hit by vehicle or fell > 3 metres.
- If yes to ≥ 1 ↴ 90: drinks alcohol every day, > 14 drinks[2]/week, ≥ 5 drinks[2]/session, loses control when drinking; used illegal drug or misused prescription or over-the-counter medication in past year.
- If assault or abuse ↴ 56.

Wound

- Apply direct pressure to stop bleeding. Remove foreign material, loose/dead skin.
- Irrigate with sodium chloride 0.9% or dilute povidone iodine solution if dirty.
- If sutures needed: suture and apply non-adherent dressing for 24 hours.
- Do not suture if > 12 hours (body), > 24 hours (head/neck), remaining foreign material, infected, gunshot or deep puncture:
  - Pack wound with saline-soaked gauze and give amoxicillin/clavulanic acid[3] 875/125mg 12 hourly for 5 days.
  - Review in 2 days. Suture if needed and no infection unless gunshot/deep puncture (irrigate and dress every 2 days instead).
- Give tetanus toxoid 0.5mL IM if not had in last 5 years.
- Give paracetamol 1g 6 hourly as needed for up to 5 days.
- Advise patient to return if signs of infection (skin red, warm, painful).
- Remove sutures after 5 days (face), 4 days (neck), 10 days (leg) or 7 days (rest of body).
- Refer if unable to close wound easily, weakness/numbness below injury or cosmetic concerns.

Fracture

- Splint limb to immobilise joint above and below fracture.
- Give paracetamol 1g 6 hourly and add ibuprofen[4] 400mg 8 hourly with food for up to 5 days if needed.
- Do x-rays and refer to doctor same day.

Head injury

- Observe for 2 hours before discharging with carer.
- If mild headache, dizziness or mental fogginess, **concussion** likely:
  - Advise complete rest for 2 days. If no symptoms after 3 days, gradually increase exertion.
  - Advise that recovery can take > 1 month.
  - Give paracetamol 1g 6 hourly as needed for up to 5 days.
- Advise to return immediately if any of above symptoms of severity develop.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. [2]One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. [3]If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), give azithromycin 500mg daily for 3 days instead. [4]Avoid ibuprofen if peptic ulcer, asthma, hypertension, heart failure, kidney disease.

SEIZURES/FITS

Manage urgently the patient who is unconscious and fitting:

- Ensure the patient is safe. Place in a lateral lying (recovery) position. Do not place anything in the mouth.
- Give 40% facemask oxygen.
- Check glucose. If < 3.5 or unable to measure, give 50mℓ of dextrose 50% IV. Continue IV dextrose 5% in sodium chloride 0.9% slowly (30 drops per minute).
- If ≥ 20 weeks pregnant up to 1 week postpartum →100 for treatment of fit.
- If < 20 weeks pregnant or not pregnant, give diazepam 10mg IV slow infusion over at least 5 minutes or lorazepam 4mg IM/IV stat.
- Repeat after 10 minutes if fit continues.
- Treat for status epilepticus if:
  - Fits do not respond to 2 doses of diazepam/lorazepam or
  - Fits last longer than 30 minutes or
  - Patient does not recover consciousness between fits.

Patient has status epilepticus:

- Give phenytoin 20mg/kg IV in sodium chloride 0.9% over 60 minutes. If dysrhythmia develops, stop infusion.
- If fits continue repeat phenytoin 10mg/kg IV in sodium chloride 0.9% over 30 minutes.
- If IV phenytoin unavailable, give phenytoin 20mg/kg crushed tablet via nasogastric tube.
- Refer urgently to hospital.

Patient does not have status epilepticus and fit stops:

Refer patient same day if:

- Temperature ≥ 38°C: give ceftriaxone[1] 2g IM/IV
- Neck stiffness/meningism
- HIV patient
- Reduced level of consciousness more than 1 hour after fit
- Glucose still < 3.5 after one hour or patient on glibenclamide or insulin
- New weakness, numbness, visual disturbance, facial asymmetry, unable to name 3 out of 3 objects (like hand, nose, pen) or recent headaches
- BP ≥ 180/110 one hour after fit has stopped
- Substance abuse: overdose or withdrawal
- Head injury within past 6 weeks
- Pregnant or up to 1 week postpartum

Approach to patient who is not fitting now and does not need same day referral

Confirm that patient indeed had a fit: jerking movements of part of or the whole body, with/without tongue biting, incontinence, post-fit drowsiness and confusion.

Yes
Is patient known with epilepsy?

Yes

No

Previous TB meningitis, stroke or head trauma?

Yes

Chance of recurrent fit is 50%, even 2 years after the event.

No

Refer for specialist assessment.

Treat for **epilepsy** →94.

No
Episode/s of weakness or disturbance of speech for < 24 hours?

Yes

Stroke or **transient ischaemic attack** likely →83.

No
Episodes of acute anxiety?

No
Collapse following hot feeling, nausea, prolonged standing or intense pain with rapid recovery?

Blackout likely →11.

Yes
Panic attack likely →88.

Refer for specialist assessment if diagnosis uncertain.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. If giving ceftriaxone IM, divide dose: 1g into 2 different injection sites.

WEIGHT LOSS

- Check that the patient that says s/he has unintentionally lost weight has indeed done so. Compare current weight with previous records and ask if clothes still fit.
- Unintentional weight loss of > 5% of body weight is significant and must be investigated.

First check for TB, HIV and diabetes

Exclude TB
- Start workup for TB ↴ 58.
- At the same time test for HIV ↴ 66 and diabetes ↴ 77
- and consider other causes below.

Test for HIV
- If status is unknown, test for HIV ↴ 66.
- The HIV patient with unexplained weight loss and/or BMI < 18.5 is stage 3 and needs ART →67.

Check for diabetes
- Check random finger-prick blood glucose
- To interpret result ↴ 77.

Ask about symptoms of common cancers:

Abnormal vaginal discharge/bleeding	Breast lump/s or nipple discharge	Urinary symptoms in man	Change in bowel habit	Cough ≥ 2 weeks, blood-stained sputum, long smoking history
Consider cervical cancer. Do a speculum examination →31.	Consider breast cancer. Examine breasts/axillae for lumps →22.	Consider prostate cancer. Hard and nodular prostate on rectal examination →35.	Consider bowel cancer. Mass on abdominal or rectal examination, occult blood positive.	Consider lung cancer. Do chest X-Ray.

If food intake inadequate, look for a cause:

Nausea and/or vomiting	Loss of appetite	Ask, 'Are you stressed?	No money for food	Sore mouth or difficulty swallowing
→24.	• Eat small frequent meals. • Drink high energy drinks (milk, maas, mageu, soup, sweetened fruit juice). • Increase energy value of food by adding sugar, milk powder, peanut butter or oil.	If yes, ↴ 55.	If available, refer to nutrition scheme.	**Oral/oesophageal thrush** likely →18

Check thyroid function (TSH) if none of the above and patient has any of pulse > 80, tremor, irritability, dislike of hot weather or thyroid enlargement.

Refer within 1 month for further investigation the patient with persistent documented weight loss and no obvious cause.

FEVER

A patient with a fever has an axillary temperature ≥ 38°C or had a fever in the past 4 days.

Recognise the patient with fever needing urgent attention:

One or more of the following:
- Confusion or agitation
- Respiratory rate ≥ 30 breaths/minute
- Unable to walk unaided
- Unable to drink
- Jaundice
- Renal angle tenderness
- Seizures
- BP < 90/60
- Easy bleeding/bruising/blood in urine
- If on ART, check for urgent side effects ↩ 70.

Management:
- Establish IV access and give 5% dextrose in ½ strength Darrows or Ringer's lactate. If unavailable give oral rehydration solution.
- Give ceftriaxone[1] 2g IM/IV stat.
- Refer same day to hospital.

Approach to the patient with fever not needing urgent attention

Ask about associated symptoms

If cough →20; sore throat →18; blocked/ runny nose →17; vaginal discharge →27, burning urine →35, painful skin →43,headache →13, diarrhoea →25.

If above symptoms are not present, has patient visited in the past 12 weeks a malaria endemic area?

Yes

- Refer for malaria test and treatment.
- Consider other cause especially TB ↩ 58.

No

- **Exclude TB in the patient with fever ≥ 2 weeks ↩ 58.**
- If status unknown, test for HIV ↩ 66.
- The HIV patient with fever > 1 month and weight loss ≥ 10% has stage 4 HIV and needs ART ↩ 67.

Refer the patient with persistent fever and no obvious cause.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. If giving ceftriaxone IM, divide dose: 1g into 2 different injection sites.

LYMPHADENOPATHY (ENLARGED LYMPH NODE/S)

Approach to patient with enlarged lymph nodes

- Lymphadenopathy is common in HIV. If status unknown, test for HIV ↴ 66 *and*
- Ask about associated symptoms, especially TB symptoms (weight loss, cough ≥ 2 weeks, chest pain, night sweats) and manage on relevant page.

Are nodes equally enlarged < 2cm or 1 or more ≥ 2cm?

All lymph nodes enlarged equally but < 2cm in size

Check for secondary syphilis with RPR or if unavailable, look for signs: rash especially palms and soles, mouth ulcers, genital wart-like lesions.

- RPR positive or signs of secondary syphilis → Treat syphilis ↴ 32.
- HIV positive → Give routine HIV care ↴ 67.
- HIV and/or RPR negative
  - Advise repeat test after 3 month window period.
  - If asymptomatic, reassure and advise to return if symptoms occur.

Refer for further investigation if after 2 weeks patient is unwell with lymphadenopathy and no obvious cause.

1 or more lymph node/s ≥ 2cm in size

Is there a nearby infection (skin, throat) or Kaposi's sarcoma lesion?

- Yes
  - Sore throat →18
  - Skin infection →43
  - Kaposi's sarcoma lesion →47
- No

Inguinal/groin swelling

- No
  - Patient needs lymph node aspirate for TB and cytology.
  - If patient is coughing, also exclude TB with sputa →58.
- Yes

Confirm that this is a lymph node: discrete, movable and rubbery.

- No → Refer to exclude hernia, aneurysm.
- Yes

Swelling hot, painful and/or red?

- No
- Yes

Treat patient and partner for bubo

First assess and advise the patient and partner ↴ 27.

- Give azithromycin 1g stat (if not already given above) and 1g stat 7 days later.
- If fluctuant lymph node and hernia and aneurysm excluded, aspirate pus through healthy skin in sterile manner every 3 days as needed.
- If pain, give ibuprofen 400mg 8 hourly with food up to 5 days.
- Review after 14 days. If no better, refer to doctor same week.

How to aspirate lymph node for TB and cytology

- Clean skin over largest node with alcohol or povidone iodine.
- Insert 16 or 18 gauge needle into node, partially withdraw and reinsert at different angles several times.
- Withdraw needle, attach to syringe filled with 2-3mℓ air, and gently spray needle contents over glass slide.
- Thinly spread material across slide with a second slide.
- Fix one slide for cytology with cytology spray.
- Allow second slide to air-dry (TB).
- If the aspirate is unsuccessful, repeat. If again unsuccessful, refer to surgeon.

WEAKNESS AND/OR TIREDNESS

Recognise the patient with weakness and/or tiredness needing urgent attention:

- Possible stroke or TIA: sudden onset of weakness on 1 or both sides perhaps with vision problems, dizziness, difficulty speaking or swallowing →83.
- Difficulty breathing →20.
- Chest pain →19.
- If on ART, check for urgent side effects ↻ 70.
- Diarrhoea and/or vomiting with reliable signs of dehydration:
  - Postural hypotension (systolic BP drop > 20mmHg between lying and standing)
  - Poor urine output
  - Confusion

Management:

- If dehydrated give oral or IV rehydration. Reassess after 2 hours and refer if no improvement.

Approach to patient with weakness and/or tiredness not needing urgent attention:

- Tiredness is a problem when it persists so that the patient is unable to complete routine tasks and it disrupts work, social and family life.
- Look for a cause of the patient's weakness/tiredness:

First check patient's temperature.

If ≥ 38°C ↻ 8.

Then exclude TB, HIV, pregnancy and stress.

- Ask about TB symptoms. Exclude TB ↻ 58.
- If status unknown, test for HIV ↻ 66. The HIV patient needs routine HIV care ↻ 67.
- Exclude pregnancy. If pregnant →100.
- Ask 'Are you stressed?' If yes ↻ 55.
- If patient has difficulty sleeping ↻ 57.

If none of the above, test for anaemia, diabetes, kidney and thyroid disease.

- Check Hb for anaemia: if < 12 (woman) or < 13 (man), refer to doctor same week.
- Exclude diabetes with random finger prick blood glucose. To interpret result ↻ 77.
- Look for kidney disease on urine dipstick: check eGFR if patient has proteinuria, diabetes, hypertension, or is > 60 years.
- Check TSH if any of weight gain, dry skin, constipation, cold intolerance. If TSH abnormal refer to doctor.

Refer the patient with persistent weakness/tiredness and no obvious cause.

COLLAPSE

Recognise the patient who has collapsed needing urgent attention:

- Unconscious →4
- Fit →6
- Sudden onset of weakness which may not have resolved on 1 or both sides →83
- Difficulty breathing →20
- Chest pain →19
- Loss of consciousness for > 2 minutes
- Pulse rate < 40
- BP < 90/60
- Recent trauma
- Family history of collapse or sudden death
- Abnormal ECG
- Known heart problem

Management:

- Check blood glucose: if < 3.5mmol/ℓ, give oral glucose if conscious, or if unconscious, 40-50mℓ dextrose 50% IV. If known with diabetes →78.
- Refer same day to hospital.

Approach to the patient who has collapsed but not needing urgent attention

- Ensure patient has had an ECG. Refer same day if abnormal.
- If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↻ 90.
- Check for postural hypotension: Measure BP lying and repeat after standing for 3 minutes.

Systolic BP drops by ≥ 20mmHg.

- This is common if elderly or pregnant ↻ 100.
- Measure pulse on standing: if > 100/minute, patient is dehydrated. Give oral rehydration solution.
- Check Hb: if <12 (woman) or < 13 (man), refer doctor same week.
- Review medications to identify likely drug or drug interactions.
- Advise patient to stand up slowly.

No change in systolic BP or change < 20mmHg
Ask patient to breathe rapidly for 2-3 minutes. Are symptoms reproduced?

No

- Before the collapse did patient experience flushing, light-headedness, nausea?
- Did patient recover rapidly following collapse?

Yes

Simple faint likely

- There may be twitching of limbs, face, eyes that last < 12 seconds (not a fit).
- Advise to avoid overheating and prolonged standing.

No

Was collapse associated with coughing, swallowing, head turning?

No
Is there known epilepsy or diabetes?

Yes

- Epilepsy care →94.
- Diabetes care →78.

No

Yes

Refer for medical specialist assessment.

Yes

Hyperventilation likely

- Advise re-breathing into a brown paper bag.
- Assess and manage patient's stress ↻ 55.

Refer the patient > 70 years with possible heart disease, or who collapses repeatedly, or where no cause for collapse is obvious.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

DIZZINESS

Recognise the patient with dizziness needing urgent attention:

- Dehydration due to vomiting/diarrhoea (systolic BP drop ≥ 20mmHg between lying and standing) with poor response to IV or oral rehydration
- Consider stroke if sudden onset of dizziness is associated with vision problems, weakness on 1 or both sides, difficulty speaking or swallowing →83.
- BP < 90/60
- Pulse < 40 and/or irregular

Management:

- Refer same day to hospital.

Approach to the patient with dizziness not needing urgent attention

- Ask about ear symptoms. If present ↴ 16.
- If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90.
- Review patient's medication. Anti-hypertensives, sedatives, efavirenz, oral hypoglycaemics, anti-convulsants can all cause dizziness. Refer to doctor.
- If diabetic, check finger prick blood glucose for hypoglycaemia ↴ 78.
- Check for anaemia with Hb. If < 12 (woman) or < 13 (man), refer doctor same week.
- Check BP. If > 130/80 ↴ 80 to interpret result. Assess for postural hypotension: Measure BP lying and repeat after standing for 3 minutes.

Systolic BP drops ≥ 20mmHg between lying and standing

Postural hypotension likely

- This is common if elderly or pregnant ↴ 100.
- Advise patient to stand up slowly.
- Doctor must review if patient on any medication.

No drop or drop in systolic BP < 20mmHg

Ask patient to breathe rapidly for 2-3 minutes. Are symptoms reproduced?

Yes

Hyperventilation likely

- Advise re-breathing into a brown paper bag.
- Assess and manage patient's stress ↴ 55.

No

Ask about associated features

Dizziness precipitated by sudden head movements

Positional vertigo likely

Patient needs Epley manoeuvre. Refer to doctor.

Recent flu-like illness

Vestibular neuronitis likely

- Mobilize as soon as possible.
- Refer to ENT if:
  - Symptoms > 2 weeks
  - Tinnitus
  - New deafness

- If none of the above, check TSH. If abnormal, refer to doctor.
- **Refer if no cause is found or dizziness persists.**

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

HEADACHE

Recognise the patient with headache needing urgent attention:

- Sudden onset of severe headache
- New onset, persistent, different to usual headache
- Headache that wakes or is worse in the morning
- Vomiting
- Temperature ≥ 38°C
- Neck stiffness/meningism
- BP ≥ 180/110, or if pregnant, diastolic BP ≥ 90.
- Decreased level of consciousness
- Confusion
- Vision problems (e.g. double vision, photophobia)
- Following a first seizure
- Sudden weakness on one or both sides
- Speech disturbance
- Pupils different in size

Management:

- If temp ≥ 38°C and neck stiffness, treat for meningitis. Give ceftriaxone[1] 2g IM/IV.
- If HIV with recent positive cryptococcal antigen test, give fluconazole 1200mg as a single dose (avoid if pregnant, breastfeeding or known liver disease).
- If BP ≥ 180/110 and not pregnant, give amlodipine 10mg orally stat. If unavailable, give enalapril 10mg orally stat[2]. If pregnant ↪ 100.
- Refer same day to hospital

Approach to the patient with headache not needing urgent attention

Is headache recurrent with nausea and/or vomiting and/or visual disturbance that resolves completely?

Yes

Migraine likely

- Give immediately and then as needed paracetamol 1g 6 hourly or ibuprofen[3] 400mg 8 hourly with food up to 5 days *and* metoclopramide 10mg 8 hourly up to 3 doses and refer if no better.
- Advise patient to recognise and treat migraine early, rest in a dark, quiet room, avoid precipitants like loud noise, stress, flashing lights, missing meals, alcohol, chocolate, cheese.
- Avoid oestrogen-containing contraceptives ↪ 98.
- If ≥ 2 attacks/month, refer/discuss for medication to prevent migraines.
- Refer if poor response to treatment.

No

Pain or pressure over forehead or cheek/s worse on bending forwards, recent common cold, runny nose?

Yes

Sinus infection likely

- Give paracetamol 1g 6 hourly.
- If nasal discharge for > 6 days, give amoxicillin 500mg 8 hourly for 5 days. If severe penicillin allergy[4], give azithromycin 500mg daily for 3 days instead.
- Refer if poor response to treatment, meningism, tooth infection, swelling over sinus or around eye.
- If patient has recurrent sinusitis, test for HIV ↪ 66.

No

- Check patient's medication
  - ART: Look for meningitis. Refer if headache persists for more than 6 weeks after starting ART.
  - Overuse of analgesics can cause headaches. Advise to avoid regular use and to cut down on amount used.
- If patient not on above medication consider tension headache, temporal arteritis or neck pain:

Tightness of scalp
Tension headache likely

- Give paracetamol 1g 6 hourly.
- Discuss stress ↪ 55.

Pain mainly in neck with muscle stiffness ↪ 39.

> 50 years, pain over temples
Temporal arteritis likely

- Check CRP.
- Give paracetamol 1g 6 hourly.
- Review next day: if CRP > 5, give prednisone 40mg and refer same day.

- Warn patient to avoid overusing analgesics.
- Refer if the diagnosis is uncertain or headaches are not responding to treatment.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. If giving ceftriaxone IM, divide dose: 1g into 2 different injection sites. [2]Do not give short-acting nifedipine unless pregnant, as it may drop the blood pressure too quickly, causing a stroke. [3]Avoid ibuprofen if peptic ulcer, asthma, hypertension, heart failure, kidney disease. [4]History of anaphylaxis, urticaria or angioedema.

EYE/VISION SYMPTOMS

Recognise the patient with eye or vision symptoms needing urgent attention:

- Single painful red eye
- Shingles involving the eye (or if eyelid swollen closed, the tip of the nose)
- Sudden loss or change in vision, including blurred or reduced vision
- Consider stroke if sudden onset of vision problems is associated with dizziness, weakness on 1 or both sides, difficulty speaking or swallowing →83.
- Metallic foreign body or foreign body associated with welding or grinding
- Chemical burn to one or both eyes: wash the eye continuously for at least 20 minutes with clean water or saline.
- Whole eyelid swollen, red and painful: possible orbital cellulitis. Give ceftriaxone[1] 2g IV/IM stat

Management:

- If painful red eye associated with coloured haloes around light, dilated oval pupil, headache, nausea and vomiting, acute glaucoma likely. Give acetazolamide oral 500mg immediately and then 250mg 6 hourly and pilocarpine1% eye drops every 15 minutes for 4 doses.
- Refer same day to hospital.

Approach to patient with eye/vision symptoms not needing urgent attention

Both eyes are discharging/watery
Is there prominent itch?

Yes

Associated with hayfever, allergic rhinitis?

No

Localised cause (makeup) likely

- Wash out eye with clean water.
- Remove the cause.
- Treat with oxymetazoline eye drops 6 hourly for 3 days.

Yes

Allergic conjunctivitis likely

- Treat with oxymetazoline eye drops 1-2 drops 6 hourly for 7 days.
- If symptoms persist > 4 weeks, give cetirizine 10mg at night as needed. Avoid steroid eye drops.
- Refer if no better after 2 weeks.

No

Is the discharge clear or pus?

Pus

Bacterial conjunctivitis likely

- Give chloramphenicol 1% ointment 6 hourly for 7 days.
- Advise patient to avoid rubbing eyes and to wash hands regularly.

Clear

Viral conjunctivitis likely

- Give 0.9% saline eye washes.
- Give oxymetazoline eye drops 1-2 drops 6 hourly for 7 days. Avoid using > 7 days as this may result in rebound conjunctivitis.

Refer to eye OPD if symptoms do not improve within 2 days.

Gradual change in vision

- Exclude diabetes ↴ 77.
- Exclude hypertension ↴ 80.
- If status unknown, test for HIV ↴ 66.

- Refer for next available eye OPD appointment.
- Refer HIV patient same week.

Red or swollen eyelids

- Give chloramphenicol 1% ointment 6 hourly for 7 days.
- Wash crusts on lid margin twice a day with warm water.

Refer to eye OPD if symptoms do not improve with treatment.

Foreign body

- Wash the eye with clean water or saline.
- Remove foreign body with cotton-tipped stick or bud.

Refer to eye OPD if:

- Damage to eye
- Abnormal vision or movement of eye
- No improvement after 2 days

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. If giving ceftriaxone IM, divide dose: 1g into 2 different injection sites.

FACE SYMPTOMS

Recognise the patient with face symptoms needing urgent attention:

- Sudden onset of one-sided facial weakness with minimal or no involvement of the forehead usually with weakness of arm/leg: **stroke/TIA** likely →83.
- New onset facial swelling with abnormal urine dipstick: **kidney disease** likely
- Sudden onset facial/tongue swelling with difficulty breathing, BP < 90/60 or collapse, **anaphylaxis** likely:
  - Elevate legs and give face mask oxygen.
  - Give immediately adrenaline[1] 1mℓ (1:1000 solution) IM into mid outer thigh. Repeat every 5 minutes if no improvement.
  - Give sodium chloride 0.9% 1-2ℓ IV rapidly regardless of BP. Then, if BP < 90/60, also give sodium chloride 0.9% 500mℓ IV rapidly, repeat until systolic BP > 90. Continue 1ℓ 6 hourly. Stop if breathing worsens.
  - While patient receiving fluids, give hydrocortisone 100mg IM/slow IV and promethazine 50mg IM/slow IV.
- Painful facial swelling and temperature ≥ 38°C: **facial cellulitis** likely
- Refer urgently same day.

Approach to patient with facial symptoms not needing urgent attention

Face pain

Pain of cheek or jaw with/without swelling and on tapping involved tooth

Gum/tooth infection likely

- Give paracetamol 1g 6 hourly
- Give amoxicillin 500mg 8 hourly for 5 days. If severe penicillin allergy[2], give azithromycin 500mg daily for 3 days instead.
- Give metronidazole 400mg 8 hourly for 5 days.
- Refer to dentist same week.

Pain over forehead or cheek/s worse on bending forwards *and/or* pressure over sinuses *and/or* purulent nasal or post nasal discharge

Sinus infection likely

- Give paracetamol 1g 6 hourly
- If symptoms for > 6 days, give amoxicillin 500mg 8 hourly for 5 days. If severe penicillin allergy[2], give azithromycin 500mg daily for 3 days instead.
- Salt water washes or steam inhalation may relieve symptoms.
- Refer if:
  - Associated tooth infection
  - Poor response to treatment
  - Swelling over sinus or around eye
  - Meningism
  - If sinusitis is recurrent and status unknown test for HIV ↻ 66.
  - Recurrent sinusitis is a stage 2 HIV diagnosis. Patient needs routine HIV care →67.

Sudden weakness of 1 side of face

Unable to wrinkle forehead; cannot close eye fully

Idiopathic (Bell's) palsy likely

- Rarely may be painful.
- Sagging mouth, dribbling, taste impairment, watering or dry eyes
- Patient cannot wrinkle forehead, blow forcefully, whistle or pout out cheek.

- Protect eye by closing eyelid with surgical tape if cornea is exposed.
- Reassure patient that most people recover completely within 10 days.
- Refer if:
  - No improvement after 10 days
  - Patient has otitis media
  - Any change in hearing
  - Recent head trauma
  - Damage to cornea
  - Unsure of diagnosis

Swelling of face

Ensure patient has no difficult breathing, RR < 30, otherwise manage urgently as above.

Is patient on enalapril?

Yes

Patient has angioedema and must stop enalapril *and never start it again.*

- Give chlorpheniramine 4mg 8 hourly for 1-2 days until swelling resolved.
- Refer to doctor for review of medication.
- Advise patient to return urgently should difficult breathing occur.

No

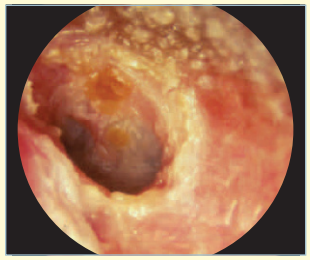
Refer to doctor for review.

[1]Adrenaline is also known as epinephrine. [2]History of anaphylaxis, urticaria or angioedema.

EAR SYMPTOMS

Itchy ear

Redness *and/or* pus of ear canal



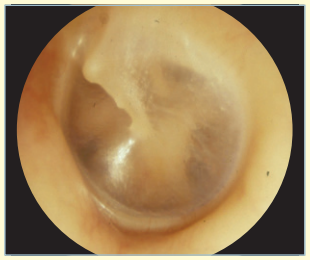
Otitis externa likely

- Give pain relief.
- Clean ear[1].
- Instill 1% acetic acid in alcohol 4 drops in ear 4 times a day for 5 days.
- If severe pain or temperature ≥ 38°C, give flucloxacillin 500mg 6 hourly for 5 days. If severe penicillin allergy[2], give azithromycin 500mg daily for 3 days instead.

Refer if infected and no response to treatment within 48 hours

Painful ear

Normal drum and canal

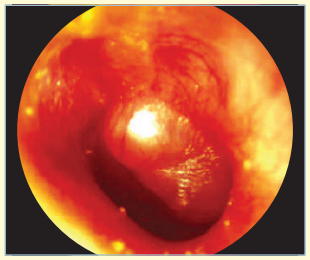


Referred pain likely

Check teeth, temporo-mandibular joint and throat.

Discharge from ear

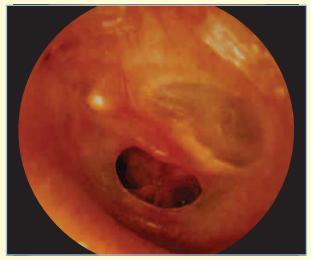
Symptoms < 2 weeks
Red or bulging eardrum



Acute otitis media likely

- Give pain relief
- Clean ear if discharge is present.[1]
- Amoxicillin 500mg 8 hourly for 5 days. If severe penicillin allergy[2], give azithromycin 500mg daily for 3 days instead.
- Refer if:
  - No response to antibiotics after 5 days.
  - Recurrent otitis media
  - Painful swelling behind ear
  - Neck stiffness/meningism

Symptoms ≥ 2 weeks
Perforated eardrum



Chronic otitis media likely

- Clean ear[1]. The ear can heal only if dry.
- Refer if:
  - No improvement after 4 weeks
  - Foul-smelling discharge
  - A large hole in eardrum
  - Hearing loss
  - Pain in or behind ear
  - Consider TB and HIV in chronic otitis media that responds poorly to treatment.

Difficulty hearing

- If wax in ear, syringe ear with warm soapy water.
- If patient on DR-TB treatment (kanamycin), refer to doctor for assessment same day.
- Refer unless hearing improves on removal of wax.

[1]Cleaning the ear: Make a wick by twisting a tuft of cotton wool, paper towel or absorbent cloth onto a thin wooden stick. If using cotton wool, it should adhere tightly onto the stick but be fluffy and absorbent on the other end. Insert into ear and remove once wet, continue until wick is dry. Never leave wick or other object inside the ear. [2]History of anaphylaxis, urticaria or angioedema.

NOSE SYMPTOMS

Runny or blocked nose
Ask about duration and associated symptoms.

Sore throat *and/or* fever

Common cold likely

Body aches/ muscle pains *and/ or* fever *and/or* cold chills

Influenza (flu) likely

- Advise the patient with influenza:
  - bed rest
  - avoid contact with others to prevent spread
  - use tissues when sneezing/coughing and dispose of these carefully.
- Pain and fever relief (paracetamol 1g 6 hourly)
- Regular oral fluids
- Reassure patient that antibiotics are not necessary. Use antibiotics only if pus on examination.
- Colds and flu should improve within 3-7 days.

Purulent nasal *and/or* post nasal discharge *and/or* headache worse on bending forward *and/or* pressure over sinuses

Sinusitis likely

- Give paracetamol 1g 6 hourly
- If pus from nose or symptoms > 6 days: give amoxicillin 500mg 8 hourly for 5 days. If severe penicillin allergy[1], give azithromycin 500mg daily for 3 days instead.
- Salt water washes or steam inhalation may relieve symptoms.
- Refer if:
  - Associated tooth infection
  - Poor response to treatment
  - Swelling over a sinus or around eye
  - Meningism
- If sinusitis is recurrent and status unknown, test for HIV ↴ 66.
- Recurrent sinusitis is a stage 2 HIV diagnosis. Patient needs routine HIV care ↴ 67.

Recurrent episodes of sneezing and itchy nose most days for > 4 weeks

Allergic rhinitis likely

- Chlorpheniramine 4mg 6-8 hourly for up to 5 days only when symptoms worsen (side effect is sedation).
- Refer if no improvement with above treatment and symptoms debilitating.
- If persistent (≥ 4 days per week), give beclomethasone nasal spray long term 2 sprays in each nostril daily and cetirizine 10mg at night.

Bleeding nose

- Pinch nose wings together for 10 minutes.
- Check BP.
  - If < 90/60, elevate legs and give IV sodium chloride 0.9%.
  - If ≥ 130/80 ↴ 80.
- If still bleeding:
  - Insert nasal tampons or BIPP stripping into bleeding nostril/s.
  - Refer for further management if bleeding persists.
- If patient has recurrent episodes:
  - Advise patient to avoid nose-picking, contact sport and trauma to nose.
  - Educate patient to pinch the soft nose wings when bleeding.

[1]History of anaphylaxis, urticaria or angioedema.

MOUTH AND THROAT SYMPTOMS

Recognise the patient with mouth and/or throat symptoms needing urgent attention:
- Unable to open mouth
- Unable to swallow at all
- If on ART, check for urgent side effects ↴ 70.

Management:
- Refer same day

Examine the mouth and throat for redness, white patches, blisters or ulcers.

Red throat

Are there pus or white patches on tonsils?

No

Viral pharyngitis likely

- Give paracetamol 1g 6 hourly
- Salt water mouthwash
- Reassure patient that antibiotics are not necessary.

Yes

Bacterial tonsillitis likely

- Give paracetamol 1g 6 hourly
- Salt water mouthwash
- Give benzathine penicillin 1.2MU IM single dose or phenoxymethylpenicillin 500mg 12 hourly for 10 days. If severe penicillin allergy[1], give azithromycin 500mg daily for 3 days instead.

Refer for ENT assessment if > 4 episodes per year.

White patches on cheeks, gums, tongue, palate, may have angular cheilitis (cracks in corners of mouth).

Oral thrush/candida likely

Nystatin suspension 1mℓ orally after eating for 7 days. Keep in mouth as long as possible.

If patient uses inhaled corticosteroids, ensure s/he uses spacer and rinses mouth after use ↴ 71.
If status unknown, test for HIV ↴ 66.
- For routine HIV care ↴ 67.
- The patient with oral thrush has stage 3 HIV and needs co-trimoxazole and ART ↴ 67.
- The HIV patient with difficulty or painful swallowing (oesophageal thrush likely) needs fluconazole 200mg daily for 14 days and ART.

Painful blisters on lips/mouth

Herpes simplex likely

- Apply tetracaine 0.5% on blisters 6 hourly.
- If HIV give aciclovir 400mg 8 hourly for 7 days if:
  - Ulcers are extensive or recurrent
  - Severe pain
  - Ulcers present for > 1 month

If status unknown, test for HIV ↴ 66.
- For routine HIV care ↴ 67.
- Herpes > 1 month is a stage 4 HIV disease. Patient needs ART →67.

Painful ulcer/s in mouth/throat

Aphthous ulcer/s likely

- Apply tetracaine 0.5% on ulcers 6 hourly. until healed.
- Refer if:
  - Not healed within 2 weeks
  - Larger than 1 cm in diameter

- Advise the patient with a sore mouth/throat to avoid spicy, hot, sticky, dry or acidic food and to eat soft, moist food or to soften food with margarine or gravy, or dip in tea/coffee or soup.
- Advise to keep mouth and teeth clean by brushing and rinsing regularly.

[1]History of anaphylaxis, urticaria or angioedema.

CHEST PAIN

Recognise the patient with chest pain needing urgent attention:

- Respiratory rate ≥ 30 breaths/minute
- BP ≥ 180/110 or < 90/60
- Pulse irregular, > 100 or < 60
- Severe pain
- New onset of central chest pain
- Pain spreads to the neck, arm or back
- Sweating, nausea, vomiting
- Pale
- At risk of heart attack (diabetes, smoker, hypertension, known CVD risk > 10%)
- Known with ischaemic heart disease

Management:

- If unconscious ↻ 4. If conscious, sit patient up.
- Give 40% face mask oxygen.
- If BP < 90/60, give 200mℓ sodium chloride 0.9% IV.
- Manage according to temperature:

≥ 38°C

Chest infection likely

- Give ceftriaxone[1] 1g IV/IM stat.
- If BP still < 90/60, give 500mℓ sodium chloride 0.9% IV over 30 minutes.
- Repeat if BP persists < 90/60. Stop fluids if respiratory rate increases.
- Refer patient same day.

< 38°C

Do an ECG

ECG normal or unavailable or uncertain
Is chest pain worse on lying down, palpation or breathing deeply?

- Yes → Heart attack unlikely: refer urgently.
- No → **Heart attack** likely →84

ECG abnormal → **Heart attack** likely →84

Approach to the patient with chest pain not needing urgent attention

First exclude pain related to heart and lungs.

Recurrent episodes of central chest pain, brought on by exertion and relieved by rest: **angina** likely →84.

Pain on coughing and breathing deeply: →20.

Once heart and lung conditions excluded, consider heartburn, musculoskeletal problem or shingles.

Retrosternal or epigastric pain with eating, hunger or lying down: **heartburn or indigestion** likely

- Avoid spicy/acidic food, fizzy drinks, eat small frequent meals and prop up head of bed.
- If waist circumference > 80cm (woman) or 94cm (man), assess CVD risk ↻ 75.
- Give omeprazole 20mg daily for 14 days.
- Refer same week if any of: no better after 7 days of omeprazole, new onset and > 45 years, pain on swallowing, vomiting, weight loss, loss of appetite, feeling of early fullness, occult blood positive, abdominal mass.

Tender at costochondral junction, no fever or cough
Musculoskeletal problem likely

- Give ibuprofen 400mg 8 hourly with food for up to 5 days.
- Refer if pain persists > 4 weeks.

Burning pain on 1 side with or without rash for 1-2 days
Shingles likely
↻ 44.

Refer same week if uncertain of diagnosis.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone.

COUGH AND/OR DIFFICULT BREATHING

Recognise the patient with cough needing urgent attention:

- Breathlessness at rest or while talking
- Respiratory rate ≥ 30 breaths/minute
- Prominent use of breathing muscles
- Coughing up ≥ 1 tablespoon of fresh blood
- Agitation or confusion
- BP < 90/60

Management:
If available, give oxygen (40% face mask or 4L/min nasal prong; if known with COPD, give 24-28% face mask)

Temperature ≥ 38°C
- Give single dose of ceftriaxone[1] 1g IM/IV.
- Refer urgently with continuous oxygen.

Wheeze and difficult breathing, no leg swelling, if 1st episode of wheeze, patient < 50 years
Treat wheeze →21

Difficult breathing worse on lying flat especially with leg swelling or 1st episode of wheeze in patient ≥ 50 years
Heart failure likely →82.

Assess the patient with cough and/or difficult breathing not needing urgent attention
If leg swelling/worse on lying flat and/or 1st episode of wheeze in patient ≥ 50 years, consider **heart failure**. Assess symptoms as below and manage for heart failure ↩ 82.

Cough and/or difficulty breathing < 2 weeks

Sputum, chest pain

Any of breathless, pulse ≥ 100, temperature ≥ 38°C?

No
Acute bronchitis likely especially if recent common cold
- If patient has HIV, give amoxicillin 500mg 8 hourly for 5 days. If severe penicillin allergy[2], give azithromycin 500mg daily for 3 days instead.
- If no HIV, reassure patient antibiotics are not necessary.

Advise to return if symptoms worsen or fever/rigors develop.

Yes
Mild pneumonia likely
- Confirm on chest X-ray or with crackles/ bronchial breathing on auscultation.
- If likely to struggle with adherence or accessing urgent care, refer.
- Any of HIV, > 65 years, known lung, heart, liver disease, diabetes or alcohol abuse?

Yes: Give amoxicillin/clavulanic acid[3] 875/125mg 12 hourly for 5 days.

No: Give amoxicillin[3] 1g 8 hourly for 5 days.

- Review within 2 days. Advise patient to return sooner if symptoms worsen.
- Refer if worse or no improvement.

Wheezing, heart failure excluded as above.

Treat wheeze →21.

Cough and/or difficult breathing ≥ 2 weeks

Exclude TB ↩ 58.
While looking for TB, consider other cause for cough and/or difficult breathing.

HIV patient with dry cough, worsening breathlessness on exertion, CD4 < 200

PCP likely

- Doctor to diagnose on history and X-Ray: give co-trimoxazole 320/1600mg 6 hourly for 21 days.
- Start workup for ART ↩ 67.
- Review weekly to assess clinical response and TB results ↩ 58.
- Refer if X-ray not typical, patient was adherent to co-trimoxazole prophylaxis and/or ART, or if no improvement on treatment.

Smoker

Weight loss

Consider **lung cancer.**

Productive cough most days of at least 3 months for ≥ 2 years, no difficult breathing or weight loss

Chronic bronchitis

Advise patient to stop smoking.

Recent upper respiratory tract infection, no difficulty breathing

Post-infectious cough likely. Advise patient that the cough should resolve within 8 weeks.

Cough persists > 8 weeks and TB excluded.

If above conditions excluded, consider asthma or COPD →71.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. [2]History of anaphylaxis, urticaria or angioedema. [3]If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), give moxifloxacin 400mg daily for 5 days instead.

WHEEZE/TIGHT CHEST

Initial management

Assess severity
Does patient have any of: respiratory rate ≥ 30, pulse > 120, unable to talk or talks using words only, silent chest (tight chest but no wheeze), agitated, drowsy or confused

- No → **Mild** or **moderate**
- Yes → **Severe**

Mild or **moderate**

- Give salbutamol via:
  - Spacer: give 4-8 puffs inhaled salbutamol, or
  - Nebuliser: give 1mℓ salbutamol 0.5% solution in 2mℓ sodium chloride 0.9%.
  - If no relief, repeat salbutamol every 20 minutes in the first hour.
- If known with asthma or COPD, give prednisone 40mg stat. If patient unable to take prednisone, give hydrocortisone 100mg IV stat.
- Give 40% face mask oxygen between each dose of salbutamol. If known with COPD, give 24-28% face mask oxygen.
- Monitor response to treatment.

- Improving or no change on salbutamol → Assess response after 1 hour: is patient able to talk normally and is respiratory rate < 20?
- Worsening despite salbutamol → Refer urgently

Yes: patient able to talk normally and respiratory rate < 20

- Wheeze/tight chest resolved → Follow discharge plan as below.
- Wheeze/tight chest still present
  - Repeat salbutamol every 2-4 hours as needed.
  - If still requiring salbutamol 4 hours after arrival, refer.

