

Non-communicable diseases:

Diagnosis and Treatment Desk Guide

COMDIS-HSD 2018





An outpatient desk guide identifying, diagnosing and treating non-communicable diseases (NCDs) including:

Hypertension Diabetes (type 2) Cardiovascular risk factors Mental health - Depression and anxiety Epilepsy Asthma Chronic obstructive pulmonary disease (COPD) Sickle cell disease

Foreword

This desk guide is a concise 'quick reference' for doctors and other qualified clinicians, particularly for General Hospital doctors and Primary Health Centre (PHC) clinicians, and clinicians in private practice. The guide, which is mainly for adults and adolescents, includes how to identify, screen/test, refer as applicable, and provide follow-up care for *non-complicated* NCD patients. The guide is best adapted to the country disease and health service delivery context (e.g. removing sickle cell disease), names of health facilities/workers, essential drugs list, common food names, and available policies and guidelines of the Ministry of Health (MoH). Consequently, the guide is adapted according to what is considered appropriate and feasible in the country context. Preferably, it should then to be reviewed by an NCD technical working group, and further revised following pilot-training.

There is also a training module for PHC/non-specialist clinicians. The initial assessment pages are designed to be used with any adult (and in some cases, adolescents) presenting at an outpatient department or clinic. The objective is to enable effective opportunistic screening, diagnosis, treatment and follow-up care for patients with hypertension, type 2 diabetes mellitus ('Diabetes'), cardiovascular disease (CVD), common mental health conditions, epilepsy, asthma, chronic obstructive pulmonary disease (COPD) and other chronic NCDs and their underlying risk factors. The desk guide covers how to diagnose, treat and systematically monitor patients with these diseases and prevent and identify complications. It indicates when to refer patients (including possible cancer) to a specialist hospital. After being assessed in hospital, non-complex cases should then be referred back to the nearest facility, e.g. the PHC, for follow-up care. This Diagnosis and Treatment Desk Guide only includes brief lifestyle education messages. It is accompanied by a Health Educator's Desk Guide for use by the nurse/health educator. In addition, there are training modules and a facilitator's guide.

This desk guide incorporates recommendations from WHO's Package of Essential Non-communicable Disease Interventions (PEN) for Primary Health Care, WHO CVD-Risk Management Package for low-and- medium- resource settings and the Global Guidelines for Type 2 Diabetes. Refer to the list of additional information on p27 for links to these documents. This guide has been produced by thoroughly reviewing current guidelines, systematic reviews and other relevant literature.

Acknowledgements

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The guides have been informed by adaptation, pilots and revision in a number of COMDIS-HSD partner low-middle income countries. Most recently, a Nigeria version of this guide was reviewed and revised by the Federal Ministry of Health technical working group.

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About this guide

This guide covers hypertension, type 2 diabetes, common mental health conditions, epilepsy, chronic obstructive pulmonary disease (COPD), asthma and sickle cell disease. It is a concise desk guide for use in outpatients by general clinicians and is not a replacement for more comprehensive and inpatient clinical guides. We advise clinicians to download and refer to these key references, in particular, the WHO IMAI district clinician's manual for hospital use covering communicable, nutritional etc. diseases. A link to this document is available in the reference list on p27 at the end of this guide.

This desk guide also gives an overview of symptoms which may indicate cancer or other severe conditions that require referral - often referred to as 'red flags'.

Abbreviations

- ART Anti-Retroviral Treatment (for HIV)
- ACEi Angiotensin Converting Enzyme inhibitor
- **BP** Blood Pressure
- bpm Beats per minute
- CCB Calcium Channel Blocker
- COPD Chronic Obstructive Pulmonary Disease
- CVD Cardiovascular Disease
- FBS Fasting Blood Sugar
- Hb Haemoglobin
- HIV Human Immunodeficiency Virus
- IMAI Integrated Management of Adult and Adolescent Illness (WHO guide)
- IV Intravenous
- NCD Non-Communicable Disease
- NG Nasogastric
- OD Once Daily
- ORS Oral Rehydration Solution
- p Page (number)
- PEFR Peak Expiratory Flow Rate
- PHC Primary Health Centre
- RBS Random Blood Sugar
- SCD Sickle Cell Disease
- TB Tuberculosis
- Tx Treatment
- WHO World Health Organization

NCD care model

Although we refer to a number of different diseases as non-communicable diseases (NCDs) there are some common features that are different from acute illness.

- 1) Often there are few or no symptoms so awareness and screening of 'at risk' people when they are seen for other things is key.
- 2) Early diagnosis and treatment can reduce complications and/or improve duration and quality of life.
- 3) Communication skills are vital as information for and engagement with the patient is crucial their role in management is *at least* as important as the health worker.
- 4) Regular review and monitoring is essential.
- 5) Target level is set for control (e.g. of blood pressure) and treatment is stepped up gradually until targets are met.

<u>Good management of NCDs reduces complications and prevents early deaths. The systems and monitoring needed</u> are similar to that for TB and HIV-ART care.

Do HIV counselling and testing and TB symptom screening in all patients [in high prevalence settings].

Check blood pressure in ALL patients over 40 years, especially if overweight.

Check a random blood glucose if a waist circumference >104 cm in men, >88 cm in women

For each patient:

- Make diagnosis.
- Explain disease and complications.
- Agree treatment, set targets and give lifestyle advice.
- Add patient to treatment register and record on the treatment card.
- Arrange a follow-up appointment.

Principals of follow-up for chronic disease:

Ask about symptoms and consider side-effects. If not acutely unwell and there are no serious side effects and condition is not controlled then:

- Lifestyle advice.
- Step up treatment.
- Offer drugs which are readily available in the pharmacy and affordable.
- If possible, offer drugs to take only once per day. Start with the lowest dose.
- Increase doses step by step to the maximum tolerated dose to achieve disease control.
- If on maximum dosage, or the highest tolerated dose, and their condition is not controlled, then add another drug.
- Monitor according to the disease for side effects. If present, lower the dose or change the drug.
- Depression is more common in those with NCDs and can complicate treatment, so asking for symptoms of this is important.

Treatment supporter

• A treatment supporter can be very helpful to a person with an NCD to ensure they take treatment correctly, attend appointments and make lifestyle changes. A treatment supporter is a trusted friend or family member chosen by the patient. Make sure you have patient consent before talking to anyone else about their condition.

Consultation

Before diagnosing NCDs assess current problem and treat acute problems. If the patient is seriously ill, manage as emergency – see standard treatment (Tx) guide, e.g. WHO's IMAI guide (see reference list on p277).

Serious illness

Symptoms

- Chest pain lasting more than 30 minutes (heart attack).
- One-sided: vision loss, weakness/numbness of the face/arm/leg (transient ischaemic attack/stroke).
- Breathing difficulty (may be worse when lying flat) and/or ankle swelling (infection/heart failure).

If patient looks very ill, has chest pain or is short of breath, examine for signs of severe illness and if any signs as below:

- Respiratory rate >20/min (6-12 years >30/min).
- Pulse >100 bpm (6-12 years 120 bpm).
- BP <90 mmHg systolic (i.e. shock) or > BP >200 systolic or >120 diastolic.
- Fever >102°F (39°C).
- Altered consciousness.
- Glucose <4 or >20 mmol/l (<72 or> 360 mg/dl).

If present, give urgent treatment and arrange transfer to hospital.

Otherwise, ask the patient about:

- The presenting problem allow them to describe it in their own words.
- Other symptoms.
- Any concerns or issues relevant to the presenting problem including duration of symptoms, current medication, past issues.
- If symptoms are <2 weeks, ask about symptoms and signs related to possible diagnosis and treat acute disease.
- If symptoms > 2 weeks consider chronic disease.

