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

Non-communicable diseases:
Diagnosis and Treatment Desk Guide

COMDIS-HSD 2018

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

Authors and contributors:

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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.

Review comments and contributions have been included from Dr Rachel Beanland, Dr Kaushik Ramaiya (IDF); Professor Anthony Harries (IUATLD), Dr Slima Slim (WHO EMRO NCD), Drs Anthony Usoro, Benard Bene and Philip Fadahunsi of the Federal Ministry of Health of Nigeria, Dr Akan Otu of the University of Calabar Teaching Hospital and Professor Olayinka Omigbodun Dept. of Psychiatry, University of Ibadan, Nigeria.

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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.

Good management of NCDs reduces complications and prevents early deaths. The systems and monitoring needed 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).

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<th>Symptoms</th>
<th>Tests</th>
<th>Consider &amp; Manage &amp; p in this guide</th>
<th>IMAI Manual, pages (p):</th>
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<td>Fasting Blood Sugar (FBS)</td>
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<td>Ask about:</td>
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<td>Low mood, worrying</td>
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<td>FBS, check HB</td>
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<td></td>
<td>Ask about:</td>
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<td></td>
<td>Low mood, worrying</td>
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<td><strong>Chest symptoms</strong></td>
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<td><strong>Cough/wheeze</strong></td>
<td>Listen to chest</td>
<td>TB, HIV</td>
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<td></td>
<td>Check temperature</td>
<td>If wheeze consider asthma (cough/wheeze esp at night or with exercise) or COPD (in older ex/current smokers), p22-25</td>
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<td></td>
<td>PEFR* if wheeze</td>
<td>Cancer if smoker and present &gt;6 weeks with weight loss</td>
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<td>Sputum for TB if cough &gt;2 weeks</td>
<td>Pneumonia</td>
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<td>CXR if suspect pneumonia, TB or lung cancer</td>
<td>Heart failure Asthma/COPD (not associated with body swelling), p22-25</td>
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<td><strong>Shortness of breath</strong></td>
<td>Respiratory rate. Listen to chest</td>
<td>Pneumonia</td>
<td></td>
</tr>
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<td>Difficulty breathing or breathless on lying flat, body swelling</td>
<td>Check Temperature If symptoms persist, investigate as cough/wheeze above</td>
<td>Heart failure Asthma/COPD (not associated with body swelling), p22-25</td>
<td></td>
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<td><strong>Chest pain/tightness</strong></td>
<td>Severe lasting &gt;30 mins</td>
<td>Urgent referral Consider heart attack</td>
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<td>When walking/exercising, goes away after stopping</td>
<td>BP</td>
<td>Angina/cardiovascular disease (CVD)</td>
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<td>FBS</td>
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<td></td>
<td>Listen to chest</td>
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<td><strong>Leg and foot symptoms</strong></td>
<td>Check pulses in feet</td>
<td>Peripheral vascular disease</td>
<td>Volume 2</td>
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<td>Pain in the legs when walking, relieved with rest</td>
<td>Examine lower limbs</td>
<td>Musculoskeletal problems</td>
<td>Peripheral Neuropathy p185</td>
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<td>Pins and needles and/or numbness in feet</td>
<td>FBS</td>
<td>Peripheral Neuropathy due to, e.g., Diabetes, HIV, Drug side effects etc.</td>
<td>Joint problems p272-280</td>
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<td>HIV</td>
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<td><strong>Urinary symptoms</strong></td>
<td>Urine dipstick</td>
<td>Infection</td>
<td>Volume 2</td>
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<tr>
<td>Frequent urination</td>
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<td>Diabetes, p13-14</td>
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<td>Blood in urine</td>
<td>Urine dipstick</td>
<td>Infection</td>
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<td></td>
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<td>Cancer</td>
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<td>Schistosomiasis if in the area</td>
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<td></td>
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<td>Kidney stones</td>
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### Other symptoms