No: patient unable to talk normally or has respiratory rate ≥ 20

Refer urgently. While awaiting transport:

- Give 1mℓ salbutamol 0.5% solution *and* 2mℓ ipratropium bromide solution in 2mℓ sodium chloride 0.9% via nebuliser every 20 minutes.
- If nebuliser not available, using a spacer give inhaled salbutamol 4-8 puffs *and* ipratropium bromide 4 puffs every 20 minutes.
- Give 40% face mask oxygen between nebulisations. If known with COPD, give 24-28% face mask oxygen.
- Give hydrocortisone 100mg IV stat if not already given.

Discharge plan for the patient who has responded to treatment

- Ask about exposure to possible triggers including cigarette smoke, animals, dust, chemicals, pollen and grass. Urge the patient who smokes to stop.
- Ask about allergic rhinitis/hayfever (sneezing, itchy or runny nose): treating hayfever effectively may improve asthma symptoms ↩ 17.
- If first episode of wheeze/tight chest, assess patient for asthma and COPD ↩ 71.
- If patient known with asthma or COPD:
  - Continue oral prednisone 40mg daily for 7 days in total.
  - Review current treatment, adherence and inhaler technique. Give routine care: if asthma ↩ 73, if COPD ↩ 74.

BREAST SYMPTOMS

Approach to the patient with a breast symptom who is not breast feeding

Breast lump/s
One or both breasts?

Both breasts

This is likely to be cyclical.
- Reassure
- Change hormonal contraception to non-hormonal method →98.

One breast

Patient > 35 years or a family history of breast cancer?

No

Re-examine breast on day 7 of menstrual cycle. Refer same week if lump persists.

Yes

Refer same week to breast clinic.

Breast Pain

- Reassure patient that breast cancer rarely causes pain.
- Advise a well-fitting bra.
- If pregnant, reassure and give antenatal care →100.
- Give paracetamol 1g 6 hourly as needed.
- May be a side effect of hormonal contraceptive. If no better after 3 months on contraception, change method →98.

Nipple Discharge

Is the discharge blood stained, on 1 side, in patient > 50 years, or in a man?

Yes

Refer same week to breast clinic.

No

- If pregnant, reassure and give antenatal care →100.
- If on hormonal contraceptive, reassure. Change to non-hormonal method if distressing →98.

Breast enlargement

One sided

Refer same week to breast clinic.

Both breasts

- Confirm that this is not obesity. If BMI > 25 assess CVD risk →75.
- Look for drugs that cause breast enlargement: efavirenz (reassure patient that it often resolves by 2 years), cimetidine, nifedipine, amlodipine, fluoxetine. Discuss with doctor.

Approach to the patient with a breast symptom *who is* breast feeding

Painful/cracked nipple/s
Usually in first few days of breastfeeding due to poor latching.

- Avoid soap on washing nipples.
- Help patient to latch properly and refer to lactation consultant or feeding support group.
- Apply zinc and castor oil ointment between feeds.
- Refer if no improvement after 2 days.

Painful breast/s
Is temperature ≥ 38°C?

No

Engorgement likely

Advise frequent breastfeeding and cold compresses.

Yes

Mastitis likely

- Give flucloxacillin 500mg 6 hourly for 5 days. If severe penicillin allergy[1], give azithromycin 500mg daily for 3 days instead
- Paracetamol 1g 6 hourly
- Apply warm compresses. Continue breastfeeding and/or express regularly.
- Refer if no better after 2 days or breast lump (abscess) develops.

Breast lump
Is temperature ≥ 38°C?

Yes

Breast abscess likely

- Refer same day for incision and drainage.
- Advise HIV patient to stop feeding from the breast, express and heat-treat[1] the milk, and cup-feed baby until abscess resolves.

No

Blocked duct likely

Advise frequent breastfeeding, warm compresses and to massage lump.

[1]History of anaphylaxis, urticaria or angioedema.

ABDOMINAL PAIN (NO DIARRHOEA)

Recognise the patient with abdominal pain needing urgent attention:

- Peritonitis (guarding, rebound tenderness or rigidity of abdomen)
- Jaundice
- Temperature ≥ 38°C
- No stool or flatus for last 24 hours and vomiting
- Nausea, vomiting, fatigue, sore muscles or difficulty breathing, consider acidosis. Check blood glucose ↻ 77. If on ART, check for urgent side effects ↻ 70.
- No urine passed for last 12 hours and swelling of abdomen →35.
- Pregnant woman with lower abdominal pain
- Chest pain →19
- Refer same day.

Approach to the patient with abdominal pain not needing urgent attention

- If women with lower abdominal pain and/or vaginal discharge, treat for likely pelvic infection →27.
- If the patient has urinary symptoms →35.
- If the patient is constipated →26.

If patient has none of the above, try to identify cause of pain: is the pain in the upper abdomen and related to eating?

Yes
Dyspepsia likely

Refer same week if any warning signs:

- Weight loss
- Loss of appetite
- Early fullness
- Blood in stool or occult blood positive
- Abdominal mass
- Persistent vomiting or vomiting blood
- New episode in patient ≥ 55 years

Approach to the patient with no warning signs

- If associated with chest pain on exertion →19.
- Assess patient's CVD risk ↻ 75.
- If patient smokes, advise to stop.
- If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↻ 90.
- Avoid spicy, hot or acidic foods, carbonated drinks.
- Stop non-steroidal anti-inflammatory drugs, aspirin.
- If pregnant, give antenatal care →100.
- Give omeprazole 20mg daily for 14 days.
- Refer if no response after 7 days of omeprazole.

No
Has patient lost weight?

Yes

Is there fever, night sweats, cough and/or HIV?

Yes

Exclude TB ↻ 58.

No

Consider **cancer**. Refer same week.

No

Does patient have difficulty breathing, abdominal or leg swelling?

Yes

Heart failure likely →82.

No

Does the patient report worms?

Yes

- Tapeworm: give albendazole 400mg daily for 3 days.
- Other worm or unsure: give single dose mebendazole 500mg.
- Educate on personal hygiene.

No

If the pain is recurrent with constipation and/or diarrhoea and bloating, **irritable bowel syndrome** likely. Refer to doctor.

- Give paracetamol 1g 6 hourly.
- Review regularly until pain resolves or a cause is found.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

VOMITING

Recognise the patient with vomiting needing urgent attention:

- Reliable signs of dehydration:
  - Postural hypotension (systolic BP drop > 20mmHg between lying and standing)
  - Poor urine output
  - Confused or drowsy
- Peritonitis (guarding, distension or rigidity of abdomen)
- Vomiting blood
- Jaundice
- Abdominal pain and no stools or flatus/wind
- Headache →13
- If on ART, check for urgent side effects ↩ 70.

Management:

- Oral or IV rehydration
- Check blood glucose ↩ 77.
- Refer same day to hospital.

Approach to the patient with vomiting not needing urgent attention:

Exclude pregnancy. If pregnant ↩ 100.

What is duration of vomiting?

< 24 hours

- Most vomiting is due to a viral infection and resolves within 24 hours.
- If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↩ 90.
- If patient is dizzy ↩ 12.
- Give oral rehydration.
- Advise the patient to eat small frequent meals, avoid lying down after meals, avoid hot greasy food and to eat lightly salted dry food before getting out of bed.
- Review in 24 hours if still vomiting.

Vomiting continuously for ≥ 24 hours

Is patient on TB medication or ART?

No

- Give oral rehydration solution.
- Review in 2 days if still vomiting.

If still vomiting, refer same day.

Yes

- Assess for dehydration as above.
- Stop all medication and refer same day.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

DIARRHOEA

Recognise the patient with diarrhoea needing urgent attention:

- Reliable signs of dehydration
  - Postural hypotension (systolic BP drop > 20mm Hg between lying and standing)
  - Poor urine output
  - Altered mental state (confused or drowsy)
- If on ART, check for urgent side effects ↴ 70.

Management:

- Oral rehydration (IV if unable to keep fluids down)
- If patient has had diarrhoea for ≥ 2 weeks send stool sample for 'ova, cysts and parasites'. Indicate on the request form if the patient has HIV.
- Refer same day.

Approach to the patient with diarrhoea not needing urgent attention:

- Confirm that this is in fact diarrhoea: 3 or more watery stools per day.
- Routine antibiotics are unnecessary and increase the likelihood of antibiotic resistance and side effects.
- Knowing the patient's HIV status helps in the management. If status unknown, test for HIV ↴ 66.
- Advise patient to increase fluid intake, eat small frequent meals and avoid milk products, caffeinated drinks and high-fat, high-fibre foods.
- Ask about duration of diarrhoea.

Diarrhoea for < 2 weeks

- Give oral rehydration.
- Record current weight in patient notes.
- Is the temperature ≥ 38°C and/or is there blood and/or mucus in the stool?

Yes

Treat with ciprofloxacin 500mg 12 hourly for 3 days.

No

Give loperamide 4mg initially, then 2mg after each loose stool, maximum 12mg/day.

Review in 2 weeks if diarrhoea still present.

Diarrhoea for ≥ 2 weeks

- Give oral rehydration solution to prevent dehydration.
- Send stool for 'ova, cysts and parasites'. Indicate on request form if patient has HIV.
- Knowing the patient's HIV status helps in the management. If status unknown, test for HIV ↴ 66.

HIV positive

- Give routine HIV care ↴ 67.
- ddI and lopinavir/ritonavir can cause ongoing loose stools.
- Review symptoms and stool result in 1 week.

Isospora belli

- Give co-trimoxazole 320/1600mg (4 tablets) 12 hourly for 10 days.
- Patient needs ART ↴ 67.

Cryptosporidium

Patient needs ART ↴ 67.

Give loperamide 2mg as needed up to 12mg/day.

HIV negative

Give metronidazole 2g daily for 3 days to treat empirically for giardiasis. Advise patient to avoid alcohol for 48 hours after last dose.

Review stool result.

Stool negative

Give loperamide 2mg as needed up to 12mg/day.

Stool positive

Treat according to result.

If diarrhoea persists despite treatment, refer for specialist review.

CONSTIPATION

Recognise the patient with constipation needing urgent attention:
- No stools or wind in the last 24 hours plus abdominal pain and vomiting
- Refer same day to hospital.

Approach to the patient who is constipated and not needing urgent attention:
- Review diet, fluid intake and medication (amitriptyline, codeine/morphine and antacids can cause constipation). Ask about chronic use of enemas or laxatives.
- Exclude pregnancy. If pregnant ↻ 100.
- Try non drug approaches before prescribing laxatives:
  - Advise a high fibre diet (vegetables, fruit, coarse mielie meal, bran and cooked died prunes) and adequate fluid intake.
  - Advise moderate regular exercise (20 minutes walk daily).
  - Stop chronic use of laxatives or enemas.

No response

- Give sennosides A and B 7.5mg 2 tablets at night for 3 days.
- If no improvement increase to 4 tablets.
- Refer if no response after 1 week, recent change in bowel habits or uncertain cause for constipation.

Resolved

Advise to continue with diet and exercise and avoid chronic use of laxatives and enemas.

ANAL SYMPTOMS

Recognise the patient with an anal symptom needing urgent attention:
- Unable to sit because of anal symptoms
- Unable to pass stool because of anal symptoms
- Refer same day

Anal pain and/or bleeding

Crack/s or lump/pile

- Treat constipation as above.
- Apply bismuth subgallate compound ointment 2-4 times a day or lignocaine 2% cream after each bowel action.
- Refer if pile cannot be reduced or is thrombosed.

Red/raw skin in patient with chronic diarrhoea

- Apply zinc and castor oil ointment.
- To manage diarrhoea →25.

Ulcer/s

- Treat as for genital ulcer →30.
- Refer if no improvement.

Anal Itch

Perianal warts

Treat as for genital warts →31.

Worms

Give mebendazole 500mg stat.

Dermatitis

- Advise good hygiene
- Wash with aqueous cream.
- Apply 1% hydrocortisone cream twice a day for 5 days.

GENITAL SYMPTOMS

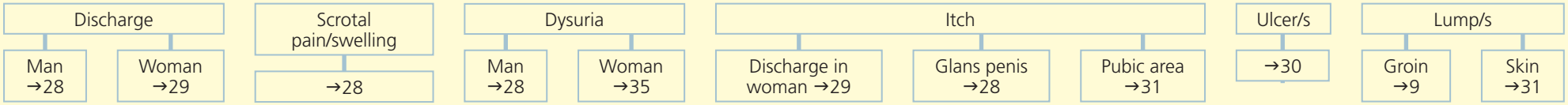
Assess the patient with genital symptoms and his/her partner/s

Assess	Note
Symptoms	Ask about genital discharge, rash, itch, lumps, ulcers and manage as below. Manage other symptoms as on symptom pages.
Sexual health	Ask about sexual orientation, risky sexual behaviour (patient or regular partner has new or multiple partner/s, uses condoms unreliably or misuses substances ↴ 90) and sexual problems ↴ 34.
Abuse	Ask about rape/sexual assault or if patient unhappy in relationship. If yes ↴ 56. Manage and refer the recently raped/sexually assaulted patient urgently ↴ 56.
Family planning	Assess patient's contraceptive needs ↴ 98 and discuss infertility. Exclude pregnancy. If pregnant give antenatal care ↴ 100.
Examination	• In the woman, do abdominal, bimanual and speculum examination for abdominal/pelvic masses, tenderness, discharge, cervical lesions, ulcers, rash, lumps or pubic lice. • In the man, look for genital discharge, ulcers, rash, lumps, pubic lice or scrotal swelling, tenderness or masses.
HIV	If status unknown test for HIV ↴ 66. The HIV patient needs routine HIV care ↴ 67.
Syphilis	Check syphilis if: patient has STI, is pregnant or was raped or patient's partner has STI or is syphilis positive. If syphilis positive ↴ 32.
Pap smear	Do a Pap smear if indicated ↴ 31 once an abnormal discharge has been treated ↴ 29. If cervix looks abnormal/suspicious of cancer, refer same week.

Advise the patient with genital symptoms and his/her partner/s

- Discuss safe sex. Provide male and female condoms, advise patient to stick to one partner at a time. Offer referral for medical male circumcision.
- If patient has a sexually transmitted infection (STI):
  - Educate patient about cause and that an STI increases the risk of HIV transmission. Urge patient to adhere to treatment and abstain from sex for duration of treatment.
  - Stress importance of partner treatment and issue 1 notification slip for each partner with the patient's STI diagnosis in code as below.

Treat the patient with genital symptoms and his/her partner/s



Patient's STI diagnosis (code)	Treat the patient's partner/s according to the patient's diagnosis as well as the partners' symptoms (if any)
Vaginal discharge (VDS)	Give partner ceftriaxone[1] 250mg IM[2] stat, azithromycin 1g orally stat and metronidazole 2g orally stat.
Lower abdominal pain in woman (LAP)	Give partner ceftriaxone[1] 250mg IM[2] stat, azithromycin 1g orally stat and metronidazole 2g orally stat.
Male urethritis (MUS)	Give partner ceftriaxone[1] 250mg IM[2] stat, azithromycin 1g orally stat and metronidazole 2g orally stat. Avoid metronidazole in the 1st trimester if pregnant.
Scrotal swelling (SSW)	Give partner ceftriaxone[1] 250mg IM[2] stat, azithromycin 1g orally stat and metronidazole 2g orally stat. Avoid metronidazole in the 1st trimester if pregnant.
Genital ulcer (GUS)	Give partner benzathine benzylpenicillin 2.4MU IM stat. If partner is penicillin allergic see alternative management ↴ 30.
RPR positive	Give partner benzathine benzylpenicillin 2.4MU IM stat. If partner is penicillin allergic, see alternative management ↴ 32.
Balanitis (BAL)	Give female partner clotrimazole vaginal pessary 500mg inserted stat or clotrimazole cream applied 12 hourly for 7 days.
Pubic lice (PL)	Give partner benzyl benzoate 25%.
Bubo	Give partner azithromycin 1g stat and 1g stat 7 days later.

[1]If partner has severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), omit ceftriaxone and increase azithromycin dose to 2g orally stat. [2]For ceftriaxone 1g IM injection: dissolve 1g in 3.6mℓ lidocaine 1% without epinephrine (adrenaline).

GENITAL SYMPTOMS IN A MAN

First assess and advise the man with genital symptoms ↴ 27 and his partner/s.

Urethral discharge or dysuria/burning urine

Treat for **male urethritis syndrome (MUS)**:
- Give ceftriaxone 250mg IM[1] stat *and*
- Azithromycin 1g orally stat
- If severe penicillin allergy[2] omit ceftriaxone and increase azithromycin dose to 2g orally stat.
- If partner has vaginal discharge syndrome (VDS), also give metronidazole 2g orally stat.
- Treat patient's partner/s ↴ 27.

Advise patient to return in 7 days if symptoms persist:

Treat for possible ceftriaxone 250mg treatment failure:
- Give ceftriaxone 1g IM[3] stat *and*
- Azithromycin 2g orally stat *and*
- Metronidazole 2g orally stat (if not already given as above).
- Refer same week for gentamicin 240mg IM stat.
- If severe penicillin allergy[2] omit ceftriaxone and refer for gentamicin 240mg IM stat and azithromycin 2g orally stat instead.

Scrotal swelling or pain

Does patient have any of:
- Sudden onset of severe pain
- Affected testicle is higher or rotated
- A history of trauma

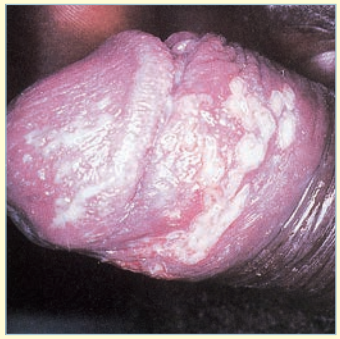
Yes

Torsion of testicle likely. Refer to doctor same day.

No

Treat for **scrotal swelling (SSW):**
- Give ceftriaxone 250mg IM stat[1] *and*
- Azithromycin 1g orally stat.
- If severe penicillin allergy[2] omit ceftriaxone and increase azithromycin dose to 2g orally stat.
- Treat patient's partner/s ↴ 27.
- For pain, give ibuprofen 400mg 8 hourly with food for up to 5 days.
- Refer if no improvement after 7 days.

Pain or itchiness of glans or inability to retract or reduce foreskin or malodour



Foreskin can be moved easily on examination.

Yes

Treat for **balanitis (BAL)**
- Advise patient to wash daily with water, avoid soap. Retract foreskin while washing.
- Give clotrimazole cream 12 hourly for 7 days.
- If profuse watery pus under foreskin (not from urethra) also give benzathine benzylpenicillin 2.4MU IM[4] stat. If severe penicillin allergy[2], give doxycycline 100mg 12 hourly for 14 days instead.
- Offer referral for medical male circumcision.
- Treat partner ↴ 27.
- Advise patient to return in 7 days if symptoms persist:
  - Check adherence. If poor, repeat treatment.
  - Test for diabetes ↴ 77 and HIV ↴ 66.
- If still no better, refer to doctor

No

Phimosis or paraphimosis likely. Refer same day to doctor.

[1]For ceftriaxone 250mg IM injection: dissolve 250mg in 0.9mℓ lidocaine 1% without epinephrine (adrenaline). [2]History of anaphylaxis, urticaria or angioedema. [3]For ceftriaxone 1g IM injection: dissolve 1g in 3.6mℓ lidocaine 1% without epinephrine (adrenaline). [4]For benzathine benzylpenicillin 2.4MU injection: dissolve benzathine benzylpenicillin 2.4MU in 6mℓ lidocaine 1% without epinephrine (adrenaline).

VAGINAL DISCHARGE

- It is normal for women to have a vaginal discharge. Abnormal discharges are itchy or different in colour or smell. Not all women with a discharge have an STI.
- First assess and advise the patient with vaginal discharge and her partner/s ↴ 27.

If the vulva is red, scratched and inflamed and/or curd-like discharge, treat for **vaginal candidiasis**:
- Clotrimazole vaginal tablet 500mg single dose inserted at night.
- If severe, also give clotrimazole vaginal cream applied to vulva 12 hourly for 3 days after symptoms resolve (maximum 2 weeks).
- Avoid washing with soap.

Is there lower abdominal pain or cervical tenderness?

No

Patient < 35 years or has partner with male urethritis syndrome (MUS)?

No

- Treat for **bacterial vaginosis:**
  - give metronidazole 2g orally stat.
- Also treat for **vaginal candidiasis** (even if no symptoms) if not already treated as above:
  - give clotrimazole vaginal tablet 500mg single dose inserted at night or clotrimazole vaginal cream applied 12 hourly for 7 days.

Yes

Treat for **vaginal discharge syndrome (VDS):**
- Give ceftriaxone 250mg IM[1] stat *and*
- Azithromycin 1g orally stat *and*
- Metronidazole 2g orally stat.
- If severe penicillin allergy[2] omit ceftriaxone and increase azithromycin to 2g orally stat.
- Treat the patient's partner/s ↴ 27.

Advise patient to return in 7 days if symptoms persist:
- Give metronidazole 400mg 12 hourly for 7 days.

Review in 7 days:
- If ongoing vaginal candidiasis: test for diabetes ↴ 77 and HIV ↴ 66.
- If ongoing discharge with no candidiasis: examine cervix for cancer and do Pap smear ↴ 31.
- Refer to doctor same week.

Yes

Recognise the patient needing urgent attention:
- Recent miscarriage/delivery/termination of pregnancy (TOP)
- Pregnant or missed or overdue period
- Peritonitis (guarding, rigidity or rebound tenderness)
- Abnormal vaginal bleeding
- Temperature > 38°C
- Abdominal mass

Management:
- If dehydrated or shocked: give IV fluids.
- If referral delayed > 6 hours, give ceftriaxone 1g IV stat and metronidazole 400mg orally stat. If severe penicillin allergy[2] omit ceftriaxone and discuss with doctor.
- Refer same day.

Approach to the patient not needing urgent attention

Cervical tenderness with or without lower abdominal pain

Lower abdominal pain only, no cervical tenderness

Check urine dipstick. If nitrates or leucocytes positive →35. If negative, treat as LAP below.

Treat for **lower abdominal pain (LAP):**
- Give ceftriaxone 250mg IM[1] stat and azithromycin 1g orally stat and metronidazole 400mg 12 hourly for 7 days. If severe penicillin allergy[2] omit ceftriaxone and increase azithromycin to 2g orally stat.
- For pain, give ibuprofen 400mg 8 hourly with food for up to 5 days.
- Treat the patient's partner/s ↴ 27.
- Review within 2-3 days. If no improvement refer to doctor same day.

[1]For ceftriaxone 250mg IM injection: dissolve 250mg in 0.9mℓ lidocaine 1% without epinephrine (adrenaline). [2]History of anaphylaxis, urticaria or angioedema.

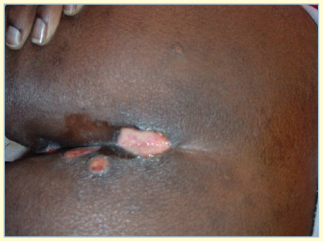
GENITAL ULCER SYNDROME

First assess and advise the patient with genital ulcer and his/her partner/s ↩ 27.

The patient may have a blister, sore, ulcer or swollen inguinal (groin) lymph nodes that might be tender or fluctuant and/or vaginal/urethral discharge.

Treat for **herpes:**

- If pain, give ibuprofen 400mg 8 hourly with food up to 5 days.
- Keep lesions clean and dry.
- If HIV positive (or status unknown) or pregnant, give aciclovir 400mg 8 hourly for 7 days. If pregnant in 3rd trimester, refer.
- Explain that herpes infection is lifelong and that herpes transmission can occur even when asymptomatic. The likelihood of HIV transmission is increased when there are ulcers.
- HIV patients with genital herpes > 1 month have stage 4 HIV and need co-trimoxazole and ART ↩ 67.



If patient sexually active in the past 3 months also treat for genital ulcer syndrome (GUS) and check if patient has a vaginal/urethral discharge or not:

Genital ulcer with no vaginal/urethral discharge:

- Give benzathine benzylpenicillin 2.4MU IM[1] stat.
- If severe penicillin allergy[2] and not pregnant/breastfeeding, do baseline RPR, give doxycycline 100mg 12 hourly for 14 days instead and advise patient to return in 6 months for repeat RPR.
- If pregnant/breastfeeding and severe penicillin allergy[2], refer for confirmation of new syphilis infection and possible penicillin desensitisation.

Genital ulcer with vaginal/urethral discharge:

- Give ceftriaxone 250mg IM[3] stat *and*
- Azithromycin 1g orally stat.
- If severe penicillin allergy[2] omit ceftriaxone and give instead azithromycin to 2g orally stat.
- If severe penicillin allergy[2] and pregnant/breastfeeding, refer for confirmation of new syphilis infection and possible penicillin desensitisation.
- If woman or if partner has vaginal discharge syndrome (VDS), also give metronidazole 2g orally stat.

Check if patient also has hot tender swollen inguinal nodes (discrete, movable and rubbery).

No

- Review after 7 days.
- If no improvement, give azithromycin 1g orally stat and review after 2 days.
- If still no better after 2 days, refer.

Yes

Also treat patient and partner/s for **bubo**:

- Give azithromycin 1g stat (if not already given above) and 1g stat 7 days later.
- If fluctuant lymph node and hernia and aneurysm excluded, aspirate pus through healthy skin in sterile manner every 3 days as needed.
- If pain, give ibuprofen 400mg 8 hourly with food up to 5 days.
- Review after 14 days. If no better, refer to doctor same week.

[1]For benzathine benzylpenicillin 2.4MU injection: dissolve benzathine benzylpenicillin 2.4MU in 6 mℓ lidocaine 1% without epinephrine (adrenaline). [2]History of anaphylaxis, urticaria or angioedema. [3]For ceftriaxone 250mg IM injection: dissolve 250mg in 0.9mℓ lidocaine 1% without epinephrine (adrenaline).

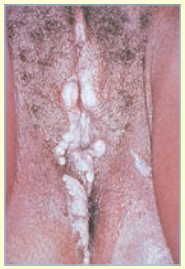
OTHER GENITAL SYMPTOMS

First assess and advise patient and partner/s ↩ 27.

Lumps

Genital warts

- Check for syphilis. If positive ↩ 32.
- Do Pap smear (see below).
- Refer if:
  - Warts > 10mm
  - Multiple lesions
  - Warts inside vagina or involving cervix
  - Pregnant with large, bleeding or infected warts
- Reassure patient that most warts resolve spontaneously within 2 years.



Molluscum contagiosum

- Papules with central dent
- Usually self-limiting
- Apply tincture of iodine BP to core of lesion.
- If HIV, should resolve with ART.

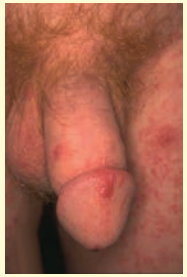
Itchy rash in pubic area

Pubic lice

- Apply 25% benzyl benzoate lotion to affected area for 24 hours. Avoid mucous membranes, urethral opening and raw areas.
- Treat partner/s even if asymptomatic.
- Before treatment, wash and iron all linen and clothes in hot water and expose bedding to direct sunlight.
- For itch, give chlorpheniramine 4mg 8 hourly as needed for up to 10 days.
- Repeat treatment after 1 week.

Scabies

- Give 25% benzyl benzoate lotion once daily at night for 2 days. After hot bath and well dried, patient to apply lotion to whole body from neck down, leave on overnight and wash off the next day. Avoid mucous membranes, urethral opening and raw areas.
- Treat partner/s even if asymptomatic.
- Wash and iron all linen and clothes in hot water and expose bedding to direct sunlight.
- For itch, give chlorpheniramine 4mg 8 hourly as needed for up to 10 days.
- If no response, repeat treatment after 1 week (repeat only once).



CERVICAL SCREENING

- Papanicolaou (Pap)/cervical smears detect cervical abnormalities which occur before cancer develops. Cervical cancer is caused by certain types of human papilloma virus (HPV). HPV is usually transmitted sexually.
- Women who smoke are more likely to have cervical abnormalities. Alert the patient to the risks and urge to stop.
- An asymptomatic HIV-negative woman should receive 3 smears in her lifetime from age 30, with a 10-year interval between each smear.
- An HIV-positive woman should receive a Pap smear on diagnosis, regardless of her age. If the result is normal, she needs a Pap smear every year.
- Do additional Pap smear if vaginal warts or abnormal vaginal bleeding.
- In pregnancy, Pap smears can be performed safely up to 30 weeks' gestation.
- If the patient has an abnormal vaginal discharge, treat the discharge first ↩ 29 and then take a Pap smear at a follow-up visit.

Manage according to the Pap result

- Unsatisfactory smear: repeat within 3 months.
- ASC-US: repeat within one year.
- 2 consecutive ASC-US and HIV positive: refer colposcopy.
- 3 consecutive ASC-US and HIV negative: refer colposcopy.
- ASC-H (ASC-US/HSIL) or AGUS - refer colposcopy.
- Suspicious of cancer: Refer urgent colposcopy.
- LSIL: repeat after one year.
- 2 consecutive LSIL: refer colposcopy.
- HSIL: refer for colposcopy.
- Normal: arrange repeat Pap date according to HIV status.

Inform patient of symptoms of cervical cancer (abnormal bleeding, vaginal discharge) and instruct her to return should they occur.

ASC-US: Atypical squamous cells of undetermined significance; LSIL: Low-grade squamous intraepithelial lesions; HSIL: High-grade squamous intraepithelial lesions; ASC-H: Atypical cells - cannot exclude HSIL; AGUS: Atypical glandular cells of undetermined significance

POSITIVE SYPHILIS RESULT

- If fingerprick syphilis test was done, confirm positive result with Rapid Plasmin Reagin (RPR) test.
- Do RPR if sexually assaulted, signs of secondary/tertiary syphilis or 6 month follow-up of early syphilis if treated with doxycycline.

Approach to the patient with a RPR positive result
First assess and advise the patient with a positive syphilis result and his/her partner/s ↩ 27.

Man or non-pregnant woman
Is previous RPR result available?

No

Does patient have a genital ulcer or signs of secondary syphilis[1]?

No

- Treat for late syphilis.
  - Give benzathine benzylpenicillin 2.4MU IM[2] weekly for 3 weeks.
  - If severe penicillin allergy[3] and not breastfeeding give doxycycline 100mg 12 hourly for 28 days instead and repeat RPR in 6 months.
  - If severe penicillin allergy[3] and breastfeeding, refer to confirm diagnosis and for possible penicillin desensitisation.
- Treat partner/s ↩ 27.

Yes

- Treat for early syphilis.
  - Give benzathine benzylpenicillin 2.4MU IM[2] stat.
  - If severe penicillin allergy[3] and not breastfeeding, give doxycycline 100mg 12 hourly for 14 days instead and repeat RPR in 6 months.
  - If severe penicillin allergy[3] and breastfeeding, refer to confirm diagnosis and for possible penicillin desensitisation.
- Treat partner/s ↩ 27.

Yes

New RPR titre is either:
- ≤ 1:8 and unchanged or
- At least 4 times lower than before (e.g. was 1:32, now 1:8)

No

Is there a negative RPR from the last 2 years?

Yes

- Treat for late syphilis.
  - Give benzathine benzylpenicillin 2.4MU IM[2] weekly for 3 weeks.
  - If severe penicillin allergy[3] and not pregnant/breastfeeding, give doxycycline 100mg 12 hourly for 28 days instead and repeat RPR in 6 months.
  - If severe penicillin allergy[3] and breastfeeding, refer to confirm diagnosis and for possible penicillin desensitisation.
- Treat partner/s ↩ 27.

No

Yes

- If treated before no further treatment needed.
- If not already treated, treat partner/s →27.

Pregnant woman

- Treat for late syphilis
  - Give benzathine benzylpenicillin 2.4MU IM[2] weekly for 3 weeks.
  - If severe penicillin allergy[3], refer to confirm diagnosis and for possible penicillin desensitisation.
- Treat partner/s ↩ 27.

Manage the newborn of the RPR positive mother:

- Well baby: if mother not fully treated or delivered within 4 weeks of starting treatment, give benzathine benzylpenicillin 50 000units/kg IM stat.
- Signs of congenital syphilis[4]: notify and refer for procaine benzylpenicillin 50 000units/kg IM daily for 10 days.

[1]The signs of secondary syphilis occur 6-8 weeks after the primary ulcer and include a generalized rash (including palms and soles), flu-like symptoms, flat wart-like genital lesions, mouth ulcers and patchy hair loss. Tertiary syphilis occurs many years later and affects skin, bone, heart and nervous system. [2]For benzathine benzylpenicillin 2.4MU injection: dissolve benzathine benzylpenicillin 2.4 MU in 6mℓ lidocaine 1% without epinephrine (adrenaline). [3]History of anaphylaxis, urticaria or angioedema. [4]Signs of congenital syphilis are rash (red/blue spots or bruising especially on soles and palms), jaundice, pallor, distended abdomen due to enlarged liver or spleen, low birth weight, respiratory distress, large, pale placenta, hypoglycaemia.

ABNORMAL VAGINAL BLEEDING

Recognise the patient with abnormal vaginal bleeding needing urgent attention:

- BP < 90/60
- Pregnant →100.
- Postpartum haemorrhage (heavy bleeding soaking pad in < 5 minutes, within the first 24 hours following delivery)

Manage and refer urgently:

- **If BP < 90/60: give 1ℓ sodium chloride 0.9% IV over 20 minutes, then 1ℓ over 30 minutes until BP > 90/60. Continue 1ℓ 6 hourly. Stop if patient becomes breathless.**
- **If postpartum haemorrhage:**
  - Massage uterus, empty bladder (with catheter if needed), and give oxytocin 10IU IM stat if not given immediately after delivery.
  - Give oxytocin 20IU in 1ℓ sodium chloride 0.9% at 250mℓ/hr IV. If oxytocin not available, give misoprostol 600mcg under tongue or rectally stat.
  - Establish a second IV line and give sodium chloride 0.9% as above.
  - Ensure placenta is delivered. If controlled cord traction fails, try manual delivery.
  - If uterus still soft, give ergometrine[1] 0.5mg IM stat. Repeat once after 15 minutes if no response.
  - Repair any bleeding tears.
  - If still bleeding heavily, apply bimanual compression[2] and continue during transfer.

Approach to the patient with abnormal vaginal bleeding not needing urgent attention

- Do a bimanual palpation for pelvic masses, a speculum examination to visualise cervix, and a Pap smear ↻ 31. Refer if abnormal examination or cervix.
- Refer within 2 weeks the patient with vaginal bleeding who is menopausal or perimenopausal (with no periods for at least six months).
- In patient who is not menopausal determine the type of bleeding problem:

Heavy regular bleeding > 7 days, passing clots

If bleeding elsewhere (gums, easy bruising, rash), check full blood count and refer to doctor same week.

Irregular pattern (< 24 days or > 35 days between periods)

Hot flushes, mood swings and/or difficulty sleeping?

No
If weight gain, tiredness, feeling cold all the time, check TSH. Refer to doctor if abnormal.

Yes
Perimenopause likely →107.

- If heavy or frequent bleeding, check Hb: if < 12 give ferrous sulphate compound BPC 170mg 3 times a day after food for at least 3 months after Hb > 12.
- During period, give ibuprofen 400mg 8 hourly with food for 2-3 days.
- Give levonorgestrel/ethinyloestradiol 0.15mg/0.03mg for 3-6 cycles ↻ 98.
- Refer the patient:
  - Same day if Hb < 7 or palpitations, dizziness or shortness of breath.
  - Same week if mass in abdomen.
  - If no improvement after 6 months.
  - Excessive bleeding following IUCD insertion.
  - Patient wants to fall pregnant.

Bleeding after sex

- Treat for STI ↻ 27.
- If assault or abuse ↻ 56.

Spotting between periods

If STI symptoms ↻ 27.

If on hormonal contraception, manage according to method:

- Oral contraceptive:
  - Ensure correct use.
  - If diarrhoea/vomiting or on antibiotics, advise condoms during illness and for 7 days thereafter.
  - If on ART, DS-TB or epilepsy treatment, switch to IUCD or injectable contraceptive.
  - If bleeding bothers patient or persists > 3 months on levonorgestrel/ethinyloestradiol 0.15mg/0.03mg, try norgestrel/ethinyloestradiol 0.5mg/0.05mg instead for 3 cycles.
- Injectable contraceptive or subdermal implant:
  - Reassure patient this is common in first 3-6 months.
  - If bleeding bothers patient, give levonorgestrel/ethinyloestradiol 0.15mg/0.03mg for 7 days. If breastfeeding, smoker > 35 years, BP ≥ 140/90, migraine with focal symptoms or DVT/pulmonary embolus, give ibuprofen 400mg 8 hourly for 3 days instead.

Refer patient within 2 weeks if:

- Unsure of diagnosis
- Bleeding persists > 1 week after STI treatment, after diarrhoea/vomiting stop or for > 3 months.

[1]Avoid ergometrine if eclampsia, pre-eclampsia, known hypertension or heart disease. [2]Bimanual compression: insert fist into vagina, with back of hand posteriorly and knuckles in anterior fornix. Place other hand on abdomen behind uterus and squeeze uterus firmly between hands.

SEXUAL PROBLEMS

Problem with erections

Was the onset of the problem gradual or sudden?

Gradual onset
Partial or poorly sustained erections

- Assess cardiovascular disease risk ↴ 75.
- If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90.
- Atenolol, furosemide, hydrochlorothiazide, lopinavir/ritonavir, stavudine, fluoxetine, amitriptyline, phenytoin, carbamazepine may cause erection problems. Doctor to consider changing medication but balance chronic disease control with possible improvement in erections.
- Advise the patient who smokes to stop.
- Ask: 'Are you stressed?' If yes ↴ 55.
- Refer to urologist if no improvement once chronic condition/s stable and treatment optimised.

Sudden onset
Has erections in morning, but not during sex

- Ask: 'Are you stressed?' If yes ↴ 55.
- Ask about anxiety/fear about sex, unwanted pregnancy, infertility and performance anxiety. Refer to counsellor.
- Assess patient's family planning needs ↴ 98.
- Ask about sexual assault or abuse ↴ 56.
- Discuss condom use. Ensure patient knows how to use condoms correctly.

Pain with vaginal and/or anal sex

- Discuss with patient if any relationship problems. If yes, refer to social worker, counsellor or helpline ↴ 111.
- Also ask: Is the pain superficial or deep?

Superficial pain

- If genital symptoms ↴ 27. If anal symptoms ↴ 26.
- Ask about vaginal dryness in the woman. If vaginal atrophy on examination or other menopausal symptoms like flushes, problems sleeping, mood changes, headache ↴ 107.
- Advise use of sexual lubricant. Ensure it is condom-compatible, avoid using Vaseline® with condoms.
- Severe spasm of vagina/ anus during sex: ask about sexual assault or abuse ↴ 56.

Deep pain

- If genital symptoms ↴ 27. If anal symptoms ↴ 26.
- Ask about lower abdominal pain ↴ 23.
- Ask about symptoms of irritable bowel syndrome: recurrent abdominal pain with constipation/diarrhoea/ bloating ↴ 23.
- Refer to gynaecologist if mass in abdomen on examination or periods have become heavy or painful or infertility.
- Refer to colorectal surgeon if anal mass on examination.

Painful ejaculation

- If urinary symptoms →35.
- If genital symptoms →27.

Loss of libido

- Ask: 'Are you stressed?' If yes ↴ 55.
- If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/ pleasure in things?
- If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90.
- Ask about sexual assault or abuse ↴ 56.
- Ask the patient about pain with sex.
- Ask about anxiety/fear about sex, unwanted pregnancy, infertility and performance anxiety. Refer to counsellor.
- Assess the patient's family planning needs ↴ 98.

Refer if sexual problems do not resolve.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

URINARY SYMPTOMS

Recognise the patient with urinary symptoms needing urgent attention:

- Unable to pass urine with lower abdominal discomfort
- Flank pain with leucocytes/nitrites on urine dipstick: **pyelonephritis** likely. If also vomiting, BP < 90/60, pulse ≥ 100, pregnant, male or menopause: **complicated pyelonephritis** likely

Management:

- If unable to pass urine, insert urethral catheter.
- If **complicated pyelonephritis** likely: give sodium chloride 0.9% IV and ceftriaxone 1g IM/IV. If **pyelonephritis not complicated**, treat below.
- Refer same day.

Approach to patient with urinary symptoms not needing urgent attention

- If **pyelonephritis not complicated**: give ciprofloxacin 500mg 12 hourly for 7 days and paracetamol 1g 6 hourly as needed.
- Check urine dipstick. If glucose on dipstick or polyuria exclude diabetes ↴ 77.

Blood in urine

Has patient been in bilharzia area[1]?

Yes

- Give single dose praziquantel 40mg/kg.
- To prevent re-infection advise patient to boil water before use and avoid swimming in contaminated water.

No

Does patient have burning urine?

No

Leucocytes or nitrites on urine dipstick?

No

Refer for investigation of cause of blood in urine.

Yes

Burning urine and/or leucocytes/nitrites on urine dipstick

Woman

Is patient pregnant, catheterised, known with diabetes or urinary tract problem?

No

Treat for **simple urinary tract infection**:

- Give ciprofloxacin 500mg 12 hourly for 3 days.
- Encourage patient to drink plenty of fluids and to empty bladder after sex.

Yes

Treat for **complicated urinary tract infection**:

- Give ciprofloxacin 500mg 12 hourly for 7 days or if pregnant, amoxicillin-clavulanic acid[2] 875/125mg 12 hourly for 7 days.
- Encourage patient to drink plenty of fluids and to empty bladder after sex.