Patients attending with an acute illness (e.g. 'flu') may also have a chronic disease, therefore also consider if this is an exacerbation of their chronic illness, or a side effect of medication (of this or other chronic disease, e.g. HIV-ART).

When referring a patient

- Explain why you are referring them, give a referral note with brief details.
- Check that they can go, if not, follow up yourself.
- Discuss with them how they will get to the hospital they are referred to.
- Ask them to return to your health centre, with diagnosis and treatment information-note, for continuing care.

Symptoms suggestive of NCDs including cancers

And other conditions to consider, with page references to the WHO IMAI 'District Clinician manual' volumes 1 & 2 (see reference list on p27).

Symptoms	Tests	Consider & Manage & p in this guide	IMAI Manual, pages (p):
Unintended weight loss	HIV, TB Fasting Blood Sugar (FBS) Ask about: Low mood, worrying	HIV, TB Diabetes, p13-14 Cancer Depression, p15	Volume 2 Weight Loss p70-81
Weakness, tiredness	HIV, TB FBS, check HB Ask about: Low mood, worrying	HIV, TB Diabetes, Anaemia Cancer Depression, p15	HIV p511-573 TB p607-632 Depression p235 (see also WHO mhGAP)
Recurrent infections	FBS	HIV	
Chest symptoms			
Cough/wheeze These are very common and most will not be a sign of an NCD	Listen to chest Check temperature PEFR* if wheeze Sputum for TB if cough >2 weeks CXR if suspect pneumonia, TB or lung	TB, HIV If wheeze consider asthma (cough/wheeze esp at night or with exercise) or COPD (in older ex/current smokers), p22-25 Cancer if smoker and	Volume 2 Chest Symptoms p97-118 Volume 1
	cancer	present >6 weeks with weight loss Pneumonia	Emergency Treatments for wheezing p37-
Shortness of breath Difficulty breathing or breathless on lying flat, body swelling	Respiratory rate. Listen to chest, Check Temperature If symptoms persist, investigate as cough/wheeze above	Pneumonia Heart failure Asthma/COPD (not associated with body swelling), p22-25	38/difficulty breathing p99-126
Chest pain/tightness			
Severe lasting >30 mins	Urgent referral	Consider heart attack	Volume 1
When walking/exercising, goes away after stopping	BP FBS Listen to chest	Angina/cardiovascular disease (CVD)	Acute Chest Pain p127
Leg and foot symptoms			
Pain in the legs when walking, relieved with rest	Check pulses in feet Examine lower limbs	Peripheral vascular disease Musculoskeletal problems	Volume 2 Peripheral Neuropathy p185
Pins and needles and/or numbness in feet	FBS HIV	Peripheral Neuropathy due to, e.g., Diabetes, HIV, Drug side effects etc.	Joint problems p272-280
Urinary symptoms			
Frequent urination	Urine dipstick FBS	Infection Diabetes, p13-14	Volume 2 Urinary Tract
Blood in urine	Urine dipstick	Infection Cancer Schistosomiasis if in the area Kidney stones	Infection p499Genitourinary Complaints p291- 332

Other symptoms

Loss of consciousness (LOC)	Unless recovers quickly may need urgent referral	Exclude head injury, alcohol, acute infection	Volume 1
	FBS	Low blood sugar	Approach to the patient with altered
		Epilepsy, faint, p19	consciousness p129-
LOC with shaking		Epilepsy, p19	140
Rapid onset vision loss, or new weakness or numbness of arm/leg, esp. if one sided	Urgent referral	Stroke/Transient Ischaemic Attack (TIA)	Volume 2 Neurological Deficit p175-181
Change in bowel habit, especially with weight loss	Abdominal examination Stool microscopy and occult blood	Infection Cancer** in older patients	Volume 2 Diarrhoea (and
Blood in stools	Examine and treat, refer if over 45 years(unless infection or local bleeding point) Stool examination	Acute infectious diarrhoea Hookworm, schistosomiasis, amoeba, giardiasis Haemorrhoids (piles) Cancer especially in >45yrs**	158
Anaemia	FBC, stool microscopy Unexplained	Infection-worms Nutritional Cancer especially in >45yrs**	
Females only			
Breast lump, nipple retraction, axillary nodes	Refer for examination/biopsy	Breast cancer – older women, Younger women exclude abscess especially if breast feeding	
Vaginal bleeding: between periods, after intercourse or after menopause	Speculum examination Pregnancy test Refer for examination/investigation	Cervical or uterine cancer Miscarriage/ectopic pregnancy (if positive pregnancy test)	Volume 2 Female genitourinary complaints p291- 321

*PEFR = Peak Expiratory Flow Rate – see section on asthma (p222), **'Cancer' includes lymphoma

Risk assessment for cardiovascular disease (CVD)

Assess risk of CVD in ALL patients over 40

CVD are a group of disorders affecting the heart and blood vessels, including coronary heart disease (angina/heart attacks), cerebrovascular disease (stroke/TIA) and peripheral arterial disease. CVD is also a risk factor for kidney disease. If those at high risk of CVD are treated they are less likely to develop symptoms and death rates are reduced.

What to ask/examine	What to do
When anyone >40 years or overweight	Check BP, weight and/or waist circumference and manage as below
attends for any problem, screen for	
CVD	
If BP over 140/90	See hypertension section p11
if a waist circumference >104 cm in	Check a random blood glucose
men, > 88 cm in women	If > 7.8mmol/L (or 140 mg/dl) see Diabetes section on p13
Ask about	
Personal history of CVD, hypertension	If history of diabetes see p3
or diabetes	If history of hypertension see p11
F amily history of CVD or diabetes	If family history of Diabetes, check random blood sugar regardless of patient age.
Symptoms of CVD or diabetes	If family history of Diabetes or CVD, check cholesterol (if available)
	If current symptoms of CVD – see below
Risk factors	Advise on
Smoking - how much, for how long	Stopping smoking
Obesity	Reducing weight,
High alcohol intake	Reducing alcohol (if very high alcohol see p17)
High salt diet	Reducing salt
Lack of exercise	Increasing exercise
Assess risk	If high risk or current/past symptoms of CVD, active treatment to reduce the
High risk	risk further should be offered
All Diabetics over 40 years	Lifestyle advice
Men >50 years/women >60 years with	Statin – simvastatin 20 mg daily
two of the following risk factors:	Treat hypertension/diabetes as appropriate – see p11 and 13
smoking, hypertension, family history	Medium risk
of CVD or diabetes	Lifestyle advice
Medium risk	
>40 years with 1 other risk factor	
Patient education	About CVD, lifestyle changes and medication, and how these can reduces risk of
For all	future stroke and heart disease
	Signs of stroke and heart attacks – advise to seek treatment immediately
	Give lifestyle advice to all patients. See Health Educator's Guide
Symptoms of CVD	If present, refer for a doctor's opinion
Angina/heart attack	Any pain/pressure/heaviness in their chest (if >30 minutes consider heart attack
	and refer urgently)?
	Is it related to walking/exercising and goes away after resting (angina)?
	Is it getting worse or is now at rest? (Unstable angina/heart attack)?
Heart failure	Breathing difficulty (worse when lying flat) and/or ankle swelling
	Fine crepitations at lung bases (like bubbles all over the chest = severe)
Peripheral vascular disease	Pain in the legs when walking, relieved with rest
Atrial fibrillation	Irregular pulse. Treat with aspirin 75 mg daily, unless history of indigestion
Stroke	One-sided: vision loss, weakness/ numbness of the face/arm/leg
	(TIA resolves within 24 hours, a stroke does not)