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<th>Other symptoms</th>
<th>Action</th>
<th>Volume 1</th>
<th>Volume 2</th>
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<tbody>
<tr>
<td>Loss of consciousness (LOC)</td>
<td>Unless recovers quickly may need urgent referral</td>
<td>FBS</td>
<td>Approach to the patient with altered consciousness p129-140</td>
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<tr>
<td>LOC with shaking</td>
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<tr>
<td>Rapid onset vision loss, or new weakness or numbness of arm/leg, esp. if one sided</td>
<td>Urgent referral</td>
<td>Stroke/Transient Ischaemic Attack (TIA)</td>
<td></td>
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<tr>
<td>Change in bowel habit, especially with weight loss</td>
<td>Abdominal examination  Stool microscopy and occult blood</td>
<td>Infection</td>
<td></td>
</tr>
<tr>
<td>Blood in stools</td>
<td>Examine and treat, refer if over 45 years(unless infection or local bleeding point)  Stool examination</td>
<td>Acute infectious diarrhoea  Hookworm, schistosomiasis, amoeba, giardiasis Haemorrhoids (piles) Cancer especially in &gt;45yrs**</td>
<td></td>
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<tr>
<td>Anaemia</td>
<td>FBC, stool microscopy  Unexplained</td>
<td>Infection-worms</td>
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<tr>
<td>Females only</td>
<td></td>
<td>Nutritional</td>
<td></td>
</tr>
<tr>
<td>Breast lump, nipple retraction, axillary nodes</td>
<td>Refer for examination/biopsy</td>
<td>Breast cancer – older women, Younger women exclude abscess especially if breast feeding</td>
<td></td>
</tr>
<tr>
<td>Vaginal bleeding: between periods, after intercourse or after menopause</td>
<td>Speculum examination  Pregnancy test  Refer for examination/investigation</td>
<td>Cervical or uterine cancer  Miscarriage/ectopic pregnancy (if positive pregnancy test)</td>
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</tbody>
</table>

*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.

<table>
<thead>
<tr>
<th>What to ask/examine</th>
<th>What to do</th>
</tr>
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<tbody>
<tr>
<td>When anyone &gt;40 years or overweight attends for any problem, screen for CVD</td>
<td>Check BP, weight and/or waist circumference and manage as below</td>
</tr>
<tr>
<td>If BP over 140/90</td>
<td>See hypertension section p11</td>
</tr>
<tr>
<td>If a waist circumference &gt;104 cm in men, &gt;88 cm in women</td>
<td>Check a random blood glucose</td>
</tr>
<tr>
<td>If &gt;7.8mmol/L (or 140 mg/dl) see Diabetes section on p13</td>
<td></td>
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</tbody>
</table>

**Ask about**

- **Personal history** of CVD, hypertension or diabetes
- **Family history** of CVD or diabetes
- **Symptoms of CVD or diabetes**

**Risk factors**

- **Smoking** - how much, for how long
- **Obesity**
- **High alcohol intake**
- **High salt diet**
- **Lack of exercise**

**Advising on**

- Stopping smoking
- Reducing weight,
- Reducing alcohol (if very high alcohol see p17)
- Reducing salt
- Increasing exercise

**Assess risk**

**High risk**

- All Diabetics over 40 years
- Men >50 years/women >60 years with two of the following risk factors: smoking, hypertension, family history of CVD or diabetes

**Medium risk**

- >40 years with 1 other risk factor

**Patient education**

- About CVD, lifestyle changes and medication, and how these can reduces risk of 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)?
| Heart failure       | Breathing difficulty (worse when lying flat) and/or ankle swelling
| Peripheral vascular disease | Fine crepitations at lung bases (like bubbles all over the chest = severe)
| 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