Man

Look for discharge

Patient ≥ 35 years old and *no* discharge. Are there leucocytes or nitrites on midstream urine?

Yes

Check for tender prostate.

No

Treat for **simple urinary tract infection**:

- Give ciprofloxacin 500mg 12 hourly for 3 days.
- Encourage patient to drink plenty of fluids and to empty bladder after sex.

Yes

Treat for **acute prostatitis**:

- Give ciprofloxacin 500mg 12 hourly for 14 days.
- Give ibuprofen 400mg 8 hourly with food for up to 5 days.

No

Treat patient for MUS→28.

Patient < 35 years old *and/or* has discharge.

Treat patient for MUS→28.

Do a urine microscopy, culture and sensitivity if pregnant/symptoms do not resolve/recurrent urinary tract infections. Review after 2 days. If organism resistant or no better, refer to doctor.

Flow Problem

Leakage of urine

- Check dipstick to exclude urinary tract infection.
- Doctor to review use of furosemide.
- Look for vaginal atrophy ↴ 107.
- Ask about constipation ↴ 26.
- Advise patient to cut down alcohol and caffeine and to do Kegel exercises[3].
- Refer to physiotherapist if available.
- Refer if patient has vaginal prolapse or no response to above measures.

Poor stream or difficulty passing urine

- Doctor to review use of amitriptyline.
- Refer for assessment.

[1]Bilharzia areas include Limpopo, North West, Mpumalanga, KwaZulu-Natal and isolated areas in Eastern Cape (Transkei). [2]If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), discuss with doctor. [3]Repeated contraction and relaxation of pelvic floor muscles.

BODY/GENERAL PAIN

Approach to the patient who aches all over
- Check patient's temperature and weight.
- Ask about a sore throat or runny/blocked nose.

Normal
Do a musculoskeletal screen to check if problem is in the joint. Ask the patient to:
- Place hands behind head; then behind back.
- Make a fist and open hand.
- Press palms together with elbows lifted.
- Walk. Sit and stand up with arms folded.

- If temperature ≥ 38°C →8
  and/or
- If weight loss ≥ 5% of body weight in past 4 weeks →7.
- If sore throat →18.
- If runny/blocked nose →17.

Unable to do all actions comfortably.

Able to do all actions comfortably

Examine the joints.

Joints are warm, tender, swollen or have limited movement.

→37

Joints are normal.

- If status is unknown, test for HIV ↻ 66.
- Ask patient: 'Are you stressed?' If yes ↻ 55.
- If patient has experienced recent trauma or abuse ↻ 56.
- Ask about duration of generalised pain.

< 4 weeks

- Give paracetamol 1g 6 hourly.
- Patient to return if no better in 2 weeks.

≥ 4 weeks

- Give paracetamol 1g 6 hourly.
- Take blood for CRP, creatinine, random blood glucose and finger-prick Hb.
- If patient has weight gain, low mood, dry skin or constipation, check TSH.
- Review in 2 weeks.

Blood results all normal

Consider fibromyalgia →97.

Blood results abnormal

Refer to doctor for further assessment.

JOINT SYMPTOMS

Recognise the patient with a joint symptom needing urgent attention:
Short history of single, warm swollen, extremely painful joint and:
- Temperature ≥ 38°C. If known with gout →96, otherwise refer same day.
- Known haemophiliac - possible bleed into the joint
- Trauma in the past 48 hours
- Refer same day.

Approach to the patient with a joint symptom not needing urgent attention
Do a musculoskeletal screen to check if problem is in the joint. Ask the patient to:
- Place hands behind head; then behind back. Make a fist and open hand. Press palms together with elbows lifted.
- Walk. Sit and stand up with arms folded.

Able to do all actions comfortably.

Joint problem unlikely

- If general body pain ↴ 36.
- If localised pain see relevant page.

Unable to do all actions comfortably.
Recent trauma?

Yes

- Rest and elevate joint.
- Apply ice.
- Apply pressure bandage.
- Give ibuprofen 200mg 3 a day with food for 5 days. Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease.
- X-Ray to exclude fracture if no better after 5 days.

No

Ask about duration of joint pain.

≥ 8 weeks

Chronic arthritis

→95

< 8 weeks
Does patient have a genital discharge?

Yes

→27

No

Painful big toe, knee or ankle with warm red overlying skin?

Yes

Acute gout likely
- Might have had similar episode previously.
- For treatment of acute gout attack and routine gout care →96.

No

- Give ibuprofen 400mg 8 hourly with food for up to 1 month. Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease.
- If status unknown test for HIV ↴ 66.
- Review after 1 month, sooner if joint pain worsens.

If no better, refer to specialist.

BACK PAIN

Recognise the patient with back pain needing urgent attention

- Bladder or bowel disturbance
- Sudden onset of leg weakness
- Recent trauma with severe pain and X-Ray unavailable or abnormal
- If flank pain or temperature ≥ 38°C, check urine dipstick:
  - If leucocytes/nitrites: **pyelonephritis** likely. If also vomiting, BP < 90/60, pulse ≥ 100, pregnant, male or menopause: **complicated pyelonephritis** likely
  - If blood with sudden, severe, one-sided pain radiating to groin: **kidney stone** likely

Management:

- **Complicated pyelonephritis** likely: give IV sodium chloride 0.9% and ceftriaxone[1] 1g IM/IV. If **pyelonephritis not complicated,** treat below.
- **Kidney stone** likely: give IV sodium chloride 0.9% and morphine 10-15mg IM single dose.
- Refer urgently to hospital.

Approach to patient with back pain not needing urgent attention

- If patient is a non-pregnant woman of reproductive age with temperature ≥ 38ºC *and*:
  - Vaginal discharge with/without lower abdominal pain: **pelvic inflammatory disease** likely →27.
  - Flank pain with leucocytes/nitrites on urine dipstick: **pyelonephritis not complicated** likely. Give ciprofloxacin oral 500mg 12 hourly for 7 days and paracetamol 1g 6 hourly as needed.
- Next, ask about TB symptoms: cough, weight loss, night sweats, feeling unwell.

Yes

Exclude TB
↩ 58 *and*

- Do back X-Ray.
- Refer to doctor.

No TB symptoms
Is there any of: < 20 years, > 55 years, pain progressive or for > 6 weeks, previous cancer or oral steroid use, HIV or deformity?

Yes

No
What is the nature of the back pain?

- Sleep not usually disturbed by pain *and*
- No stiffness or stiffness on waking lasts < 30 minutes *and*
- Pain is worse with activity and improves with rest.

Yes

Mechanical back pain likely

- Measure waist circumference: if > 80cm (woman) or 94cm (man) assess CVD risk ↩ 75.
- Assess and manage patient's stress ↩ 55.
- Advise patient to be as active as possible, continue to work and avoid resting in bed.
- Give paracetamol 1g 6 hourly.
- If poor response after 1 week add ibuprofen 400mg 8 hourly for up to 5 days. Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease.
- If still a poor response add tramadol 50mg 4-6 hourly.
- Refer to physiotherapy if pain persists > 2 weeks, or unable to cope with daily activities/work.
- Refer to specialist if pain persists > 6 weeks, urgently if bladder disturbance or leg weakness.

No / Unsure

Inflammatory back pain likely

- Check CRP.
- Do back X-Ray.
- Refer to specialist.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone.

NECK PAIN

Recognise the patient with neck pain needing urgent attention:

- Neck stiffness with temperature ≥ 38°C: give ceftriaxone[1] 2g IV/IM stat.
- New onset of hand or arm symptoms (weakness or numbness) or gait disturbance (leg weakness, stiffness or loss of balance)
- Trauma with neurological symptoms or abnormal X-Ray: immobilise neck with hard collar or sandbags on either side of the neck.
- Refer same day.

Approach to the patient with neck pain not needing urgent attention

Is there any of < 20 years, > 55 years, pain progressive or for > 6 weeks, previous TB, cancer or oral steroid use, feeling unwell or weight loss?

Yes

Do X-Ray and refer.

No

Neck pain with arm pain

- Give paracetamol 1g 6 hourly. Avoid NSAIDs like ibuprofen.
- Do not refer for physiotherapy.

Refer if no response after 1 month or hand weakness develops.

Neck pain without arm pain

- Give paracetamol 1g 6 hourly. Avoid NSAIDs like ibuprofen.
- Refer for physiotherapy.

Refer if no response after 3 months.

ARM SYMPTOMS

Recognise the patient with arm symptoms needing urgent attention:

- Pain and limitation of movement following injury: refer
- Arm, elbow or hand pain with swelling and temperature ≥ 38°C: refer
- Left arm pain with chest pain: exclude ischaemic heart disease →19.
- Sudden onset of weakness of arm perhaps with vision problems, dizziness, difficulty speaking or swallowing: consider stroke/T/A →83.

Approach to the patient with arm symptoms not needing urgent attention

Screen if problem is in the joint: Place hands behind head; then behind back. Make a fist and open hand. Press palms together with elbows lifted. Walk. Sit and stand up with arms folded.

Cannot do screen comfortably.

Joint problem likely

→37.

Can do screen comfortably. Check for associated symptoms.

Painful shoulder
Referred pain likely

Ask about chest pain, difficult breathing, cough, abdominal pain, pregnancy. See relevant page.

Wrist pain worse at night and if arm hangs down. May be pins and needles in 1st, 2nd and 3rd fingers.

Carpal tunnel syndrome likely

Refer

Elbow pain worse on gripping
Tennis or golfer's elbow likely

- Advise rest.
- Give ibuprofen 400mg 3 times a day with food for 5 days.
- Refer if no better.

Pain at base of thumb relieved by rest
De Quervain's tenosynovitis likely

- Rest and splint joint.
- Give paracetamol 1g 6 hourly.
- Refer if no better.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. If giving ceftriaxone IM, divide dose: 1g into 2 different injection sites.

LEG SYMPTOMS

- If the problem is in the joint →37.
- If the problem is in the foot →41.

Recognise the patient with leg symptoms needing urgent attention:

- Unable to bear weight following injury
- Swelling and localised pain in calf : DVT likely especially if > 35 years, BMI > 25, smoker, immobile, pregnant, on oestrogen, recent surgery, TB or cancer
- Muscle pain in legs or buttocks on exercise associated with pain at rest, gangrene or ulceration: critical limb ischemia
- Sudden onset of weakness of leg perhaps with vision problems, dizziness, difficulty speaking or swallowing: consider stroke/T/A →83.
- Refer same day.

Approach to the patient with leg symptoms not needing urgent attention

Is there leg swelling?

No

Pain in buttock radiating down back of leg

Irritation of sciatic nerve likely

Refer same week.

Muscle pain in legs or buttocks on exercise

Claudication likely

- Leg pulses are weak or absent.
- Skin is cool, shiny and hairless.

Manage for peripheral vascular disease →86.

Yes

Both legs swollen

Is there cough/wheeze/difficult breathing?

Yes

→20.

No

- Exclude pregnancy. If pregnant →100.
- Check for kidney disease on urine dipstick: if blood or protein, check BP ↻ 80 and refer to doctor.

If none of the above or unsure of diagnosis, refer same week.

One leg swollen

Has there been a recent injury?

Yes

Soft tissue injury likely

- Ensure patient can bear weight on leg, otherwise refer same day.
- Apply firm supportive bandage.
- Advise patient to use leg within limits of pain.
- Give ibuprofen 400mg 3 times a day with food up to 5 days, or if peptic ulcer, hypertension or asthma, paracetamol 1g 4 times a day.
- Review if no better after 2 weeks or if symptoms worsen.

No

Examine skin for discolouration, ulcers or lumps.

Discolouration, ulcers or breaks in skin

Venous stasis likely

- Advise patient to exercise daily and raise the leg periodically.
- If ulcer →49.

Purple lumps on legs or elsewhere on body

Kaposi's sarcoma likely

- If status unknown test for HIV ↻ 66.
- Patient needs ART within 2 weeks ↻ 67.
- Refer to KS clinic.

FOOT SYMPTOMS

If the problem is in the joint →37.

Recognise the patient with foot symptoms needing urgent attention:

- Unable to bear weight following injury
- On ART and symptoms rapidly worsening over a few weeks, sensation decreased, and/or arms involved: stop ART.
- Muscle pain in legs or buttocks on exercise associated with foot pain at rest, gangrene or ulceration: critical limb ischemia
- Refer same day.

Approach to the patient with foot symptoms not needing urgent attention

Generalised foot pain

Constant burning pain, pins/needles and/or numbness of feet worse at night
Peripheral neuropathy likely

- If status unknown, test for HIV ↴ 66. HIV patient needs routine care ↴ 67.
- Exclude diabetes ↴ 77.
- Give amitriptyline 25-75mg at night and paracetamol 1g 6 hourly.
- If no response, add ibuprofen 400mg 8 hourly with food up to 5 days.
- Refer same week if one-sided, other neurological signs, or loss of function.

On IPT or TB treatment: give pyridoxine 75mg daily for 3 weeks, then 25mg daily for duration of treatment. Refer if no response within 1 week of treatment.

- If on d4T switch to TDF 300mg daily. Check eGFR: if < 50 refer.
- If on AZT or ddI refer.

If no response to treatment, refer.

Foot pain on exercise with muscle pain in legs and buttocks
Peripheral vascular disease likely

→86.

Localised pain

Ensure that shoes fit properly.

Heel pain
Plantar fasciitis likely if pain is worse on waking

- Advise patient to avoid standing and to apply ice.
- Give ibuprofen 400mg 3 times a day with food up to 5 days, or if peptic ulcer, hypertension or asthma, paracetamol 1g 6 hourly.
- Refer to physiotherapist.

Foot deformity

Bony lump at base of big toe with/without callus, inflammation, ulcer
Bunion likely

- Encourage patient to go barefoot when possible.
- If severe pain or ulceration, refer for surgery.
- Refer other foot deformity.

In the patient with diabetes and/or PVD identify the foot at risk to prevent ulcers and amputation

- Skin: callus, corns, cracks, wet soft skin between toes, ulcers. Refer the patient with ulcers for specialist care.
- Foot deformity: most commonly bunions (see above). Refer the patient with foot deformity for specialist care.
- Sensation: light prick sensation abnormal after 2 attempts
- Circulation: claudication (muscle pain in legs or buttocks on exercise with/without rest pain), absent foot pulses. Refer the patient with claudication for specialist care.

Health for All ↴ 59

Advise patient with diabetes and/or PVD to care for feet daily to prevent ulcers and amputation

- Inspect and wash feet daily and carefully dry between the toes. Do not soak your feet.
- Moisten dry cracked feet daily with aqueous cream. Do not moisturise between toes.
- Tell your health worker at once if you have any cuts, blisters or sores on the feet.
- Avoid walking barefoot or wearing shoes without socks. Inspect inside shoes daily.
- Clip nails straight across. Do not cut corns/calluses yourself or use chemicals/plasters to remove them.
- Avoid testing water temperature with feet or using hot water bottles or heaters near feet.

BURNS

Attend urgently to the patient with a burn

- Remove smouldering, hot and/or constrictive clothing and rings and immerse burnt area in cold water for 30 minutes.
- Clean burn gently with clean water or sodium chloride 0.9%.
- Assess the percentage of body surface burnt (see adjacent guide) and depth of the burn:
  - Full thickness burns: complete skin loss, dry, charred, whitish/brown/black, painless
  - Partial thickness burns: moist white/yellow slough, red, mottled, only slightly painful
- Cover full thickness and extensive burns with an occlusive dressing, other burns with paraffin gauze and dry gauze on top. If infected apply povidone iodine 5% cream daily.
- If inhalation burn with black sputum, difficulty breathing, hoarse voice or stridor apply face mask oxygen.
- Ensure hydration: if < 10% burns give oral fluids; if ≥ 10% burns, give sodium chloride 0.9% IV [burn x weight (kg) x 4mℓ]: give half volume in first 8 hours.
- Give tetanus toxoid 0.5mℓ IM if not had in last 5 years.
- Give paracetamol 1g 6 hourly as needed.
- Ask about abuse ↴ 56 and substance abuse ↴ 90.
- Refer same day the patient with:
  - Full thickness burns
  - Partial thickness burns > 10% of total body surface
  - Burns of hands/face/feet/genitalia/perineum/major joints
  - Circumferential burns of limbs/chest
  - Electrical or chemical burns
  - Inhalation injury

Calculate % of body surface burnt:

- Head 9%
- Neck 1%
- Arm 9%
- Leg 18%
- Front torso 18%
- Back 18%

BITES

Recognise the patient with a bite needing urgent attention:

- Snake bite even if bite marks not seen
- Insect bite/s and weakness, drooping eyelids, difficulty swallowing and speaking, double vision
- Suspected rabid animal (animal with strange behaviour)
- Deep and large wound needing surgery

Management:

- Give tetanus toxoid 0.5mℓ IM if not had in last 5 years
- Snake bite: do not apply a tourniquet or attempt to squeeze or suck out the venom. Discuss with poison help line ↴ 111.
- If rabies suspected give rabies immunoglobulin 10IU/kg injected in and around wound *and* 10IU/kg IM.
- Refer same day.

Approach to the patient with a bite not needing urgent attention

Human or animal bite/s

- Remove any foreign bodies and encourage bleeding.
- Irrigate with warm water and chlorhexidine 0.05% solution or povidone iodine 10% solution.
- Do not close the wound.
- Give tetanus toxoid 0.5mℓ IM if not had in last 5 years.
- Give paracetamol 1g 6 hourly as needed.
- Give antibiotic if human bite/s or animal bite/s to hand or extensive bite: amoxicillin/clavulanic acid 875/125mg 12 hourly or if severe penicillin allergy[1], azithromycin 500mg daily for 3 days instead, *plus* metronidazole 400mg 8 hourly all for 5 days, or for 10 days if infected.

Insect bites

- If very painful scorpion sting, inject lignocaine 2% 2mℓ around site.
- Give chlorpheniramine 4mg 8 hourly up to 5 days.
- Apply calamine lotion.
- Give paracetamol 1g 6 hourly as needed.

[1]History of anaphylaxis, urticaria or angioedema

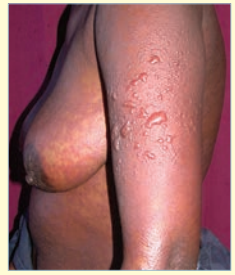
SKIN SYMPTOMS

This is the starting page for the patient with skin symptom/s.

Recognise the patient with skin symptom/s needing urgent attention:

Refer urgently:
- Purple rash with headache, vomiting: give ceftriaxone[1] 2g IM/IV.
- Rash with BP < 90/60: give Ringer's lactate IV.
- Diffuse itchy rash with respiratory rate ≥ 30 breaths/minute: treat for anaphylaxis →4.
- If on abacavir, check for hypersensitivity reaction ↻ 70.

Refer same day:
- Extensive blistering
- Shingles involving the eye
- If on any medication like ART, TB drugs, co-trimoxazole or anticonvulsants, with 1 or more of the following, stop all drugs:
  - Temperature ≥ 38°C
  - Systemically unwell (vomiting/headache)
  - Any mucosal involvement (look in the mouth)
  - Blistering or raw areas
  - Diffuse purple discolouration of the skin
  - Jaundice



Approach to the patient with skin symptom/s not needing urgent attention

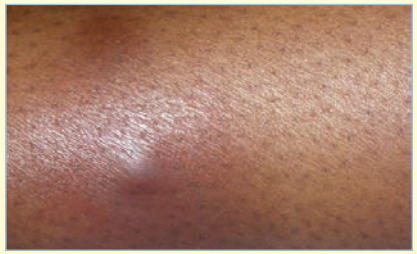
Pain	Itch			Lump/s	Generalised, non-itchy rash	Ulcers	Crusts	Changes in skin colour
→44	No rash	Rash		→47	→48	→49	→49	→50
		Localised	Generalised					
	→45		→46					

If status unknown, test for HIV, especially if rash is extensive, recurrent and/or difficult to treat.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. If giving ceftriaxone IM, divide dose: 1g into 2 different injection sites.

PAINFUL SKIN

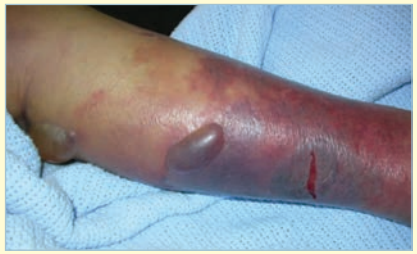
Firm, red lump which softens in the centre to discharge pus.



Boil/abscess likely
Skin is swollen, red, hot and tender to the touch.

- Advise patient to wash with soap and water, keep nails short, and avoid sharing clothing or towels.
- Give paracetamol 1g 6 hourly for pain relief as needed.
- Incise and drain if larger or fluctuant. Refer if on face or perianal region.
- If enlarged lymph nodes or temperature ≥ 38°C, give flucloxacillin 500mg 6 hourly for 5 days. If severe penicillin allergy[1], give azithromycin 500mg daily for 3 days instead.
- If recurrent boils: test for HIV ↴ 66 and diabetes ↴ 77. Wash body daily for 1 week with antiseptic wash.

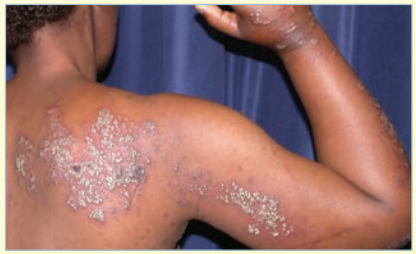
Sudden onset sharply demarcated redness of skin.



Cellulitis likely
There may be blistering.

- Give paracetamol 1g 6 hourly for pain relief.
- Give flucloxacillin 500mg 6 hourly for 5 days. If severe penicillin allergy[1], give azithromycin 500mg daily for 3 days instead.
- Refer if symptoms worsen or no better after 4 days.

Blisters with crusting in a band along one side of the body or face for 3 days or less.



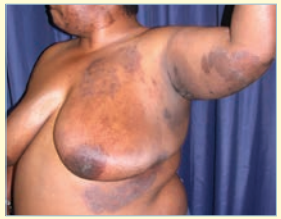
Shingles likely
If status is unknown test for HIV ↴ 66

- Treat rash topically with povidone iodine cream.
- If blisters are fresh, give aciclovir 800mg 4 hourly (miss the middle of the night dose) for 7 days.
- Shingles is very painful. Give regular analgesia:
  - Paracetamol 1g 6 hourly.
  - If no response, add tramadol 50mg 4 times a day.
  - If poor response or pain persists after rash has healed, give amitriptyline 25mg at night, increase by 25mg every 2 weeks if needed to 75mg.
- If infected, add flucloxacillin 500mg 6 hourly for 5 days. If severe penicillin allergy[1], give azithromycin 500mg daily for 3 days instead.
- A stage 2 HIV diagnosis. HIV patient needs routine HIV care ↴ 67.
- Refer same day if:
  - Eye involvement
  - Features of meningitis
  - Blisters elsewhere on the body

[1]History of anaphylaxis, urticaria or angioedema

ITCH WITH LOCALISED RASH

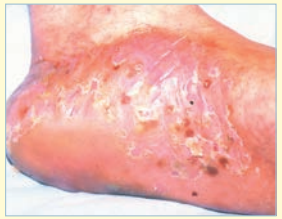
Slow growing ring-like patch/patches



Ringworm likely
A clearly-demarcated active, scaly or blistering edge is characteristic. If multiple or large lesions, test for HIV ↴ 66.

- Give clotrimazole cream twice a day for 2 weeks after lesion has cleared.
- Advise patient to avoid sharing towels/clothes.
- Give routine HIV care to the HIV patient ↴ 67.
- Refer if rash is extensive, recurrent or responds poorly to clotrimazole cream.

Scaling moist lesions between toes and on soles of feet



Athlete's foot likely

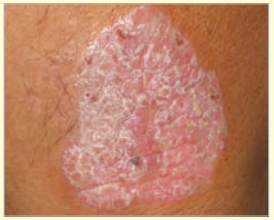
- Give clotrimazole cream twice a day for 2 weeks after lesion has cleared.
- Advise patient to wash and dry feet well.
- Encourage open shoes/sandals.

Itchy rash on back of neck

Lice likely
Look for nits/eggs on hair.

- Dip comb in vinegar and fine comb the hair.
- Give permethrin 1% cream rinse: apply after washing and rinse after 10 minutes or benzyl benzoate: apply to scalp overnight and wash off in morning.
- Repeat after 1 week if necessary.

Well demarcated pink raised plaques covered with a silvery scale.



Psoriasis likely
Confirm diagnosis with doctor

- Apply emulsifying ointment.
- Expose skin to sunlight.
- Apply LPC cream daily.
- Refer if extensive or not responding or LPC cream unavailable.

ITCH WITH NO RASH

- Confirm there is no rash, especially scabies or insect bites.
- Is the skin very dry?

No
Review patient's medication.

All TB drugs can cause itch with no rash.

- Continue TB treatment.
- Chlorpheniramine 4mg at night, or up to 8 hourly, for up to 5 days (may cause sedation).
- Advise patient to return if rash develops or if no better after 5 days.

If not on any medication, refer for assessment of underlying cause.

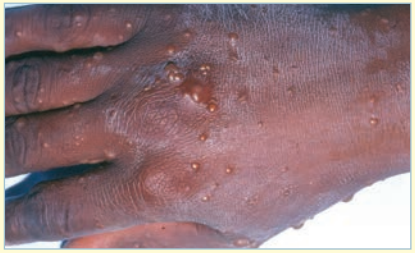
Yes
Dry skin/ichthyosis likely

- Use emulsifying ointment, petroleum jelly or aqueous cream as moisturiser.
- Use aqueous cream instead of soap to wash.

GENERALISED ITCHY RASH

- If started new medication (especially ART or TB treatment) in past 6 weeks, manage as likely **drug reaction** →48.
- If status unknown, test for HIV, especially if rash is extensive, recurrent and difficult to treat ↩ 66.

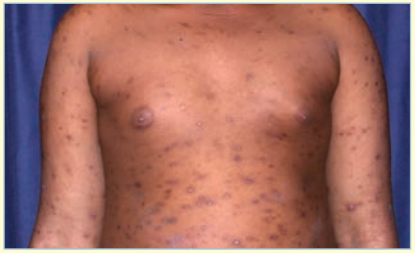
A widespread very itchy rash with burrows



Scabies likely
Commonly involves web-spaces of hands and feet, axillae and genitalia.

- Prescribe 25% benzyl benzoate lotion.
- Apply, leave to dry, wash off after 24 hours, repeat after 1 week (repeat once only).
- Treat all household members and clean linen/clothes.
- For itch: chlorpheniramine 4mg at night up to 10 days.

Very itchy bumps.
Skin often hyper-pigmented

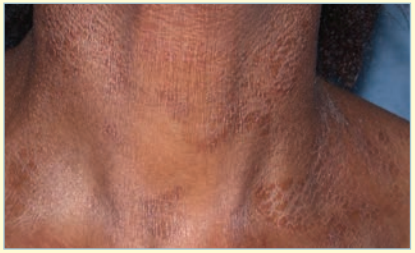


Papular-pruritic eruption likely

- Often co-exists with scabies.
- Usually seen in HIV patients ↩ 66.
- May temporarily worsen on starting ART.
- A stage 2 HIV condition. HIV patient needs routine HIV care ↩ 67.

- First treat as for scabies in adjacent column.
- If no response, give emulsifying ointment and 1% hydrocortisone cream.
- For itch: chlorpheniramine 4mg 8 hourly up to 5 days.
- If poor response doctor to give betamethasone 0.1% ointment twice a day for 7 days (do not apply to face).

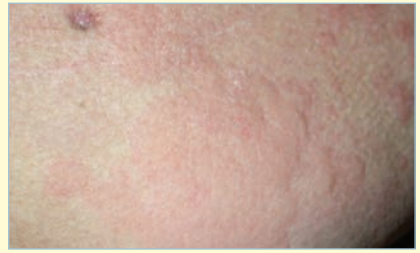
Patches of dry, scaly skin with/without itch that may be localised



Eczema likely

- Use emulsifying ointment instead of soap.
- Prescribe 1% hydrocortisone cream.
- Use aqueous cream as a moisturiser.
- For itch: chlorpheniramine 4mg 8 hourly up to 5 days *or* cetirizine 10mg at night long term as needed..
- If infected, treat with flucloxacillin 500mg 6 hourly for 5 days. If severe penicillin allergy[1], give azithromycin 500mg daily for 3 days instead.
- If poor response doctor to give betamethasone 0.1% ointment twice a day for 7 days (do not apply to face).
- Refer if no better with above treatment.

Very itchy red raised wheals that appear suddenly, disappear and then reappear elsewhere



Urticaria likely
Commonly due to allergy

- Try to identify and remove allergen.
- Stop offending drug and prescribe alternative if necessary.
- Calamine lotion directly on rash as needed.
- Chlorpheniramine 4mg 8 hourly until 72 hours after resolution of wheals.
- Refer if no better in 24 hours.

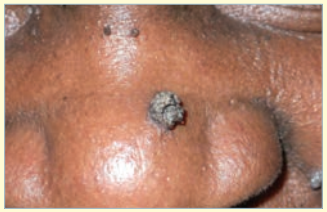
If no response to treatment, refer for specialist review.

[1]History of anaphylaxis, urticaria or angioedema

LUMPS

Refer same week the patient with a lump that:
- Bleeds easily
- Is a new or changed mole
- If the diagnosis is uncertain to exclude skin cancer

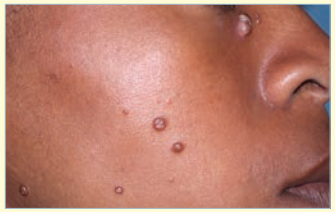
Raised nodules or papules



Warts likely
- Common on hands in young adults.
- Plantar warts on the soles of the feet are thick and hard with a black central point.

- Reassure patient that warts often disappear spontaneously.
- Apply podophyllin resin 20% and salicylic acid 25% ointment under a plaster at night.
- Protect surrounding skin with petroleum jelly.
- Refer if warts are extensive.

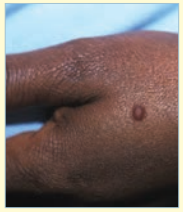
Small, skin-coloured bumps with pearly central dimples

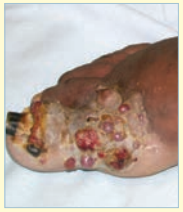


Molluscum contagiosum likely
- May be extensive in HIV.
- If status is unknown test for HIV ↴ 66.

- Reassurance (may disappear quickly with ART).
- If distressing to patient, try local destructive treatment (open molluscum with sterile blade/needle and paint with tincture of iodine).
- Refer if no response to ART or local destructive treatment.

Purple lumps on skin or in mouth

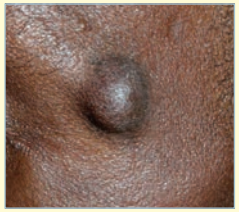




Kaposi's sarcoma likely
- These can vary from isolated lumps to florid tumours.
- If status is unknown test for HIV ↴ 66.

- This is an AIDS-defining illness.
- Patient needs routine HIV care and ART →67.

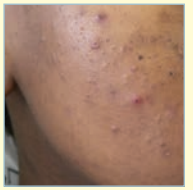
Small, firm lump beneath the skin, may discharge white material



Epidermal cyst likely

- If not infected no treatment needed.
- If warm, tender and red, the cyst is infected:
  - Incise and drain if large or fluctuant. Refer if on face or perianal region.
  - If enlarged lymph nodes or temperature ≥ 38°C give flucloxacillin 500mg 6 hourly for 5 days. If severe penicillin allergy[1], give azithromycin 500mg daily for 3 days.
- Refer if large, symptomatic, recurrent infection or diagnosis uncertain.

Red papules, pustules and blackheads on face and perhaps on upper back, arms, buttocks and chest



Acne likely

- Steroids, anticonvulsants, isoniazid can all worsen acne.
- Advise to avoid squeezing lesions and greasy cosmetics. Diet will not affect acne.
- Apply benzoyl peroxide 5% gel at night to inflamed pustules and discuss with doctor to give doxycycline 100mg daily for at least 3 months. Doxycycline interferes with oral contraceptive. Advise to use condoms as well.
- If woman needs contraception, advise oestrogen-containing oral contraceptive ↴ 98.
- Response to treatment is usually slow.
- Refer if severe or not responding to treatment.

[1]History of anaphylaxis, urticaria or angioedema

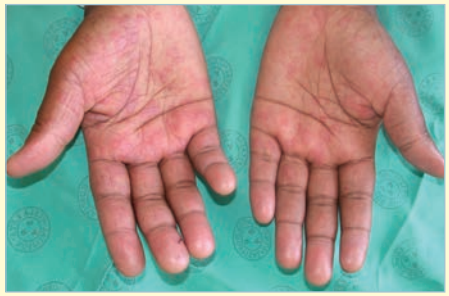
GENERALISED NON ITCHY RED RASH

Is patient taking any medication?

Yes

Drug reaction likely

- Presentation is variable, from mild, patchy spots on the trunk to widespread skin damage (like burns).
- Hand involvement is characteristic.
- May occur within 6 weeks of starting or restarting antiretrovirals especially nevirapine, TB drugs, anticonvulsants, penicillin or co-trimoxazole.
- If on abacavir, check for abacavir hypersensitivity reaction ↻ 70.



Does the patient have any of the following markers of severity:

- Temperature ≥ 38°C
- Vomiting or nausea
- Headache
- Jaundice
- Painful mouth, eyes or genitals
- Blistering or 'raw' areas
- Diffuse purple discolouration of skin
- Abdominal pain

Yes

Patient is severely ill.

- Stop *all* drugs.
- Refer to hospital same day.

No

Patient is not severely ill.

- Patient must continue with medication. Do not increase nevirapine if still on once daily dose until rash has resolved and ALT is normal.
- Check ALT.
  - If ≥ 200 refer same day.
  - If 50-199 and patient is well, repeat ALT after 1 week.
- Apply emulsifying ointment.
- Chlorpheniramine 4mg at night if itchy up to 5 days.
- Review daily until rash resolves.
- Advise patient to return urgently if markers of severity develop.

No

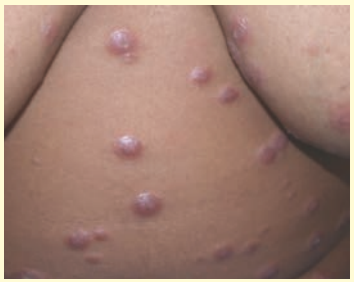
- Most likely due to infection.
- Patient may have fever, headache, lymphadenopathy, muscle pain.
- Ensure patient is not severely ill ↻ 43.

Treatment of patient who is not severely ill

- Give pain relief if needed. Paracetamol 1g 6 hourly.
- Check for syphilis.
- If status unknown, test for HIV ↻ 66.

Syphilis test positive or unavailable
About one third of patients with untreated primary syphilis develop secondary syphilis.

Rash is often on soles and palms. There may also be condylomata lata and patchy hair loss.



Treat patient for early syphilis →32.

HIV negative
Rash may be an HIV seroconversion illness.

Advise patient to repeat HIV test after 3 months.

HIV positive

Patient needs routine HIV care →67.

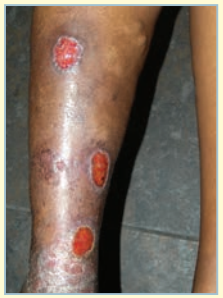
ULCERS AND CRUSTS

Ulcer/s
Is ulcer/s on the leg?

No

- If genital ulcer →27.
- If elsewhere on body and no obvious cause like trauma, refer to exclude skin cancer.

Yes



Check if foot pulses are present and if patient has muscle pain in legs or buttocks on exercise.

Foot pulses are present and *no* muscle pain in legs or buttocks on exercise.

Is there darkening of skin around the ulcer, varicose veins and/or chronic swelling of the leg?

No

- If patient has weight loss, cough or sweats, exclude TB ↻ 58.
- Refer for further assessment.

Yes

Venous stasis ulcer likely

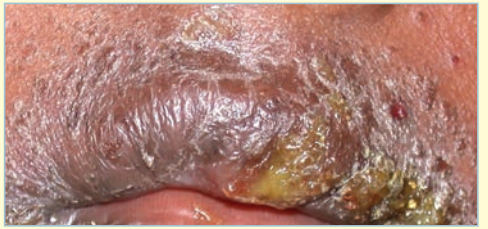
- Apply dressing under compression (ideally hydrocolloid dressing or silver sulfadiazine cream).
- Assess CVD risk ↻ 75.
- Refer if patient has diabetes or ulcer no better after 1 month of treatment.

Foot pulses not present and/or muscle pain in legs or buttocks on exercise

Peripheral vascular disease likely

- Patient needs specialist assessment.
- Do not apply compression bandage to ulcer/s.
- →86.

Blisters which dry to form honey coloured crusts.



Impetigo likely

- Usually starts on face, spreads to neck, hands, arms and legs. May complicate bites or grazes.
- May be extensive in HIV. If status is unknown test for HIV ↻ 66.

- Use aqueous cream to remove crusts.
- Apply povidone iodine 5% cream 3 times a day.
- Give flucloxacillin 500mg 6 hourly for 5 days. If severe penicillin allergy[1], give azithromycin 500mg daily for 3 days instead. If rash does not resolve completely, give antibiotics for 5 days more.
- Refer if no better after 10 days.

[1]History of anaphylaxis, urticaria or angioedema

CHANGES IN SKIN COLOUR

Yellow skin

Jaundice likely

Recognise and refer same day the jaundiced patient if:

- Pregnant
- Temperature ≥ 38°C
- Confusion
- Easy bruising or bleeding
- Persistent vomiting
- Severe abdominal pain
- Fingerprick Hb < 10
- On any medication

Approach to jaundiced patient who does not need same-day referral:

- If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↩ 90.
- Check ALT and ALP/GGT.
- Review with blood results.

ALT ≥ 120

Do hepatitis B screen.

ALP/GGT ≥ 3 times upper limit

Refer for ultrasound liver and further management.

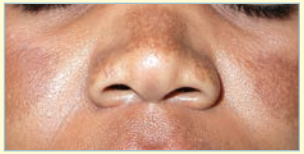
- Review weekly.
- Repeat fingerprick Hb.
- Refer if Hb falls < 10, patient develops markers of severity above or jaundice persists > 6 weeks.

Darkening of skin

Is skin smooth or scaly?

Smooth

Dark brown patches on cheeks and upper lip

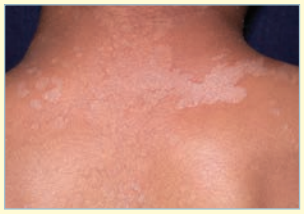


Melasma likely

- Avoid use of skin-lightening agents.
- Encourage sun avoidance and use of sunscreen.
- Change oral contraceptive to alternative contraception ↩ 98.
- Ask about symptoms of menopause ↩ 107.
- Stop all topical preparations like cosmetics, perfumes, perfumed soap and moisturisers.
- This is often difficult to treat.

Scaly

Scaly dark or light patches usually occur on the trunk - they may coalesce.



Tinea versicolor likely

- Apply selenium sulphide shampoo to affected areas overnight once a week.
- Advise that colour may take months to return to normal, but that absence of scale indicates adequate treatment.
- Recurrence is common.

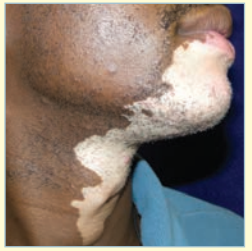
Absence of colour

Is skin smooth or scaly?

Smooth

Is absence of colour generalised or patchy?

Patchy



Vitiligo likely

- Advise use of camouflage cosmetics.
- Skin colour may return but seldom does on hands, feet, lips and genitalia.
- Refer to dermatologist if extensive.

Generalised

Present from birth, hair and eyes are involved.

Albinism likely

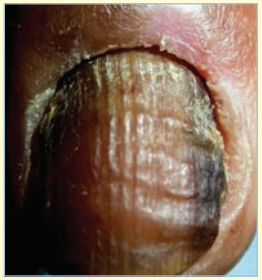
- Encourage sun avoidance and use of sunscreen.
- Monitor for the development of skin cancers.

Refer if diagnosis is uncertain.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

NAIL SYMPTOMS

Disfigured nail
with swollen nail bed



Chronic Paronychia likely

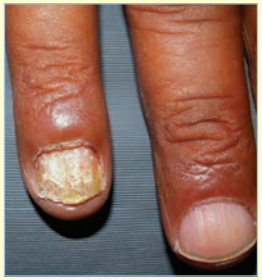
- Often associated with working with water. Advise patient to wear gloves and keep hands dry.
- Apply betamethasone 0.1% ointment to nailfold at night.
- If no better after 2 weeks, add clotrimazole cream 8 hourly.

Painful, red, swollen area
around the nail.

Acute Paronychia likely

- Often associated with trauma like nail biting or pushing the cuticle. Advise patient to stop.
- Give flucloxacillin 500mg 6 hourly for 10 days.
- Refer for incision and drainage if no response after 5 days.

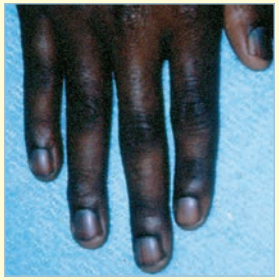
White/yellow
disfigured nails



Fungal infection

Refer for management
if very troublesome.

Diffuse blue/black discolouration
of nails.



HIV or drug side effect

If status is unknown
test for HIV →66.