Hypertension

Check BP in every patient >40 years, and patients <40 years who are overweight		
C	No symptoms in most people	
Symptoms	Headaches – in rare cases (consider alternative diagnosis)	
	Family history of hypertension, diabetes, CVD, kidney disease (parents, brothers, sisters)	
Risk factors	Personal history of Diabetes, kidney disease, CVD	
	Overweight	
	Age (>40 years)	
Complications	Hypertension is not a disease but a risk factor. Treating hypertension reduces the risk of CVD,	
	kidney disease and early death.	
How to diagnose	Check blood pressure (BP) and assess severity:	
Normal BP <140/90	If BP >140/90 ensure patient is relaxed, rested for 10 minutes then repeat. If still high:	
Borderline	Give lifestyle advice and recheck BP in 3 months' time unless also has diabetes , stroke , heart or	
BP >140/ 90 - <159/99	kidney disease: then start treatment now. Refer to Diabetes and CVD guidelines p3 and 10	
Hypertensive	Give lifestyle advice and start treatment (see table below)	
BP >160/100 -	Arrange follow-up (FU) appointment monthly until BP at target	
<180/110		
Severe	Give lifestyle advice, start treatment today (see table below)	
BP >180/110	Arrange FU appointment weekly until BP <180/110 and then monthly until BP at target	
Keter	If headache, unwell, proteinuria and other conditions excluded consider malignant	
BP >200/110	hypertension. Give 10-20 mg oral medipine and refer urgently	
Management	See monthly until BP at target level then 6-monthly	
Aim	Reduce blood pressure to <140/90 to reduce risk of complications	
	Encourage lifestyle changes to reduce risks	
	Check heart for murmurs, irregular beat and heaving apex – indicates heart disease - refer	
At diagonasia	Check lungs for fine crepitations – indicates heart failure (if no sign infection) - refer	
At uldghosis	Check blood sugar (see p13) and kidney function (O&E and unne dip for protein)	
	Ask about other conditions, medication and symptoms and arrange FO appointment	
	Pregnancy - may need further investigation/management	
	Age <40 years - possible secondary causes	
	Urine dipstick +ve (proteinuria on ≥ 2 occasions or haematuria in absence of infection. If	
Refer routinely if	schistosomiasis area, treat. If not, or persists) or U&E abnormal - kidney disease	
	Examination suggests heart disease or failure	
	BP is still >140/90 mmHg despite 3 drugs and lifestyle advice	
	REMEMBER resume care as above once immediate problem dealt with	
	Check local availability and cost	
	If BP not controlled, increase dose to maximum, then move to next step. ADDING another drug.	
Medication	until target BP reached	
	If patient is diabetic, start with an ACEi as step 1	
	Thiazide diuretic e.g. Hydrochlorothiazide 12.5mg daily (max 25mg daily); amiloride 2.5 mg +	
Step 1	hydrochlorothiazide 25 mg (co-amilozide) daily.	
	If patient has heart failure, use (non-thiazide diuretic) Furosemide 20mg daily (max 80mg).	
	Add a calcium channel blocker e.g. amlodipine 5 mg one daily (max 10mg daily) or nifedipine	
Step 2	retard 20 mg twice daily (max 30 mg twice a day)	
Step 3	Add a beta-blocker (never if asthmatic) e.g. atenolol 50 mg daily (max 100 mg)	
•	Add an angiotensin converting enzyme inhibitor (ACEi) e.g. lisinopril 5-10 mg once daily (max	
Step 4	20 mg daily) or captopril - tablet, 12.5 mg-50 mg daily (max 150 mg daily - in divided doses)	
	Check U&E at start and yearly if on ACEi	
	NOTE: If pregnant, instead give methyldopa 250 mg twice/three time daily (max 3 g/daily –	
	divided doses)	

At review appointments	Check and record BP, reinforce education, resupply medications, ask about side effects of medication, ask about symptoms – e.g. chest pains Annually – check urine for protein and U&E if on an ACEi Screen for depression – see above and p17 Refer to health educator where available and ensure patient has a treatment supporter Ask 2 screening questions for depression: Over the last few weeks, have you felt down or hopeless? Have you had little interest or pleasure in doing things? If they answer yes to either, refer or do a full assessment – see p17
Patient education	Give clear information about hypertension, medication, possible side effects and about reporting these promptly Give information on complications for example angina, heart attack and stroke and to seek urgent medical help Give the patient lifestyle advice - exercise, healthy eating, little or no alcohol, stopping smoking and being the correct weight could all reduce their BP with less medication and reduce their risk of complications – see Health Educator's Guide for more information
Key messages	 Hypertension is a life-long condition, but treatable and controllable with lifestyle changes and medication. Treatment is also lifelong Treating hypertension reduces the risk of strokes; heart, blood vessel, vision and kidney problems; and death Diabetes and hypertension are linked diseases - patients with diabetes often develop hypertension and the other way around. Control of one is key to limiting complications from the other A healthy diet, increased physical activity and no smoking are essential A person cannot give hypertension to others (but relatives and children are at increased risk) Encourage patients to share the message about healthy eating and increased activity with their relatives, to reduce their risk of hypertension and other diseases

Type 2 diabetes mellitus

Check blood sugar in every patient >40 years AND has a family history of diabetes OR is overweight. Any child/young person diagnosed with diabetes is likely type 1 - needs urgent referral.

	No symptoms in many people but ask about: Excessive thirst and frequent urination (rule out urinary tract infection with a urine dinstick)
	Linexplained weight loss
Symptoms	Weakness tiredness
	Recurrent infections (e.g. boils or itchy vulva +/- dysuria [yaginal thrush])
	Pins and needles sensation in feet
	Family history of diabetes
	Age (>40 years)
	Inadequate physical activity – advise to increase
Pick factors	High alcohol intake – advise to reduce
NISK Idetois	Smoking history – advise to stop
	Pregnancy
	Waist circumference (>104 cm for men and >88 cm for women) or BMI >25 kg/m ²
	CVD including heart attacks, stoke and death
Complications	Vision problems including blindness; kidney problems, including failure
	Problems with blood vessels (vascular disease) and nerves (neuropathy)
How to diagnose	Check Blood Sugar (BS) and assess severity:
Normal	Random BS (RBS) <7.8 mmol/l (<140 mg/dl) or Fasting BS (FBS) <6.1 mmol/l (<110 mg/dl)
Pre-diabetes	RBS 7.8-11 mmol/l (140-200 mg/dl) (impaired glucose tolerance); or
(ensure 2 samples)	FBS 6.1-6.9 mmol/l (110-125 mg/dl) (impaired fasting glucose) (preferable)
(Without lifestyle changes, individuals with prediabetes are likely to become diabetic
Diabetes	RBS (or 2 hours after meal) \geq 11.1 mmol/l (\geq 200 mg/dl) or FBS >7 mmol/l (>126 mg/dl)
	Start medication if FBS >10 (180 mg/dl). If FBS <10 , manage with diet and exercise for <u>3 months</u>
Management	See patient monthly until blood sugar at target level, then 6 monthly
	Lower blood sugar to reduce symptoms and complications
Aim	Identify and treat complications early
	Encourage lifestyle changes to reduce risks
Target	Varies depending on patient age and medication
	Generally IT FBS >10 consider increasing medication
	Check BP and ensure BP <130/80 to reduce risk of complications – see p11
At diagnosis	Agree on blood sugar target
	Agree of blood sugar larger
	Add the patient to the disease register and complete a treatment card
	Pregnancy (for review and likely switch to insulin)
	Leg ulcers and/or infection; vision loss (retinopathy, cataract); pins and needles
Defer routingly if	sensation/numbness in hands and feet (neuropathy)
Refer routinely li	Urine dipstick +ve: proteinuria on ≥ 2 occasions or haematuria in absence of infection.
	If schistosomiasis area, treat. If not, or persists – refer
	Consider if blood sugar is still not at target on maximum tolerated oral medication
	Consider local availability and cost
Medication	If FBS still > target after 2-4 weeks on medication, increase dose to maximum, then move to
	next step until target reached
C+ 4	Metformin 500 mg daily – increase gradually to max 2 g in divided doses – caution with
Step 1	kidney disease
Step 2	Metformin plus sulphonylurea (e.g. glibenclamide)
	Consider insulin