<table>
<thead>
<tr>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>No symptoms in most people</td>
</tr>
<tr>
<td>Headaches – in rare cases (consider alternative diagnosis)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family history of hypertension, diabetes, CVD, kidney disease (parents, brothers, sisters)</td>
</tr>
<tr>
<td>Personal history of Diabetes, kidney disease, CVD</td>
</tr>
<tr>
<td>Overweight</td>
</tr>
<tr>
<td>Age (&gt;40 years)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension is not a disease but a risk factor. Treating hypertension reduces the risk of CVD, kidney disease and early death.</td>
</tr>
</tbody>
</table>

### How to diagnose

<table>
<thead>
<tr>
<th>Normal BP &lt;140/90</th>
</tr>
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<tbody>
<tr>
<td>If BP &gt;140/90 ensure patient is relaxed, rested for 10 minutes then repeat. If still high:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Borderline BP &gt;140/90 - &lt;159/99</th>
</tr>
</thead>
<tbody>
<tr>
<td>Give lifestyle advice and recheck BP in 3 months’ time unless also has diabetes, stroke, heart or kidney disease: then start treatment now. Refer to Diabetess and CVD guidelines p3 and 10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hypertensive BP &gt;160/100 - &lt;180/110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Give lifestyle advice and start treatment (see table below)</td>
</tr>
<tr>
<td>Arrange follow-up (FU) appointment monthly until BP at target</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Severe BP &gt;180/110</th>
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<tbody>
<tr>
<td>Give lifestyle advice, start treatment today (see table below)</td>
</tr>
<tr>
<td>Arrange FU appointment weekly until BP &lt;180/110 and then monthly until BP at target</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Refer BP &gt;200/110</th>
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<tbody>
<tr>
<td>If headache, unwell, proteinuria and other conditions excluded consider malignant hypertension. Give 10-20 mg oral nifedipine and refer urgently</td>
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</tbody>
</table>

### Management

<table>
<thead>
<tr>
<th>See monthly until BP at target level then 6-monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce blood pressure to &lt;140/90 to reduce risk of complications</td>
</tr>
<tr>
<td>Encourage lifestyle changes to reduce risks</td>
</tr>
</tbody>
</table>

#### At diagnosis

- Check heart for murmurs, irregular beat and heaving apex – indicates heart disease - refer
- Check lungs for fine crepitations – indicates heart failure (if no sign infection) - refer
- Check blood sugar (see p13) and kidney function (U&E and urine dip for protein)
- Ask about other conditions, medication and symptoms and arrange FU appointment
- Add the patient to the disease register and complete a treatment card

### Refer routinely if

- 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 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

### Medication

- Check local availability and cost
- If BP not controlled, increase dose to maximum, then move to next step, ADDING another drug, until target BP reached
- If patient is diabetic, start with an ACEi as step 1

#### Step 1

- Thiazide diuretic e.g. Hydrochlorothiazide 12.5mg daily (max 25mg daily); amiloride 2.5 mg + hydrochlorothiazide 25 mg (co-amiloizide) daily.
- If patient has heart failure, use (non-thiazide diuretic) Furosemide 20mg daily (max 80mg).

#### Step 2

- Add a calcium channel blocker e.g. amlodipine 5 mg one daily (max 10mg daily) or nifedipine 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)

#### Step 4

- Add an angiotensin converting enzyme inhibitor (ACEi) e.g. lisinopril 5-10 mg once daily (max 20 mg daily) or captopril - tablet, 12.5 mg-50 mg daily (max 150 mg daily - in divided doses)

### 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.

### Symptoms
- No symptoms in many people but ask about:
  - Excessive thirst and frequent urination (rule out urinary tract infection with a urine dipstick)
  - Unexplained weight loss
  - Weakness, tiredness
  - Recurrent infections (e.g. boils or itchy vulva +/- dysuria [vaginal thrush])
  - Pins and needles sensation in feet

### Risk factors
- Family history of diabetes
- Age (>40 years)
- Inadequate physical activity – advise to increase
- High alcohol intake – advise to reduce
- Smoking history – advise to stop
- Pregnancy
- Waist circumference (>104 cm for men and >88 cm for women) or BMI >25 kg/m²