SUICIDAL PATIENT

Urgently attend to the patient who has attempted or considered self-harm or suicide:

Has patient attempted self-harm or suicide?

Yes

- First assess and manage airway, breathing, circulation and level of consciousness ⮎3.
- If oral overdose or harmful substance in past 1 hour and patient fully conscious, give activated charcoal 100g in 500mℓ water via nasogastric tube. Avoid if patient not fully alert or if substance is: paraffin, petrol, corrosive poisons, iron, lithium or alcohol.
- If opioid (morphine/codeine) overdose and respiratory rate < 12: give 100% face mask oxygen and naloxone 0.4mg IV. Repeat until respiratory rate > 12, maximum 10mg.
- If exposed to carbon monoxide (exhaust fumes): give 100% face mask oxygen.
- If no response, or overdose/poisoning with other or unknown substance, discuss with local poison helpline ⮎ 111.

No: Does patient have current thoughts or plans to commit suicide?

Yes

No: has patient had thoughts or plans of self-harm or suicide in past month or performed act of self-harm or suicide in past year?

Yes: Is patient agitated, violent, distressed or uncommunicative?

Yes

No

No

High risk of self-harm or suicide:

- Remove any possible means of self-harm (firearms, knives, pills).
- If aggressive or violent, ensure safety: assess patient with other staff, use security personnel or police if needed. Sedate only if necessary ⮎ 53.
- Refer urgently.
  - While awaiting transport, monitor closely. Do not leave patient alone. If patient refuses admission, consider involuntary admission ⮎ 87.
  - If resources not available to refer, discuss with doctor.

Low risk of self-harm or suicide: Manage patient as below.

Assess the patient whose risk of self-harm or suicide is low

Assess	When to assess	Note
Depression	Every visit	If yes to ≥ 1 ⮎ 88: 1) During the past month, have you felt down, depressed, hopeless? 2) During the past month, have you felt little interest or pleasure in doing things?
Risky alcohol/drug use	Every visit	If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ⮎ 90.
Other mental illness	Every visit	• If hallucinations, delusions, disorganised speech, disorganised or catatonic behaviour, discuss with specialist same day. • If memory problem, screen for dementia ⮎ 93.
Stressors	Every visit	• Assess and manage stress ⮎ 55. • Help identify psychosocial stressors. Ask about trauma, sexual abuse/violence ⮎ 56, family or relationship problems, financial difficulty, bereavement, chronic ill-health.
Chronic condition	Every visit	If chronic pain, assess and manage pain ⮎ 36 and underlying condition. Link patient with helpline or support group ⮎ 111.

Advise the patient whose risk of self-harm or suicide is low

- Discuss with patient reasons to stay alive. Encourage carers to closely monitor patient as long as risk persists and to bring patient back if any concerns.
- Advise patient and carers to restrict access to means of self-harm (remove firearms from house, keep medications and toxic substances locked away) as long as risk persists.
- Suggest patient seeks support from close relatives/friends and offer referral to counsellor or local mental health centre or helpline ⮎ 111.

- Discharge into care of family. Nurse to review within 1 week: consider referral to community psychiatric nurse.
- If socially isolated, arrange appointment with community psychiatric nurse/doctor/psychologist/psychiatrist. Refer to community care worker and nurse/counsellor/social worker to review weekly.
- If thoughts or attempts of self-harm or suicide recur, reassess suicide risk above.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

AGGRESSIVE/VIOLENT PATIENT

Approach to the aggressive or violent patient

Ensure the safety of yourself, the patient and those around you:
- Ensure enough security personnel are present, call the police if necessary. They should disarm patient if s/he has a weapon.
- Assess patient in a safe room in the presence of other staff. Handle the patient in a calm authoritative manner. Try to talk the patient down.
- Restrain only if absolutely necessary.

Check for confusion: try to avoid sedation before assessing confusion ↩ 54.
- Varying levels of drowsiness and alertness
- Unaware of surroundings/disorientated
- Talking incoherently
- Unsure of the day in the week, the time of day, own name
- Poor attention span
- Change in sleep pattern

Look for mental illness and substance abuse:
- Take a history from the escort for known mental illness or substance abuse.
- Consider psychosis if hallucinations, delusions, incoherent speech ↩ 91.
- Consider substance withdrawal or intoxication if alcohol on breath or history of alcohol or illegal drug use ↩ 90.

If the patient fulfils all 3 of the following, consider admitting under the Mental Health Care Act ↩ 87 before sedation:
- Has signs of mental illness *and*
- Refuses treatment or admission *and*
- Is a danger of harm to self, others, own reputation or financial interest/property

Is sedation needed?

No

Yes

Give lorazepam 2mg and haloperidol 2-5mg IM or orally if patient accepts oral medication.

- Monitor and record BP, pulse and level of consciousness every 15 minutes.
- Reassess for mental illness.
- Is patient's behaviour still aggressive after 60 minutes?

No

Yes

Repeat haloperidol 2-5mg IM or orally if patient accepts oral medication

- Monitor and record BP, pulse and level of consciousness every 15 minutes.
- If necessary, repeat haloperidol to a maximum of 10mg in 24 hours.

- **Refer the mentally ill aggressive patient same day to hospital.**
- **Document history, details of Mental Health Care Act, and time and dose of medication given.**

CONFUSED PATIENT

- The confused patient may be disorientated for place and time, unsure of his/her own name, and may have a poor attention span and altered sleep pattern.
- If the confused patient is also aggressive, try to assess and manage confusion before sedating the patient ↩ 53.

Recognise the confused patient needing urgent attention:

- Sudden onset of confusion or disturbed speech or behaviour, perhaps with weakness, visual disturbance that may have resolved: stroke likely →83
- Had a fit →6
- Sudden onset over hours or days of confusion with impaired awareness, varying levels of alertness and drowsiness and change in sleep pattern: delirium likely
- Temperature ≥ 38°C
- Head injury within past 6 weeks
- Finger prick blood glucose ≤ 3.5

Management:

- Give face mask oxygen.
- If glucose ≤ 3.5, give oral glucose or 40-50mℓ dextrose 50% IV. If confusion resolves, refer only if on glibenclamide, gliclazide or insulin. If diabetic →78.
- If temperature ≥ 38°C: give ceftriaxone[1] 2g IM/IV immediately.
- If HIV with recent positive cryptococcal antigen test, give fluconazole 1200mg as a single dose (avoid if pregnant, breastfeeding or known liver disease).
- Alcohol withdrawal (known alcohol user who has taken less alcohol for 12 hours): give thiamine 100mg IM and diazepam 10mg orally and oral rehydration.
- Drunk (smells of alcohol, recent drinking): give 1ℓ sodium chloride 0.9% with thiamine 100mg IV over 4 hours. Refer only if still confused when drip complete ↩ 90.
- Refer same day to hospital unless confusion resolves when sober or with glucose (and not on glibenclamide, gliclazide or insulin).

Approach to the confused patient not needing urgent attention

Is the patient psychotic?
Lack of insight with 1 or more of hallucinations (hearing voices), delusions (fixed false beliefs) and disorganized speech and behaviour.

- Yes → **Psychosis or mania** →91
- No → Has patient had memory problems and been disoriented for at least 6 months?
  - Yes → **Dementia** likely →93
  - No → Refer same day for assessment.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. If giving ceftriaxone IM, divide dose: 1g into 2 different injection sites.

STRESSED OR MISERABLE PATIENT

Recognise the stressed/miserable patient needing urgent attention
Assess the patient with suicidal thoughts ↴ 52.

Assess the stressed/miserable patient

- The patient may have headache, dizziness, fatigue, abdominal pain. S/he may have poor eye contact, cry easily, be agitated or communicate poorly.

Screen for mental problem

- If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
- If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90.
- If hallucinations, delusions and abnormal behaviour, consider psychosis →91.
- If memory problems, screen for dementia →93.

Identify the traumatised/abused patient

- Ask 'Has anything happened to you recently that made you very upset, like violence or sexual abuse?' If yes ↴ 56.

Try to identify a cause to focus on a solution

- Ask about financial difficulty, bereavement, post-natal ↴ 105, menopause ↴ 107 or chronic ill-health (is HIV status known? ↴ 66).
- Review medication: oral corticosteroids, subdermal implants and oestrogen-containing oral contraceptives (↴ 98), theophylline, efavirenz can cause mental side effects. Reassure patient on efavirenz that low mood is usually self-limiting and resolves within 6 weeks on ART. If > 6 weeks doctor to change to NVP 200mg 12 hourly.

Health for All ↴ 85

Advise the stressed/miserable patient

- Recognise negative thinking if the patient often predicts the worst, generalises, exaggerates the problem, inappropriately takes the blame, or takes things personally. Encourage the patient to question negative thinking and to examine the facts realistically. See communicating effectively ↴ preface.
- Help the patient to choose strategies to get help and cope:

Get enough sleep
If patient has difficulty sleeping ↴ 57.

Get active
Regular exercise might help.

Find a creative or fun activity to do.

Encourage patient to take time to relax:

Do a relaxing breathing exercise each day.

Spend time with supportive friends or family.

Access support
Link patient with helpline ↴ 111.

Offer to review the patient in 1 month.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

TRAUMATISED/ABUSED PATIENT

Recognize the traumatised/abused patient needing urgent attention

- Injuries need attention ↴ 5
- Immediate risk of being harmed and in need of shelter
- At risk of harm to self ↴ 52
- Recent rape/sexual assault:
  - Arrange doctor assessment ideally at a designated facility for management of rape and sexual assault (same day if patient wishes to lay a charge). Complete required forms and registers.
  - Aim to prevent HIV, hepatitis B, STIs and pregnancy as soon as possible after the abuse:

Prevent HIV and hepatitis B ↴ 109

Prevent STIs

- Give:
  - Ceftriaxone 250mg IM[1] stat *and*
  - Azithromycin 1g orally stat *and*
  - Metronidazole 2g orally stat.
- If severe penicillin allergy[2] omit ceftriaxone and increase azithromycin to 2g orally stat.
- Advise patient to use condoms for 4 months.

Prevent pregnancy

Do pregnancy test: if pregnant test positive ↴ 100, if pregnancy test negative:

- If less than 5 days since rape, give emergency contraception:
  - Give levonorgestrel 1.5mg orally stat[3] as soon as possible (ideally within 72 hours) ↴ 98.
    Give metoclopramide 10mg 8 hourly as needed for nausea.
    or
  - Insert emergency CuT 380A intrauterine device ↴ 98.
- If more than 5 days since rape, do not give emergency contraception, check pregnancy test 4-6 weeks after last period.

Review for side effects, provide further support and check blood results as below:

Review the patient who was raped/sexually assaulted at 3 days, 2 weeks, 6 weeks and 4 months:

- Provide continued support, ask about side effects and check blood results ↴ **109**.
- Advise to use condoms for at least 4 months until results are confirmed.

Health for All ↴ 85

Approach to the traumatized/abused patient

Listen and support (see preface)

- Interview patient in a private room, supported by a trusted friend/relative if patient wishes. Clearly record patient's story in his/her own words. Include nature of assault and identity of perpetrator.
- Help patient to identify strengths and support structures. Do not give up if patient fails to follow your advice. Offer to see the patient again.

Assess stress ↴ 55 and screen for mental problem

- If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
- If ≥ 1 of: drinks alcohol every day, > 14 drinks[4]/week, ≥ 5 drinks[4] per session, loses control when drinking, uses illegal or misuses prescription drugs ↴ 90.

Exclude pregnancy and STIs even if no recent rape/sexual assault

Check for pregnancy. If pregnant ↴ 100. If status unknown, test for HIV ↴ 66. The HIV patient needs routine HIV care ↴ 67. Ask about symptoms of sexually transmitted infections. If present ↴ 27.

Refer to available supportive resource

- Refer to available trauma counsellor/psychiatric nurse/psychologist/social worker/helpline ↴ 111. Refer to police Victim Empowerment office, family violence NGOs for assistance.
- Encourage patient to file a J88 form and to report case to the police. Encourage patient to apply for protection order at local magistrate's court. Respect the patient's wishes if s/he declines to do so.

[1]For ceftriaxone IM injection: dissolve 250mg in 0.9mℓ lidocaine 1% without epinephrine (adrenaline). [2]History of anaphylaxis, urticaria or angioedema. [3]If on ART, TB or epilepsy treatment, offer IUCD instead or increase dose of levonorgestrel to 3mg (2 tablets) orally stat. [4]One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

DIFFICULTY SLEEPING

Assess the patient with difficulty sleeping

- Check that the patient really is getting insufficient sleep. Adults need on average 6-8 hours sleep per night. This decreases with age.
- Determine the type of sleep difficulty: waking too early or frequently, difficulty falling asleep, insufficient sleep.

Exclude medical problems

- Ask about pain, difficulty breathing, urinary problems. See relevant symptom pages.

Check medication

- Over-the-counter decongestants, oral steroids, theophylline, fluoxetine, efavirenz may cause sleep problems. Discuss with doctor.
- Reassure patient that sleep disturbance from efavirenz is usually self-limiting and resolves within 6 weeks on ART. If > 6 weeks change to NVP 200mg 12 hourly.

Screen for substance abuse

- If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90.

Screen for mental problem

- If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
- Consider psychosis if hallucinations, delusions, incoherent speech ↴ 91.
- Consider dementia if memory problems ↴ 93.
- Ask 'Are you stressed?' If yes ↴ 55.

Ask about associated loud snoring

- Refer the patient with difficulty sleeping who snores for further assessment.

Advise the patient with difficulty sleeping

- Encourage patient to adopt sensible sleep habits. These often help to resolve a sleep problem without the use of sedatives.
  - Get regular exercise (but not before bedtime).
  - Avoid caffeine (coffee, tea) and smoking before bedtime.
  - Avoid day-time napping.
  - Encourage routine: try to get up at the same time each day (even if tired) and go to bed the same time every evening.
  - Wind down/relax before bed.
  - Use bed only for sleeping and sex. Spend only 6-8 hours a night in bed.
  - Once in bed do not clock-watch. If not asleep after 20 minutes, do a low energy activity out of bed, like a short walk around the house.
  - Keep a sleep diary. Review this at each visit.
- Review the patient regularly. A good relationship between practitioner and patient can help.

If problems with daytime functioning, daytime sleepiness, irritability, anxiety or headaches that do not improve with 1 month of sensible sleep habits, refer patient for further assessment.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

TB: DIAGNOSIS

Exclude TB in the patient with cough ≥ 2 weeks (or any duration if HIV positive), unexplained weight loss (> 1.5kg in a month), drenching night sweats or fever ≥ 2 weeks.

Recognise the patient with suspected TB needing urgent attention:

- Respiratory rate of ≥ 30 breaths/minute
- Breathlessness at rest or while talking
- Prominent use of breathing muscles
- Drowsiness, confusion or agitation
- Headache and vomiting
- Weakness or paralysis of limb/s
- Coughing up ≥ 1 tablespoon of fresh blood

Management:

- Give 1 dose of ceftriaxone[1] 1g IM/IV.
- Give oxygen (40% face-mask oxygen or at 4ℓ/minute via nasal prongs).
- Refer same day to hospital.

Start the workup to diagnose TB

- If status unknown test for HIV ↴ 66.
- Check sputum for TB: send 1 spot sputum for GeneXpert.
- If patient has chest pain on breathing or is unable to produce sputum, also arrange chest X-Ray and doctor review.
- Ask patient to return for sputum results after 2 days.

- Review results.
- If GeneXpert unsuccessful, send 1 spot sputum for repeat GeneXpert.

Mycobacterium tuberculosis (MTB) detected

Rifampicin resistant

Diagnose drug resistant TB (DR-TB)

- Give routine DR-TB care and start DR-TB treatment same day →64. Register in DR-TB register. If DR-TB care not available, refer to DR-TB unit.
- Send 1 spot sputum for smear, culture and LPA[2]/DST[3].

Rifampicin sensitive

Diagnose drug sensitive TB (DS-TB)

- Give routine DS-TB care and start DS-TB treatment same day →60.
- Send 1 spot sputum for microscopy same day.
- Register as smear negative or positive depending on microscopy result.

Rifampicin unsuccessful

Diagnose TB

- Give routine DS-TB care and start DS-TB treatment same day →60.
- Send 1 spot sputum for smear, culture and LPA[2]/DST[3].
- Register as smear negative or positive depending on microscopy result.

Mycobacterium tuberculosis (MTB) not detected

- Manage further according to HIV status.
- Encourage patient who has not tested to do so ↴ 66.

HIV positive

Chest X-Ray unavailable

- Send 1 spot sputum for smear, culture and LPA[2]/ DST[3].
- Give amoxicillin/clavulanic acid[4] 875/125mg 12 hourly for 5 days.
- Review in 1 week and follow-up sputum results. If no or partial response, doctor to review.

Chest X-Ray available

- Send 1 spot sputum for smear, culture and LPA[2]/DST[3].
- Arrange chest X-Ray and doctor review.

HIV negative

- Give amoxicillin[4] 1g 8 hourly for 5 days.
- Review in 1 week.

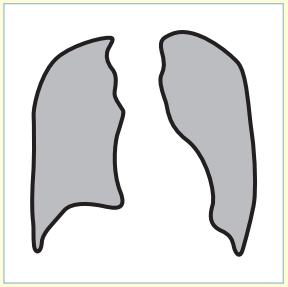
No or partial response

Resolved

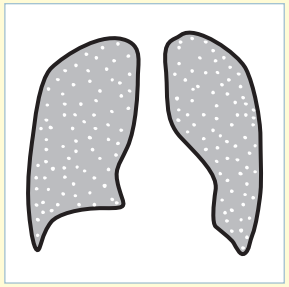
- No further follow-up needed.
- Advise to return if symptoms recur.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. [2]Line Probe Assay detects resistance to rifampicin and isoniazid. [3]Drug susceptibility testing. [4]If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), give azithromycin 500mg daily for 3 days instead.

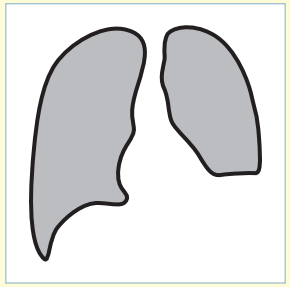
Doctor to review patient and chest X-Ray if available



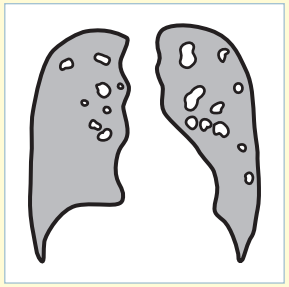
Intrathoracic lymphadenopathy



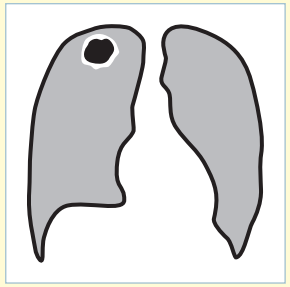
Miliary TB



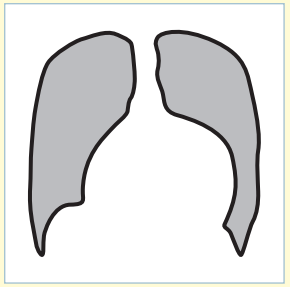
Pleural effusion
If bilateral, refer. Confirm one-sided effusion with tap.



Any lung opacification can be TB in HIV



Upper lobe cavitation



Pericardial effusion
Confirm with ultrasound

Doctor decision about chest X-Ray

Chest X-Ray similar to X-Ray above

Diagnose TB on basis of chest X-Ray.
- Give routine TB care and start TB treatment same day →60.
- Send 1 spot sputum for microscopy same day.
- Register as smear negative or positive depending on microscopy result.

Chest X-Ray normal

- Look for extra-pulmonary TB. If diagnosed, give routine DS-TB care and start DS-TB treatment same day →60.
  - If patient has abdominal pain, swelling or diarrhoea, refer for abdominal ultrasound.
  - If patient has headache, refer for lumbar puncture.
  - If patient has back pain, arrange spinal X-Ray.
  - If patient has lymph node ≥ 2cm, aspirate for GeneXpert, TB culture, LPA[1]/DST[2] and cytology ↩ 9. If unable to do aspirate, refer.
- Look for another cause of cough ↩ 20.

Chest X-Ray different to above or unsure or unavailable

- Give antibiotics if not yet given: amoxicillin[3] 1g 8 hourly for 5 days. If HIV, give instead amoxicillin/clavulanic acid[3] 875/125mg 12 hourly for 5 days.
- Check if sputum results are available:

Culture positive

Drug sensitive

Diagnose drug sensitive TB (DS-TB)
- Give routine DS-TB care and start DS-TB treatment same day →60.
- Register as smear negative or positive depending on microscopy result.

Drug resistant

- If resistant to INH only: diagnose **INH mono-resistant TB** and give routine INH mono-resistant TB care →61. Register in DS-TB register.
- If resistant to rifampicin (with or without resistance to INH), diagnose **drug resistant TB** (**DR-TB**):
  - Give routine DR-TB care and start DR-TB treatment same day →64. Register in DR-TB register.
  - If DR-TB care not available, refer to DR-TB unit.

Culture still pending

- Follow-up every 1-2 weeks until culture result confirmed.
- Advise to return if symptoms worsen: refer.

Culture negative

- If symptoms have resolved: advise to return if symptoms recur.
- If symptoms persist: refer.

Do not discharge from workup until TB excluded. Refer if no cause found for symptoms.

[1]Line Probe Assay detects resistance to rifampicin and isoniazid. [2]Drug susceptibility testing. [3]If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), give azithromycin 500mg daily for 3 days instead.

DRUG-SENSITIVE (DS) TB: ROUTINE CARE

Assess the patient with TB at diagnosis, at 2 weeks and then once a month throughout TB treatment.

Assess	When to assess	Note
Symptoms	Each visit	• If respiratory rate ≥ 30 breaths/minute, breathless at rest or while talking, prominent use of breathing muscles, drowsy, confused or agitated, has headache and vomiting, has weakness or paralysis of limb/s, or is coughing ≥ 1 tablespoon of fresh blood, give urgent attention ↩ 58. • Expect gradual improvement on TB treatment. **Refer for doctor review if symptoms worsen or do not improve.**
Close contacts	At diagnosis and if symptomatic	Screen for TB if HIV, symptomatic or < 5 years. If no TB, give 6 months IPT if asymptomatic contact is < 5 years or an HIV positive child.
Family planning	At diagnosis and each visit	• Exclude pregnancy. If pregnant ↩ 100. If not pregnant, assess contraceptive needs ↩ 98. • No need to change interval between injectable doses. Avoid oral contraceptives. Caution that efficacy of implant may be reduced while on TB treatment and to use dual protection.
Adherence	At diagnosis and each visit	• Request patient brings all medication to each visit. Check adherence with the community care worker, on the TB card and/or with a pill count. • Manage the patient who interrupts TB treatment ↩ 63.
Side effects	At diagnosis and each visit	Ask about side effects on treatment ↩ 62.
Substance abuse	At diagnosis; if adherence poor	If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↩ 90.
Weight (BMI)	At diagnosis and each visit	• Expect gradual weight gain on treatment. Adjust TB treatment dose when changing to continuation phase ↩ 62. **Refer same week to doctor if losing weight on treatment.** • BMI is weight(kg)/[height (m) x height (m)]. If < 18.5, refer for nutritional support.
Chest X-Ray	Not routinely, only if needed	Do chest X-Ray if poor response to treatment (ongoing symptoms, poor weight gain). Do chest X-Ray same day if patient deteriorates or coughs ≥ 1 tablespoon of blood.
Fingerprick glucose	At diagnosis if not known diabetic	Interpret result ↩ 77.
HIV	If > 6 months since last test	Test for HIV ↩ 66. If HIV positive, give routine HIV care and start ART irrespective of CD4 ↩ 67.
CD4	At diagnosis if HIV and not on ART	• If CD4 ≤ 50, start ART within 2 weeks of starting TB treatment. • If CD4 > 50, start ART within 2-8 weeks of starting TB treatment. • If patient has TB meningitis, delay ART until 8 weeks after starting TB treatment.
1 spot sputum for smear microscopy[2]	At diagnosis: registration	Register as smear negative or smear positive depending on result.
	Week 7: response to treament	• If smear negative, change to continuation phase at end of week 8. • If smear positive, manage as per 7 week algorithm ↩ 63.
	Week 23: treatment outcome	Use smear result to decide treatment outcome as below.
Culture, LPA[3] and DST[4] result	If sent during diagnostic workup	• If drug sensitive, continue DS-TB treatment. • If resistant to INH only: diagnose **INH mono-resistant TB** and give routine INH mono-resistant TB care →61. Register in DS-TB register. • If resistant to rifampicin: diagnose **drug resistant TB** (**DR-TB**) and give routine DR-TB care →64. Register in DR-TB register. If DR-TB care not available, refer to DR-TB unit.
Treatment outcome	6 months	If pulmonary TB diagnosed on sputum GeneXpert, smear or culture: • If smear negative at 23 weeks, stop treatment at the end of week 24 and register treatment outcome: - If smear positive at diagnosis, smear negative at 7 weeks (or if taken, 11 weeks) and smear negative at 23 weeks, register as **cured**. - If smear positive at diagnosis, smear positive at 11 weeks and smear negative at 23 weeks, register as **treatment completed**. - If smear negative or no smear at diagnosis, register as **treatment completed**. • If smear positive at 23 weeks, stop treatment, discharge patient as **treatment failure** and send 1 spot sputum specimen for LPA[3]: - If drug sensitive: re-start DS-TB treatment and register as **re-treatment after failure**. - If resistant to INH only: diagnose **INH mono-resistant TB** and give routine INH mono-resistant TB care →61. Register in DS-TB register. - If resistant to rifampicin: diagnose **drug resistant TB** (**DR-TB**) and give routine DR-TB care →64. Register in DR-TB register. If DR-TB care not available, refer to DR-TB unit.
		If extrapulmonary TB or pulmonary TB diagnosed on chest X-Ray: if patient well, discharge as **treatment completed**; if not well, refer.

Advise and treat the patient with DS-TB →62.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer. [2]Make every effort to obtain sputum, even if early morning or by nebulisation. [3]Line Probe Assay detects resistance to rifampicin and isoniazid. [4]Drug susceptibility testing

INH MONO-RESISTANT TB: ROUTINE CARE

Assess the patient with INH mono-resistant TB at diagnosis, at 2 weeks and then once a month throughout TB treatment.

Assess	When to assess	Note
Registration	At diagnosis	Ensure patient is registered in the DS-TB register.
Symptoms	Each visit	• If respiratory rate ≥ 30 breaths/minute, breathless at rest or while talking, prominent use of breathing muscles, drowsy, confused or agitated, has headache and vomiting, has weakness or paralysis of limb/s, or is coughing ≥ 1 tablespoon of fresh blood, give urgent attention ↻ 58. • Expect gradual improvement on TB treatment. **Refer for doctor review if symptoms worsen or do not improve.**
Close contacts	At diagnosis and if symptomatic	Screen for TB if HIV, symptomatic or < 5 years. If no TB, give rifampicin prophylaxis 15mg/kg daily for 4 months if asymptomatic contact is < 5 years or an HIV positive child.
Family planning	At diagnosis and each visit	• Exclude pregnancy. If pregnant ↻ 100. If not pregnant, assess contraceptive needs ↻ 98. • No need to change interval between injectable doses. Avoid oral contraceptives. Caution that efficacy of implant may be reduced while on TB treatment and to use dual protection.
Adherence	At diagnosis and each visit	• Request patient brings all medication to each visit. Check adherence with the community care worker, on the TB card and/or with a pill count. • Manage the patient who interrupts TB treatment ↻ 63.
Side effects	At diagnosis and each visit	Ask about side effects on treatment ↻ 62.
Substance abuse	At diagnosis; if adherence poor	If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↻ 90.
Weight (BMI)	At diagnosis and each visit	• Expect gradual weight gain on treatment. Adjust TB treatment dose when changing to continuation phase ↻ 62. **Refer same week to doctor if losing weight on treatment.** • BMI is weight(kg)/[height (m) x height (m)]. If < 18.5, refer for nutritional support.
Chest X-Ray	Not routinely, only if needed	Do chest X-Ray if poor response to treatment (ongoing symptoms, poor weight gain).Do chest X-Ray same day if patient deteriorates or coughs ≥ 1 tablespoon of blood.
Fingerprick glucose	At diagnosis if not known diabetic	Interpret result ↻ 77.
HIV	If > 6 months since last test	Test for HIV ↻ 66. If HIV positive, give routine HIV care and start ART irrespective of CD4 ↻ 67.
CD4	At diagnosis if HIV and not on ART	Start ART once tolerating TB treatment using CD4 to decide timing: • If CD4 ≤ 50, start ART within 2 weeks of starting TB treatment. • If CD4 > 50, start ART within 2-8 weeks of starting TB treatment. • If patient has TB meningitis, delay ART until 8 weeks after starting TB treatment.
1 sputum for smear and culture	At diagnosis	Register as smear negative or positive depending on result.
	Monthly	• Monitor the patient with sputum smear microscopy and culture monthly throughout treatment. • If still culture positive at 3 months, request LPA[2]/DST[3] on that culture specimen. • If still culture positive at 4 months, refer to DR-TB unit.
LPA[2]/DST[3]	• At diagnosis • If culture positive at 3 months • If negative smear/culture becomes positive	• If resistant to INH only: if still culture positive at 4 months, discuss with specialist or refer to nearest DR-TB unit. • If resistant to rifampicin: diagnose **drug resistant TB** (**DR-TB**) and give routine DR-TB care →64. Register in DR-TB register. If DR-TB care not available, refer to DR-TB unit.
Treatment outcome	6-9 months	Continue treatment for 6 months after culture conversion date[4]: • If culture negative: if 2 negative cultures ≥ 30 days apart, discharge as **cured**. If not, discharge as **treatment completed**. • If culture positive, register as **treatment failure** and refer to DR-TB unit.

Advise and treat the patient with INH mono-resistant TB →62.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer. [2]Line Probe Assay detects resistance to rifampicin and isoniazid. [3]Drug susceptibility testing [4]Culture conversion: 2 consecutive negative sputum culture results 30 days apart. Culture conversion date is the date on which the first negative specimen was taken.

Advise the patient with DS-TB and INH mono-resistant TB

Health for All ↩ 65

- Ensure patient receives TB/HIV education and adherence support. Arrange for community care worker or workplace support if available.
- Educate patient about TB treatment side effects and to report these promptly should they occur.
- If patient smear positive, advise s/he remains off work until completed first 2 weeks of treatment and feeling better.
- Educate about infection control: cough/sneeze into upper sleeve or elbow, not hands. Wash hands with soap regularly.
- Advise the patient abusing alcohol and/or illicit or prescription drugs to stop. Substance abuse can interfere with recovery and adherence to treatment. Urge the patient who smokes to quit.

Treat the patient with DS-TB and INH mono-resistant TB

If drug-sensitive TB (DS-TB):

- Treat the patient (whether a new or retreatment case) 7 days a week for 6 months:
  - Give intensive phase RHZE for 2 months. Prolong for 1 month if 7 week smear positive ↩ 63.
  - If 7 week smear negative and patient clinically improving, change to continuation phase RH for a further 4 months.
  - If TB meningitis, TB bones/joints or miliary TB, extend treatment to 9 months (2RHZE/7RH) or as guided by a specialist.
- Give pyridoxine 25mg daily. Stop on completion of TB treatment.

Treat according to weight.
Adjust dose when changing to continuation phase.

	Intensive phase: 2 months RHZE (150/75/400/275)	Continuation Phase: 4 months RH
30-37kg	2 tablets	2 tablets (150,75)
38-54kg	3 tablets	3 tablets (150,75)
55-70kg	4 tablets	2 tablets (300,150)
≥ 71kg	5 tablets	2 tablets (300,150)

R - rifampicin H - isoniazid Z - pyrazinamide E - ethambutol

If INH mono-resistant TB:

- Give intensive phase RHZE 7 days a week for full duration of treatment (do not change to continuation phase).
- Continue treatment for 6 months after culture conversion date[1].
- Give pyridoxine 25mg daily. Stop on completion of TB treatment.

Manage the TB/HIV co-infected patient:

- If starting co-trimoxazole, start 2 weeks after starting TB treatment and ART.
- Avoid starting NVP with DS-TB treatment. If already stable on NVP, continue and check ALT monthly ↩ 68.
- Avoid atazanavir with DS-TB treatment. If already on atazanavir, discuss with specialist.
- If on lopinavir/ritonavir, doctor to increase LPV/r dose:
  - After 1 week of TB treatment, increase to 3 tablets LPV/r (600/150mg) 12 hourly for 1 week.
  - Then increase to 4 tablets LPV/r (800/200mg) 12 hourly until 2 weeks after TB treatment has finished.
  - Monitor for liver problem (jaundice, abdominal pain, vomiting) and check ALT monthly. If symptomatic with ALT ≥ 100 or asymptomatic with ALT ≥ 200, refer.

Discuss TB treatment side effects

Jaundice / vomiting / confusion	Most TB drugs	Stop all drugs and refer to hospital same day.
Skin rash / itch	Most TB drugs	Assess and manage ↩ 43.
Impaired vision	Ethambutol	Stop ethambutol and refer.

Nausea/poor appetite	Rifampicin	Take treatment at night.
Joint pain	Pyrazinamide	Ibuprofen 400mg 8 hourly up to 5 days
Orange urine	Rifampicin	Reassure.
Burning feet	Isoniazid	Give pyridoxine ↩ 41.

Review the patient with DS-TB and INH mono-resistant TB at 2 weeks and then monthly until discharge.

[1]Culture conversion: 2 consecutive negative sputum culture results 30 days apart. Culture conversion date is the date on which the first negative specimen was taken.

Manage the DS-TB patient with a positive 7 week sputum smear

- Check adherence and refer for increased adherence support if needed.
- Send 1 spot sputum specimen for LPA[1].
- Continue intensive phase.
- Check LPA[1] result after 1 week.

Sensitive to rifampicin and INH

- Continue intensive phase.
- Repeat smear microscopy at 11 weeks.

Smear positive

Refer to doctor.

Smear negative

- Change to continuation phase at end of week 12.
- Continue treatment for a total of 6 months.

Resistant to INH only

- Diagnose **INH mono-resistant TB**.
- Continue with RHZE and give routine INH mono-resistant TB care →61
- Keep patient in DS-TB register.

Resistant to rifampicin

- Stop DS-TB treatment.
- If resistant to rifampicin only, give outcome of "**rifampicin mono-resistant TB**" in DS-TB register.
- If resistant to rifampicin and INH, give outcome of "**multidrug-resistant TB**" in DS-TB register.
- Re-register the patient in the DR-TB register and give routine DR-TB care →60. If DR-TB care not available, refer to DR-TB unit.

Manage the patient who interrupts DS-TB treatment

- Trace the patient as soon as interruption detected and look for explanation for treatment interruption. Ask about substance abuse ↻ 90, stress ↻ 55 and side-effects ↻ 62.
- Give increased adherence support and educate the patient about the risks of poor adherence.
- Manage treatment interruption according to duration of interruption:

Interrupted for < 1 month

- Continue DS-TB treatment.
- Extend treatment phase by the number of missed doses.

Interrupted for 1-2 months

- Send 1 spot sputum for GeneXpert.
- Continue DS-TB treatment and review results after 2 days.

Rifampicin sensitive

- Continue DS-TB treatment.
- Extend treatment phase by the number of missed doses.

Rifampicin resistant

Stop DS-TB treatment.

Diagnose **drug resistant TB** (**DR-TB**) and give routine DR-TB care →64. Register in DR-TB register. If DR-TB care not available, refer to DR-TB unit.

Interrupted for ≥ 2 months

- Do not restart DS-TB treatment.
- Discharge patient as **treatment default**.
- Send 1 spot sputum for GeneXpert and review results in 2 days.

Rifampicin resistant

Diagnose **drug resistant TB** (**DR-TB**) and give routine DR-TB care →64. Register in DR-TB register. If DR-TB care not available, refer to DR-TB unit.

Rifampicin sensitive

- Restart full course of DS-TB treatment →60.
- Register as **re-treatment after default**.

[1]Line Probe Assay detects resistance to rifampicin and isoniazid.

DRUG-RESISTANT (DR) TB: ROUTINE CARE

- **DR-TB refers to TB that is resistant to rifampicin, with or without resistance to other medications. If INH mono-resistant TB →61.**
- **Assess the patient with DR-TB at diagnosis, at 2 weeks and then monthly if stable throughout DR-TB treatment.**

Assess	When to assess	Note
Registration	At diagnosis and each visit	Enter patient's details at diagnosis. Update register with latest sputum results at each visit.
Symptoms	Each visit	• If respiratory rate ≥ 30 breaths/minute, breathless at rest or while talking, prominent use of breathing muscles, drowsy, confused or agitated, headache and vomiting, weakness or paralysis of limb/s, or coughing ≥ 1 tablespoon of fresh blood, give urgent attention ↻ 58. • Expect gradual improvement on DR-TB treatment. **Refer to doctor if symptoms worsen or do not improve.**
Close contacts	At diagnosis and if contact symptomatic	• Child contacts: If ≤ 5 years or has HIV (any age), do TST[1], chest X-Ray and refer to doctor. - If asymptomatic with normal chest X-Ray, doctor to give DR-TB prophylaxis. - If symptomatic or abnormal chest X-Ray, refer for specialist review. • Adult contacts: if asymptomatic, advise to return if symptoms develop. If symptomatic, exclude TB →58.
Family planning	At diagnosis and each visit	• Check baseline pregnancy test. If pregnant, refer. • Help patient to avoid pregnancy during treatment, discuss contraception ↻ 98. No need to change interval between injectable doses.
Adherence	Each visit	Check patient is attending clinic daily for treatment. If not, give adherence support.
Side effects	Each visit	Ask about side effects of DR-TB treatment ↻ 65. Manage side-effects promptly as common cause of treatment interruption.
Mental health	At diagnosis and each visit	• If yes to ≥ 1 ↻ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/ pleasure in things? • If ≥ 1 of: drinks alcohol every day, > 14 drinks[2]/week, ≥ 5 drinks[2]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↻ 90.
Weight (BMI)	At diagnosis and monthly	• Expect weight gain on treatment and adjust DR-TB treatment dose ↻ 65. **Refer same week to doctor if losing weight.** • BMI is weight(kg)/[height (m) x height (m)]. If < 18.5, refer for nutritional support.
1 sputum for smear & culture	At diagnosis, then monthly (every 30 days)	If still culture positive at 4 months, request DST[3] on that culture specimen.
DST[3]	• At diagnosis • If clinical condition deteriorates • If culture positive at 4 months • If negative smear/culture becomes positive	• If resistant to rifampicin with or without isoniazid resistance, treat for DR-TB ↻ 65. • If resistant to amikacin and/or ofloxacin, refer same day. • If DST[3] result differs from GeneXpert resistance result, continue with DR-TB treatment if already started and discuss/refer.
Chest X-Ray	At diagnosis, 6 monthly, at treatment completion	Doctor to review chest X-Ray. If clinical condition deteriorates, repeat chest X-Ray.
HIV	At diagnosis, then 12 monthly if negative	If HIV, give routine care ↻ 67 and start ART once tolerating DR-TB treatment, ideally within 2-4 weeks. Check CD4 and viral load 6 monthly ↻ 68.
Random fingerprick glucose	At diagnosis if not known diabetic	Interpret result ↻ 77. If diabetes, monitor closely as glucose control may be difficult.
Creatinine	At diagnosis, monthly on kanamycin	Calculate creatinine clearance[4]. If < 50, refer same day.
Potassium (K^+)	At diagnosis, monthly on kanamycin	• If K^+ ≤ 2.3 or patient symptomatic (muscle weakness or cardiac arrhythmia), refer same day. • If K^+ 2.4-3.5 and patient asymptomatic, doctor to give oral potassium chloride 40-100mmol/day in divided doses and repeat K^+ within 1 week.
TSH (thyroid function)	At diagnosis, 6 monthly on ethionamide	If TSH ≥ 10, doctor to start levothyroxine 50mcg daily. Repeat TSH monthly and increase levothyroxine by 50mcg until TSH < 10. Usual maintenance dose 100-200mcg daily. Once stable, check TSH 4 monthly. Wean once DR-TB treatment completed.
ALT	At diagnosis, 3 monthly on pyrazinamide	Refer same day if ALT ≥ 200 or if ALT ≥ 100 with jaundice, abdominal pain, severe nausea or vomiting.
Hearing test (audiometry)	At diagnosis, monthly on kanamycin, 3 months after kanamycin stopped	• Repeat more frequently if advised by audiologist. • If any hearing loss or ringing in ears, stop kanamycin same day and refer for regimen modification.
Vision test	At diagnosis, monthly on ethambutol	Check visual acuity and colour vision. If any change in vision, stop ethambutol same day and refer to eye specialist.

Advise and treat the patient with DR-TB ↻ 65.

[1]Tuberculin skin test (Mantoux®) [2]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer. [3]Drug susceptibility testing [4]Creatinine clearance = (140-age) x weight (kg) ÷ serum creatinine (μmol/ℓ). If woman x 0.85.