At review appointments	Check BP and urine dipstick Check blood sugar - ask patients to come fasted, do an FBS on arrival and then allow patients to eat whilst awaiting consultation. If not fasted , do RBS (preferably about 2 hours after eating) Advise on lifestyle changes especially diet and educate the patient. Discuss progress. Ask about symptoms including infection (if cough >2 weeks, needs investigation for TB) Discuss medication and side effects and review if patient is taking them correctly Increase dose or change treatment, if required Screen for depression – see 'at diagnosis' above for the 2 screening questions and p17 Discuss knowledge and beliefs around diabetes, foot care and glucose monitoring Send patient to the health educator and/or use the health educator's guide Ask 2 screening questions for depression: Over the last few weeks, have you felt down or hopeless? Have you had little interest or pleasure in doing things? If they answer yes to either, refer or do a full assessment – see p17
	Annually: Ask about changes to vision/vision loss. Use a vision chart to check visual acuity (corrected with glasses). Examine for cataracts. Refer to ophthalmologist for assessment of retinopathy Ask about any foot problems and examine feet – see below Ask about pins and needles sensation, numbness in legs and poor erections (neuropathy) Assess kidney function (including albumin: creatinine ratio if available) or refer the patient to a specialist centre to be assessed Check cholesterol (where available) Ask about types of contraception and any planned pregnancy (when appropriate)
Foot examination	Examine feet at diagnosis and annual review or more frequently if any known issues Inspect both feet for any ulcers or deformity. If present, refer the patient to a specialist centre Test foot sensation with monofilament and tuning fork. Feel for foot pulses If absent pulses or is reduced sensation, advise on risk of acquiring foot disease Look at footwear – advise if poorly fitting
Patient education	 Explain that diabetes is when the body cannot properly use the foods we eat, due to insensitivity or low insulin. This means the sugar in your blood is too high Give information on complications, e.g. heart attack, stroke, blindness, leg ulcers, impotence and to seek urgent medical help Give the patient lifestyle advice – exercise, healthy eating, little or no alcohol, stopping smoking and being the correct weight could all reduce their blood sugar with less medication and reduce their risk of complications – see Health Educator's Guide for more information People with diabetes have a high risk of infection, including TB. If they have a cough for more than 2 weeks they should see a doctor Fasting blood tests are important – that means no food and only water to drink overnight (for 8 hours) before the morning blood test is taken Advise about foot care:
	Do not walk with bare feet. Wash and dry your feet regularly Make sure shoes fit properly and do not hurt Advise patient to buy footwear in the evening when the foot size is biggest Check your feet regularly for any broken skin. If there is any new broken skin, go to the hospital or other health facility to be seen, even if it is painless Do not cut calluses or corns – go to the clinic for treatment If you have numbness in your feet, be careful near fires and hot water
Key messages	 Diabetes is a lifelong condition, but treatable and controllable with lifestyle changes and medication. Treatment is also lifelong Treating diabetes reduces the risk of strokes heart, blood vessel, vision and kidney problems and death Diabetes and hypertension are linked diseases – patients with diabetes often develop hypertension and the other way around. Control of one is key to limiting complications from the other A healthy diet, increased physical activity and no smoking are essential

Mental health

If the patient looks unhappy, depressed, agitated or unkempt, consider a mental health problem.

Presentation and management of common mental health conditions

Depression		
Symptoms/signs	What to ask	What to do
Low energy, fatigue, sleep or appetite problems	Do you feel down or depressed?	If yes ask
Persistent sad or anxious mood/Irritability	Have you lost interest/pleasure	'depression'
Low interest or pleasure in activities that used to	in things you usually enjoy?	questio ns on p17
be interesting or enjoyable		
Multiple symptoms with no clear physical cause		If severe and lasting
(e.g. aches and pains, palpitations, numbness)		>1 month refer
Difficulties in carrying out usual work, school,		
domestic or social activities		

Anxiety – can be linked with depression (exclude physical causes before diagnosing anxiety)

Symptoms/signs	What to ask	What to do
Restlessness, feeling constantly "on edge", a sense of dread, difficulty concentrating Irritability Physical symptoms – tiredness, muscle aches and tension, a noticeably strong, fast heartbeat, palpitations, shortness of breath, dry mouth, trembling or shaking, excessive sweating, stomach ache, feeling sick, headache, pins and needles	 Do you have: sudden episodes of anxiety? anxiety in specific situations? an inability to relax? 	Assess for depression as above as often linked Counsel patient on managing the anxiety (see Counsel section on p18) If severe and lasting >1 month refer

Self-harm/suicide – can be seen in depression		
Symptoms/signs	What to ask	What to do
Current thoughts, plan or act of self-harm or	Do you have thoughts of death	Refer if active
suicide	or harming yourself? If yes, ask:	thoughts of
History of thoughts, plan or act of self-harm or	Do you have a plan?	suicide/self-harm
suicide	Have you attempted suicide	+ manage as severe
	before?	depression – see p17
	Is your family aware?	

Psychosis		
Symptoms/signs	What to ask	What to do
Abnormal or disorganised behaviour	Assess content and manner of	Refer to specialist/
(e.g. incoherent/irrelevant speech, unusual	speech (i.e. incoherent,	clinic.
appearance, self-neglect, unkempt appearance	confused)	
Delusions (a false firmly-held belief or suspicion)	Ask questions about any	See MHgap for
Hallucinations (hearing voices or seeing things that	possible delusional beliefs	further information
are not there)	(i.e. what do you think is the	 link in appendix
Neglecting usual responsibilities related to work,	cause of this?)	
school, domestic or social activities	Can you see or hear anything no	
Manic symptoms (several days of being abnormally	one else can?	
happy, too energetic, too talkative, very irritable,	Ask family and friends about	
not sleeping, reckless behaviour)	the patient's behaviour	

Dementia (elderly)		
Symptoms/signs	What to ask	What to do
Decline or problems with memory (severe forgetfulness) and orientation (awareness of time, place and person) Mood or behavioural problems such as apathy (appearing uninterested) or irritability Loss of emotional control – easily upset, irritable or tearful Difficulties in carrying out usual work, domestic or social activities	Assess whether the patient seems confused, distressed Ask about memory and assess their orientation (time, place and person) Ask family and friends about the patient's behaviour	Rule out infection (delirium) or depression. Refer to specialist/ clinic. See MHgap for further information - link in appendix