Check bloods, sputa, hearing and chest X-Rays while on DR-TB treatment:

Baseline	Monthly	3 monthly on pyrazinamide	6 monthly	12 monthly	3 months after kanamycin stopped
• 1 sputum for smear, culture and DST[1] • Creatinine, K^+, TSH, ALT, HIV (CD4/VL on ART) • Chest X-Ray • Hearing test • Visual acuity and colour vision	• 1 sputum for smear and culture • **If on kanamycin:** creatinine, K^+, hearing test • **If on ethambutol:** visual acuity and colour vision	ALT	• Chest X-Ray • **If on ethionamide:** TSH • **If on ART:** CD4, viral load	HIV test	Hearing test

Advise the patient with DR-TB

- Arrange DR-TB education, community care worker home visit and adherence support. Advise patient that each dose will be supervised and that the patient will be traced if s/he does not attend.
- Educate about infection control: cough hygiene, adequate ventilation, avoid close contact with children/known HIV. Use surgical mask when awake.
- Educate patient about DR-TB treatment side effects below and to report these promptly should they occur.
- Advise patient to only return to work when culture converted[2].
- Advise the patient abusing alcohol and/or illegal or prescription drugs to stop. Substance abuse can interfere with recovery and adherence to treatment ↩ 90. Urge the patient who smokes to quit.

Health for All ↩ 65

Treat the patient with DR-TB

- Discuss/refer same day if: previous DR-TB treatment > 1 month, resistance to drugs other than isoniazid and rifampicin, pregnant, abnormal blood results, hearing impaired or known psychosis.
- Give Mfx, Eto, Z, hdINH, Cfz and E tablets 7 days a week and Km injection 5 days a week (see table). Adjust regimen with DST[1] and mutation results:
  - Rifampicin resistant and INH susceptible: stop Eto and reduce INH to normal dose.
  - Rifampicin and INH resistant with katG mutation: stop hdINH.
  - Rifampicin and INH resistant with inhA mutation: stop Eto.
  - Rifampicin and INH resistant with katG *and* inhA mutations: refer for regimen modification.
- Give pyridoxine 150mg daily throughout DR-TB treatment.
- Decide when to stop DR-TB treatment:
  - **Intensive phase**: must be at least 6 months. Stop Km 4 months after culture conversion date[2].
  - **Continuation phase**: continue tablets for 18 months after culture conversion date[2].

Manage the TB/HIV co-infected patient

- Start ART once tolerating DR-TB treatment, ideally within 2-4 weeks of starting DR-TB treatment.
- If starting ART, avoid TDF during intensive phase: use ABC instead.
- If on TDF, switch to ABC for intensive phase. If VL ≥ 50 or HBsAg positive, discuss with specialist/refer.
- If starting co-trimoxazole, start 2 weeks after starting other medications.

Treat according to weight. Adjust dose with weight gain.

Medication	Weight			
	< 33kg	33-50 kg	51-70 kg	> 70 kg
Kanamycin (Km)	15-20mg/kg	500-750mg IM	1000mg IM	1000mg IM
Moxifloxacin (Mfx)	7.5-10mg/kg	400mg	400mg	400mg
Ethionamide (Eto)	15-20mg/kg	500mg	750mg	750mg
Pyrazinamide (Z)	30-40mg/kg	1000-1750mg	1750-2000mg	2000-2500mg
High dose isoniazid (hdINH)	15mg/kg	15mg/kg	15mg/kg	15mg/kg
Normal dose isoniazid (INH)	4-6mg/kg	300mg	300mg	300mg
Clofazimine (Cfz)	3-5mg/kg	200mg	300mg	300mg
Ethambutol (E)	15-20mg/kg	800mg	800-1200mg	1200mg
Terizidone (Trd)	15-20mg/kg	750mg	750mg	750mg

Look for and manage DR-TB treatment side effects

Jaundice	Eto, Z	Refer same day if ALT ≥ 100
Skin rash/itch	Most medications	Assess and manage ↩ 43.
Psychosis	Trd, Mfx, Eto, hdINH	Refer same day.
Ringing in ears/deafness	Km	Stop kanamycin and refer same day.
Seizures	Trd, hdINH	Refer same day. If fitting →6.

Change in vision	E	Stop ethambutol and refer to eye specialist.
Nausea and vomiting	Eto, Z, E	Give metoclopramide 10mg 8 hourly up to 5 days. Divide doses of Eto.
Joint pain	Z	Ibuprofen 400mg 8 hourly up to 5 days.
Pain/numbness of feet	Trd, Eto, hdINH	Assess and manage ↩ 41.
Darkening of skin	Cfz	Reassure

Review the patient with DR-TB at diagnosis, at 2 weeks and then monthly if stable throughout DR-TB treatment.

[1]Drug susceptibility testing. [2]Culture conversion: 2 consecutive negative sputum culture results 30 days apart. Culture conversion date is the date on which the first negative specimen was taken.

HIV: DIAGNOSIS

Encourage patient and partner and children to test for HIV.

Obtain informed consent
- Educate patient about HIV and AIDS, methods of HIV transmission, risk factors, treatment and benefits of knowing one's HIV status.
- Explain test procedure and that it is completely voluntary.
- Children < 12 years need parental/guardian consent. If consent is granted, proceed to testing immediately.

Test
Do first rapid HIV test on finger-prick blood.

Positive

Do a confirmatory[1] rapid HIV test on finger-prick blood.

Positive

Patient has HIV.

- Give routine HIV care at this visit ↴ 67
- Encourage HIV testing for sexual partners and children.

Negative

Repeat both first and confirmatory[1] rapid HIV tests above.

Both tests positive

Patient has HIV.

- Give routine HIV care at this visit ↴ 67
- Encourage HIV testing for sexual partners and children.

One positive and one negative

- Send blood for an HIV ELISA test.
- Advise patient to return for result within 7 days.

ELISA positive

Laboratory will do repeat ELISA test on the same specimen.

2nd ELISA positive

Patient has HIV.

- Give routine HIV care at this visit ↴ 67
- Encourage HIV testing for sexual partners and children.

2nd ELISA negative

ELISA results inconclusive

- HIV cannot be confirmed or excluded.
- Advise patient to repeat rapid HIV tests in 6 weeks.

ELISA negative

HIV test result negative

Was patient at risk of HIV infection in past 6 weeks (new or multiple sexual partners and/or unprotected sex)?

Yes

- Repeat HIV test after 6 weeks.
- Encourage patient to follow safe sex practices.
- Give condoms.

No

- Patient does not have HIV.
- Encourage patient to remain negative and re-test 6-12 monthly if sexually active.
- Offer to refer for male circumcision to diminish risk of HIV infection.
- Give condoms.

Both tests negative

HIV test result negative

Was patient at risk of HIV infection in past 6 weeks (new or multiple sexual partners and/or unprotected sex)?

Yes

- Repeat HIV test after 6 weeks.
- Encourage patient to follow safe sex practices.
- Give condoms.

No

- Patient does not have HIV.
- Encourage patient to remain negative and re-test 6-12 monthly if sexually active.
- Offer to refer for male circumcision to diminish risk of HIV infection.
- Give condoms.

Negative

HIV test result negative

Was patient at risk of HIV infection in past 6 weeks (new or multiple sexual partners and/or unprotected sex)?

Yes

- Repeat HIV test after 6 weeks.
- Encourage patient to follow safe sex practices.
- Give condoms.

No

- Patient does not have HIV.
- Encourage patient to remain negative and re-test 6-12 monthly if sexually active.
- Offer to refer for male circumcision to diminish risk of HIV infection.
- Give condoms.

Support
Ensure patient understands test result and knows where and when to access further care

[1]A different rapid test must be used for the confirmatory test.

HIV: ROUTINE CARE

Assess the patient with HIV

Assess	When to assess	Note
Symptoms	Every visit	Manage patient's symptoms according to symptom pages. Ask especially about TB symptoms ↴ 58 and genital symptoms ↴ 27.
TB	Look for TB at every visit	• Check for TB if cough, weight loss, night sweats, chest pain or blood-stained sputum ↴ 58. Do not start ART until TB excluded. • If not on ART, start ART (regardless of CD4) once tolerating TB treatment ↴ 69. Decide when to start ART ↴ 69. • If TB diagnosed in a patient taking NVP, LPV/r or ATV/r, doctor to adjust ART ↴ 62.
Adherence	Every visit	• Check patient's adherence with pill counts and record of attendance. Remember to give patient a follow-up date. • More than 95% of ART doses must be taken to avoid resistance to ART. If adherence poor, give increased adherence support ↴ 69.
ART side effects	Every visit on ART	• Ask about ART side effects ↴ 70. Manage side effects as on symptom page. Refer if "self-limiting" side-effects persist after 6 weeks ↴ 70. • If suspected adverse drug reaction fill in adverse event form and submit the form to the local pharmacy service.
Mental health	At diagnosis and if adherence poor	• If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things? • If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90. • If patient has problems with memory and perhaps coordination for > 6 months, consider dementia ↴ 93.
CVD risk assessment	At diagnosis	Assess the patient's CVD risk ↴ 75.
Sexual health	Every visit	Ask about sexual orientation, risky sexual behaviour (patient or regular partner has new or multiple partner/s, uses condoms unreliably or misuses substances ↴ 90) and sexual problems ↴ 34.
Pregnancy status	Every visit	• Exclude pregnancy. If pregnant, give antenatal care ↴ 100 and if not on ART, take baseline bloods and start ART same day ↴ 69. If on ART, check viral load ↴ 103. • If needed, advise reliable contraception ↴ 98 (IUCD, injectable or sterilisation plus condoms). If on ART, caution that efficacy of implant and oral contraceptive may be reduced and to use dual protection or another method.
Weight	Every visit	• Record weight. Investigate weight loss ≥ 5% of body weight in 4 weeks ↴ 7. • BMI is weight (kg)/[height (m) x height (m)]. If < 18.5, refer for nutritional support.
Stage	Every visit	• Check weight, mouth, skin, previous and current problems. Apply the most advanced stage even after recovery from the illness that determined the stage. • If not on ART: start ART regardless of stage ↴ 69. • If stage 2, 3 or 4: also give co-trimoxazole ↴ 69.

Stage 1	Stage 2	Stage 3	Stage 4: AIDS
• No symptoms • Painless swollen glands	• Recurrent sinusitis, tonsillitis, otitis media, pharyngitis • Pruritic papular eruption (PPE) • Fungal nail infections • Shingles (herpes zoster) • Recurrent mouth ulcers • Angular cheilitis • Unexplained weight loss • < 10% body weight	• Current pulmonary TB or within past year • Oral thrush • Oral hairy leukoplakia • Unexplained weight loss ≥ 10% body weight and/or BMI < 18.5 • Diarrhoea > 1 month • Fever > 1 month • Severe bacterial infections (pneumonia, meningitis) • Unexplained anaemia < 8, neutropaenia < 0.5 or chronic thrombocytopaenia < 50	• Extra pulmonary TB within the last year • Oesophageal thrush (pain on swallowing) • Weight loss ≥ 10% and diarrhoea or fever > 1 month • Cryptococcal disease (including meningitis) • Herpes simplex of mouth or genital area > 1 month • Kaposi's sarcoma • HIV associated dementia, encephalopathy • Recurrent severe pneumonia • *Pneumocystis jiroveci* pneumonia (PJP or PCP) • Invasive cervical cancer • *Cryptosporidium* or *Isospora belli* diarrhoea

Continue to assess the patient with HIV →68.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

Continue to assess the patient with HIV

Assess	When to assess	Note
IPT screen (only if no TB symptoms)	• Never had IPT: screen yearly • On ART: if only 12 months IPT previously, screen yearly	• Do TST[1]: clean arm with alcohol swab, pull skin taut and inject 2 units PPD-RT23 or 5 units PPD-S into skin to see weal develop. • Measure swelling after 48-72 hours. If ≥ 5mm (positive TST[1]) give IPT ↴ 69. If < 5mm (negative TST[1]), only give IPT if on/starting ART. Decide when to stop ↴ 70. • If previous DS-TB, can give IPT immediately after completing TB treatment if documented "cured". If not "cured", delay and re-assess for IPT after 3 months.
Hepatitis B (HBsAg)	At diagnosis	If HBsAg positive, start ART (regardless of CD4 or clinical stage) ↴ 69.
Syphilis	At diagnosis	If syphilis positive, treat patient and partner for syphilis ↴ 32.
Pap smear	At diagnosis and if normal yearly	↴ 31
CD4	Pre-ART: at diagnosis, 6 monthly On ART: at 12 months on ART	• Start ART regardless of CD4 ↴ 69. If CD4 ≤ 200, give co-trimoxazole and start ART within 7 days ↴ 69. • If on ART, only repeat CD4 if clinically indicated (yearly if on co-trimoxazole and/or fluconazole).
Cryptococcal antigen (CrAg)	At diagnosis: if CD4 < 100 (automatically tested by lab)	• If CrAg negative, start ART ↴ 69. • If CrAg positive, treat for cryptococcal infection ↴ 69.
ART bloods	If starting ART and on ART	Check blood according to ART regimen and review result as below.

If starting 1st line	If starting 2nd line	3 months on ART	6 months on ART	12 months on ART	Yearly	Also
• TDF: creatinine • NVP: ALT • AZT: FBC	• If starting TDF: creatinine • If on TDF: HBsAg • AZT: FBC • LPV/r: fasting cholesterol, triglycerides	• TDF: creatinine • AZT: FBC • LPV/r: fasting cholesterol, triglycerides	• TDF: creatinine • Viral load • AZT: FBC	• TDF: creatinine • CD4 • Viral load	• TDF: creatinine • Viral load • AZT: FBC	• If pregnant, check viral load more often ↴ 103. • If breastfeeding, check viral load 6 monthly. • If DR-TB, check viral load and CD4 6 monthly.

Review ART blood results

ALT	• If baseline ALT ≥ 100, refer to doctor: refer if signs of liver failure. If well, doctor to start ART (avoid NVP) and repeat ALT after 1 week. • If patient on NVP: check ALT if symptoms (abdominal pain, jaundice, vomiting) or rash develop. If symptomatic with ALT ≥ 100 or asymptomatic with ALT ≥ 200, refer. If rash only ↴ 43. • If patient on LPV/r and TB treatment: doctor to monitor for liver problem and check ALT monthly ↴ 62.
Creatinine clearance (CrCl)[2] (if not pregnant)	• If CrCl < 50, refer to doctor: use ABC instead of TDF, adjust doses of other medications (stop NSAIDs like ibuprofen) and look for cause (check BP, glucose, urine dipsticks, send urine for protein/creatinine ratio and arrange kidney ultrasound) • If CrCl 50-60, repeat after 1 month on TDF.
Creatinine (if pregnant)	If creatinine at baseline or on ART is > 85, discuss/refer.
Full blood count (FBC)	If baseline Hb < 8 (or Hb < 7 if pregnant) or neutrophils < 1.5, refer to doctor to increase monitoring frequency and consider switching from AZT.
Hepatitis B (HBsAg)	If HBsAg positive, do not stop TDF, refer to doctor.
Fasting cholesterol, triglycerides	If total cholesterol > 6 or CVD risk > 20 %, doctor to switch LPV/r to ATV/r and repeat fasting cholesterol in 3 months. If cholesterol still high, start atorvastatin 10mg daily (if already on simvastatin, doctor to switch to atorvastatin). If cholesterol > 7.5 or fasting triglycerides > 10, refer.
Viral load (VL) • VL on ART should be undetectable (< 50) • If pregnant ↴ 103	• If VL 50-400, give increased adherence support ↴ 69. • If VL 400-1000: give increased adherence support ↴ 69 and repeat VL in 6 months. • If VL > 1000 for the 1st time: give increased adherence support ↴ 69 and repeat VL after 2 months. - If repeat VL ≤ 1000, continue current regimen and repeat viral load in 6 months. - If repeat VL > 1000: doctor to switch to 2nd line ART[3] if getting increased adherence support ↴ 69. If already on 2nd line ART, refer/discuss with experienced ART doctor.
CD4	Decide when to stop co-trimoxazole and fluconazole prophylaxis ↴ 70.

Advise and treat the patient with HIV →69 and 70

[1]Tuberculin Skin Test (Mantoux®). [2]Creatinine clearance = (140 - age) x weight (kg) ÷ serum creatinine (µmol/l). If woman x 0.85. [3]If ≥ 1 log drop in the VL, discuss with experienced ART doctor before switching to 2nd line ART.

Advise the patient with HIV

Health for All ↩ 69

- Support by encouraging disclosure and referring to counselor/support group. Advise patient's partner/s and children be tested for HIV.
- Encourage patient to have 1 partner at a time. Advise safe sex even if partner has HIV or patient on ART. Demonstrate and give male/female condoms.
- Explain that HIV treatment needs lifelong adherence and discuss readiness to start. Educate about ART side effects ↩ 70 and advise to report these promptly if they occur.
- Give **increased adherence support** to the patient with < 80% adherence, poor attendance or viral load > 50:
  - Educate on the importance of adherence and dangers of resistance.
  - Plan with patient how to take treatment. Consider adherence aids (pillboxes, diaries).
  - Refer for support: adherence counselor, support group, treatment buddy, CCW.
  - See the patient more frequently (weekly instead of monthly).

Treat the patient with HIV

- Give co-trimoxazole 160/800mg daily if stage 2, 3 or 4. Adjust dose if eGFR 10-50: 120/600mg daily; if eGFR < 10: 80/400mg daily.
- Give IPT if eligible: isoniazid[1] 5mg/kg (up to 300mg) with pyridoxine 25mg daily. If starting ART, start ART first and then start IPT once tolerating ART. Decide when to stop IPT ↩ 70.
- If cryptococcal antigen positive: if symptomatic (headache, confusion), give single dose fluconazole 1200mg and refer same day. If asymptomatic and not previously treated, give fluconazole 800mg daily for 2 weeks, then 400mg daily for 2 months, then 200mg daily to complete at least 1 year. Avoid fluconazole if pregnant, breastfeeding or known liver disease: refer/discuss with specialist same day.
- Give influenza vaccine 0.5mℓ IM yearly (avoid if CD4 < 100).
- If on ART, continue lifelong treatment. If patient on d4T and VL < 50, switch to TDF (if eGFR > 50) or ABC (if eGFR ≤ 50). If VL ≥ 50, discuss.
- If not on ART, start ART especially if CD4 ≤ 500, stage 3, stage 4, known hepatitis B, pregnant, breastfeeding or within 1 year postpartum:

1. Decide which ART regimen the patient needs

Has patient had ART for longer than 1 month in the past?

No

Yes: doctor review
- If patient unwell or had ART side effects, discuss with an experienced ART doctor.
- Manage according to viral load results:

Patient does not have two viral loads > 1000

Choose 1st line ART

- Give fixed dose combination TDF/FTC/EFV unless:
  - Active psychiatric illness: use NVP instead of EFV. Avoid NVP if CD4 ≥ 250 (woman) or ≥ 400 (man), refer/discuss.
  - If pregnant with active psychiatric illness or known kidney disease, start AZT 300mg 12 hourly instead of 1st line ART and refer to doctor.
- If treatment interruption: do baseline VL, re-start same regimen, give increased adherence support and repeat VL in 2 months ↩ 68.

Patient has two viral loads > 1000[2]

Choose 2nd line ART

- If been on TDF: give AZT, 3TC and LPV/r (if currently on TDF and HBsAg positive, continue TDF as a 4th drug).
- If been on AZT or d4T: give TDF, 3TC and LPV/r.
- If CrCl < 50 or Hb < 8: give ABC, 3TC and LPV/r.

2. Check baseline bloods according to regimen ↩ 68:

- If patient not pregnant, review patient with results within 2 weeks.
- If patient pregnant, start ART **same day** and review baseline blood results within 1 week.

3. Decide when to start ART:

- If **pregnant or breastfeeding**, start ART same day unless newly diagnosed TB or suspected TB, refer to doctor.
- If **TB**, start ART once tolerating TB treatment: if CD4 ≤ 50 start within 2 weeks; delay for 4-6 weeks if **TB meningitis**; otherwise start ART within 2-8 weeks of TB treatment.
- If **cryptococcal antigen positive**, start ART after 2 weeks of fluconazole. If **cryptococcal meningitis**, delay ART until 4-6 weeks of treatment for meningitis.
- If none of above and **CD4 ≤ 200 or stage 4**, start ART within 7 days, otherwise start ART within 2 weeks.

[1]Do not give if TB symptoms, on TB treatment, liver disease or alcohol abuse, or peripheral neuropathy. [2]If viral load > 1000 on 2 occasions but ≥1 log drop in the VL, discuss with experienced ART doctor before switching to 2nd line ART.

4. Start ART if blood results normal:

If starting 1st line regimen ART, give fixed dose combination TDF/FTC/EFV 1 tablet daily, otherwise doctor to give appropriate combination of at least 3 antiretrovirals (table below):

Antiretroviral	Dose and frequency	If eGFR < 50	Side effects (refer if "self-limiting" side-effects persist after 6 weeks) Fill in adverse event form and give to pharmacy if urgent/persistent side effects.
TDF/FTC/EFV	300/200/600mg (1 tablet) daily	Avoid	As for individual antiretrovirals listed below
Tenofovir (TDF)	300mg daily	Avoid	Urgent: kidney failure, lactic acidosis[1] (refer same day). Self-limiting: flatulence, nausea, vomiting, diarrhoea
Efavirenz (EFV)	600mg daily (400mg if weight < 40kg)	Same dose	Urgent: rash ↻ 43, abdominal pain, jaundice, vomiting (hepatitis likely, refer). Self-limiting: dizziness, sleep problems (try daytime dosing), depression. Long-term: gynaecomastia
Lamivudine (3TC)	150mg 12 hourly or 300mg daily	eGFR 30-50: adjust to 150mg daily. If eGFR < 30: refer/discuss.	Uncommon Urgent: lactic acidosis[1] (refer same day). Self-limiting: headache, dry mouth
Zidovudine (AZT)	300mg 12 hourly	eGFR 10 -50: same dose. If eGFR < 10: refer/discuss.	Urgent: lactic acidosis[1] (refer same day). Self-limiting: vomiting, nausea (take with food), headache, fatigue (if Hb < 8 ↻ 68). Long-term: body shape change (switch to TDF)
Abacavir (ABC)[2]	300 mg 12 hourly or 600 mg daily	Same dose	Urgent: Abacavir Hypersensitivity Reaction (AHR) likely if ≥ 2 of : 1) Fever 2) Rash 3) Constitutional (fatigue, myalgia) 4) Gastrointestinal (abdominal pain, diarrhoea, nausea, vomiting) 5) Respiratory (sore throat, cough, difficulty breathing). Stop ART and refer urgently. Never re-start abacavir in patient with previous AHR, can be fatal.
Stavudine (d4T)	30mg 12 hourly	eGFR 25-50: adjust to 15mg 12 hourly. If eGFR < 25: refer/discuss.	Urgent: lactic acidosis[1] (refer same day). Long-term: burning toes, body shape change (switch to TDF)
Nevirapine (NVP)	200mg daily for 2 weeks, then 200mg 12 hourly	Same dose	Urgent: rash ↻ 43, abdominal pain, jaundice, vomiting (hepatitis likely, refer). Self-limiting: nausea (take with food)
Lopinavir/ritonavir (LPV/r)	400/100mg (2 tablets) 12 hourly On TB treatment: doctor to double dose gradually	Same dose	Urgent: abdominal pain, jaundice or vomiting if also on TB treatment (refer). Self-limiting: diarrhoea (consider switch to ATV/r if persists) Long-term: change in body shape, lipid problems
Atazanavir/ritonavir (ATV/r)	300mg atazanavir *plus* 100mg ritonavir daily	Same dose	Urgent: abdominal pain, jaundice, vomiting (refer). Self-limiting: nausea, diarrhoea, rash

5. Decide when to review the HIV patient on ART:

- If pregnant: review patient and baseline blood results 1 week after starting ART, and then monthly.
- If not pregnant: review 2 weeks after starting ART, then monthly until stable.
- If stable (patient has CD4 > 350, VL < 50, normal routine ART blood results, is adherent and well on ART): review 3 monthly.

6. Decide when to stop the following treatments in the HIV patient:

- Co-trimoxazole: stop once CD4 ≥ 350 on > 2 occasions and patient well on ART. Restart co-trimoxazole if CD4 drops < 350 or new opportunistic infections develop.
- Fluconazole for cryptococcal disease: stop after at least 1 year if CD4 > 200 on 2 occasions and patient well on ART.
- IPT: stop isoniazid according to ART status and TST[3] result:

Pre-ART			On ART		
TST[3] not available	TST[3] negative < 5mm	TST[3] positive ≥ 5mm	TST[3] positive ≥ 5mm	TST[3] negative < 5mm	TST[3] not available
Stop IPT after 6 months. • If later TST[3] positive (≥ 5mm): extend to 36 months. • If later TST[3] negative (< 5mm): stop IPT.	No IPT	Stop IPT after 36 months.		Stop IPT after 12 months.	Stop IPT after 12 months. • If later TST[3] positive (≥ 5mm): extend to 36 months.

[1]Lactic acidosis likely if > 1 of: fatigue, weakness or body pain, nausea, vomiting, diarrhoea, weight loss, loss of appetite, abdominal pain, difficulty breathing (more likely if rapid lactate ≥ 2.0). [2]When starting ABC, give "patient alert card" found in ABC packaging. [3]Tuberculin Skin Test (Mantoux®).

ASTHMA AND COPD: DIAGNOSIS

- The patient with chronic cough may have more than one disease. Also consider TB, PCP, lung cancer, bronchitis, heart failure and post infectious cough ⮌ 20.
- Asthma and chronic obstructive pulmonary disease (COPD) both present with cough, wheeze, tight chest or difficulty breathing. Distinguish asthma and COPD as follows:

Asthma likely if several of:
- Onset before 20 years of age
- Associated hayfever, allergic conjunctivitis or eczema, other allergies
- Intermittent symptoms with normal breathing in between
- Symptoms worse at night, early morning, with cold or stress
- Patient or family have a history of asthma
- PEFR[1] response to inhaled beta-agonist improves ≥ 20% ⮌ 72

Give routine asthma care ⮌ 73.

COPD likely if several of:
- Onset after 40 years of age
- Symptoms are persistent and worsen slowly over time
- Cough with sputum starts long before difficulty breathing
- History of heavy smoking or worked in dusty environment
- Previous diagnosis of TB
- Previous doctor diagnosis of COPD

Give routine COPD care ⮌ 74.

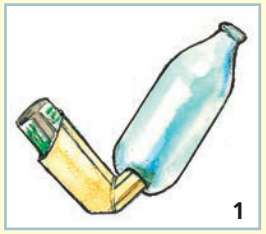
Doctor to confirm diagnosis. If doctor not available, treat as asthma ⮌ 73 and refer to doctor within 1 month.

USING INHALERS AND SPACERS

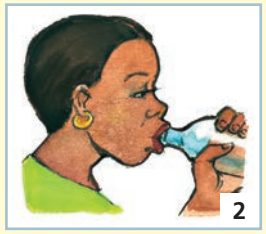
Health for All | Asthma ⮌ 118 | COPD ⮌ 122

- If patient unable to use an inhaler correctly, add a spacer to increase drug delivery to the lungs, especially if using inhaled corticosteroids. This may also reduce the risk of oral thrush.
- Clean the spacer weekly: remove canister and wash spacer with soapy water. Allow to drip dry. Do not rinse with water after each use. Prime spacer with two puffs after washing and before use.

How to use an inhaler with a spacer

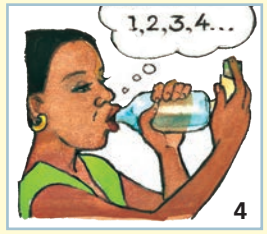


Shake inhaler and spacer



Breathe out. Then form a seal with lips around mouthpiece.

Press pump once to release one puff into spacer.



- Then take 4 breaths while keeping spacer in mouth.
- Repeat step 3 and 4 for each puff.
- Rinse mouth after using inhaled corticosteroid.

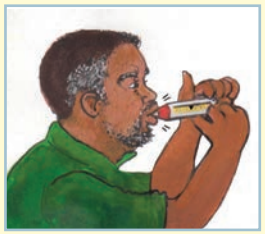
[1]Peak expiratory flow rate

USING A PEAK EXPIRATORY FLOW METER

How to measure peak expiratory flow rate (PEFR)

Move marker to bottom of numbered scale.

- Take a full, deep breath.
- Hold breath and place mouthpiece between teeth.
- Form a seal with lips.



Breathe out as hard and as fast as possible (keeping fingers clear of scale).

- Read the result.
- Move marker back to bottom and repeat twice. Use the highest of the 3 results.

How to calculate % PEFR response to inhaled beta-agonist

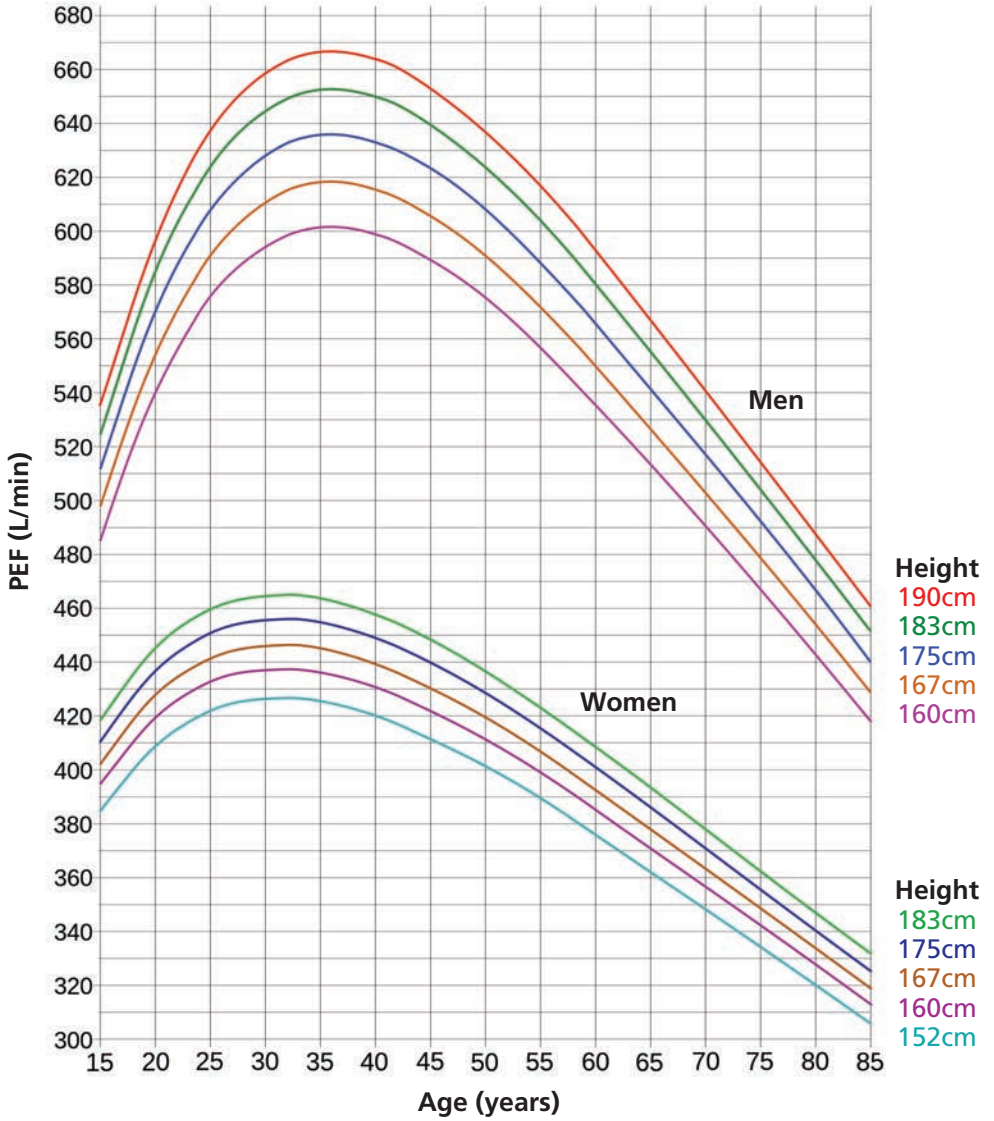
- Measure initial PEFR as above (use the highest of the 3 results).
- Give inhaled salbutamol 200µg (2 puffs) and wait for 15 minutes.
- Repeat PEFR as above.
- Calculate % PEFR response = $\frac{\text{(repeat PEFR – initial PEFR)}}{\text{Initial PEFR}} \times 100$

How to calculate % of predicted PEFR

- Measure patient's PEFR as above (use the highest of the 3 results). This is the observed PEFR.
- Determine patient's predicted PEFR using graph:
  - Plot the patient's sex, height and age.
  - Read predicted PEFR on left of graph.
- Calculate % of predicted PEFR = observed PEFR / predicted PEFR x 100

Peak expiratory flow rate - normal values

For use with EU/EN13826 scale PEF meters only



Adapted by Clement Clarke for use with EN13826 / EU scale peak flow meters from Nunn AJ Gregg I, Br Med J 1989:298;1068-70

ASTHMA: ROUTINE CARE

Ensure that a doctor confirms the diagnosis of asthma within 1 month.

Assess the patient with asthma

Assess	When to assess	Note
Symptom control	Every visit	Any of the following indicate **uncontrolled** asthma: • Daytime cough, wheeze, tight chest or difficulty breathing > twice a week • Night-time cough, wheeze, tight chest or difficulty breathing > once a month • Limitation of daily activities due to asthma symptoms
Other symptoms	Every visit	• Manage symptoms as on symptom pages. • Ask about hayfever: sneezing, itchy or runny nose. Treating hayfever may improve asthma control ↴ 17. • Ask the patient using inhaled corticosteroids about a sore mouth ↴ 18. See advice below. • Ask about heartburn or upper abdominal pain after eating. Treating gastro-oesophageal reflux may improve asthma control ↴ 23.
Medication use	Every visit	• Ensure patient is adherent to treatment before adjusting or adding treatment. • Check that patient understands when to use each inhaler and that s/he can use inhaler and spacer correctly ↴ 71.
Peak expiratory flow rate (PEFR)	• At diagnosis • If symptoms worsening • If change to medication at last visit	Calculate % of predicted PEFR ↴ 72: • If < 80%, asthma is **uncontrolled**.

Advise the patient with asthma

Health for All ↴ 116

- Ask about smoking. If yes, urge patient to stop.
- Advise patient to adhere to treatment even if asymptomatic. Arrange adherence support if needed (helpline ↴ 111, community care, support groups).
- Advise patient to avoid irritants which may worsen asthma, including cigarette smoke, animals, dust, chemicals, pollen and grass.
- Ensure the patient understands the need for medication received:
  - Beta-agonist inhaler (e.g. salbutamol) only relieves symptoms and does not control asthma.
  - Inhaled corticosteroids (e.g. beclomethasone and fluticasone) prevent symptoms and control asthma, but do not give instant relief. They are the mainstay of treatment.
- Inhaled corticosteroids can cause oral thrush: advise patient to rinse and gargle after each dose of inhaled corticosteroid.

Treat the patient with asthma

- Give inhaled salbutamol 200µg (2 puffs) as needed, up to 4 times a day. If exercise-induced asthma, advise patient to use salbutamol 200µg (2 puffs) before exercise.
- If acute exacerbation or asthma **uncontrolled**, step up treatment:
  - Before adjusting treatment ensure patient is adherent and can use inhaler and spacer correctly ↴ 71.
  - Start inhaled corticosteroid beclomethasone 200µg 12 hourly if patient not already on it.
  - If already on beclomethasone, increase beclomethasone to 400µg 12 hourly.
  - If still uncontrolled, doctor to stop beclomethasone and give inhaled salmeterol/fluticasone 50/250µg 12 hourly. Refer if still uncontrolled after 3 months.
- If asthma **controlled**: continue inhaled medications at same dose. If controlled and no acute exacerbations for at least 6 months, step down treatment:
  - If on beclomethasone, decrease dose by 200µg. If already on 200µg, stop beclomethasone.
  - If on salmeterol/fluticasone, stop this and give beclomethasone 400µg 12 hourly instead.
  - If symptoms worsen while stepping down treatment, increase back to dose of inhaled medication where patient was controlled.
- If acute exacerbation, only give antibiotic if fever and thick yellow/green sputum: give amoxicillin 500mg 8 hourly for 5 days. If severe penicillin allergy[1], give azithromycin 500 mg daily for 3 days instead.
- If > 2 courses of oral prednisone given in past 6 months, refer to doctor.

Review the controlled patient 3 monthly, the uncontrolled patient monthly and the patient with an acute exacerbation in 1 week.
Advise patient to return before next appointment if symptoms worsen.

[1]History of anaphylaxis, urticaria or angioedema.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD): ROUTINE CARE

Ensure that a doctor confirms the diagnosis of COPD within 1 month.

Assess the patient with COPD

Assess	When to assess	Note
COPD symptoms	Every visit	• Assess disease severity: if patient can walk at a normal pace for age without difficulty breathing, COPD is **mild**. If not, COPD is **moderate** or **severe**. • In patient with cough: - Treat for chest infection as below only if sputum increases or changes in colour to yellow/green. - Investigate for TB only if patient has other TB symptoms like weight loss, night sweats, blood-stained sputum ↴ 58.
Other symptoms	Every visit	• Manage symptoms as on symptom pages. • Ask the patient using inhaled corticosteroids about a sore mouth ↴ 18. See advice below. • If patient has leg swelling, refer to doctor for assessment.
Medication use	Every visit	• Ensure patient is adherent to treatment before adjusting or adding treatment. • Check that patient can use inhaler and spacer correctly ↴ 71.
Depression	Every visit	If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
Peak expiratory flow rate (PEFR)	• At diagnosis • If symptoms worsening • If change to medication at last visit	Calculate % of predicted PEFR ↴ 72 • If 50-80%, COPD is **moderate**. • If < 50%, COPD is **severe**.
CVD risk assessment	At diagnosis	• The patient with COPD is at increased risk of cardiovascular disease. • Assess the patient's CVD risk ↴ 75.

Advise the patient with COPD

Health for All ↴ 121

- Ask about smoking. If yes, urge patient to stop. This is the mainstay of COPD care.
- Advise patient to adhere to treatment even if asymptomatic. Arrange adherence support if needed (helpline ↴ 111, community care, support groups).
- Exercise: encourage the patient to take a walk daily and to increase activities of daily living like gardening, housework and using stairs instead of lifts.
- Help the patient to manage his/her CVD risk ↴ 76.
- Inhaled corticosteroids can cause oral thrush: advise patient to rinse and gargle after each dose of inhaled corticosteroid.

Treat the patient with COPD

- Give inhaled salbutamol 200µg (2 puffs) as needed, up to 4 times a day.
- If patient has **moderate** or **severe** COPD or ≥ 2 exacerbations per year, doctor to add inhaled salmeterol/fluticasone 50/250µg 12 hourly. Refer if no improvement after 3 months.
- Ensure patient is adherent and can use inhaler and spacer correctly ↴ 71.
- If sputum increases or changes in colour to yellow/green, treat for chest infection: give amoxicillin 500mg 8 hourly for 5 days. If severe penicillin allergy[1], give doxycycline 100mg 12 hourly for 5 days instead.
- Give influenza vaccination 0.5mL IM yearly.
- If > 2 courses of oral prednisone given in past 6 months, refer to doctor for review and spirometry.

Review monthly if recent exacerbation, treatment adjustment, symptoms worse than usual or not coping as well as before. Otherwise review 3-6 monthly.

[1]History of anaphylaxis, urticaria or angioedema.

CARDIOVASCULAR DISEASE (CVD) RISK: DIAGNOSIS

Cardiovascular disease (ischaemic heart disease, peripheral vascular disease, stroke) is preventable and treatable.

Identify the patient with established cardiovascular disease:

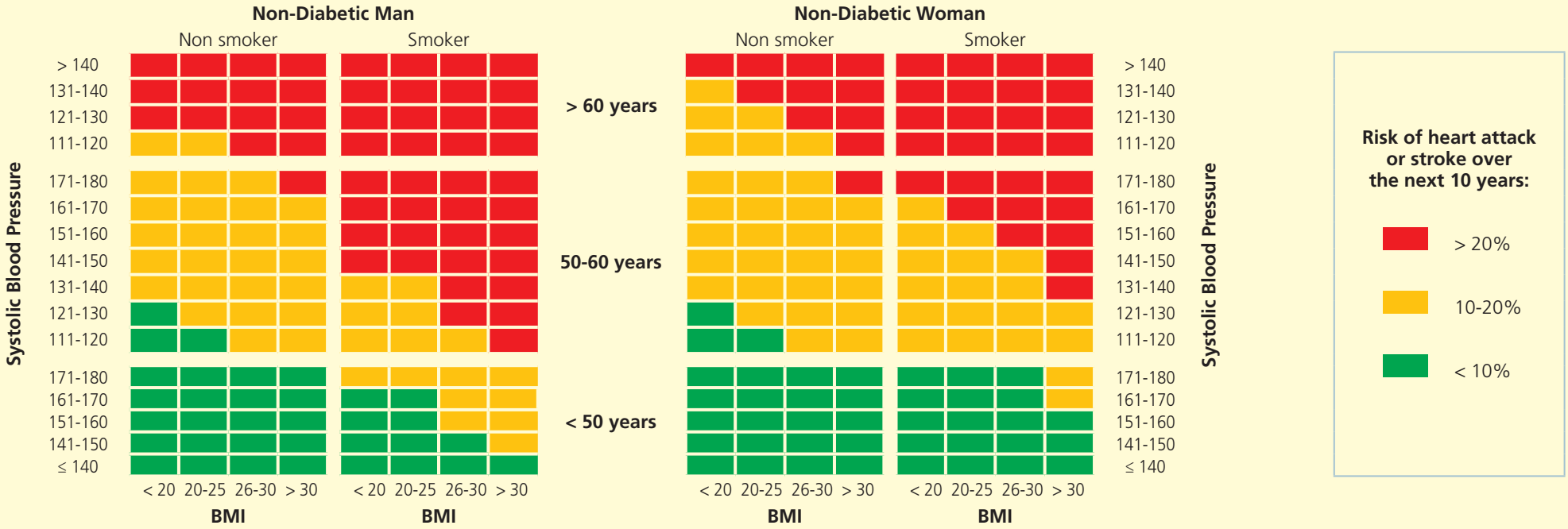
- If patient has or has had chest pain, screen for ischaemic heart disease →19.
- If patient has or has had leg pain, screen for peripheral vascular disease →40.
- If patient has had sudden weakness of limb/s or face, visual disturbance, difficulty speaking or understanding, dizziness, or severe new headache, screen for stroke →83.