Alcohol use disorders			
Symptoms/signs	What to ask	What to do	
Being under the influence of alcohol (e.g. smell of	Screen using CAGE questions	Consider underlying	
alcohol, looks intoxicated, hangover)	Have you ever felt the need to	depression or	
Presenting with an injury	C ut down your drinking?	anxiety, see p17	
Somatic symptoms associated with alcohol use (e.g. insomnia, fatigue, anorexia, nausea, vomiting, indigestion, diarrhoea, headaches) Difficulties in carrying out usual work, school, domestic or social activities	 Have people Annoyed you by criticising your drinking? Have you ever felt Guilty about your drinking? Have you ever felt the need for an Eye-opener (a drink first thing in the morning to make you feel better?) If the answer is "yes" to 2 or more of these questions, consider an alcohol use disorder 	Advise them to cut down – ask them if they are willing to make this change (be aware of the risk of alcohol withdrawal if stops suddenly) Ask whether family or friends would be willing to support them See IMAI guide and MHgap for further information - links in appendix	

Drug use disorders		
Symptoms/signs	What to ask	What to do
Being under the influence of drugs (e.g. low energy, agitated, fidgeting, slurred speech) Signs of drug use (injection marks, skin infection, unkempt appearance) Requesting prescriptions for sedative medication (sleeping tablets, opioids) Financial difficulties or crime-related legal problems Difficulties in carrying out usual work, domestic or social activities	Ask about types of drugs and how often Ask about underlying depression or anxiety	Consider underlying depression or anxiety, see p17 See IMAI guide and MHgap for further information - links in appendix

Depression

	How are you feeling? (listen without interrupting)
	Do you feel sad or depressed?
Ask	Have you lost interest/pleasure in things you usually enjoy?
	Do you have less energy than usual?
	If yes to the last 3 questions, assess symptoms and severity:
	Low energy, fatigue
	Sleep or appetite problems (too much or too little)
	Persistent sad or anxious mood/Irritability
	Low self-confidence
	Feelings of guilt
	Low interest or pleasure in activities that used to be interesting or enjoyable
Symptoms	Poor concentration
	Multiple symptoms with no clear physical cause (e.g. aches/pains, palpitations, numbness)
	Difficulties in carrying out usual work, school, domestic or social activities
	Decreased sex drive
	Thoughts of suicide or death
	Symptoms of anxiety may also be present. See table CROSS
	If fatigued/energy loss, consider medical causes eg anaemia/infection/sleep problems/HIV
Risk factors	Ask about any other problems, psychosocial stressors or difficult life events: 'have you or
	your family had any big/bad news?
	If thoughts of death or suicide, assess risk by asking:
	Do they have a plan? If so now and when?
Suicide Risk	Have they attempted suicide before?
	It so now, and now serious was it?
	Is the family aware?
	If they have a plan including now and when, they are high risk. See below.
How to diagnose	Ask questions as above and assess severity:
Difficult life	Do not routinely give anti-depressants or any other medication
events/bereaved	Give support and reassurance of normal bereavement process
	Less than 5 depression symptoms and duration >2 weeks or bereavement with functional
Minor	Counsel to counter depression
depression/complicated	Start anti-depression
bereavement	Address current psychosocial stressors
	Arrange follow up 2-4 weeks depending on severity
	5 or more depression symptoms and duration >2 weeks and/or suicidal thoughts
	Start anti-depression symptoms and duration >2 weeks and or succuar thoughts
Major depression	Educate nation and family about depression and medication
	Address current psychosocial stressors
	Arrange follow up - weekly initially, once improving or stable, 2-4 weeks
	As well as following actions for severe depression
	Provide support
	Let the family know
Suicidal thoughts	Ensure they are not left alone
	Remove anything they could use to harm themselves
	Discuss with the patient and family about transfer to hospital/specialist
Management	See natient regularly until symptoms stable or resolved
	Resolve symptoms and improve function
Aim	Reduce suicide risk
	Counsel all patients – see below
At diagnosis	Ask whether this can be discussed with family and friends
	The method and a mouse and a man and many and menus
	Assess suicide risk

	Check local availability and cost
Medication	Start with a low does and gradually increase until symptoms settle. If side effects, slowly
Wedleation	reduce dose and start new medication. Remember the delay in onset of effect
	Selective coretonin rountake inhibitors (SSPIc)
	Start Eluovating 20 mg daily if no response or partial response after 4-6 weeks increase dose
	by 20 mg (may 60 mg daily). In 4.6 wooks review response and consider a dose increase dose
First choice:	by 20 mg (max 60 mg dany). In 4-6 weeks review response and consider a dose increase.
	Side effects: common - restlessness, hervousness, insomnia, anorexia and other
	gastrointestinal disturbances, neadache, sexual dysfunction. Rare but serious - inner
	Trisvelic antideproscants (TCAs) e.g. amitrintyline
	TCAs are especially useful for natients having problems with sleeping
	TCAs are very dangerous in overdose - do not start it with nationts with suicidal thoughts
	Start amitrintuling F0 mg at night ingrease by 2F F0 mg to may 1F0 mg daily depending on
Second choice:	Start amitriptyline 50 mg at night, increase by 25-50 mg to max 150 mg daily depending on
	response and tolerability. Pain and sleep usually improve after a few days
	In 4-6 weeks review response and consider a dose increase:
	Side effects: common - orthostatic hypotension (fall risk), dry mouth, constipation, difficulty
	urinating, dizziness, blurred vision and sedation. Rare but serious – cardiac arrhythmia
	Counsel the patient – see below
At review appointments	Discuss medication and side effects and review if patient is taking them correctly.
	Reassess severity and assess for suicide risk
	Advise about medication:
	Delay in onset of effect of medication – it usually takes a few weeks for treatment to work
	Potential side effects and to seek help if distressing to patient
	Possibility of withdrawal symptoms if patient misses dose/stops medication abruptly
	Not to stop medication without seeking advice first
	Anti-depressants are not addictive
	If they forget a tablet not to take an extra dose next time
	Counsel : allow the patient to talk about their feelings and give supportive advice:
	Explain that depression and/or anxiety are very common and can happen to anybody
	Reassure them that effective treatment is possible
	Discuss the perceived cause(s) of their problems
	Identify current stress and help them think through ways of improving their problems while
	prompting and encouraging them
	Identify any negative thoughts about the self, future or world, and work with them to
	replace negative thoughts with more realistic and optimistic ones
Patient education	Encourage the patient to engage often in positive self-talk
	Ask about sleep and encourage them to have a regular bed-time
	Encourage nations to continue with their usual social activities (e.g. family gatherings
	outings with friends religious activities)
	Explain that regular physical and social activity can help them get become better
	Discuss eating healthy foods and draw up schedule for regular physical exercise with them.
	Explain about the possibility of having thoughts of self-harm or suicide and encourage them
	to immediately tell a confidant and come back for help if this happens
	Encourage them to involve supportive family members in their treatment if appropriate
	Relaxation exercises that may help:
	Deep slow breathing (about 4-6 per minute) which can be repeated several times a day and
	whenever they feel anxious
	Practice breathing in for 3 seconds, holding breath for 3 seconds and breath out for
	3 seconds. Do this with them
	Practise tensing and relaxing muscles so they can feel the difference between tension and
	relaxation and get them to practice relaxation

Diagnosis

If a history of a loss of consciousness it is important to decide if the person has had a fit (seizure) or a faint. Ensure detailed history from witness if possible

Symptoms	Seizure (electrical discharge of the	Fainting (syncope) due to low blood
	brain)	pressure
Posture at onset	Any posture	Usually standing
Pallor and	Uncommon	Usually present
sweating		
Onset	Sudden / aura	Gradual
Injury	Common	Rare
Convulsive jerks	Common	Not common
Incontinence	Common	Sometimes
Unconscious-	For minutes	For seconds
ness		
Recovery	Usually slow	Rapid
Post-episode	Common	Rare
confusion		
Precipitating	Rare (flashing lights)	Crowded places, pain, lack of food,
factors		antihypertensive medication, heart
		problems