Look for risk factors for cardiovascular disease:

- Ask about smoking.
- Look for hypertension. Hypertension is diagnosed at different BP levels depending on risk factors. Check BP ↩ 80.
- Check random finger prick glucose for diabetes and interpret result ↩ 77.
- Calculate BMI (weight (kg)/[height (m) x height (m)]). More than 25 is a risk factor.
- Measure waist circumference on breathing out, midway between lowest rib and top of iliac crest. More than 80cm (woman) or 94cm (man) is a risk factor.

Calculate the patient's risk of a heart attack or stroke over the next 10 years:

- Plot the patient's risk on the charts below using age, BMI and systolic BP in the columns for sex and smoking status.
- Do not use these charts if the patient is known to have diabetes and/or CVD as s/he is already at high risk.



Manage the CVD risk in the patient with CVD or a CVD risk ≥ 10% and/or CVD risk factors →76.

CARDIOVASCULAR DISEASE (CVD) RISK: ROUTINE CARE

Assess the patient with CVD risk

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms on symptom page. Ask about chest pain ↴ 19, difficulty breathing ↴ 20, leg pain ↴ 40 and symptoms of stroke/TIA ↴ 83.
Risk factors	Every visit	Ask about smoking, diet, exercise and activities of daily living.
BMI	Every visit	BMI is weight (kg)/[height (m) x height (m)]. Aim for < 25.
Waist circumference	At diagnosis, yearly or 3 monthly if trying to lose weight	Measure waist circumference on breathing out midway between lowest rib and top of iliac crest. Aim for < 80cm (woman), 94cm (men).
BP	Every visit	Diagnose and treat hypertension depending on CVD risk ↴ 80. If known hypertension give routine hypertension care ↴ 81.
CVD risk	At diagnosis, then 5 yearly	If CVD risk ≤ 20%, show the patient what his/her risk might be in 10 years using current BP, BMI and smoking status.
Glucose	At diagnosis, then depending on risk ↴ 77	Timing of repeat diabetes screen depends on risk factors ↴ 77. If known diabetes give routine diabetes care ↴ 78.
Total cholesterol	At diagnosis if CVD risk > 20%	Check random total cholesterol. If ≥ 7.5, refer to specialist. No need to repeat.

Advise the patient with CVD risk

- Discuss CVD risk: explore the patient's understanding of CVD risk and the need for a change in lifestyle.
- Invite patient to address 1 lifestyle CVD risk factor at a time: help plan how to fit the lifestyle change into his/her day. Explore what might hinder or support this. Together set reasonable target/s for next visit.

Physical activity

- Aim for at least 30 minutes brisk exercise at least 5 days/week.
- Increase activities of daily living like gardening, housework, walking instead of taking transport, using stairs instead of lifts.
- Exercise with arms if unable to use legs.

Health for All ↴ 27

Weight

Aim for BMI < 25, and waist circumference < 80cm (woman) and 94cm (man). Any weight reduction is beneficial, even if targets not met.

Health for All ↴ 23

Diet

- Eat a variety of foods in moderation. Reduce portion sizes.
- Increase fruit, vegetables and low fat dairy.
- Reduce fatty foods: eat low fat food, cut off animal fat, replace brick margarine/butter with soft tub margarine.
- Reduce salty processed foods like gravies, stock cubes, packet soup. Avoid adding salt to food.
- Use less sugar.

Health for All ↴ 19

Smoking

Urge patient who smokes to stop.

Health for All ↴ 33

Screen for alcohol/substance misuse

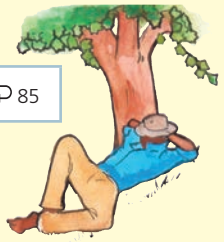
If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90.

Health for All ↴ 37 and 41

Manage stress

- Perform a relaxing breathing exercise each day.
- Find a creative or fun activity to do.
- Spend time with supportive friends or family.
- If patient is stressed ↴ 55.

Health for All ↴ 85



- Identify support to maintain lifestyle change: health education officer or dietician/nutritionist, friend, partner or relative to attend clinic visits, a healthy lifestyle group, helpline ↴ 111.
- Be encouraging and congratulate any achievement. Avoid judging, criticising or blaming. It is the patient's right to make decisions about his/her own health. For tips on communicating effectively ↴ preface.

Treat the patient with CVD risk

Give the patient with CVD risk > 20% simvastatin 10mg daily for life.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

DIABETES: DIAGNOSIS

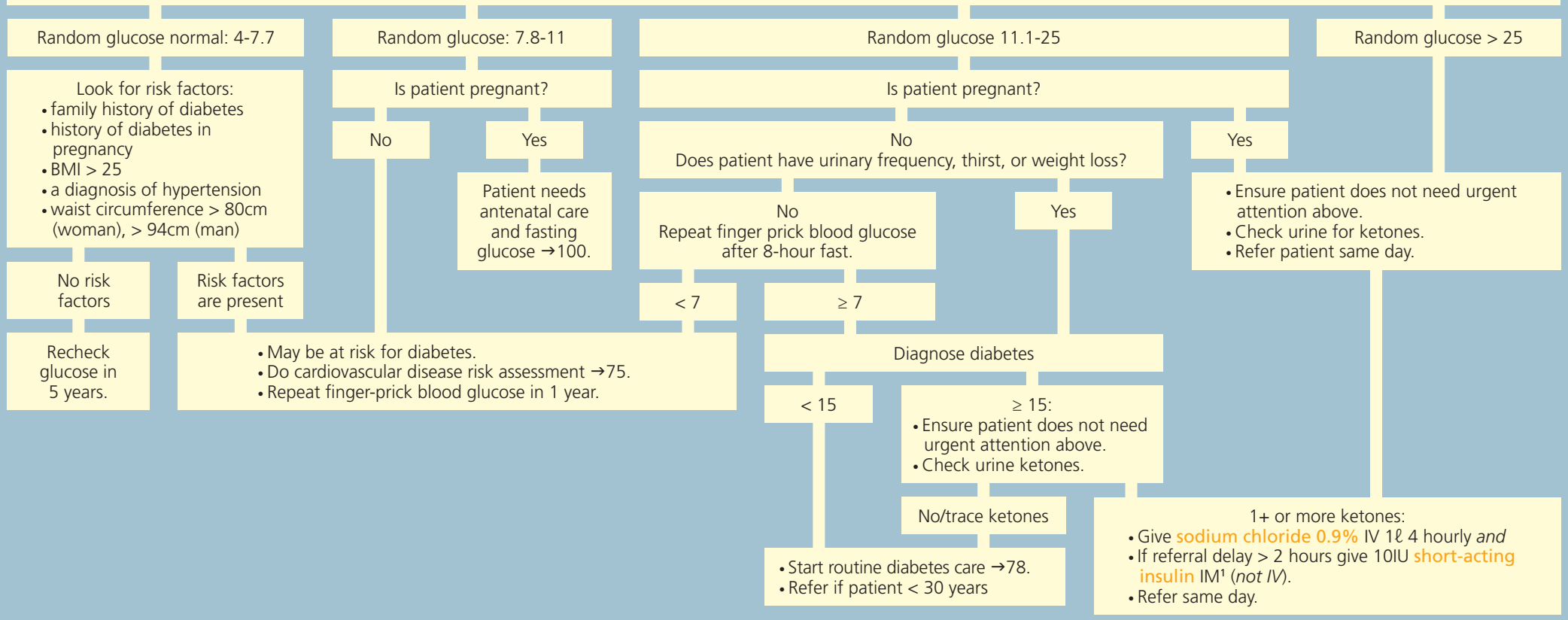
Recognise the patient with glucose ≥ 11.1 needing urgent attention:

- Nausea and/or vomiting
- Abdominal pain
- Deep sighing breathing
- Temperature ≥ 38°C
- Drowsiness
- Confusion
- Unconsciousness →4
- Dehydration: systolic BP drop > 20mmHg between lying and standing *and* poor urine output

Management:

- Rehydrate urgently: give sodium chloride 0.9% IV 1ℓ in first hour then 1ℓ over next 2 hours.
- Give 10IU short-acting insulin IM[1] (*not IV*).
- Refer urgently to hospital.

If the patient does not need urgent attention, interpret random glucose result as follows:



[1]Do not give IV insulin without checking electrolytes, as it may cause low potassium and heart dysrhythmia.

DIABETES: ROUTINE CARE

Assess the patient with diabetes

Assess	When to assess	Note
Symptoms	Every visit	Manage symptom as on symptom page. Ask about chest pain ↴ 19 and leg pain ↴ 40.
Depression	Every visit	If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
BP	Every visit	Diagnose hypertension if > 140/80 on 2 days. Treat to target: 120/70-140/80 ↴ 81.
BMI	At diagnosis, yearly or 3 monthly if trying to lose weight	BMI is weight (kg)/[height (m) x height (m)]. Aim for BMI < 25.
Waist circumference	At diagnosis, yearly or 3 monthly if trying to lose weight	Aim for < 80cm in woman and < 94cm in man.
Pregnancy status	Every visit	Discuss family planning needs ↴ 98. Refer for specialist care if pregnant.
Eyes for retinopathy	At diagnosis, yearly and if visual problems develop	Refer if new diabetes diagnosis, visual problems, cataracts or retinopathy.
Feet	At diagnosis, 3 months, then yearly, more often if high risk	Check for pain, pulses, sensation, deformity, skin problems. For foot screen and foot care education ↴ 41.
Random glucose	Every visit	Finger prick sample is adequate. See below: aim for < 8.
Protein on urine dipstick	At diagnosis and yearly	• If no protein on dipstick, send urine to lab for microalbuminuria. • If albuminuria or proteinuria: start enalapril 10mg daily regardless of BP. Doctor to increase to 20mg after 1 month.
Ketones on urine dipstick	If glucose ≥ 15	If glucose ≥ 15 and ≥ 1+ ketones, see below.
HbA_{1c}	6 monthly if HbA_{1c} < 7% but 3 months after treatment change	Aim for HbA_{1c} < 7%. HbA_{1c} reflects glucose control over past 3 months. See below.
eGFR	At diagnosis and yearly	Give patient's age and sex on form. If eGFR < 60, refer to doctor.
Fasting total cholesterol, triglycerides	At diagnosis if not already done.	Refer to specialist if total cholesterol ≥ 7.5 or triglycerides ≥ 15.

Check random finger prick glucose at every visit and HbA_{1c} 6 monthly if HbA_{1c} ≤ 7% but 3 months after change in glucose-lowering treatment.

Glucose < 4
With/without hunger, palpitations, sweating, tremors, fatigue, headache, mood changes, fits, confusion, drowsiness, coma.

- Give sugar water orally or if coma give 50mℓ dextrose 50% IV. Repeat if glucose < 4.
- Identify cause and educate about meals and doses →79.
- Refer same day if incomplete recovery or on glibenclamide or long-acting insulin. Continue 5% dextrose water 1ℓ 6 hourly IV.

Glucose 4-11.0
Review HbA_{1c} result from within past 3 months.

HbA_{1c} ≤ 7% or not done in past 3 months

Glucose < 8

- Review in 6 months.
- Check HbA_{1c} yearly.

Glucose 8-14.9

No HbA_{1c} < 3 months
Check HbA_{1c}. Review in 1 month.

HbA_{1c} ≤ 7%
Review in 3 months.

HbA_{1c} > 7%

- Not adherent: educate and review in 1 month.
- Adherent: step up treatment and review in 1 month →79.

Glucose ≥ 11.1
Is there any of nausea, vomiting, abdominal pain, hyperventilation, difficult breathing, dehydration, fever, drowsiness, confusion, coma?

No - check urine for ketones

No/≤ 1 ketones

> 1+ ketones:

- Give sodium chloride 0.9% 1ℓ 4 hourly IV and 10IU short-acting insulin IM[1] (*not IV*).
- Refer same day.

Yes

- Give sodium chloride 0.9% 1L IV over 1 hour, then 1L every 2 hours. Stop if breathing worsens.
- Give 10IU short-acting insulin IM[1] (*not IV*).
- Refer urgently.

[1]Do not give IV insulin without checking electrolytes, as it may cause low potassium and heart dysrhythmia.

Advise the patient with diabetes

- Help the patient to manage his/her CVD risk ↩ 76.
- Advise patient to adhere to treatment even if asymptomatic and to eat regular meals. Arrange adherence support if needed (helpline ↩ 111, community care, support groups).
- Ensure patient can recognise and manage hypoglycaemia:
  - If palpitations, sweats, headache or tremors, drink milk with sugar or eat a sweet or sandwich. Always carry something sweet. If fits, confusion or coma, rub sugar inside mouth.
  - Identify and manage the cause: increased exercise, missed meals, inappropriate dosing of glucose-lowering drugs, alcohol, intercurrent illness like diarrhoea.
- Educate the patient to care for his/her feet to prevent ulcers and amputation ↩ 41.

Treat the patient with diabetes

- Give aspirin 150mg daily if CVD or a family history thereof, hypertension, smoking, dyslipidaemia, albuminuria or > 40 years. Avoid if < 30 years, previous peptic ulcer or dyspepsia or BP ≥ 180/110.
- Give simvastatin 10mg regardless of cholesterol if patient has CVD, hypertension, smoking, obesity, and/or > 40 years.
- Give enalapril 10mg up to 20mg daily if albuminuria/proteinuria, and first line for hypertension. Avoid in pregnancy, angioedema or renal artery stenosis.
- Give glucose-lowering drugs in a stepwise fashion. Ensure patient is adherent before increasing treatment:

Step	Drug/s	Breakfast	Lunch	Supper	Bed	Note
1	Start metformin	500mg				• Avoid in pregnancy, kidney or liver disease, recent heart attack, heart failure, alcoholism.
		500mg	500mg			• Take with meals.
		850mg	850mg			• Increase every 2 weeks if random glucose > 8 and patient is adherent.
		850mg	850mg	850mg		• If after 3 months on maximum dose, HbA_{1c} > 7%, move to step 2.
2	Add sulphonylurea:	2.5mg				• Continue metformin.
	• glibenclamide if < 65 years *or*	5mg				• Take with meals.
		5mg		2.5mg		• Avoid in pregnancy, severe kidney and liver disease, co-trimoxazole allergy.
		5mg		5mg		• Increase every 2 weeks if random glucose > 8 and patient is adherent.
		7.5mg		5mg		• If after 3 months on maximum dose, HbA_{1c} > 7%, move to step 3.
		7.5mg		7.5mg		
	• gliclazide if ≥ 65 years	40mg				
		80mg				
		80mg		40mg		
		80mg		80mg		
		120mg		80mg		
		120mg		120mg		
		160mg		120mg		
		160mg		160mg		
3 Dr	Add basal insulin (intermediate or long acting)				Start dose: 8IU.	• Continue metformin and sulphonylurea.
					Increase by 2IU.	• Patient to check fasting glucose on waking once a week. If ≥ 7 and patient is adherent, increase dose by 2 units.
					Max dose: 20IU.	• Educate about insulin: injection technique and sites (abdomen, thighs, arms recommended), store insulin in fridge or a cool dark place, meal frequency, recognition of hypoglycaemia and hyperglycaemia, sharps disposal at clinic.
						• If after 3 months on maximum dose, HbA_{1c} > 7%, move to step 4.
4 Dr	Substitute with biphasic insulin	10IU		10IU		• Continue with metformin.
		14IU		10IU		• Stop sulphonylurea and bedtime basal insulin.
		14IU		14IU		• Patient to check fasting glucose on waking once a week. If ≥ 7 and patient is adherent, increase dose by 4 units.
		18IU		14IU		• Educate about insulin as in step 3 above.
						• Refer if HbA_{1c} > 7% and > 30 units per day are needed.

HYPERTENSION: DIAGNOSIS

Check blood pressure (BP)

- Seat patient with arm supported at heart level for 5 minutes.
- Use a standard cuff or larger cuff if mid-upper arm circumference is > 33cm.
- Record systolic BP (SBP) and diastolic BP (DBP): SBP is the first appearance of sound. DBP is the disappearance of sound.
- If raised, recheck until a reading is repeated. Use this reading to determine the patient's BP.
- **Do not diagnose hypertension on the basis of one reading alone.**

< 180/110

- If patient has diabetes diagnose hypertension if BP > 140/80 on 2 days →81.
- Is there ischaemic heart disease, peripheral vascular disease, stroke, heart failure or kidney disease?

No

< 140/90

- Review in 5 years if all readings normal.
- Review in 1 year if any raised readings.

140/90-179/109

Check BP on 2 further occasions at least 2 days apart.

140/90-159/99

Assess CVD risk ↻ 75.
Is CVD risk > 20%?

No

Patient is at risk for hypertension.

- Manage patient's CVD risk →76.
- Recheck BP in 3 months.

< 140/90

- Continue CVD risk management →76.
- Check BP in 1 year.

≥ 140/90

- Diagnose hypertension. **Do not diagnose hypertension on the basis of one reading alone.**
- Start routine hypertension care →81.
- Refer if patient is < 30 years or pregnant.

Yes

160/100-179/109

- Diagnose hypertension. **Do not diagnose hypertension on the basis of one reading alone.**
- Start routine hypertension care →81.
- Refer if patient is < 30 years or pregnant.

Yes

130/80-179/109

Check BP on 2 further occasions at least 2 days apart.

BP confirmed 130/80-179/109

- Diagnose hypertension. **Do not diagnose hypertension on the basis of one reading alone.**
- Start routine hypertension care →81.
- Refer if patient is < 30 years or pregnant.

< 130/80

Repeat BP at routine care visits.

≥ 180/110

Does patient have any of the following: headache, difficult breathing, visual disturbances, chest pain, confusion, leg swelling?

No

- Diagnose hypertension.
- Start routine hypertension care →81.
- Start drug treatment at step 1 *and* step 2 anti-hypertensive treatment →81.
- Review in 2 weeks.

Yes

Patient needs urgent care

- Only treat BP if no sign of stroke: sudden onset of weakness on 1 or both sides, vision problems, dizziness, difficulty speaking or swallowing.
- Give amlodipine 10mg orally stat. If unavailable, give enalapril 10mg orally stat.
- Avoid short-acting nifedipine as it may drop the BP too quickly, causing a stroke.
- If dizzy or faint after treatment, check BP: if more than 25% drop or < 160/100, lie patient down with legs raised.
- Refer same day to hospital.

HYPERTENSION: ROUTINE CARE

Assess the patient with hypertension

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms on symptom page. Ask about symptoms of stroke or transient ischaemic attack (TIA).
BP	Every visit	BP is controlled if < 140/90 (or 120/70-140/80 if diabetes, or < 130/80 if CVD, heart failure or kidney disease).
BMI	At diagnosis, yearly or 3 monthly if trying to lose weight	BMI is weight (kg)/[height (m) x height (m)]. If BMI > 25, calculate target weight: 25 x height (m) x height (m).
Waist circumference	At diagnosis, yearly or 3 monthly if trying to lose weight	Aim for < 80cm (woman), < 94cm (man).
CVD risk	At diagnosis and every 5 years	If CVD or diabetes no need to check. It reflects the risk of a heart attack or stroke over the next 10 years ↴ 75.
Glucose	Yearly and if glucose on urine dipstick	Check random finger-prick glucose ↴ 77 to interpret result. Check every visit if patient diabetic.
eGFR	Yearly	Estimated glomerular filtration rate reflects kidney function. Give age and sex on form. If < 60 refer to doctor.
Urine dipstick	Yearly	Refer to doctor if blood or protein on repeat dipstick. If glucose on dipstick, screen for diabetes ↴ 77.
Cholesterol	At diagnosis	Refer to specialist if total cholesterol ≥ 7.5.

If patient on treatment, check if BP is controlled: < 140/90 (or 120/70-140/80 if diabetes, or < 130/80 if CVD, heart failure or kidney disease).

BP controlled on treatment
- Continue current treatment.
- Review 6 monthly.

BP not controlled on treatment
- If ≥ 180/110: check for symptoms needing urgent attention →80.
- Adherent: Step up treatment (to at least step 3 if ≥ 180/110) and review in 1 month.
- Not adherent: Advise patient to take current treatment reliably. Review in 1 month.

Advise the patient with hypertension

- Help the patient to manage his/her CVD risk ↴ 76.
- Advise patient to avoid non-steroidal anti-inflammatory drugs (like ibuprofen), oestrogen-containing oral contraceptives ↴ 98.
- Educate the patient on enalapril to stop it immediately should angioedema (swelling of tongue, lips, face, difficulty breathing) develop.
- Advise patient to adhere to treatment even if asymptomatic to prevent stroke (brain attack) and kidney disease. Arrange adherence support if needed (helpline ↴ 111, community care, support groups).

Treat the patient with hypertension

- Give simvastatin 10mg daily if patient has CVD *or* a CVD risk > 20%. Avoid in pregnancy, liver disease.
- Give aspirin 150mg daily if patient has CVD and/or diabetes. Avoid if < 30 years, previous peptic ulcers or dyspepsia or if BP ≥ 180/110.
- Treat hypertension stepwise as in table below along with CVD risk management ↴ 76. If BP is not controlled after 1 month on treatment and patient is adherent, proceed to the following step:

Step	Drugs all once a day	Note
1	Start hydrochlorothiazide (HCTZ) 12.5mg	Avoid in pregnancy (refer), liver or kidney disease, gout. Use enalapril first instead in diabetes, kidney disease, heart failure.
2	Add enalapril 10mg	Avoid/stop in pregnancy, angioedema or renal artery stenosis: use amlodipine 5mg daily instead. If eGFR < 60 and/or peripheral vascular disease, check eGFR and potassium within 4 weeks of starting/changing dose.
3	Add amlodipine 5mg and increase enalapril to 20mg.	Avoid amlodipine in heart failure if possible.
4	Add atenolol 50mg; increase HCTZ to 25mg and amlodipine to 10mg.	Avoid atenolol in pregnancy, asthma, COPD, heart failure. **Refer for specialist assessment if BP not controlled on step 4 treatment.**

HEART FAILURE: ROUTINE CARE

The patient with heart failure has difficulty breathing especially on lying down/with effort as well as leg swelling. Dr **A doctor must confirm the diagnosis.**

Recognise the patient with heart failure needing urgent attention:

- Respiratory rate ≥ 30 breaths/minute
- Irregular pulse
- Fainting/blackouts
- Temperature ≥ 38°C

- Sit patient up and give 40% face mask oxygen.
- Give furosemide slowly IV. 1st dose 40mg. If respiratory rate does not improve after 30 minutes, add 80mg; if still no better after 20 minutes give another 40mg.
- Give morphine IV: dilute 15mg with 14mℓ of water for injection or sodium chloride 0.9%. Give 1mℓ/min to a maximum of 5mg even if there is no pain.
- Give sublingual isosorbide dinitrite 5mg. Repeat 4 hourly even if there is no pain.
- Refer urgently

Assess the patient with heart failure

Assess	When to assess	Note
Symptoms	Every visit	Manage symptom as on symptom page. If cough and difficult breathing ↴ 20 and refer to doctor.
Pregnancy status	Every visit	Discuss family planning needs ↴ 98. If pregnant, refer for specialist care.
Mental health	At diagnosis	• If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things? • If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90.
Weight	Every visit	Assess changes in fluid balance by comparing with weight when patient as asymptomatic as possible.
BP	Every visit	If BP ≥ 130/80 ↴ 80. Aim to treat hypertension to < 130/80. Avoid atenolol.
Blood tests	At diagnosis	Check Hb, glucose, eGFR, TSH, HIV if status unknown ↴ 66.

Advise the patient with heart failure

- Advise patient to adhere to treatment even if asymptomatic. Arrange adherence support if needed (helpline ↴ 111, community care, support groups).
- Help the patient to manage his/her CVD risk ↴ 76. Advise regular exercise within limits of symptoms.
- Restrict fluid intake to less than 1 litre/day if marked leg or abdominal swelling.

Dr Treat the patient with heart failure

Give drugs as in table below. If symptoms not resolved after 1 month on treatment and patient is adherent, proceed to the following step:

Step	Drug	Dose	Note
1	Enalapril *and either* HCTZ *or* furosemide	Up to 10mg twice a day 25-50mg daily 40-80mg daily	• Avoid enalapril in pregnancy, previous angioedema or renal artery stenosis. If eGFR < 60 and/or PVD, check eGFR and potassium within 4 weeks of starting/changing dose. • Use HCTZ if mild heart failure symptoms and eGFR ≥ 60. Avoid in gout, liver, kidney disease. • Use furosemide if significant heart failure symptoms or eGFR < 60. Monitor eGFR and electrolytes.
2	Add spironolactone	25mg daily	Monitor serum potassium. Avoid with potassium supplements and in kidney failure.
3	Add carvedilol	3.125mg twice daily. Double dose 2 weekly up to 25mg twice daily.	Avoid in cardiogenic shock, severe fluid overload, BP < 90/60, asthma. Avoid or decrease dose if pulse < 60.
4	Add digoxin	0.125mg daily	Also refer patient for further assessment.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

STROKE: ROUTINE CARE

Sudden onset of any of the following suggests a stroke (or a transient ischaemic attack (TIA) if symptoms lasted < 24 hours and resolved completely):
- Weakness, numbness or paralysis of the face, arm or leg on one or both sides of the body
- Blurred or decreased vision in one or both eyes or double vision
- Difficulty speaking or understanding
- Dizziness, loss of balance, any unexplained fall or unsteady gait
- Severe new headache

Dr **A doctor must confirm the diagnosis of stroke.**

Recognise the patient with stroke needing urgent attention:

Stroke/TIA is a brain attack. Quick treatment within 48 hours of onset of symptoms of a minor stroke or TIA reduces the risk of a major stroke.

- Give face mask oxygen.
- Nil by mouth until swallowing is formally assessed.
- Check blood glucose: if ≤ 3.5 give up to 50mℓ dextrose 50% IV.
- Do not treat raised BP as this may worsen stroke and can be managed at referral hospital.
- Give aspirin 150mg stat if patient unable to reach hospital within 24 hours of onset of symptoms.
- Refer urgently for thrombolysis (to a specialist stroke unit if available) if the patient can reach the unit/hospital within 4 hours of onset of symptoms.
- Otherwise refer same day to nearest hospital if symptoms of stroke/TIA > 4 hours but < 48 hours.

Assess the patient with stroke/TIA

Assess	When to assess	Note
Symptoms	Every visit	Ask about symptoms of another stroke/TIA. Also ask about chest pain ↴ 84 or leg pain ↴ 86.
Depression	Every visit	If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
Rehabilitation needs	Every visit	Refer to appropriate therapist: physiotherapy for mobility, physiotherapy/occupational therapy for self-care, speech therapist for swallowing, coughing after eating, speaking and drooling.
BP	Every visit	Aim for BP < 130/80. Start treatment only 48 hours after a stroke ↴ 80.
Glucose	At diagnosis and yearly	Check random finger-prick glucose ↴ 77 to interpret result.
Fasting cholesterol and triglycerides	At diagnosis if not already done	Refer to specialist if total cholesterol ≥ 7.5 or triglycerides ≥ 5.
HIV	At diagnosis if status unknown especially if patient < 50 years	Test for HIV ↴ 66. The HIV patient needs routine HIV care ↴ 67.

Advise the patient with stroke/TIA

- Advise patient to adhere to treatment even if asymptomatic. Arrange adherence support if needed (helpline ↴ 111, community care, support groups).
- Help patient to manage cardiovascular disease risk ↴ 76.
- If patient is < 55 years (man) or < 65 years (woman), advise the first degree relatives to have CVD risk assessment ↴ 75.
- Avoid oral contraceptives containing oestrogen. Advise other method such as IUCD, injectable, subdermal implant or progesterone-only pill ↴ 98.

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Treat the patient with stroke/TIA

- Give aspirin 150mg daily for life. Avoid if < 30 years, haemorrhagic stroke, previous peptic ulcers or dyspepsia.
- Refer for warfarin instead of aspirin if patient has prosthetic heart valve, valvular heart disease or atrial fibrillation.
- Give simvastatin 10mg daily for life if patient had an ischaemic stroke.

ISCHAEMIC HEART DISEASE (IHD): DIAGNOSIS

- Angina due to IHD is typically central burning or crushing chest pain that may spread to jaw, left shoulder, down left arm and is suggested by:
  - Pain lasting for 5 minutes or less, usually brought on by exercise, effort or anxiety and relieved by rest *and*
  - Pain occurring consistently at same distance or level of effort *and*
  - 9 out of 10 times occurring with effort and 1 out of 10 times at rest.

Dr • **A doctor must make or confirm the diagnosis of ischaemic heart disease.**

Recognise the patient with possible unstable angina or heart attack needing urgent attention:

- Chest pain at rest or minimal effort.
- Chest pain lasting more than 10 minutes.
- If known IHD: pain worsening, lasting longer than usual, not relieved by sublingual nitrates.
- Patient may be sweating, nauseous, vomiting, breathless.
- ECG may show ST segment depression or elevation, but a normal ECG does not exclude diagnosis of angina or heart attack.
- BP < 90/60

Arrange urgent ambulance transfer to hospital and manage as follows:

- Give 40% face mask oxygen.
- If BP < 90/60 give 200mℓ sodium chloride 0.9% IV.
- Give aspirin 150mg single dose.
- Isosorbide dinitrate sublingual 5mg every 5-10 minutes until pain relieved to a maximum of 5 tablets.
- Morphine 15mg diluted with 14mℓ of water for injection or sodium chloride 0.9%. Give 1mℓ/min IV until pain relieved.
- Doctor to confirm unstable angina or heart attack and assess patient for streptokinase:
  - Give if within 6 hours of onset of pain and ST segment elevation above baseline or new LBBB on ECG.
  - Avoid if active bleeding or known bleeding disorder, stroke within the last 6 months or any previous haemorrhagic stroke, gastrointestinal bleeding within the last 3 months or peptic ulcer, streptokinase given within the past year or known allergy to it, or recent major trauma, surgery or head injury.
  - Doctor to give streptokinase 1.5 million IU diluted in 100mℓ dextrose 5% or sodium chloride 0.9% IV over 30-60 minutes.
- Refer urgently to hospital.

For routine care of the patient with IHD →85.

ISCHAEMIC HEART DISEASE: ROUTINE CARE

Assess the patient with ischaemic heart disease

Assess	When to assess	Note
Symptoms	At diagnosis and every visit	Ask about angina and treat as below. Refer if angina persists on full treatment or interferes with daily activities.
Depression	Every visit	If yes to ≥ 1 ↴88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
BP	At diagnosis and every visit	If BP ≥ 130/80 ↴80. Aim to treat hypertension to < 130/80 ↴81.
Glucose	At diagnosis and yearly	Check random finger-prick glucose ↴77 to interpret result.
Fasting cholesterol and triglycerides	At diagnosis if not already done	Refer to specialist if total cholesterol ≥ 7.5 or triglycerides ≥ 5.

Advise the patient with ischaemic heart disease

Health for All ↴61

- Help the patient to manage his/her CVD risk ↴76.
- Patient can resume sexual activity 1 month after heart attack and when symptom free.
- Advise patient to adhere to treatment even if asymptomatic. Ensure patient knows how to use isosorbide dinitrate as below. Arrange adherence support if needed (helpline ↴111, community care, support groups).
- Patient should avoid non-steroidal anti-inflammatory drugs like ibuprofen and diclofenac, as they may precipitate angina.
- If patient is < 55 years (man) or < 65 years (woman), advise the first degree relatives to have CVD risk assessment ↴75.

Treat the patient with ischaemic heart disease

- Give aspirin 150mg daily for life. Avoid if < 30 years, a history of peptic ulcers or dyspepsia.
- Give atenolol 50mg daily, even if no angina. Avoid in pregnancy, asthma, COPD, heart failure, peripheral vascular disease.
- Give simvastatin 10mg daily for life. No need to monitor cholesterol.
- If patient has had a heart attack, give enalapril 2.5mg twice a day and increase slowly to 10mg twice a day. Avoid if pregnancy, angioedema or renal artery stenosis.
- Dr If patient has angina, treat in a step-wise fashion as in table below:
  - If angina persists, increase dose to maximum, then add next step.

Step	Drug	Start dose	Maximum dose	Note
1	Isosorbide dinitrate with angina and before exertion *and* Atenolol	5mg sublingual with angina 50mg daily	3 doses of 5mg with 1 episode of angina 100mg daily	If angina starts, do not walk through the pain, stop and take 1st dose. If angina persists, take a further 2 doses 5 minutes apart. If no improvement 5 minutes after 3rd dose, contact emergency services. Avoid atenolol in pregnancy, asthma, COPD, heart failure, peripheral vascular disease and use amlodipine instead or if side effects (impotence, fatigue, depression) occur.
2	Amlodipine	5mg in the morning	10mg daily	Avoid in heart failure.
3	Isosorbide mononitrate or Isosorbide dinitrate	10mg at 8am and 2pm 20mg at 8am and 2pm	20mg at 8am and 2pm 40mg at 8am and 2pm	

Refer if angina persists on full treatment or interferes with daily activities.

PERIPHERAL VASCULAR DISEASE (PVD)

- Peripheral vascular disease is characterised by claudication: muscle pain in legs or buttocks on exercise.
- Refer the patient newly diagnosed with peripheral vascular disease for specialist assessment.

Recognise the patient with peripheral vascular disease needing urgent attention:
Claudication with any one of:
- Pain at rest
- Gangrene
- Ulceration
- Suspected abdominal aortic aneurysm: pulsatile mass in abdomen

Refer same day to hospital.

PERIPHERAL VASCULAR DISEASE: ROUTINE CARE

Assess the patient with peripheral vascular disease

Assess	When to assess	Note
Symptoms	At diagnosis and every visit	•Document the walking distance before onset of claudication. •Ask about chest pain ↴ 84 and symptoms of stroke/TIA ↴ 83. •Manage symptoms as per symptom pages.
BP	At diagnosis and every visit	If BP ≥ 130/80 ↴ 80. Aim to treat hypertension to < 130/80 ↴ 81.
Femoral pulses	At diagnosis and every visit	Refer if weak or absent.
Abdomen	At diagnosis and every visit	If a pulsatile mass felt, refer for assessment for possible aortic aneurysm.
Random glucose	At diagnosis and yearly	Check random finger-prick glucose ↴ 77 to interpret result. Check every visit if patient diabetic.
Fasting cholesterol and triglycerides	At diagnosis if not already done	Refer to specialist if total cholesterol ≥ 7.5 or triglycerides ≥ 5.

Advise the patient with peripheral vascular disease

- Help the patient to manage his/her CVD risk ↴ 76.
- Advise patient to adhere to treatment even if asymptomatic. Arrange adherence support if needed (helpline ↴ 111, community care, support groups).
- Walking an hour a day for at least 6 months can increase by 50% the walking distance. Advise patient to pause and rest whenever claudication develops.
- If patient is < 55 years (man) or < 65 years (woman), advise the first degree relatives to have CVD risk assessment ↴ 75.

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Treat the patient with peripheral vascular disease

- Give simvastatin 10mg daily for life regardless of cholesterol level.
- Give aspirin 150mg daily for life if no history of peptic ulcers or dyspepsia. Avoid if under 30 years.

Refer if unacceptable symptoms occur despite adherence to advice and drug treatment.

MENTAL HEALTH CARE ACT (MHCA)

Approach to the mentally ill patient in need of hospital admission

- Before sedating the patient (if needed) fully inform patient *in his/her own language* about reasons for admission and treatment.
- Can patient give informed consent: the patient understands that s/he is ill, is needing treatment and can communicate his/her choice to receive treatment?

Yes

Does patient agree to admission?

Yes

Admit the patient voluntarily
- Record everything clearly in patient notes and referral letter.

No

Does patient meet *all* of the following?
- Mental illness or severe or profound mental disability *and*
- Refusing treatment *and*
- Danger of harm to self, others, own reputation, financial interest or property

No

Manage as an outpatient.

Yes

- Applicant[1] must complete **MHCA 04** form.
- Mental health practitioner must complete **MHCA 05** form *and* doctor must complete another **MHCA 05** form (at same or other facility).
- Completion of the 2 **MHCA 05** forms should be done independently of one another.

The 2 **MHCA 05** forms agree to admit the patient under the Mental Health Care Act.

The 2 **MHCA 05** forms disagree.

Third mental health practitioner must complete a third **MHCA 05** form independently.

Third MHCA 05 form agrees to admit the patient under the Mental Health Care Act.

Third MHCA 05 form does not agree to admit the patient under the Mental Health Care Act.

- Head of facility must complete **MHCA 07** form.
- Admit patient under Mental Health Care Act.

Manage as outpatient.

No

Does patient oppose admission?

Yes

Admit as an assisted patient under the Mental Health Care Act.
- A staff member must accompany the patient to hospital.
- Request police assistance *only* if the patient is too dangerous to be transferred in a staff vehicle or is likely to abscond.
- All police transport of mentally ill patients must be accompanied by **form 22.**

No

[1]The applicant is the patient's spouse, next-of-kin, associate, partner, parent or guardian or health care provider. For a patient < 18 years, the applicant must be a parent or guardian.

DEPRESSION AND ANXIETY: DIAGNOSIS

Ask the following 2 questions to assess for depression:

Question 1: For at least 2 weeks, has the patient had at least 2 of the core features of depression?
- Depressed mood most of the day, almost every day
- Loss of interest or pleasure in activities that are normally pleasurable
- Decreased energy or increased fatigue

Question 2: For at least 2 weeks, has the patient had any 3 other features of depression?
- Reduced concentration and attention
- Reduced self-esteem and self confidence
- Ideas of guilt and unworthiness
- Bleak and negative view of future
- Ideas or acts of self-harm or suicide
- Disturbed sleep
- Decreased appetite

Yes to both Question 1 *and* Question 2

Does the patient have difficulties carrying out ordinary work, domestic or social activities?

Yes → Diagnose **moderate-severe depression.**

No → Diagnose **mild depression.**

Yes to *only* Question 1 *or* Question 2 → Diagnose **mild depression.**

Is the patient feeling tense/nervous and/or worrying a lot?

No → Give routine depression and/or anxiety care →89.

Yes → The patient has **anxiety**.

Does the anxiety have one or more of the following features?
- Induced by an object or certain situation (e.g. fear of open or public places)
- Sudden fear, no obvious cause
- Follows a traumatic event

No →
- If the patient has depression *and* anxiety, treat for depression as treating the depression usually improves the anxiety.
- If there is no depression, treat anxiety as for mild depression.

Give routine depression and/or anxiety care →89.

Yes → The patient may have phobia, panic or post-traumatic stress disorder.

Refer same week for specialist assessment.

No to *both* Question 1 *and* Question 2

- The patient is not depressed.
- Is the patient feeling tense/nervous and/or worrying a lot?

Yes → The patient has **anxiety**.

Does the anxiety have one or more of the following features?
- Induced by an object or certain situation (e.g. fear of open or public places)
- Sudden fear, no obvious cause
- Follows a traumatic event

No →
- If the patient has depression *and* anxiety, treat for depression as treating the depression usually improves the anxiety.
- If there is no depression, treat anxiety as for mild depression.

Give routine depression and/or anxiety care →89.

Yes → The patient may have phobia, panic or post-traumatic stress disorder.

Refer same week for specialist assessment.

No → Assess the patient on stressed patient page →55.

DEPRESSION AND/OR ANXIETY: ROUTINE CARE

Assess the patient with depression and/or anxiety

Assess	When to assess	Note
Symptoms	Every visit	• Assess for symptoms of depression and/or anxiety ↩ 88. Refer if patient deteriorates or if no improvement after 8 weeks of attending depression counselling and/or taking antidepressants. • If patient has hallucinations, delusions and abnormal behaviour, consider psychosis →91. If memory problems, screen for dementia →93. • Assess and treat other symptoms on symptom pages. • Ask about side effects of antidepressant medication (see below).
Suicide	Every visit	If patient has suicidal thoughts or plans, refer same day ↩ 52.
Mania	Every visit	Refer if mania (being abnormally happy, energetic, talkative, irritable or reckless) at diagnosis or develops on antidepressant medication.
Stressors	Every visit	Help identify the domestic, social and work factors contributing to depression and/or anxiety. If patient is being abused ↩ 56.
Substance abuse	Every visit	If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↩ 90.
Family planning	Every visit	Discuss patient's contraceptive needs ↩ 98. If patient is pregnant refer for specialist care.
Chronic disease	Every visit	• Ensure other chronic diseases are adequately treated. • Discuss with specialist if patient is on medication that might cause depression like oral steroids, efavirenz and atenolol.
Thyroid function	At diagnosis	Check TSH if weight change, dry skin, constipation, intolerance to cold or heat, pulse > 80, tremor, or thyroid enlargement. Refer to doctor if result abnormal.

Advise the patient with depression and/or anxiety

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- Devise with patient a strategy to cope when thoughts of self harm, suicide or substance misuse occur.
- Deal with negative thinking: encourage patient to question his/her way of thinking, examine the facts realistically and look for strategies to get help and cope ↩ 55.
- Encourage patient to do activities that used to give pleasure, to engage in regular social activity and to exercise for at least 30 minutes 5 days a week.
- Discuss sleep hygiene ↩ 57 and relaxation techniques.
- If social problems (like unemployment, money worries, abuse), refer to social worker.
- Arrange adherence support if needed (helpline ↩ 111, community care, support groups).

Treat the patient with depression with or without anxiety

- Refer the patient with moderate-severe depression for depression counselling. If mild depression help the patient look for strategies to get help and cope ↩ 55 and consider referral for counselling if available. Review progress monthly.
- Treat the patient with moderate-severe depression with an antidepressant. Discuss the patient who is pregnant, breastfeeding or bipolar with a specialist.
- Stress the importance of adherence to treatment even if feeling well. Avoid adjusting dose or stopping without discussing with doctor.
- Antidepressants can take 4-6 weeks to start working. Review 2 weekly until stable, then monthly. Refer if no response after 8 weeks.

Drug	Dose	Note
Fluoxetine	Start 20mg daily (or 10mg if > 65 years or if very anxious). If partial or no response after 4 weeks increase to 40mg daily.	Avoid in kidney or liver disease. Monitor glucose in diabetes and for fits in epilepsy. Side effects: headache, nausea, diarrhoea, sexual dysfunction.
Amitriptyline	Start 50mg at night (or 25mg if > 65 years). Increase by 25mg/day every 3-5 days (or 7-10 days if > 65 years). Maximum dose: 150mg/day (or 75mg if > 65 years).	Use if fluoxetine contraindicated. Avoid if suicidal thoughts (can be fatal in overdose), heart disease, urinary retention, glaucoma, epilepsy. Side effects: dry mouth, sedation.

Dr • Doctor to consider stopping antidepressant when patient has had no or minimal depressive symptoms and has been able to carry out routine activities for 9-12 months: reduce dose gradually over at least 4 weeks (more gradually if withdrawal symptoms develop: irritability, dizziness, sleep problems, headache, nausea, fatigue).

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

ALCOHOL AND/OR DRUG USE

Risky alcohol/drug use increases the chances of dependence and harm. Diagnose risky alcohol use and/or drug use if the patient:

- Drinks alcohol every day and/or loses control when drinking and/or drinks > 14 drinks[1]/week and/or ≥ 5 drinks[1]/session *and/or*
- Has used illegal drugs or has misused over-the-counter or prescription drugs for non-medical reasons in the past year.

Assess the patient with risky alcohol use and/or drug use for complications and dependence

Assess	Note
Symptoms	• Look for withdrawal: restlessness, confusion, sweating, sleeplessness, hallucinations, agitation, weakness, tremor, headache or nausea. If present, treat as for alcohol withdrawal ↴ 54 and refer same day. • Manage other symptoms as per symptom pages (heart burn ↴ 19, jaundice ↴ 43, aggression ↴ 53).
Dependence	Diagnose dependence if 3 or more: strong need to drink/use drugs; difficulty controlling drinking/using drugs; withdrawal on stopping/reducing; tolerance (needing more); neglecting other interests; drinking/using drugs despite physical (injuries, liver disease or stomach ulcer), mental (depression) or social (relationship or financial) harm.
Trauma/abuse	If patient reports recent trauma or emotional or sexual abuse ↴ 56.
Chronic condition	Chronic use of alcohol and/or drugs can have a long term impact on physical health. Assess and manage according to symptoms and chronic disease.
Depression	If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?

Advise the patient with risky alcohol use and/or drug use with or without dependence

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- If the patient with risky alcohol use and/or drug use is **not dependent**:
  - Advise the patient who drinks alcohol in a risky way to stop drinking, especially if pregnant, unable to control drinking or has a chronic condition.
  - Advise the patient that there is no treatment for risky alcohol use and/or drug use, but relies on the patient to change his/her behaviour to prevent dependence and harm.
  - Advise the patient using illegal or prescription drugs to stop.
  - Suggest the patient seeks support from close relatives/friends who do not use alcohol/drugs or helpline ↴ 111.
- If the patient with risky alcohol use and/or drug use is **dependent**:
  - Stopping alcohol/drugs suddenly may be harmful. Explain that detoxification will safely wean the body from the alcohol or drug.
  - Suggest a rehabilitation programme starting with detoxification as below.

Dr Treat the patient with alcohol/drug dependence

- Refer the *dependent* patient to a rehabilitation programme starting with detoxification. Ensure the patient is motivated to adhere and has the support of a relative/friend.
- For inpatient detoxification if previous withdrawal delirium, seizures, psychosis, suicidal, liver disease, failed prior detoxification, no home support, opioid abuse, or if legally committed or detained.
- Give outpatient detoxification if none of the above inpatient criteria and patient is dependent on alcohol, cannabis, mandrax, cocaine, tik or benzodiazepines:

Substance	Detoxification programme
Alcohol	• Thiamine 100mg twice a day for 14 days *and* • Diazepam orally 10mg immediately; then 5mg 6 hourly for 3 days; then 5mg 12 hourly for 2 days; then 5mg daily for 2 days, and then stop.
Cannabis/Mandrax/Cocaine/Tik	• Treatment not always needed. Review after 1 day of abstinence. • Treat anxiety or sleep problems with diazepam 5mg 1-3 times a day tapering over 3-7 days or promethazine 25-50mg orally 8 hourly.
Benzodiazepines	• Avoid suddenly stopping benzodiazepines after long-term use. • Substitute patient's benzodiazepine for diazepam e.g. lorazepam 0.5mg-1mg = diazepam 5mg (for other benzodiazepines, refer to SAMF or MIC hotline) • Adjust diazepam according to symptoms, then decrease diazepam by 2.5mg every 2 weeks. On reaching 20% of initial dose, taper by 0.5-2mg/week.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer. The alcohol content of home-brewed beer varies, but is usually less than that of store-bought beer.

PSYCHOSIS AND/OR MANIA

PSYCHOSIS AND/OR MANIA: DIAGNOSIS

- Psychosis is likely in the patient who has difficulty carrying out ordinary work, domestic or social activities and any of:
  - Hallucinations: hearing voices or seeing things that are not there
  - Delusions: unusual/bizarre beliefs, not shared by society; beliefs that thoughts are being inserted or broadcast
  - Abnormal behaviour: incoherent or irrelevant speech, unusual appearance, self neglect, withdrawal, disturbance of emotions
  - Manic symptoms: several days of being abnormally happy, energetic, talkative, irritable or reckless.
- Consider bipolar disorder if patient has manic symptoms on some occasions, and depressed mood and energy on others.
- Dr **The patient with psychosis and/or mania must be assessed initially by a doctor.**

Recognise the patient with psychosis and/or mania needing same-day referral:

- Suicidal thoughts or attempt →52
- If aggressive or violent →53
- First episode psychosis or mania
- Pregnant or breastfeeding
- Muscle spasms (may be painful) within 48 hours of initiating antipsychotic medication

Management:

- Consider admitting under the Mental Health Care Act if refusing treatment or admission and a danger of harm to self, others, own reputation or financial interest/property →87.
- For acute dystonic reactions (painful muscle spasms in patient on anti-psychotics), give biperiden 2mg IM. Repeat every 30 minutes to a maximum of 4 doses in 24 hours.
- Refer patient same day.

PSYCHOSIS AND/OR MANIA: ROUTINE CARE

Assess the patient with psychosis and/or mania

Assess	When to assess	Note
Symptoms	Every visit	• Ask about symptoms of psychosis and mania above. If symptomatic despite treatment refer. • Assess for symptoms of depression and/or anxiety ↩ 88. If memory problems, screen for dementia ↩ 93. If present refer. • Assess and treat other symptoms on symptom pages.
Suicide	Every visit	If patient has suicidal thoughts or plans, refer same day ↩ 52.
Stressors	Every visit	Help identify the psychosocial stressors that may exacerbate symptoms. If patient is being abused ↩ 56.
Substance abuse	Every visit	If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↩ 90.
Family planning	Every visit	Discuss patient's contraceptive needs ↩ 98. If patient is pregnant or breastfeeding refer for specialist care.
Chronic disease	Every visit	• Refer the patient with other chronic diseases. Give routine chronic disease care as per chronic diseases pages. • Discuss with specialist if patient is on medication that might cause psychosis like oral steroids, efavirenz and antidepressants.
Medication	Every visit	• Ask about side effects of antipsychotic medication ↩ 92. Refer if these are present. • If non adherent re-commence medication. Consider changing from oral to depot medication.
Dr HIV, syphilis	First visit	• If status unknown, test for HIV ↩ 66. Give routine HIV care to HIV patient ↩ 67. • If syphilis positive, refer.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

Advise the patient with psychosis

- Educate the patient and carer/s about the condition: the patient with psychosis often lacks insight into the illness and may be hostile towards carers and health care workers. S/he may have difficulty functioning, especially in high stress environments.
- Emphasize the importance of adherence to medication:
  - The patient with psychosis is likely to need treatment lifelong to prevent relapses.
  - Educate patient to take tablets as directed and attend reliably for depot injections. Speak to carer/s about how to support the patient to take medication.
  - Advise patient to report side effects (see below) rather than suddenly stopping treatment.
- Encourage patient to resume social, educational and work activities as appropriate. Work with local agencies to find educational or employment opportunities.
- Refer patient with schizophrenia and/or carer/s to a schizophrenia support group. Refer to a social worker to help access a disability grant.
- People with psychosis are often discriminated against. Always consider protection of the patient's human rights and the need to avoid institutional care.

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Dr Treat the patient with psychosis

- Refer the patient with bipolar disorder to a psychiatrist for care.
- Initiation, titration and withdrawal is best done by a psychiatrist.
- Use intramuscular antipsychotic medication if patient is not adherent to oral medication and needs long term treatment.

Drug	Starting dose	Maintenance dose	Note
Haloperidol	1.5-10mg oral as a single dose or in 2 divided doses. If > 60 years start at lower dose and increase more gradually.	Usually 2-10mg per day.	Minimal anticholinergic side effects.
Chlorpromazine	25mg oral twice daily	Usually 75-300mg daily but 1000mg may be needed. Once symptoms are controlled, give as a single bedtime dose.	One of the most sedating antipsychotics.
Fluphenazine decanoate	12.5mg deep intramuscular injection	Usually 25-50mg every 4 weeks but can be halved and given 2 weekly.	Full response can take 2 months Fewer anticholinergic side effects than chlorpromazine.
Flupenthixol decanoate	20mg deep intramuscular injection	Usually 60mg every 4 weeks but can be halved and given 2 weekly.	Full response can take 2 months. Fewer anticholinergic side effects than chlorpromazine.
Zuclopenthixol decanoate	100mg deep intramuscular injection	Usually 200-400mg every 4 weeks but can be halved and given 2 weekly.	Full response can take 2 months. Fewer anticholinergic side effects than chlorpromazine.

Refer if any side effects develop on antipsychotic medication

- Anticholinergic side effects: dry mouth, blurred vision, constipation, urinary retention, worsening of closed angle glaucoma
- Extrapyramidal side effects:
  - Acute dystonic reactions (often painful muscle spasms) may appear within 24-48 hours of starting medication. Give biperiden 2mg IM, repeat every 30 minutes to maximum 4 doses in 24 hours. Refer patient same day for further management.
  - Parkinsonian signs (bradykinesia, tremor, rigidity) may occur after weeks or months on treatment, more commonly in elderly patients. Give orphenadrine 50mg up to 3 times a day.
  - Akathisia (motor restlessness) may occur after days or weeks of treatment.
  - Tardive dyskinesia (persistent involuntary movements) may occur after months (usually more than 6 months) of treatment.

DEMENTIA

DEMENTIA: DIAGNOSIS

Dr • **Ensure a doctor confirms the diagnosis of dementia.** Consider dementia in the patient who for at least 6 months:
- Has problems with memory. Test by asking patient to repeat 3 common words immediately and then again after 5 minutes.
- Is disoriented for time (unsure what day/season it is) and place (unsure of shop closest to home or where the consultation is taking place).
- Experiences difficulty with speech and language - unable to name parts of the body.
- Struggles with simple tasks, decision making and carrying out daily activities.
- Is less able to cope with social and work function.
- If patient has HIV, has difficulty with coordination.

DEMENTIA: ROUTINE CARE

Assess the patient with dementia

Assess	When to assess	Note
Symptoms	At diagnosis, every visit	• Check for new symptoms and manage as per symptom pages. • If recent change in mood, energy/interest levels, sleep or appetite, consider depression and refer. Assess risk for self-harm ↴ 52. • If patient has hallucinations, delusions, agitation, aggression or wandering refer to psychiatrist.
Vision/hearing problems	At diagnosis, every visit	Manage poor vision or hearing with proper devices.
Nutritional status	At diagnosis, every visit	Ask about food and fluid intake. Arrange nutritional support if BMI < 18.5.
Cardiovascular disease	At diagnosis	Assess CVD risk ↴ 75. Ask about previous stroke/TIA, chest or leg pain.
HIV	At diagnosis	• HIV-associated dementia may improve on ART. If status unknown, test for HIV ↴ 66. • If HIV give routine care ↴ 67 and test for coordination problems: with non-dominant hand as quickly as possible (allow patient to practice twice): - Open and close the first 2 fingers widely. - On a flat surface, clench a fist, then place palm down, then on the side of the 5th digit.
Syphilis	At diagnosis	Refer the RPR positive patient with dementia.
Thyroid	At diagnosis	Refer if result is abnormal.

Advise the patient with dementia and his/her carer

Health for All ↴ 93

- Discuss what can be done to support the patient, carer/s and family. Identify local resources, social worker, counsellor, NGO, helpline ↴ 111.
- Discuss with carer if respite or institutional care is needed. Advise the carer/s to:
  - Give regular orientation information (day, date, weather, time, names)
  - Try to stimulate memories with newspaper, radio, TV, photos.
  - Use simple short sentences.
  - Avoid changes in routine.
  - Plan daily activities that assist the person to be independent.
  - Remove clutter in the environment.
  - Regulate fluid intake to deal with incontinence.
  - Maintain physical activity.

Treat the patient with dementia

- HIV-associated dementia often responds well to ART ↴ 67.
- Treat aggressive or violent behaviour towards self or others ↴ 53.
- Treat agitation, distressing behaviour, psychotic symptoms with haloperidol 0.5-1mg up to twice daily.

EPILEPSY

- If the patient is fitting →6 to control the fit. If the patient is not known with epilepsy and has had a fit →6 to assess and manage further.

Dr
- Epilepsy is a doctor diagnosis in the patient who has had at least 2 definite fits with no identifiable cause or 1 fit following TB meningitis, stroke or head trauma.

EPILEPSY: ROUTINE CARE

Assess the patient with epilepsy

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as on symptom page.
Fit frequency	Every visit	Review fit diary. Assess if fits prevent patient from leading a normal lifestyle.
Adherence	Every visit, if fits occur	Assess attendance, pill counts and if still fitting on treatment, drug level (doctor decision).
Side effects	Discuss at diagnosis, every visit	Side effects often explain poor adherence. Patient may need to weigh side effects with fit control.
Other medication	If fits occur	Check if patient has started other medication like TB treatment, ART, oral contraceptive or subdermal implant. See below.
Substance abuse	At diagnosis, if fits occur or adherence poor	If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ⮌ 90.
Family planning	Every visit	• Refer if patient is pregnant or planning to be, for epilepsy and antenatal care. • Assess contraceptive needs ⮌ 98: avoid oral contraceptive with all anticonvulsants. If on phenytoin or carbamazepine, caution that efficacy of implant may be reduced and to use dual protection or another method.
Drug level	Only if needed	Doctor to check drug level if unsure about adherence or on higher than maximum dose of phenytoin.

Advise the patient with epilepsy

- Stress the importance of adherence to treatment even if asymptomatic. Avoid adjusting dose or stopping without discussing with doctor.
- Arrange adherence support if needed (helpline ⮌ 111, community care, support groups) and help patient to get a Medic Alert bracelet ⮌ 111.
- Advise patient to keep a fits diary to record frequency, dates and times of fits.
- Advise avoiding sleep deprivation, alcohol and drug use, dehydration, flashing lights and video games. These may trigger a fit.
- Avoid dangers like heights, fires, swimming alone, cycling on busy roads, operating machinery. Avoid driving until fit free for 1 year.
- Advise patient there are many drugs that interfere with anti-convulsant treatment (see below) and to discuss with doctor when starting any new medication.

Health for All ⮌ 125

Treat the patient with epilepsy

- A single drug is best. Giving 2 anti-convulsant drugs together is a specialist decision.
- If still fitting on treatment increase dose only if patient is adherent and there is no substance abuse.
- If still fitting after 4 weeks on maximum dose or side effects intolerable, add new drug and increase 2 weekly until fit free. Then taper off old drug over 1 month.

Drug	Dose	Note
Phenytoin	Starting dose and usual dose: 300mg daily. If not controlled, increase by 50mg 2 weekly and check drug level.	Avoid in women as it can cause facial hair/coarse facial features. Side effects: skin rash, slurred speech, drowsiness. Drug interactions: isoniazid, warfarin, furosemide, oral contraceptive, subdermal implant, ART.
Carbamazepine	Start 100mg 12 hourly. Increase daily dose by 100mg every week until controlled. Usual dose: 300-600mg 12 hourly.	Side effects: skin rash, blurred or double vision, ataxia, nausea. Drug interactions: isoniazid, warfarin, fluoxetine, theophylline, amitriptyline, oral contraceptives, subdermal implant, ART.
Lamotrigine	25mg daily for 2 weeks, then 50mg daily for 2 weeks. Then increase by 50mg 2 weekly until controlled. Usual dose: 100-200mg/day as single dose.	Use in HIV. Increase dose if fits on TB treatment or lopinavir/ritonavir. Side effects: skin rash, blurred or double vision. Drug interactions: paracetamol, rifampicin, oral contraceptive, ART.

- If fit free review 6 monthly. Doctor should review monthly the patient who is fitting until fit frequency improves. Refer if still fitting after maximum doses of 2 drugs for 4 weeks each.
- Doctor can consider with patient stopping treatment if no fits for 2 years: gradually withdraw 1 drug at a time over 2-3 months.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

CHRONIC ARTHRITIS

CHRONIC ARTHRITIS: DIAGNOSIS

- If patient has discrete episodes of joint pain and swelling that completely resolve in between, consider gout →96.
- The most common chronic arthritis (lasting > 8 weeks) is osteoarthritis. Rheumatoid arthritis is the most common form of chronic inflammatory arthritis:

Osteoarthritis

- Affects joints only.
- Weight-bearing joints and maybe hands and feet
- Joints may be swollen but not warm.
- Stiffness on waking lasts less than 30 minutes.
- Pain is worse with activity and improves with rest.

Inflammatory arthritis

- Can be systemic: weight loss, fatigue, poor appetite, muscle wasting.
- Hands and feet are mainly involved.
- Joints are swollen and warm.
- Stiffness on waking lasts more than 30 minutes.
- Pain and stiffness improve with activity.

Refer the patient with probable inflammatory arthritis or an unclear diagnosis for specialist assessment.

CHRONIC ARTHRITIS: ROUTINE CARE

Assess the patient with chronic arthritis

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as on symptom pages.
Activities of daily living	Every visit	Ask if patient can walk as well as before, can cope with buttons and use knife and fork properly.
Sleep	Every visit	If patient has problems sleeping ↴ 57.
Depression	Every visit	If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
Joints	Every visit	Look for warmth and tenderness of joints.
BMI	At diagnosis	Calculate BMI: weight (kg)/[height (m) x height (m)]. > 25 is overweight and puts stress on weight-bearing joints. Assess patient's CVD risk ↴ 75.
Blood monitoring	If on disease modifying anti-rheumatic drugs	Ensure the patient using disease modifying drugs knows to have regular blood monitoring depending on the prescribed drugs from the specialist clinic.

Advise the patient with chronic arthritis

- If BMI > 25 advise to reduce weight to decrease stress on weight-bearing joints like knees and feet. Help patient to manage CVD risk ↴ 76.
- Encourage the patient to be as active as possible, but to rest with acute flare-ups.
- Refer patient and carer for education about chronic arthritis, to available support group and helpline ↴ 111.

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Treat the patient with chronic arthritis

- Refer to physiotherapist or occupational therapist if rheumatoid arthritis and/or difficulty with activities of daily living.
- Give paracetamol 1g 6 hourly. If no response and inflammation is present in the patient with osteoarthritis, give ibuprofen 200-400mg 8 hourly after meals only as needed up to 1 month.
- Give amitriptyline 25mg night, 10mg if patient > 65 years.
- Rheumatoid arthritis must be treated early with disease modifying anti-rheumatic drugs to control symptoms, preserve function, and minimise further damage.
- If inflammatory arthritis likely, start prednisone 7.5mg daily and refer for hospital outpatient appointment.

Review monthly till symptoms controlled, then 3-6 monthly. Refer patient to a specialist if poor response to treatment.

GOUT

- Gout is a metabolic disease where uric acid crystals are deposited in the joints. It occurs most commonly in men over 40 years and post-menopausal women.
- Acute gout tends to affect 1 joint (often big toe, knee or ankle) and to recover completely.
- In chronic gout, many joints may be affected and they may not be very painful, but there is incomplete recovery in between.

GOUT: ROUTINE CARE

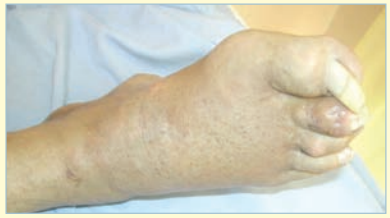
Assess the patient with gout

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as per symptom pages.
Substance abuse	At diagnosis	If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↩ 90.
Medication	Acute attacks	Hydrochlorothiazide, ethambutol, pyrazinamide and aspirin can all induce acute gout attacks. Discuss with doctor.
Joints	Every visit	• Recognise the acute gout attack: Sudden onset of 1-3 hot, extremely painful, swollen joints with red, shiny overlying skin (often big toe, knee or ankle). • Tophaceous gout appears as painless yellow hard irregular lumps around the joints (picture).
CVD risk	At diagnosis	Assess cardiovascular disease risk ↩ 75. If BMI < 25 or < 40 years, refer within 1 month to exclude possible cancer cause for gout.
eGFR	At diagnosis	If eGFR < 50, refer.
Urate	At diagnosis and with allopurinol	Normal is ≤ 0.3. The patient needs allopurinol if urate > 0.5. Adjust allopurinol dose until urate < 0.3.

Advise the patient with gout

- Help the patient to manage his/her cardiovascular disease risk ↩ 76.
- Give dietary advice:
  - Avoid fizzy drinks, alcohol, red meat, liver, kidneys, turkey, crayfish, sardines and anchovy.
  - Avoid fasting.
  - Drink at least 2ℓ of fluids a day.
- Advise bed rest until the pain subsides.
- Advise patient there are drugs that may induce a gout attack, like aspirin and to discuss with doctor when starting any new medication.

Health for All ↩ 129



Treat the patient with gout

Treat the patient with an acute gout attack

- Give ibuprofen 800mg after food 8 hourly for 1-2 days. Then ibuprofen 400mg 8 hourly until pain and swelling are improved.
- If patient has peptic ulcer, asthma, hypertension, heart failure or kidney disease, give prednisone 40mg daily for 3-5 days instead of ibuprofen.
- If patient is already using allopurinol, do not stop it during the acute attack.

Treat the patient with chronic gout

- Patient needs allopurinol if: > 2 attacks per year, chronic tophaceous gout (picture), kidney stones, kidney disease, serum urate > 0.5.
- Give allopurinol 100mg once daily. Do not start allopurinol during or for 3 weeks after an acute attack.
- Increase by 100mg monthly until serum urate < 0.3 or the maximum dose of 400mg.

Refer patient to specialist if no response to treatment or unsure about diagnosis.

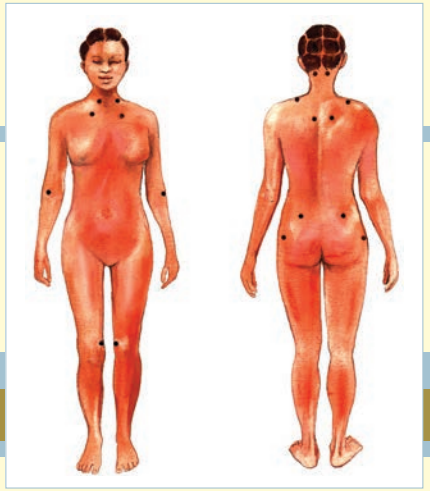
[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

FIBROMYALGIA

FIBROMYALGIA: DIAGNOSIS

Consider fibromyalgia if the patient has had general body pain that waxes and wanes for more than 3 months associated with the following:

- Multiple tender points (see picture)
- The pain is often worsened by lack of sleep, stress, cold, fatigue, physical exertion.
- There may be stiffness, fatigue, poor sleep (sleeping lightly and waking frequently), depression, tender skin, irritable bowel, poor memory, headaches, Raynaud's phenomenon, dizziness, restless legs, easy bruising, urinary frequency, numbness, tingling or swelling of hands.
- The patient may be sensitive to food and medication.



Dr A doctor must confirm the diagnosis of fibromyalgia

- Press the tender points in the picture with the pressure that would blanch a fingernail. Compare with a control site on forehead.
- Check temperature and weight. If temperature ≥ 38ºC →8 or weight loss →7 and consider another diagnosis.
- Screen for a joint problem: patient to place hands behind head; then behind back. Bury nails in palm and open hand. Press palms together with elbows lifted. Walk. Sit and stand up with arms folded. If unable to do screen comfortably →37.
- Check CRP, glucose ↴ 77, TSH, Hb, eGFR, and HIV if status unknown ↴ 66.
- Refer to consider another diagnosis if joint problem, HIV positive, blood results abnormal or unsure of diagnosis.

FIBROMYALGIA: ROUTINE CARE

Assess the patient with fibromyalgia

Assess	When to assess	Note
Symptoms	Every visit	• Manage symptoms as on symptom pages. Ask patient to identify the 3 symptoms that bother her/him most and focus on these. • Do not dismiss all symptoms as fibromyalgia: exclude treatable and serious illness. If unsure, refer.
Sleep	Every visit	If patient has problems sleeping ↴ 57.
Depression	Every visit	If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
Stressors	Every visit	Help identify the psychosocial stressors that may exacerbate symptoms. If patient is being abused ↴ 56.

Advise the patient with fibromyalgia

- Educate patient about fibromyalgia as above. Fibromyalgia tends to wax and wane over years.
- Advise patient to keep as active as possible.
- Encourage patient to involve the family and refer to available support group and helpline ↴ 111.
- Encourage the patient to adopt sensible sleep habits ↴ 57.

Treat the patient with fibromyalgia

- Give paracetamol 1g 6 hourly as needed.
- Give amitriptyline 25mg taken at 6pm every night for 3 months. If still symptomatic, increase dose to 50mg.
- If still symptomatic after 3 months, add fluoxetine 20mg in the morning. If still symptomatic after 3 months, add ibuprofen 200mg 3 times a day with food.

A supportive relationship with the same health practitioner can contain frequent visits for multiple problems. Review patient 6 monthly once stable.

CONTRACEPTION

Give emergency contraception if patient had unprotected sex *in past 5 days* and does not want pregnancy:

- First exclude pregnancy. If pregnant do not give emergency contraception →100.
- Give ideally within 72 hours of unprotected sex: levonorgestrel 1.5mg orally stat. If patient vomits < 2 hours after taking, repeat the dose or offer emergency IUCD instead. Offer to start injectable/subdermal/oral contraceptive at same visit if no IUCD.
- If patient chooses, insert emergency CuT 380A intrauterine device within 5 days instead.
- If patient taking ART, DS-TB or epilepsy treatment, offer IUCD instead or increase dose of levonorgestrel to 3mg orally stat.

Help patient to choose contraception method

- Recommend dual contraception: one method below *plus* condoms to protect from STIs and HIV.
- In the menopausal patient: if < 50 years, give contraception for 2 years after last period; if ≥ 50 years, for 1 year after last period ↩ 107.

Method	Help patient to choose method	Instructions for use	Side effects
Intrauterine device (IUCD) • CuT 380A	• Effective for 10 years • Fertility returns on removal. • Avoid if patient has multiple partners,STI in past 3 months, heavy periods, abnormal cervix/uterus.	• Insert within first 12 days of cycle. If later, exclude pregnancy first. • Must be inserted/removed by trained staff.	• Periods may be heavier, longer or more painful. Refer if excessive bleeding occurs after insertion, or if tired and Hb < 12.
Subdermal implant (if available) • Etonorgestrel (one-rod: 3 years) • Levonorgestrel (two-rods: 5 years)	• Lasts 3-5 years depending on type. • Fertility returns on removal. • Avoid if unexplained vaginal bleeding, active liver disease, current or past breast cancer. Use with caution[1] if on rifampicin, efavirenz, nevirapine, phenytoin or carbamazepine.	• Small plastic rod placed just under skin of upper arm. • Must be inserted/removed by trained staff. • Use condoms for 7 days if inserted after day 5 of cycle. • Choose one-rod implant for 3 years in women ≥ 80kg (if unavailable replace two-rod implant sooner after 4 years instead of 5 years).	• Wound pain, bleeding, swelling or discharge: refer. • Abnormal vaginal bleeding: common in first 3-6 months ↩ 33 to assess and manage. • Mild headaches, nausea, dizziness, breast tenderness: reassure that these should resolve. • Moodiness: reassure that this should resolve. • Abdominal pain: refer if pain severe or persists.
Progesterone injection • Medroxyprogesterone acetate IM 150mg 12 weekly or • Norethisterone enanthate IM 200mg 8 weekly	• 8 or 12 weekly injection • Fertility returns 4-6 months after last injection. • Avoid if unexplained vaginal bleeding, current or past breast cancer.	• Use condoms for 7 days if given after day 5 of cycle. • No need to adjust dosing interval for HIV, TB or epilepsy treatment. • Remind patient to use condoms to prevent HIV and STIs.	• Amenorrhoea: reassure that this is common. • Abnormal vaginal bleeding: common in first 3-6 months ↩ 33 to assess and manage. • Severe headaches and blurred vision: switch to non-hormonal method. • Weight gain • Acne: switch to combined progestogen/oestrogen pill or non-hormonal method.
Combined progesterone/ oestrogen pill • Monophasic: levonorgestrel/ ethinyl oestradiol 0.15/0.03mg • Triphasic: levonorgestrel/ethinyl oestradiol (varying doses)	• If motivated to take pill reliably. • Fertility returns once pill is stopped. • Avoid if unlikely to take pill reliably, unexplained vaginal bleeding, current or previous breast cancer, heart or liver disease or on ART[2], rifampicin or epilepsy treatment. • Choose progesterone-only pill if patient is breastfeeding, smoker > 35 years, BP ≥ 140/90, has migraine with focal symptoms or DVT/pulmonary embolus.	• Must be taken every day at the same time. • Use condoms for 7 days if started after day 5 of cycle. • Advise patient with diarrhoea/vomiting or on antibiotics to use condoms during illness and for 7 days thereafter.	• Nausea, dizziness: reassure that this will resolve. • Moodiness: reassure that this should resolve. If yes to ≥ 1 ↩ 88 and change contraceptive method: 1) In past month, have you been down, depressed or hopeless? 2) In past month, have you had little interest/pleasure in things? • Amenorrhoea, tender breasts: exclude pregnancy then reassure. • Slight weight gain • Abnormal vaginal bleeding: common in first 3 months ↩ 33 to assess and manage. • Severe headaches: switch to non-hormonal method and ↩ 13.
Progesterone-only pill • Levonorgestrel 0.03mg		• Take **same time** every day (no more than 3 hours late). • Use condoms for 7 days if started after day 5 of cycle. • If breastfeeding, start 6 weeks postpartum.	• Abnormal bleeding: common in first 3 months ↩ 33 to assess and manage. • Mild headaches, nausea, breast tenderness: reassure that these should resolve.
Sterilisation • Tubal ligation / vasectomy	• Permanent contraception • Surgical procedure	• Refer for assessment. • Written informed consent required.	• Wound pain, swelling or bleeding: refer.

[1]These medications may reduce efficacy of implant - advise to use dual protection or another method. [2]Progesterone-only pill may be used with efavirenz and nevirapine.

CONTRACEPTION: ROUTINE CARE

Assess the patient starting and using contraception

Before starting contraception, exclude pregnancy. If pregnant →100.

Assess	When to assess	Note
Symptoms	First and every visit	• Ask about side effects of contraceptive method ↩ 98. • Check for symptoms of STIs: vaginal discharge, ulcers, lower abdominal pain. If present ↩ 27. If sexual problems ↩ 34. • If > 45 years ask about menopausal symptoms: flushing, irregular periods, irritability, tiredness, mood changes ↩ 107. • Manage other symptoms as on symptom pages.
Adherence	Every visit	• Ask about concerns and satisfaction with method. • If patient has missed injections or pills, see below to manage.
Sexual health	First and every visit	Ask about sexual orientation, risky sexual behaviour (patient or regular partner has new or multiple partner/s, uses condoms unreliably or misuses substances ↩ 90) and sexual problems ↩ 34.
Medication changes	First and every visit	If started on ART, DS-TB or epilepsy treatment, check for drug interactions ↩ 98.
Vaginal bleeding	First and every visit	• If using IUCD or combined pill and patient misses period, exclude pregnancy. • If abnormal vaginal bleeding, see method to manage ↩ 98.
Breast check	First visit and yearly on pill	If any lumps found in breasts or axillae ↩ 22.
Weight	First and every visit	If BMI > 25 assess CVD risk ↩ 75. If using two-rod implant and weight ≥ 80kg, replace implant after 4 years instead of 5 years.
BP	First and every visit on pill	If BP ≥ 130/80 ↩ 80 to interpret result. If BP ≥ 140/90 avoid/change from combined pill.
HIV	First and every visit	If status unknown test for HIV ↩ 66. The HIV patient needs routine HIV care ↩ 67.
Pap smear	When needed	If HIV negative, 3 smears 10 years apart from age 30. The HIV patient needs smear at diagnosis then yearly if normal ↩ 31.

Advise the patient starting and using contraception

Health for All ↩ 97

- Advise patient to discuss concerns, problems with contraceptive method and find an alternative, rather than just stopping it and risking an unwanted pregnancy.
- Demonstrate and give male/female condoms. Recommend dual contraception: one method of contraception *plus* condoms to protect from STIs and HIV.
- Educate about the availability of emergency contraception ↩ 98 and termination of pregnancy ↩ 101 to prevent unwanted pregnancy.
- Encourage patient to have 1 partner at a time and if HIV negative to test for HIV between partners. Advise partner/s to be tested for HIV.
- Advise patient on pill to tell clinician if starting ART, DS-TB or epilepsy treatment: may interfere with effectiveness. If diarrhoea/vomiting or on antibiotics use condoms during illness and for 7 days after.
- Educate patient to use contraception reliably. If patient has missed pills or injections:

Late injection

- < 2 weeks late for norethisterone enanthate or < 4 weeks late for medroxyprogesterone acetate: give injection.
- ≥ 2 weeks late for norethisterone enanthate or ≥ 4 weeks late for medroxyprogesterone acetate: exclude pregnancy. If pregnant →100. If not pregnant, give injection and use condoms for 7 days.
- If unable to exclude pregnancy give progesterone-only pill and condoms for 2 weeks, then give injection if pregnancy test negative.

Missed/late progesterone only pill

- Pill missed or > than 3 hours late: take pill as soon as possible and continue pack and use condoms for 48 hours.
- If ≤ 5 days since unprotected sex, give emergency contraception ↩ 98.

Missed combined oral contraceptive pill

- 1 active pill missed: take pill as soon as remembered and take next pill at usual time.
- ≥ 2 active pills missed: take last missed pill as soon as remembered and next pill at usual time. Use condoms or abstain for next 7 days.
  - If missed pills were from last 7 active pills of pack: omit the inactive tablets and immediately start first active pill of next pack.
  - If missed pills were from first 7 active pills of pack and patient has had sex in past 5 days: give emergency contraception ↩ 98, restart active pills 12 hours later and use condoms for next 7 days.

Follow up the patient on pill after 3 months, thereafter 6 monthly. Follow up patient with IUCD, 6 weeks after insertion to check strings, thereafter yearly.

THE PREGNANT PATIENT

Recognise the pregnant patient needing urgent attention:

- Fitting or just had a fit
- BP ≥ 160/110[1] without proteinuria: treat as **severe hypertension**
- BP ≥ 160/110[1] with proteinuria: treat as **severe pre-eclampsia**
- BP ≥ 140/90[2] with persistent headache, blurred vision or abdominal pain: treat as **imminent eclampsia**
- Temperature ≥ 38°C and headache, weakness or back pain
- Difficulty breathing
- Swollen red calf
- Vaginal bleeding
- Decreased/no fetal movements →103.
- **Preterm labour** likely: painful contractions, 3 per 10 minutes < 37 weeks
- Sudden "gush" of clear or pale fluid from vagina with no contractions: **prelabour rupture of membranes** likely

Management:

- If fitting or having difficulty breathing give 40% face mask oxygen. If fitting or has just had a fit, also see below.
- If BP < 90/60 give IV sodium chloride 0.9% rapidly until BP > 90/60.
- If temperature ≥ 38°C give ceftriaxone[3] 1g IM/IV (if unavailable give amoxicillin[4] 1g orally instead). If vaginal discharge, also give metronidazole 400mg orally.
- Manage further according to problem and refer same day:

Preterm labour likely

- If < 26 weeks, refer to MOU.
- If 26-33+ weeks:
  - Give betamethasone 12mg IM, record time given in referral letter.
  - Give nifedipine 20mg oral. If still contractions after 30 minutes, give another 10mg. Then give 10mg 4 hourly until transferred.
  - Refer same day.
- If ≥ 34 weeks, allow labour to continue at MOU.

Prelabour rupture of membranes likely

- Confirm amniotic fluid leak with sterile speculum, liquor is alkaline.
- Avoid digital vaginal examination.
- If ≥ 37 weeks with signs of chorioamnionitis[5] or if not in labour within 12 hours, give ampicillin[4] 1g IV and metronidazole 400mg orally and refer urgently.
- If < 37 weeks, refer same day.
- If 26-33+ weeks, give betamethasone 12mg IM, record time given in referral letter. Refer same day.

Vaginal bleeding
Manage according to gestation

< 22 weeks
Cervical os open/dilated or products of conception in cervical os/vagina?

No
Threatened or complete miscarriage likely, refer to exclude ectopic pregnancy and confirm diagnosis.

Yes
Incomplete or inevitable miscarriage likely

- Remove products of conception digitally if possible.
- If bleeding heavy (pad soaked in < 5 minutes), give IV fluids as above and oxytocin 20 units IV diluted in 1L sodium chloride 0.9% at a rate of 125mL per hour
- If pain, give paracetamol 1g 6 hourly.

≥ 22 weeks

- Avoid digital vaginal examination.
- Give IV fluids as above.
- If contractions, also manage as per **preterm labour** likely.

- If temperature > 37.5°C, pulse > 100 and/or offensive products of conception, also give ceftriaxone 1 g IM/IV and metronidazole 400mg orally.
- If rhesus negative, give anti-D immunoglobulin 100mcg IM.

Severe hypertension

- If BP ≥ 160/110[1] and patient alert: give nifedipine 10mg (to swallow, not chew).
- Repeat BP after 30 minutes: if still ≥ 160/110[1], give a second dose of nifedipine 10mg.
- Refer urgently.

Severe pre-eclampsia/ imminent eclampsia

- Give magnesium sulphate 4g in 200mℓ sodium chloride 0.9% IV over 20 minutes *and* 5g IM in each buttock. Repeat 5g IM 4 hourly in alternate buttocks until transferred to hospital.
- Insert urethral catheter and record urine output every hour.
- Stop magnesium sulphate if urine output < 100mℓ in 4 hours or respiratory rate < 12 breaths/minute.

Fitting or has just had fit

- If < 20 weeks →6.
- If ≥ 20 weeks: treat for **eclampsia**.
- Place patient in left lateral lying position and avoid placing anything in the mouth.
- If glucose < 3.0, give 50mℓ of 50% dextrose IV.

[1]If systolic BP ≥ 160 or diastolic BP ≥ 110. [2]If systolic BP ≥140 or diastolic BP ≥ 90. [3]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. [4]If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), discuss with doctor. [5]Temperature ≥ 38°C, irritable uterus, offensive amniotic fluid.

Does the patient want the pregnancy?

No or unsure

- Discuss the options around continuing with pregnancy, choosing adoption or termination of pregnancy (TOP). Refer to social worker.
- Discuss future contraception ↴ 98.
- Determine gestational age by dates and on examination.

Patient requests a TOP.

< 20 weeks
- < 13 weeks: book for an on-demand TOP < 13 weeks.
- ≥ 13 weeks: book for assessment for TOP as soon as possible < 20 weeks.

≥ 20 weeks
- TOP not an option.
- Discuss possibility of adoption.
- Give routine antenatal care.

- Patient decides to continue with pregnancy.
- Give routine antenatal care.

Yes

Give routine antenatal care.