A diagnosis of epilepsy is made if a patient has more than one seizure even if they are a long time apart. A single seizure is not classed as epilepsy (though advice about not driving for a year is still important)

Epilepsy

Symptoms	Limb shaking +/- Loss of consciousness – see table on p19
	Exclude underlying causes, e.g. infection, injury, low blood sugar, overdose, alcohol withdrawal
Risk factors	Family history of epilepsy
	Previous head injury
Complications	Injury from falls, sudden death, status epilepticus
How to diagnose	See table on p19
	No epilepsy treatment required
Single seizure	Advise patient not to drive for 1 year (if no further seizures)
	Ask patient to return if they have any further seizures
>1 seizure	Start medication
Refer urgently if	Status epilepticus (defined as fits lasting longer than 30 mins BUT consider rectal or IV diazepam
<u> </u>	if fit last longer than 5-10 minutes and refer)
Management	Review regularly until seizures controlled
Aim	Reduce seizures and associated stigma, improve quality of life, Reduce risk of complications
At diagnosis	Assess seizure frequency
At didghosis	Exclude underlying causes – see above
	Educate the patient – see below
Refer routinely if	Patient is a child (+ check childhood doses if treating)
Medication	Check local availability and cost. DO NOT stop suddenly – increased risk of serious seizures
Step 1	Start medication – single drug – see below for options
Step 2	Increase slowly to maximum tolerated dose
	If still not controlled, change medication but reach full dose of new medications before reducing
Step 3	old medication slowly
Step 4	Reconsider diagnosis or refer
	1st choice for focal epilepsy but can use in all types.
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Carbamazepine Phenytoin Sodium valproate Phenobarbital/ phenobarbitone Caution At review appointments	1st choice for focal epilepsy but can use in all types. Start at 100-200 mg once/twice daily – increase slowly by 100-200mg every 2 weeks (max 1400 mg daily divided doses). Avoid if anti-retroviral treatment (ART) for HIV or isoniazid for TB 1st choice for most forms of epilepsy (except absence) Start at 150 mg daily, increase slowly (max 400 mg daily) (avoid if ART or TB treatment) 1st choice if on ART or TB treatment, 200mg twice daily starting dose increase by 150-300 mg weekly (max 2000 mg daily – divided doses). Avoid in women of child-bearing age Start at 60 mg, increase weekly by 2.5-5 mg (max 180 mg daily – divided doses) (avoid with ART) Women of child-bearing age: Oral contraception is less effective, consider alternative. Advise on risks of medication to baby if planning pregnancy. Avoid Sodium Valproate, use carbamazepine and phenobarbitone as lower risk. On ART or isoniazid: Avoid carbamazepine/phenytoin/phenobarbitone. Use sodium valproate Discuss medication and side effects and review if patient is taking them correctly. Assess frequency of seizures and increase dose or change drug as above Ask about (plans for) pregnancy – may need to change medication Ask 2 screening questions for depression: Over the last few weeks, have you felt down or hopeless? Have you had little interest or pleasure in doing things? If they answer yes to either, refer or do a full assessment – see p17 Epilepsy is not contagious and is not due to 'demon' possession Evalin the importance of taking tablets every day.
Carbamazepine Phenytoin Sodium valproate Phenobarbital/ phenobarbitone Caution At review appointments Patient education	1st choice for focal epilepsy but can use in all types. Start at 100-200 mg once/twice daily – increase slowly by 100-200mg every 2 weeks (max 1400 mg daily divided doses). Avoid if anti-retroviral treatment (ART) for HIV or isoniazid for TB 1st choice for most forms of epilepsy (except absence) Start at 150 mg daily, increase slowly (max 400 mg daily) (avoid if ART or TB treatment) 1st choice if on ART or TB treatment, 200mg twice daily starting dose increase by 150-300 mg weekly (max 2000 mg daily – divided doses). Avoid in women of child-bearing age Start at 60 mg, increase weekly by 2.5-5 mg (max 180 mg daily – divided doses) (avoid with ART) Women of child-bearing age: Oral contraception is less effective, consider alternative. Advise on risks of medication to baby if planning pregnancy. Avoid Sodium Valproate, use carbamazepine and phenobarbitone as lower risk. On ART or isoniazid: Avoid carbamazepine/phenytoin/phenobarbitone. Use sodium valproate Discuss medication and side effects and review if patient is taking them correctly. Assess frequency of seizures and increase dose or change drug as above Ask about (plans for) pregnancy – may need to change medication Ask if taking ART or isoniazid for TB – may need to change medication Ask if taking questions for depression: Over the last few weeks, have you felt down or hopeless? Have you had little interest or pleasure in doing things? If they answer yes to either, refer or do a full assessment – see p17 Epilepsy is not contagious and is not due to 'demon' poss
Carbamazepine Phenytoin Sodium valproate Phenobarbital/ phenobarbitone Caution At review appointments Patient education	1st choice for focal epilepsy but can use in all types. Start at 100-200 mg once/twice daily – increase slowly by 100-200mg every 2 weeks (max 1400 mg daily divided doses). Avoid if anti-retroviral treatment (ART) for HIV or isoniazid for TB 1st choice for most forms of epilepsy (except absence) Start at 150 mg daily, increase slowly (max 400 mg daily) (avoid if ART or TB treatment) 1st choice if on ART or TB treatment, 200mg twice daily starting dose increase by 150-300 mg weekly (max 2000 mg daily – divided doses). Avoid in women of child-bearing age Start at 60 mg, increase weekly by 2.5-5 mg (max 180 mg daily – divided doses) (avoid with ART) Women of child-bearing age: Oral contraception is less effective, consider alternative. Advise on risks of medication to baby if planning pregnancy. Avoid Sodium Valproate, use carbamazepine and phenobarbitone as lower risk. On ART or isoniazid: Avoid carbamazepine/phenytoin/phenobarbitone. Use sodium valproate Discuss medication and side effects and review if patient is taking them correctly. Assess frequency of seizures and increase dose or change medication Ask if taking ART or isoniazid for TB – may need to change medication Ask if taking questions for depression: Over the last few weeks, have you felt down or hopeless? Have you had little interest or pleasure in doing things? If they answer yes to either, refer or do a full assessment – see p17 Epilepsy is not contagious and is not due to 'demon' possession Explain the importance of taking tablets every day - seizure

Asthma and COPD

Consider alternatives if chest pain, exclude pneumonia and TB before diagnosing asthma or COPD.