Identify the pregnant patient who needs secondary level antenatal care:
- Current medical problems: hypertension[1], diabetes, heart/kidney disease, asthma on medication, epilepsy, on TB treatment, or known substance abuse
- Current pregnancy problems: multiple pregnancy, currently < 16 or > 36 years, parity ≥ 5, rhesus negative with antibodies, vaginal bleeding or pelvic mass
- Previous pregnancy problems: stillbirth or neonatal loss, ≥ 3 consecutive 1st trimester miscarriages, ≥ 2 consecutive 2nd trimester miscarriages, birth weight < 2500g or > 4000g, admission for hypertension, pre-eclampsia or eclampsia, post-partum haemorrhage or previous caesarean section
- Previous DVT, pulmonary embolus or reproductive tract surgery.

If not needing secondary level antenatal care, plan patient's routine antenatal care in primary care facility:
- If patient not yet booked →102.
- If patient already booked, give routine follow-up antenatal care →103.

[1]Stop enalapril same day and start methyldopa 250mg 8 hourly instead.

ROUTINE ANTENATAL CARE: THE BOOKING VISIT

Assess the pregnant patient at the booking visit. If already booked, give routine antenatal care at follow-up visits →103.

Assess	Note
Symptoms	Manage symptoms as per symptom page.
Estimated delivery date (EDD)	• Use obstetric wheel to determine EDD, based on first day of last menstrual period. • If patient unsure of dates and symphysis-fundal height < 24cm, refer for ultrasound to confirm gestational age and EDD.
TB	If cough ≥ 2 weeks, weight loss, poor weight gain or anaemia, check for TB ↴ 58. If patient has TB, refer for secondary level antenatal care.
Mental health	• If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things? • If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90. Refer for secondary level antenatal care.
Fetal movements	If reduced or absent fetal movements and ≥ 26 weeks, ask patient to record movements on a kick chart for 1 hour: if < 4, continue for another hour. If still < 4, refer.
MUAC and BMI[2]	• Mid upper arm circumference (MUAC) < 23cm or BMI < 18.5: exclude TB and HIV and refer for nutritional support. • If BMI ≥ 35, do random blood glucose.
Abdominal examination	• If mass other than uterus in abdomen or pelvis, refer for assessment. • Measure symphysis-fundal height (SFH) and plot on antenatal card. Refer if discrepancy with EDD, < 10th or > 90th centiles, or multiple pregnancy likely. • If SFH < 24cm, arrange for routine ultrasound if available (ideally between 18-20 weeks). • If ≥ 34 weeks: palpate presenting part. If breech or transverse lie suspected, reassess at 36 weeks. If still suspected, refer.
Vaginal discharge	If abnormal discharge, treat for STI ↴ 27. If discharge is runny, suspect **prelabour rupture of membranes** ↴ 100.
BP	If BP ≥ 160/110[3] ↴ 100. If BP ≥ 140/90[4], repeat after 2 hours. If 2nd BP < 140/90, repeat in 2 days. If 2nd BP ≥ 140/90[4], check urine dipstick for protein: • No proteinuria and no symptoms (headache, blurred vision or abdominal pain): if < 20 weeks, refer. If ≥ 20 weeks: review weekly and treat for **gestational hypertension** ↴ 104. Refer at 38 weeks for delivery or if develops proteinuria or BP uncontrolled despite treatment. • ≥ 1+ proteinuria: refer patient same day. If headache, blurred vision or abdominal pain, treat for **imminent eclampsia** ↴ 100.
Urine dipstick: test clean, midstream urine	• If leucocytes and nitrites in urine treat for complicated urinary tract infection ↴ 35. • If protein in urine and BP < 140/90: if dysuria, frequency, treat for complicated urinary tract infection ↴ 35. Repeat urine dipstick for protein after 2 days - if still 1+ proteinuria and BP < 140/90, refer to the nearest doctor's clinic same week. If BP raised see above. • If glucose in urine, check random blood glucose.
Random blood glucose	• Check glucose if any of: BMI ≥ 35, age ≥ 40 years, previous diabetes in pregnancy, family history of diabetes, previous unexplained stillbirth, previous baby ≥ 4kg, polyhydramnios. • If random blood glucose ≥ 11: ↴ 77 and refer to high risk clinic same day. • If random blood glucose 8-11, repeat after 8 hour fast: if fasting glucose ≥ 6, refer to high risk clinic (if ≥ 8, refer same day).
Haemoglobin	• If Hb ≥ 10, prevent anaemia with routine iron and folic acid ↴ 104. • If Hb < 10, treat ↴ 104. If symptoms (pulse > 100, difficulty breathing or dizziness), refer same day. • If Hb < 7 and patient > 34 weeks, refer.
Rapid rhesus	If rhesus negative, check for antibodies around 26, 32 and 38 weeks.
Rapid syphilis	If positive ↴ 32.
HIV	• If HIV negative or status unknown, test for HIV ↴ 66. • If HIV give routine HIV care ↴ 67. If not on ART, do baseline bloods (CD4 and creatinine) and start ART **same day** ↴ 69. Review within 1 week.
Viral load (VL) • VL on ART should be undetectable (< 50)	Check viral load if patient on ART ≥ 3 months: • If VL 50-400, continue current ART regimen and increase adherence support ↴ 69. • If VL 400-1000, continue current ART regimen, increase adherence support ↴ 69 and refer to experienced ART doctor (doctor to repeat viral load within 6 months). • If VL > 1000 for 1st time, increase adherence support ↴ 69 and repeat VL after 1 month. - If repeat VL ≤ 50, continue current ART regimen and repeat VL 6 monthly throughout pregnancy and breastfeeding. - If repeat VL 50-1000, refer to experienced ART doctor (doctor to repeat viral load within 6 months). - If repeat VL > 1000, doctor to switch to 2nd line ART[5] ↴ 69, and repeat VL after 3 months.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer. [2]BMI is weight (kg)/[height (m) x height (m)]. [3]If systolic BP ≥ 160 or diastolic BP ≥ 110. [4]If systolic BP ≥ 140 or diastolic BP ≥ 90. [5]If there has been ≥ 1 log drop in the viral load, discuss with experienced ART doctor before switching to 2nd line.

ROUTINE ANTENATAL CARE: FOLLOW-UP VISITS

If patient not yet booked → 102. Assess the pregnant patient at follow-up visits at 20, 26-28, 32-34, 38 and 41 weeks.

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as per symptom page.
Gestation	Every visit	• Use obstetric wheel to determine gestation, based on estimated date of delivery (EDD). • If ≥ 41 weeks: if sure of EDD, do stretch and sweep and refer within next 3 days for induction of labour. If unsure, refer.
TB	Every visit	If cough ≥ 2 weeks, weight loss, poor weight gain or anaemia, check for TB ↴ 58. If patient has TB, refer for secondary level antenatal care.
Mental health	Every visit	• If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things? • If ≥ 1 of: drinks alcohol every day, > 14 drinks[1]/week, ≥ 5 drinks[1]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90. Refer for secondary level antenatal care.
Fetal movements	Every visit from 26 weeks	If reduced or absent fetal movements, ask patient to record movements on a kick chart for 1 hour: if < 4, continue for another hour. If still < 4, refer.
Abdominal examination	Every visit	• If mass other than uterus in abdomen or pelvis, refer for assessment. • Measure symphysis-fundal height (SFH) and plot on antenatal card. Refer if discrepancy with EDD, < 10th or > 90th centiles, flattening of growth curve or multiple pregnancy likely. • If ≥ 34 weeks: palpate presenting part. If breech or transverse lie suspected, reassess at 36 weeks. If still suspected, refer.
Vaginal discharge	Every visit	If abnormal discharge, treat for STI ↴ 27. If discharge is runny, suspect **prelabour rupture of membranes** ↴ 100.
BP	Every visit	If BP ≥ 160/110[2] ↴ 100. If BP ≥ 140/90[3], repeat after 2 hours. If 2nd BP < 140/90, repeat in 2 days. If 2nd BP ≥ 140/90[4], check urine dipstick for protein: • No proteinuria and no symptoms (headache, blurred vision or abdominal pain): if < 20 weeks, refer. If ≥ 20 weeks: review weekly and treat for **gestational hypertension** ↴ 104. Refer at 38 weeks for delivery or if develops proteinuria or BP uncontrolled despite treatment. • ≥ 1+ proteinuria: refer patient same day. If headache, blurred vision or abdominal pain, treat for **imminent eclampsia** ↴ 100.
Urine dipstick: test clean, midstream urine	Every visit	• If leucocytes and nitrites in urine treat for complicated urinary tract infection ↴ 35. • If protein in urine and BP < 140/90: if dysuria, frequency, treat for complicated urinary tract infection ↴ 35. Repeat urine dipstick for protein after 2 days - if still 1+ proteinuria and BP < 140/90, refer to the nearest doctor's clinic same week. If BP raised see above. • If glucose in urine, check random blood glucose.
Random blood glucose	If risk factor[4]: at 26-28 weeks	• If random blood glucose ≥ 11: ↴ 77 and refer to high risk clinic same day. • If random blood glucose 8-11, repeat after 8 hour fast: if fasting glucose ≥ 6, refer to high risk clinic (if ≥ 8, refer same day).
Haemoglobin	• Around 28 weeks and 34 weeks • If patient pale	• If Hb ≥ 10, prevent anaemia with routine iron and folic acid ↴ 104. • If Hb < 10, treat ↴ 104. If symptoms (pulse > 100, difficulty breathing or dizziness), refer same day. • If Hb < 7, refer if patient > 34 weeks or if Hb still < 7 after 1 month of treatment.
Rhesus antibodies	If rhesus negative: around 26, 32 and 38 weeks	• If antibodies with titre 1:1, 1:2, 1:4 or 1:8, repeat antibody test after 2 weeks. • If antibodies with titre 1:16, 1:32, 1:64 or more, refer within 3 days.
Rapid syphilis	Around 32 weeks	If positive ↴ 32.
HIV	3 monthly	• If HIV negative or status unknown, test for HIV ↴ 66. If patient refuses, offer at each visit, even in early labour. • If HIV give routine HIV care ↴ 67. If not on ART, do baseline bloods (CD4 and creatinine) and start ART **same day** ↴ 69. Review within 1 week.
Viral load (VL) • VL on ART should be undetectable (< 50)	• On ART ≥ 3 months: at booking visit, then 6 monthly • On ART for < 3 months or starting ART: at 3 months and 6 months, then 6 monthly	• If VL 50-400, continue current ART regimen and increase adherence support ↴ 69. • If VL 400-1000, continue current ART regimen, increase adherence support ↴ 69 and refer to experienced ART doctor to repeat viral load within 6 months. • If VL > 1000 for 1st time, increase adherence support ↴ 69 and repeat VL after 1 month. - If repeat VL ≤ 50, continue current ART regimen and repeat VL 6 monthly throughout pregnancy and breastfeeding. - If repeat VL 50-1000, refer to experienced ART doctor to repeat VL within 6 months. - If repeat VL > 1000, doctor to switch to 2nd line ART[5] ↴ 69, and repeat VL after 3 months.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer. [2]If systolic BP ≥ 160 or diastolic BP ≥ 110. [3]If systolic BP ≥ 140 or diastolic BP ≥ 90. [4]BMI ≥ 35, age ≥ 40 years, previous diabetes in pregnancy, family history of diabetes, previous unexplained stillbirth, previous baby ≥ 4kg, polyhydramnios. [5]If there has been ≥ 1 log drop in the viral load, discuss with experienced ART doctor before switching to 2nd line.

Advise the pregnant patient

- Encourage patient to register on MomConnect (dial *134*550#) to receive messages to support her and her baby during pregnancy, childbirth and baby's first year.
- Advise to stop smoking and to stop drinking alcohol.
- Discuss safe sex. Advise patient to use condoms throughout pregnancy and have only 1 partner at a time.
- Complete antenatal card and give to patient, remind patient to bring it to every visit and when in labour.
- Ensure patient knows the signs of a pregnancy emergency (severe headache, abdominal pain (not discomfort), drainage of liquor, vaginal bleeding, reduced fetal movements) and of early labour.
- Discuss contraception choice for after delivery ↩ 98.
- Regardless of HIV status, encourage exclusive breastfeeding for 6 months: baby gets only breast milk (no formula, water, cereal) and if HIV-exposed, nevirapine/zidovudine and co-trimoxazole prophylaxis.
- If mother chooses to exclusively formula feed, check if affordable, feasible, acceptable, safe and sustainable. Check correct mixing. Discourage mixed feeding.
- From 6 months, introduce food while continuing with feeding choice. If HIV, continue breastfeeding until 1 year if mother doing well on ART and until 2 years if baby diagnosed HIV positive.

Treat the pregnant patient

- Give folic acid 5mg daily.
- Give iron according to Hb. Avoid tea within 2 hours and calcium within 4 hours of taking iron tablets.
  - If Hb ≥ 10 give ferrous sulphate compound BPC 170mg daily with food.
  - If Hb < 10 give ferrous sulphate compound BPC 170mg 8 hourly with food, continue for 3 months after Hb ≥ 10, then continue once daily for duration of pregnancy.
- Give calcium carbonate 500mg 12 hourly from 14 weeks to reduce the risk of pre-eclampsia (take calcium and iron 4 hours apart).
- Prevent tetanus with 5 tetanus toxoid (TT) injections in a lifetime:
  - First pregnancy: give TT1 at booking visit, TT2 4 weeks later, then TT3 6 months later
  - Later pregnancies: give TT4 at booking visit (at least 1 year after TT3), then TT5 in next pregnancy (at least 1 year after TT4). Stop once patient has had a total of 5 doses of TT.
- If **gestational hypertension**: start methyldopa 250mg 8 hourly and titrate up to 750mg 8 hourly if needed (take iron and methyldopa 4 hours apart).
- Give the HIV patient:
  - Influenza vaccine 0.5mℓ IM (avoid if CD4 < 100).
  - Co-trimoxazole 160/800mg (2 tablets) daily if stage 2,3 or 4.
  - **If not on ART:** start ART **same day** ↩ 69 and review in 1 week. Give TDF/FTC/EFV 1 tablet daily unless active psychiatric illness or known kidney disease: start AZT 300mg 12 hourly instead and refer to doctor for alternative regimen. Avoid AZT if Hb < 7.
  - **If on ART:** do not stop it. If on 1st line ART and not on fixed dose combination tablet, change to TDF/FTC/EFV if VL < 50, creatinine < 85 and no active psychiatric illness.

Treat the HIV patient in labour

If HIV negative or status unknown, test for HIV ↩ 66.

HIV positive on ART	HIV positive not on ART
Continue ART throughout delivery.	• Give together ideally during early labour, urgently if delivery imminent: - NVP 200mg as a single dose *and* - TDF/FTC 300mg/200mg as a single dose *and* - AZT 300mg 3 hourly until delivery and then stop. • Start lifelong ART next day ↩ 67.

- Give **HIV exposed baby** nevirapine syrup (10mg/mℓ) 1.5mℓ (if < 2.5kg, give only 1mℓ) as soon as possible after birth. If baby vomits within 1 hour, repeat the dose once only.
- Decide on ART prophylaxis and duration of PMTCT for the HIV exposed baby ↩ 106.

Give routine postnatal care to mother and baby ↩ 105.

POSTNATAL CARE

Assess the mother and her baby 6 hours, 6 days, and 6 weeks after delivery.

Assess	When to assess	Note
Symptoms	Every visit	• Manage mother's symptoms as on symptom page. Manage baby's symptoms with IMCI guide. • If baby has abundant pus in eyes and swollen eyelids, give ceftriaxone[1] 50mg/kg IM stat, sodium chloride 0.9% eye washes hourly and refer urgently. Treat mother and partner for vaginal discharge ↴ 27.
Mental health	Every visit	• If yes to ≥ 1 ↴ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things? • If ≥ 1 of: drinks alcohol every day, > 14 drinks[2]/week, ≥ 5 drinks[2]/session, loses control when drinking; used illegal or misused over-the-counter or prescription drugs in the past year ↴ 90.
Contraception	Every visit	Assess patient's family planning needs ↴ 98.
Infant feeding	Every visit	• Monitor baby's weight as per IMCI guideline. • If breastfeeding, check for problems ↴ 22. If formula feeding ensure correct mixing and that it is affordable, feasible, acceptable, safe and sustainable.
Uterus	Every visit	If painful abdomen, smelly vaginal discharge, temperature ≥ 38°C, give ampicillin[3] 2g IV plus metronidazole 400mg orally and refer same day. If heavy bleeding ↴ 33.
Legs	Every visit	If swollen or painful calf, refer to exclude DVT.
BP	Every visit	If BP ≥ 140/90[4], recheck after 2 hours. If BP still ≥ 140/90 ↴ 80 unless ≤ 1 week post delivery, refer to doctor.
BMI	Every visit	Mother's BMI is weight (kg)/[height (m) x height (m)]. If < 18.5, arrange nutritional support.
HIV test in mother	• If not done • At 6 weeks	• If positive, give routine HIV care ↴ 67. If tests HIV positive within 1 year of delivery, start ART (**same day** if breastfeeding) ↴ 69, and give baby ART prophylaxis ↴ 106. • If HIV negative and breastfeeding, continue to check HIV 3 monthly.
HIV viral load in mother	6 monthly	• If viral load > 50, discuss with doctor. • If breastfeeding mother newly diagnosed HIV positive, check viral load at 3 months, 6 months and then 6 monthly thereafter until breastfeeding stops.
HIV test in HIV-exposed baby	• At birth • At 10 or 18 weeks • At 18 months • If unwell	• If birth HIV PCR positive, explain that baby has HIV and needs ART urgently, refer/discuss with paediatric HIV expert. • If birth HIV PCR negative, repeat HIV PCR at 10 weeks (or 18 weeks if on 12 weeks of nevirapine). If repeat HIV PCR positive, refer to start ART urgently. • Check rapid HIV test at 18 months. If rapid positive, confirm with a 2nd rapid test. If 2nd rapid positive, refer to start ART as soon as possible. If 2nd test negative (discordant results), do HIV ELISA ↴ 66. • If baby breastfed: also do HIV test 6 weeks after last breastfeed (do HIV PCR if < 18 months and HIV rapid test if ≥ 18 months).
Syphilis	If not done	If mother syphilis positive and untreated ↴ 32. Treat baby ↴ 32.
Pap smear	6 weeks	Check pap smear if > 30 years and not done in past 10 years. If HIV, check pap smear at diagnosis and yearly if normal ↴ 31.

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Advise the mother

- Encourage mother to become active soon after delivery, rest frequently and eat well. Advise on perineal and wound care. Arrange support for the mother who has little support at home.
- Advise to return urgently if excessive vaginal bleeding, sepsis, dizziness, severe headache, blurred vision, severe abdominal pain occur or baby is unwell.
- Encourage exclusive breastfeeding for 6 months: baby gets only breast milk (no formula, water, cereal) and if HIV-exposed, nevirapine/zidovudine and co-trimoxazole prophylaxis. Refer to an infant feeding support group.
- If mother chooses to formula feed, check if it is affordable, feasible, acceptable, safe and sustainable. Check correct mixing. Discourage mixed feeding.
- From 6 months, introduce food while continuing with feeding choice. If HIV, continue breastfeeding until 1 year if mother doing well on ART and until 2 years if baby diagnosed HIV positive.

Treat the mother

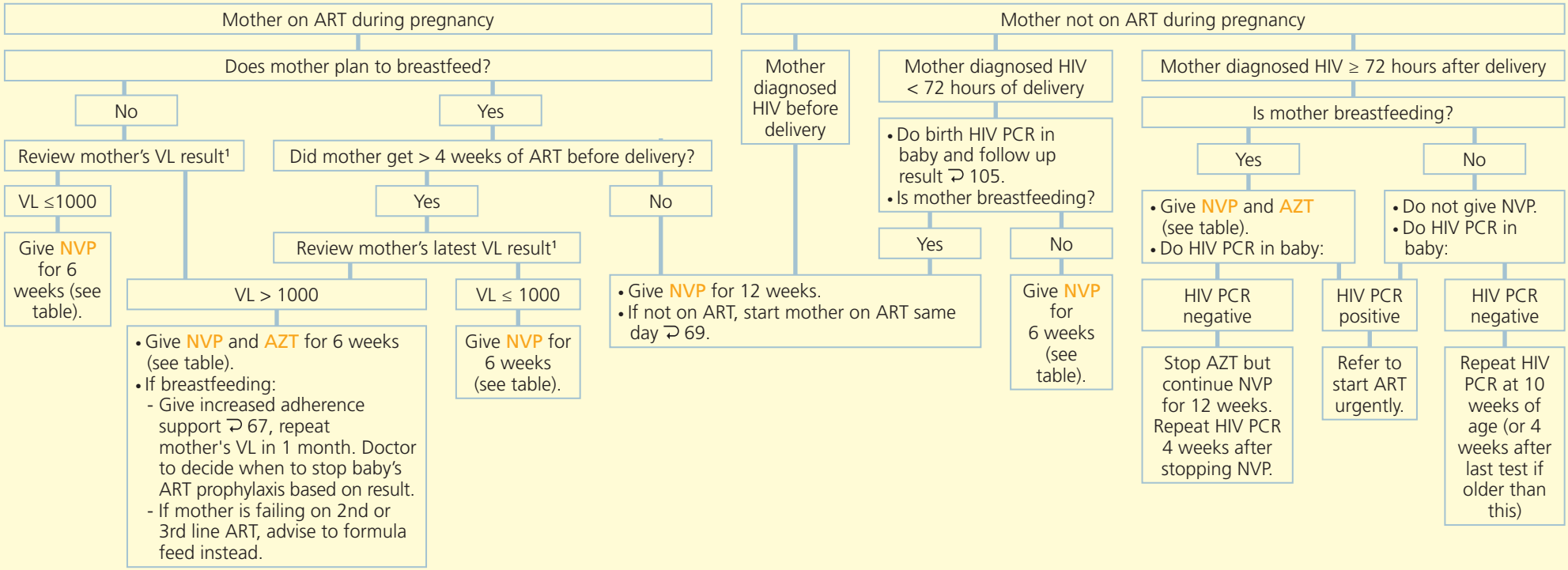
- Continue ferrous sulphate compound BPC 170mg daily (with food) while breastfeeding, or for 6 weeks if formula feeding. If Hb < 10 continue until Hb ≥ 10 for 3 months.
- If rhesus negative, check patient received anti-D after delivery. If not, give anti-D immunoglobulin 100mcg IM up to 7 days (ideally within 72 hours) if baby rhesus positive or unknown.
- If HIV positive not on ART, start ART (regardless of CD4 or feeding choice) ↴ 69.

Decide on regimen and duration of ART prophylaxis for the HIV-exposed baby ↴ 106.

[1]Do not mix Ringer's lactate and IV ceftriaxone. Flush IV line with sodium chloride 0.9% before and after IV ceftriaxone. [2]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer. [3]If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), discuss with doctor. [4]If systolic BP ≥ 140 or diastolic BP ≥ 90

Treat the HIV-exposed baby

- Start co-trimoxazole syrup (see table) at 4-6 weeks of age. Decide when to stop co-trimoxazole: if formula feeding, stop if HIV PCR confirmed negative. If breastfeeding, stop if HIV negative 6 weeks after final breastfeed.
- If mother tested hepatitis B (HBsAg) positive during her pregnancy, refer baby for hepatitis B immunoglobulin and immunisation at birth. Continue with routine immunisation after this.
- Decide on regimen and duration of ART prophylaxis in the HIV-exposed baby:



Dose medication according to weight and age:

Nevirapine (NVP) syrup (10mg/mℓ)		
Birth Weight	**Age**	**Dose**
< 2.0kg	Birth to 2 weeks	0.2mℓ/kg daily
	2 to 6 weeks	0.4mℓ/kg daily
2.0kg-2.5kg	Birth to 6 weeks	1mℓ daily
> 2.5kg	Birth to 6 weeks	1.5mℓ daily
-	6 weeks to 6 months	2mℓ daily
-	6 to 9 months	3mℓ daily
-	9 to 12 months	4mℓ daily

Zidovudine (AZT) syrup (10mg/mℓ)	
Birth Weight	**Dose**
< 2.5kg	1mℓ 12 hourly
≥ 2.5kg	1.5mℓ 12 hourly

Co-trimoxazole syrup (40/200mg/5mℓ)	
Weight	**Dose**
< 5kg	2.5mℓ daily
5-15kg	5mℓ daily

[1]If viral load not done, discuss with doctor.

MENOPAUSE

Menopause is the cessation of menstruation for at least 1 year. Most women have menopausal symptoms and irregular periods during the perimenopause.

MENOPAUSE: ROUTINE CARE

Assess the menopausal patient

Assess	When to assess	Note
Symptoms	Every visit	• Ask about menopausal symptoms: flushes, sexual problems ⮌ 34, sleeping problems ⮌ 57, headache ⮌ 13, mood changes. • If other TB symptoms like weight loss and cough ≥ 2 weeks, exclude TB ⮌ 58. • Manage other symptoms as on symptom pages.
Depression	Every visit	If yes to ≥ 1 ⮌ 88: 1) During the past month, have you been down, depressed or hopeless? 2) During the past month, have you had little interest/pleasure in things?
Vaginal bleeding	Every visit	Refer within 2 weeks if bleeding between periods, after sex or after being period-free for 1 year.
CVD risk	First visit BP 3 monthly on HRT	• Assess CVD risk ⮌ 75. • Interpret BP result ⮌ 80.
Osteoporosis risk	First visit	If < 60 years with loss of > 3cm in height and fractures of hip, wrist or spine; previous non-traumatic fractures; oral steroid treatment for > 6 months; onset of menopause < 45 years; BMI < 19; heavy alcohol user; heavy smoker
Family planning	First visit	If < 50 years, give contraception for 2 years after last period; if ≥ 50 years switch to progesterone only pill, subdermal implant , IUCD and/or condoms until 1 year after last period ⮌ 98. If amenorrheoa on implant or progesterone pill, continue until 55 years. If ≥ 55 years and still menstruating, refer for investigation.
Breast check	First visit, yearly on HRT	• If any lumps found in breasts or axillae, refer same week to breast clinic. • If on hormone replacement therapy, refer for mammogram at initiation and then annually if available.
Pap smear	When needed	If HIV negative, 3 smears 10 years apart from age 30. The HIV patient needs smear at diagnosis then yearly if normal ⮌ 31.

Advise the menopausal patient

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- To cope with the flushes, advise patient to dress in layers and to decrease alcohol and caffeine intake.
- Help patient to manage CVD risk if present ⮌ 76.
- If patient is having mood changes and/or not coping as well as in the past, refer to counselor, support group or helpline ⮌ 111.
- Educate the patient about the risks, contraindications and benefits of HRT and that it can be used to treat menopausal symptoms for up to 5 years. Risk of breast cancer, DVT and cardiovascular disease increase with increasing age. 6-12 months after discontinuation risk is equivalent to rest of population.

Dr Treat the menopausal patient

- Treat with hormone replacement therapy (HRT) to relieve menopausal symptoms and to prevent osteoporosis in the patient at risk. Avoid if abnormal vaginal bleeding, cancer of uterus or breast, previous deep vein thrombosis or pulmonary embolism, recent myocardial infarction, uncontrolled hypertension, liver disease or porphyria: give oestradiol 0.5-1mg daily or conjugated oestrogens 0.3mg-0.625mg. If patient has a uterus also give medroxyprogesterone oral 5mg daily. Adjust dose to control menopausal symptoms with minimal side effects.
- Treat vaginal dryness and pain with sex with lubricants (avoid Vaseline® with condoms). Refer if no better with HRT or HRT contraindicated.
- Review the menopausal patient 3 monthly once settled on HRT. Decrease and stop HRT for menopausal women within 5 years, or before 60 years of age.

PROTECT YOURSELF FROM OCCUPATIONAL INFECTION

Give urgent attention to the health care worker who has had a percutaneous injury (like needle-stick injury or laceration), mucosal splash or exposed non-intact skin to one or more of:

- Blood
- Blood-stained fluid
- Wound secretions
- Fluid drained from a body cavity (ascites/amniotic/cerebrospinal/pleural/pericardial)
- Breast milk
- Semen
- Vaginal secretions

Management:
- Clean exposed area with soap and water or rinse mouth/irrigate eye with water if needed.
- Give post exposure prophylaxis ↴ 109.

Adopt measures to diminish your risk of occupational infection

Protect yourself
- Adopt standard precautions with every patient.
- Wash hands with soap/water or use alcohol-based cleaner after contact with patients or body fluid.
- Wear gloves when handling specimens.
- Dispose of sharps in the correct manner.

Get vaccinated
- Get vaccinated against hepatitis B and annually against influenza.

Know your HIV status
- If status unknown, test for HIV ↴ 66. ART and isoniazid prophylaxis can decrease the risk of TB.
- If HIV positive, you are entitled to work in an area of the facility where exposure to TB is limited.

Wear a face mask
- Wear a N95 respirator when in contact with TB suspects.
- Wear a surgical facemask with a visor or glasses if in contact with respiratory virus suspects.

Protect your facility
Clean the facility
- Wash high-touch surfaces (including door handles, telephones, keyboards) daily with soap and water, then wipe with either 70% alcohol or chlorine based disinfectant.

Ensure adequate ventilation
- Regularly clean extractor fans.
- Open windows and use fans to increase air exchange.

Organise waiting areas
- Prevent overcrowding in waiting areas.
- Fast track influenza and TB suspects.

Manage sharps safely
Ensure sharps containers are easily accessible and regularly replaced.

Manage infection control in the facility
Appoint an infection control officer for the facility to coordinate and monitor infection control policies.

Use further measures to prevent TB and respiratory virus infection:

Reduce TB risk:

Identify TB suspects promptly
- The patient with cough ≥ 2 weeks is a TB suspect.
- Separate TB suspect from others in the facility.
- Educate about cough hygiene and give surgical face mask/tissues to cover mouth/ nose to protect others.

Diagnose TB rapidly
- Complete TB workup in < 4 visits and start treatment as soon as diagnosed.

Protect yourself from TB
- Wear an N95 respirator (not a surgical mask) if in contact with an infectious TB patient.

Reduce risk of respiratory viruses (including influenza)
- Wash hands with soap and water.
- Wearing a surgical face mask over the mouth and nose may be protective when performing procedures on patient suspected of influenza.
- Encourage patient to cover mouth/nose with a tissue, to ensure used tissues are disposed of correctly and to wash hands regularly with soap/water.
- Advise patient to avoid close contact with others.

POST-EXPOSURE PROPHYLAXIS (PEP)

Give urgent attention to the health care worker (HCW)/patient who has been exposed to infectious fluids[1]:

In the source patient (if known):
- If known HIV on ART, check latest viral load (VL): if VL > 1000, discuss with ART doctor to adjust PEP.
- Send blood for: HIV ELISA, syphilis, hepatitis B (HBsAg) and hepatitis C antibody.
- If status unknown/negative, counsel and do HIV rapid test ↻ 66.

In the exposed HCW/patient:
- If known HIV on ART, avoid giving PEP, give routine HIV care ↻ 67.
- If status unknown/negative, counsel and do HIV rapid test ↻ 66. If patient refuses HIV test, only give 3 days of PEP below.

HIV rapid antibody test negative
Ask about symptoms of sero-conversion illness: any recent fever, lymphadenopathy, sore throat, rash, muscle or joint pain or headache?

- No: Discuss with specialist.
- Yes: Start PEP in exposed HCW/patient, and discuss further tests with specialist.

HIV rapid antibody test positive

HIV rapid antibody test negative
- Send blood for: HIV ELISA, eGFR
- If source unknown also do syphilis, hepatitis B (HBsAg) and hepatitis C antibody (if source known, wait for source blood results to decide if these tests needed).
- If known kidney disease and will use AZT, also do FBC.

HIV rapid antibody test positive
Avoid giving PEP, give routine HIV care ↻ 67.

- Give the exposed HCW/patient PEP, ideally within 1 hour, up to 72 hours[2]:
  - Give tenofovir/emtricitabine (TDF/FTC) 300/200mg daily *plus* lopinavir/ritonavir (LPV/r) 400/100mg 12 hourly for 4 weeks.
  - Avoid TDF if known kidney disease, give instead zidovudine (AZT) 300mg 12 hourly with lamivudine (3TC) 150mg 12 hourly for 4 weeks.
- If source unknown, prevent hepatitis B according to exposed HCW/patient vaccination status:
  - If unvaccinated, vaccinations incomplete, vaccination status unknown, HBsAB < 10 or HBsAB level unknown: give hepatitis B immunoglobulin (HBIG) 500units IM *and* hepatitis B vaccine[3], 3 doses at monthly intervals.
  - If vaccinated *and* HBsAB ≥ 10, no need to treat further.
- Arrange review within 3 days as below.

Review exposed HCW/patient and check all blood results within 3 days

Review HIV results and prophylaxis
- Check HIV result for exposed HCW/patient:
  - If initially refused HIV test, offer to test now ↻ 66. If still refuses, do not continue PEP.
  - If HIV positive: stop PEP and arrange routine HIV care ↻ 67.
  - If HIV negative: continue PEP as above to complete 1 month of prophylaxis.
- Check eGFR: if eGFR > 60, continue with PEP. If eGFR ≤ 60, discuss switch to zidovudine (avoid if Hb < 8).
- Ask about side effects: if significant diarrhoea, switch lopinavir/ritonavir to atazanavir/ritonavir 300/100mg daily for 4 weeks. This may cause harmless jaundice.

Review hepatitis and syphilis results and prophylaxis
- If baseline hepatitis B or C done in exposed HCW/patient and either positive, discuss/refer. If syphilis positive ↻ 32.
- Manage further according to results of source patient:

Source hepatitis B positive
- Do hepatitis B surface antibodies (HBsAB) in exposed HCW if not done:
- If exposed HCW/patient unvaccinated, vaccinations incomplete, HBsAB < 10 or HBsAB level unknown: give hepatitis B immunoglobulin (HBIG) 500units IM and hepatitis B vaccine[3], 3 doses at monthly intervals.
- If exposed HCW/patient vaccinated and HBsAB ≥ 10, no need to treat further.

Source hepatitis B negative
- If exposed HCW unvaccinated or vaccinations incomplete, give hepatitis B vaccine now and repeat at 1 month and 6 months.
- If vaccinated *and* HBsAB ≥ 10, no need to treat further.

Source hepatitis C positive
- Do baseline hepatitis C antibody in exposed HCW if not done.
- Counsel and inform source patient. Discuss management with specialist.

Source syphilis positive
- Do baseline RPR/TP antibody on exposed HCW if not done.
- Treat source patient ↻32.

Arrange follow-up and advise to use condoms for at least 4 months until results confirmed:
- **2 weeks:** check eGFR if on TDF and FBC if on AZT.
- **6 weeks:** check HIV ELISA and hepatitis C PCR if source was hepatitis C positive. If exposed HCW hepatitis C PCR positive, discuss management with specialist.
- **4 months:** check HIV ELISA, syphilis if source was syphilis positive. If exposed HCW syphilis positive ↻ 32.

[1]Fluids that can transmit HIV, hepatitis B and C include blood and blood-stained fluid, semen, vaginal secretions, wound secretions, breast milk, fluid drained from a body cavity (ascites/amniotic/cerebrospinal/pleural/pericardial). [2]In high risk exposures (deep injury, hollow needle or source patient has high viral load), consider giving PEP up to 7 days, discuss with specialist. [3]Hepatitis B immunoglobulin (HBIG) and hepatitis B vaccine can be given together but inject at different sites.

PROTECT YOURSELF FROM OCCUPATIONAL STRESS

Experiencing pressure and demands at work is normal. However if these demands exceed knowledge and skills and challenge your ability to cope, occupational stress can occur.

Recognise the health worker with occupational stresss needing urgent attention:

- Intoxicated at work - drugs, alcohol
- Aggressive or violent behaviour at work
- Marked inappropriate change in behaviour
- Suicidal thoughts/attempt

Adopt measures to diminish your risk of occupational stress

Protect yourself

Look after your health:

- Get enough sleep.
- Exercise, eat sensibly, minimise alcohol and don't smoke.
- Get screened for chronic conditions.

Look after your chronic condition if you have one:

- Adhere to your treatment and your appointments.
- Don't diagnose and treat yourself.
- If you can, confide in a trusted colleague/manager.

Manage stress:

- Delegate; learn to say 'no', develop coping strategies.
- Talk to someone (friend, psychologist, mentor), helpline ↴ 111.
- Take time to do a relaxing breathing exercise each day.
- Find a fun or creative activity to do.
- Spend time with supportive family or friends.

Have healthy work habits:

- Manage your time sensibly.
- Take a breath between patients and observe scheduled breaks.
- Remind yourself of your purpose as a clinician.
- Be sure you are clear about your role and responsibilities.

Protect your team

Decide on an approved way of behaving at work:

- Communicate effectively with your patients and colleagues ↴ preface.
- Treat colleagues and patients with respect.
- Support each other. Consider setting up a staff support group.
- Don't complain, rather focus on what can be done to effect a solution.

Cope with stressful events

- Develop or access policies or procedures to deal with events like complaints, harassment/bullying, accidents/mistakes, violence, or staff or patient death.

Look at how to make the job less stressful:

- Examine the team's workload to see if it can be better streamlined.
- Identify what needs to be remedied to make the job easier and frustrations fewer: equipment, drug supply, training, space, décor in work environment
- Discuss each team member's role. Ensure each one has say in how s/he does his/her work.
- Support each other to develop skills to better perform your role.

Celebrate:

- Acknowledge the achievements of individuals and the team.
- Share patient gratitude with team members.

Identify occupational stress in yourself and your colleagues

Possible alcohol or drug problem

- If drinking every day or > 14 drinks[1]/week, ≥ 5 drinks[1]/session or loses control when drinking
- Smells of alcohol
- Using illegal or misusing prescription or over-the-counter drugs

Change in mood

- Indifference
- Irritability
- Low mood or sadness
- Loss of interest or pleasure
- Feeling tense, worrying a lot

Recent distressing event

- Diagnosis of chronic condition
- Bereavement
- Needlestick injury
- Traumatic event

Poor attendance at work

- Frequent absenteeism
- Frequent lateness
- Often takes sick leave

Marked decline in work performance

- Forgetful
- Inattention to detail/carelessness
- Fatigue

The health worker with any of the above may have substance abuse, stress, depression/anxiety or burnout and might benefit from referral for assessment and follow-up.

[1]One drink is 1 tot of spirits, or 1 small glass (125mℓ) of wine or 1 can/bottle (330mℓ) of beer.

HELPLINE NUMBERS

Helpline	Services provided	Contact number/s
General counselling		
Lifeline National Counselling Line	Counselling for any life crisis and referral to relevant services	0861 322 322 (24 hour helpline)
Childline SA (ages 0 - 16 years)	For children and young adolescents who are in crises, abuse or at risk of abuse and violence	0800 055 555 (24 hour helpline)
Abuse		
Stop Gender Violence	Support for children, women and men experiencing domestic violence	0800 150 150 (24 hour helpline)
Safeline	Abuse counselling, court preparation, anti-abuse awareness campaigns and group therapy	0800 035 553 (08:30-16:30 Mon-Thurs; 08:00-15:00 Fri); 072 367 4588 (24 hour crisis line)
Rape Crisis	Counselling and court support for rape survivors > 13 years	021 447 9762 (24 hour helpline)
Chronic condition		
Arthritis Foundation	Education and monthly support groups for patient with arthritis and/or fibromyalgia	0861 30 30 30 (24 hour helpline)
Epilepsy South Africa	Education, counselling and support groups for patient with epilepsy and his/her family	0860 37 45 37 (08:00-16:30 Monday to Thursday; 08:00-14:00 Friday)
Diabetes South Africa	Education, dietary plans, support groups and workshops for patient with diabetes	086 111 3913 (08:30-16:00 Monday to Thursday; 08:30-14:00 Friday)
Heart & Stroke Foundation	Education and support groups for patient with stroke, any heart condition or CVD risk.	0860 143 278 (08:00-16:30 Monday to Friday)
National AIDS helpline	Counselling and information for patient who has HIV or thinking of testing	0800 012 322 (24 hour helpline)
Mental health		
SA Depression and Anxiety Group	Counselling and support for patient with mental illness and/or family with suicide crisis line	0800 12 13 14 (24 hour helpline); 0800 567 567 (suicide crisis 08:00-20:00)
SANCA (substance abuse)	Counselling for patient and family with substance abuse, referral to rehabilitation centre	086 147 2622 (08:00-17:00 Monday to Friday)
Alzheimer's South Africa	Information, training and support groups for carers	0860 102 681 (08:00-16:00 Monday to Thursday; 08:00-15:00 Friday)
Alcoholics Anonymous	Counselling, education and support groups for patient with alcohol abuse	0861 435 722 (24 hour helpline)
Health worker		
Poisons Information Helpline of the Western Cape	Advice on the management of exposure to or ingestion of poisonous substances	0861 555 777 (24 hour national helpline)
National HIV & TB Health Care Worker Hotline	For HIV and TB related clinical queries	0800 212 506 (08:30-16:30 Monday to Friday)
Medicines Information Centre	Advice on medicine related query like drug interactions, side effects, dosage, treatment failure	021 406 6829 (08:30-16:30 Monday to Friday)
Nutrition Information Centre (NICUS)	For all nutrition related queries for health workers and the public.	021 933 1408 (08:30-16:30 Monday to Friday)
Administration		
Legal Aid	Information and guidance on any legal matter. They will return messages left after hours.	0800 110 110 (07:00-19:00 Monday to Friday)
MedicAlert	Assistance with application for Medic Alert disc or bracelet	086 111 2979 (09:00-16:00 Monday to Friday)
Your helplines		

health

Department:
Health
REPUBLIC OF SOUTH AFRICA