Diagnosis	COPD	Asthma
Description	Chronic cough and SOB, generally in smokers	Variable wheeze, SOB, cough Improvement in symptoms (or PEFR*) 10 minutes after 4 puffs of salbutamol through a spacer
Symptoms	•	
Started <40 years	Rare	Common
Smoking history	Nearly all	Maybe
Breathlessness	Persistent and progressive Poor response to salbutamol	Variable throughout the day and from day to day (episodic) Good response to salbutamol
Chronic cough with sputum	Common	Uncommon
Night time wheeze/cough	Uncommon	Common
Chest pain	Uncommon – consider alternative diagnosis	Uncommon - consider alternative diagnosis

ا *PEFR = Peak Expiratory Flow Rate – measured on peak flow meter

Remember if cough for 2 weeks or longer consider TB – follow local guidelines

Asthma

	Wheeze, cough, difficulty breathing, chest tightness, particularly if:	
	Frequent and recurrent	
Symptoms	Worse at night and early in the morning	
	Symptoms variable from day to day	
	Worse after exercise/triggers, e.g. exposure to animals/smoke/after aspirin/beta-blockers	
	Personal or family history of hay fever, eczema or asthma (atopic disease)	
Risk factors	Smoking significantly worsens asthma	
	Usually in young patient (though can also be an older adult)	
Complications	Acute asthma attack – see below	
	Recurrent chest Infections	
	Examination: Widespread wheeze/rhonchi heard when listening to the chest, often worse	
How to diagnose	on expiration+ Symptoms improve in response to inhaled salbutamol or steroids	
	No or minimal limitation of daily activities	
	Needing Salbutamol no more than 3 times a week to control symptoms	
	Daytime asthma symptoms 2 times a week or less	
Well controlled asthma	Night time asthma symptoms two times per month or less	
	No severe exacerbation (i.e. requiring oral steroids or admission to hospital) within a month	
	A PEFR above 80% predicted	
	Any symptoms that are not controlled as above indicate that asthma is poorly controlled	
Uncontrolled asthma	requiring a starting or a step up in treatment	
Refer urgently	See below for how to assess acute asthma	
Management	Review regularly until symptoms controlled	
0	Few symptoms, no limitation of activity	
Aim	No exacerbations	
	Educate patient (see below)	
At diagnosis	Assess severity	
0	Measure PEFR and show inhaler technique – refer to Health Educator's Guide	
	Ask about smoking – strongly advise to stop	
	Asthma remains poorly controlled despite treatment and/or regular oral prednisolone is	
Refer routinely if	required to maintain control.	
	The diagnosis of asthma is uncertain	
	Check local availability and cost	
	Start treatment at the step most appropriate for initial severity. Achieve control early	
	Increase stepwise if uncontrolled but always check using inhalers correctly beforehand if	
Medication	taking medication correctly and not responding reconsider diagnosis	
	De net sten deurs unless well centrelled for et lesst CL menthe	
	Do not step down unless well controlled for at least 6+ months.	
Chan 1	Start by reducing the dose of innaled steroids	
Step 1	Salbutamol as needed (reliever)	
Step 2	Salbutamol as needed + Inhaled steroids (preventer) beciometrasone 200-400 µg daily	
Step 3	Salbutamol as needed + Sterolds innaler nigher dose 400-1000 µg dally	
Step 4		
	Salbutamol as needed + high dose steroid inhaler + low dose theophylline (or montelukast	
• 	Salbutamol as needed + high dose steroid inhaler + low dose theophylline (or montelukast +/- salmeterol if available)	
Step 5	Salbutamol as needed + high dose steroid inhaler + low dose theophylline (or montelukast +/- salmeterol if available) Salbutamol as needed + high dose steroid inhaler + low dose theophylline + Low dose oral	
Step 5	Salbutamol as needed + high dose steroid inhaler + low dose theophylline (or montelukast +/- salmeterol if available) Salbutamol as needed + high dose steroid inhaler + low dose theophylline + Low dose oral steroid – consider referral at this stage	
Step 5	Salbutamol as needed + high dose steroid inhaler + low dose theophylline (or montelukast +/- salmeterol if available) Salbutamol as needed + high dose steroid inhaler + low dose theophylline + Low dose oral steroid – consider referral at this stage Salbutamol is a reliever (a short-acting beta 2 agonist), it is used to relieve symptoms of	
Step 5 Asthma medication	Salbutamol as needed + high dose steroid inhaler + low dose theophylline (or montelukast +/- salmeterol if available) Salbutamol as needed + high dose steroid inhaler + low dose theophylline + Low dose oral steroid – consider referral at this stage Salbutamol is a reliever (a short-acting beta 2 agonist), it is used to relieve symptoms of asthma (wheeze, cough, shortness of breath or chest tightness). It works within minutes.	
Step 5 Asthma medication 'preventers and relievers'	Salbutamol as needed + high dose steroid inhaler + low dose theophylline (or montelukast +/- salmeterol if available) Salbutamol as needed + high dose steroid inhaler + low dose theophylline + Low dose oral steroid – consider referral at this stage Salbutamol is a reliever (a short-acting beta 2 agonist), it is used to relieve symptoms of asthma (wheeze, cough, shortness of breath or chest tightness). It works within minutes. 'Preventers' are medications that prevent asthma symptoms. Steroid inhalers are the most offective (preventers' and must be taken doily whether the petient has evented as a substance of the section of the	

At review appointments	 Assess severity asking the 3 questions: Have you had difficulty sleeping due to your asthma (including cough)? If so how often? Have you had your usual asthma symptoms during the day? If so how often? Has your asthma interfered with your usual activities, e.g. work/school? Check smoking status and give support to stop Ask about any acute exacerbations and any treatment received Discuss medication and side effects Review if patient is using their inhaler correctly – see Health Educator's Guide Check PEFR, record and compare to previous records Listen to their chest and assess wheeze Ask about any new symptoms Assess need to step up treatment if asthma uncontrolled Ask 2 screening questions for depression: Over the last few weeks, have you felt down or hopeless? Have you had little interest or pleasure in doing things? If they answer yes to either, refer or do a full assessment – see p17 Document: Record the main symptoms and PEFR on the chronic disease card and/or in the notebook held by the natient 	
	notebook held by the patient	
Patient education	That asthma is not infectious so cannot be passed from one person to another It is a narrowing of the airways and the reliever opens them up Smoking makes asthma much worse – advise to stop Explain the symptoms of controlled asthma (see above) and asthma attacks (see below) Ask them to double up the Salbutamol and other inhalers if symptoms not controlled and to attend a health facility if asthma not improving To seek urgent assessment if unable to speak in sentences and and/or very short of breath (respiratory rate >20 in adults). Asthma attacks can be fatal Aminophylline, hydrocortisone injections and prednisolone tablets should only be prescribed by doctors, otherwise they can be dangerous. Steroids (prednisolone) should only be given for 1 week (except in severe cases, and then the lowest possible dose) Explain the importance of attending their review appointment and remind them when it is If they have exercise-induced asthma, they need to take salbutamol before exercise Some things can trigger their asthma, e.g. animal fur, smoke – identify and eliminate them	
	Assess severity treat, review after treatment	and step up treatment if needed. Keep re-
Acute asthma	reviewing until symptoms settle. Symptoms o	What to do
Mild asthma attack	Increasing wheeze and shortness of breath PEFR 50-75% best or predicted* No features of severe or life-threatening asthma (see below)	Inhaled salbutamol: 6-10 puffs via MDI 'Double up' Salbutamol and steroid inhalers When improved return to previous dose
Severe asthma attack	Unable to complete sentences in one breath Intercostal recession Breathing rate >25 breaths/minute Heart rate >110 beats/minute PEFR <50% of best or predicted*	Oxygen if available Inhaled salbutamol: 10 puffs of inhaler with spacer**. Repeat salbutamol every 15-30 minutes according to response 40-50 mg prednisolone orally single dose and/or single dose hydrocortisone 200 mg IV ipratropium bromide inhaled using spacer
Life-threatening asthma attack	Exhaustion, poor respiratory effort. Confusion, altered conscious level, cyanosis, heart rate <60 beats/minute, silent chest (unable to hear breath sounds), PEFR <33% best or predicted** SpO2 <92%	As above but refer immediately to hospital. If oxygen is available, maintain oxygen saturations at 94-98%
In addition (at any level)	If there are symptoms and signs of an acute lower respiratory infection give an antibiotic such as amoxicillin (or if allergic, erythromycin or other macrolide) If symptoms return to normal and patient is stable, send home with oral steroids (prednisolone 40-60 mg) for 5-7 days. Advise to return urgently if symptoms worsen	

*see chart on p28 for PEFR reference values for men/women according to age (approximates only)

**see the Health Educator's Guide for how to make a spacer – but do not let this delay treatment in an acute attack

Chronic Obstructive Pulmonary Disease (COPD)

Chronic cough (Remember if cough for >2 weeks consider TB)		
Symptoms	Breathlessness Regular (chest infections)	
	Chest nain – heart disease	
Symptoms that make the	Haemontysis – TB, cancer	
diagnosis of COPD less	Significant improvement in breathlessness after salbutamol - asthma	
likely	Wakes at night with cough/wheeze - asthma	
	>40 years + exposure to smoke: cigarette smoker or prolonged exposure to smoke in an	
Risk factors	enclosed space or high exposure to dust in an occupational setting	
Complications	Acute exacerbations of symptoms, recurrent chest infections, respiratory failure	
How to diagnose	If >40 years and history of smoke exposure, possible COPD if breathless. Assess severity:	
Mild	More breathless than people of same age on exertion	
Moderate	Breathless with normal activity	
Severe	Breathless at rest	
Management	Review regularly until symptoms stable	
Aim	Ease breathlessness and reduce exacerbations	
At dia su asia	Patient education	
At diagnosis	Ask about smoking - strongly advise to stop	
	Measure PEFR and show inhaler technique - see Health Educator's Guide	
Pofor routipoly if	COPD remains poorly controlled despite treatment and/or regular oral prednisolone is	
Refer fournery fr	required to maintain control and/or the diagnosis of COPD is uncertain	
	Check local availability and cost	
Medication	Increase stepwise if uncontrolled but always check using inhalers correctly beforehand	
	If taking medication correctly and not responding - reconsider diagnosis	
Step 1	Salbutamol inhaler 2 puffs 4 x daily (or ipratropium inhaler if available)	
Step 2	Salbutamol AND ipratropium or salmeterol inhaler (if available)	
Step 3	Salbutamol and ipratropium. Add theophylline.	
Refer urgently if	Acute breathlessness – see below	
	Ask about smoking and give support to stop	
	Ask about any acute exacerbations and any treatment received	
	Discuss medication and side effects	
	Review if patient is using their inhaler correctly – see Health Educator's Guide	
	Check PEFR, record and compare to previous records	
At review appointments	Listen to their chest and assess wheeze	
	Ask about any new symptoms	
	Assess need to step up treatment if COPD uncontrolled	
	Ask 2 screening questions for depression: Over the last few weeks, have you felt down or hopeless?	
	Have you had little interest or pleasure in doing things?	
	If they answer yes to either, refer or do a full assessment – see p17	
	Explain that smoking and indoor smoke from fires are the major risk factors for COPD	
	Advise to stop smoking and avoid dust and tobacco smoke	
	Reduce indoor smoke by	
	- Using an oven with a chimney to the outside	
Patient education	- Cooking outside if an oven is not possible	
	- Keep cooking area well ventilated by opening windows and doors	
	Stop working in areas with occupational dust or high air pollution	
	Use a mask to reduce smoke/dust in lungs	
	Explain about disease, identifying exacerbations early and seeking medical help	

Acute COPD	Signs and symptoms	What to do
Acute exacerbation requiring treatment	Increased cough Green and/or increased sputum Increased breathlessness Possible fever	Antibiotics plus salbutamol inhaler via spacer + oral steroids 40-60 mg prednisolone for 5-7 days, if required
Severe	As above + unable to speak in sentences or respiratory rate >20 in adults	Oxygen if available – BUT low concentration (24-28%) Inhaled salbutamol: 6-10 puffs via MDI, with spacer*, if available Refer

*see the Health Educator's guide for how to make a spacer – but do not let this delay treatment in an acute attack

Sickle Cell Disease (SCD)

Symptoms Risk factors	Pain is the most common feature of SCD, other presentations are:Severe anaemia and/or jaundiceStroke in a child or young adultRespiratory distress (acute chest syndrome)Splenomegaly (enlarged spleen in upper left abdomen)Priapism (painful erection of penis that won't go down)Musculoskeletal: painful swelling of the hands/feet, general body/bone pain, osteomyelitis(bone infection), prominent chin/forehead, long thin limbs, limp from femoral head necrosisFamily history of SCD
Complications	Acute crisis, stroke, pain, death
How to diagnose	Sickling and solubility tests - if positive they need haemoglobin (Hb) electrophoresis to confirm diagnosis. NB diagnosis in infants is not accurate
Management	
Aim	Prevent and reduce the number of crises and complications Treat crises and complications promptly and effectively Promote a healthy lifestyle and a positive self-image
At diagnosis	Patient education Consider referral to specialist SCD Centre Ask 2 screening questions for depression: Over the last few weeks, have you felt down or hopeless? Have you had little interest or pleasure in doing things? If they answer yes to either, refer or do a full assessment – see p17
Prevention of crises	Prevent malaria: proguanil, bed nets, indoor residual spraying Prevent anaemia: folic acid 2.5-5 mg daily (avoid iron). Normal Hb in SCD is 6-8 g/dl Prevent infections: prophylactic oral penicillin V up to 16 years and routine vaccinations + pneumococcal vaccination at 6 weeks, 12 months, 2 and 5 years
Treatment of common presentations or crises	 If pale, check Hb (if <5 or signs of heart failure – refer for transfusion) If pain, give paracetamol and NSAID, or oral opioids (such as morphine) if severe If fever and temperature ≥38.0 ° C: Give antibiotic, e.g. ceftriaxone 50-80 mg/kg IV stat (max 2 g) Do a blood slide or rapid diagnostic test for malaria (mRDT), and treat if positive Give paracetamol 10-15 mg/kg/dose 4-6 hourly for fever ORS/ fluids orally or by nasogastric (NG) tube Review in 24 hours for 2nd dose antibiotics
Refer urgently if:	Very sick/toxic Respiratory distress Temperature ≥ 39.0°C (axillary) Hb <5 g/dL Inability to return for 2 nd dose of ceftriaxone after 24 hours If managed as an outpatient, but no improvement after 24 hours
Patient education	 About the disease and how inherited Advise couples to go for pre-marital screening and counselling Precipitating factors to avoid: Exposure to cold/drenched by rain Physical exertion; dehydration Injury (including surgery) Psychological stress Infections/infestations Recognise early crises features: pallor, jaundice, splenic enlargement, pain, listlessness, fever

Additional information and references

WHO Package of Essential Noncommunicable (PEN) Disease

Interventions for Primary Health Care in Low-Resource Settings (2010)

http://www.who.int/nmh/publications/essential_ncd_interventions_lr_settings.pdf

WHO IMAI Guide - General guidelines on common illness

WHO IMAI district clinician manual: Hospital care for adolescents and adults. Guidelines for management of common conditions with limited resources (2011) (Volumes 1 & 2) <u>http://www.who.int/hiv/pub/imai/imai2011/en/</u>

Cardiovascular Disease

WHO CVD-risk management package for low- and medium-resource settings (2002)

http://www.who.int/cardiovascular_diseases/resources/pub0401/en/

Diabetes Mellitus

International Diabetes Federation Global Guidelines for Type 2 Diabetes Management (2012) https://www.idf.org/e-library/guidelines/79-global-guideline-for-type-2-diabetes

Mental health

WHO mhGAP Intervention Guide for mental, neurological and substance use disorders in non-specialized health settings. Version 2.0 (2016)

http://www.who.int/mental_health/publications/mhGAP_intervention_guide/en/

Medication

Essential Medicines List

http://www.who.int/selection_medicines/country_lists/



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