### Complications
- CVD including heart attacks, stroke and death
- Vision problems including blindness; kidney problems, including failure
- Problems with blood vessels (vascular disease) and nerves (neuropathy)

### How to diagnose

<table>
<thead>
<tr>
<th>How to diagnose</th>
<th>Check Blood Sugar (BS) and assess severity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Random BS (RBS) &lt;7.8 mmol/l (&lt;140 mg/dl) or Fasting BS (FBS) &lt;6.1 mmol/l (&lt;110 mg/dl)</td>
</tr>
<tr>
<td>Pre-diabetes</td>
<td>RBS 7.8-11 mmol/l (140-200 mg/dl) (impaired glucose tolerance); or FBS 6.1-6.9 mmol/l (110-125 mg/dl) (impaired fasting glucose) (preferable)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>RBS (or 2 hours after meal) ≥11.1 mmol/l (≥200 mg/dl) or FBS ≥7 mmol/l (≥126 mg/dl) Start medication if FBS &gt;10 (180 mg/dl). If FBS &lt;10, manage with diet and exercise for 3 months</td>
</tr>
</tbody>
</table>

### Management

<table>
<thead>
<tr>
<th>Management</th>
<th>See patient monthly until blood sugar at target level, then 6 monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim</td>
<td>Lower blood sugar to reduce symptoms and complications Identify and treat complications early Encourage lifestyle changes to reduce risks</td>
</tr>
<tr>
<td>Target</td>
<td>Varies depending on patient age and medication Generally if FBS &gt;10 consider increasing medication</td>
</tr>
<tr>
<td>At diagnosis</td>
<td>Check BP and ensure BP &lt;130/80 to reduce risk of complications – see p11 Examine feet, eyes and kidney function – see below Agree on blood sugar target Arrange FU in 3 months if starting with diet and exercise or 1 month if started on medication Add the patient to the disease register and complete a treatment card</td>
</tr>
<tr>
<td>Refer routinely if</td>
<td>Pregnancy (for review and likely switch to insulin) Leg ulcers and/or infection; vision loss (retinopathy, cataract); pins and needles sensation/numbness in hands and feet (neuropathy) 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</td>
</tr>
</tbody>
</table>

### Medication

<table>
<thead>
<tr>
<th>Medication</th>
<th>Consider local availability and cost If FBS still &gt; target after 2-4 weeks on medication, increase dose to maximum, then move to next step until target reached</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Metformin 500 mg daily – increase gradually to max 2 g in divided doses – <strong>caution with kidney disease</strong></td>
</tr>
<tr>
<td>Step 2</td>
<td>Metformin plus sulphonylurea (e.g. glibenclamide)</td>
</tr>
<tr>
<td>Step 3</td>
<td>Consider insulin</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>At review appointments</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Foot examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examine feet at diagnosis and annual review or more frequently if any known issues</td>
</tr>
<tr>
<td>Inspect both feet for any ulcers or deformity. If present, refer the patient to a specialist centre</td>
</tr>
<tr>
<td>Test foot sensation with monofilament and tuning fork. Feel for foot pulses</td>
</tr>
<tr>
<td>If absent pulses or is reduced sensation, advise on risk of acquiring foot disease</td>
</tr>
<tr>
<td>Look at footwear – advise if poorly fitting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient education</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
</tr>
<tr>
<td>Give information on complications, e.g. heart attack, stroke, blindness, leg ulcers, impotence and to seek urgent medical help</td>
</tr>
<tr>
<td>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 – <strong>see Health Educator’s Guide</strong> for more information</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>Advise about foot care: Do not walk with bare feet. Wash and dry your feet regularly</td>
</tr>
<tr>
<td>Make sure shoes fit properly and do not hurt</td>
</tr>
<tr>
<td>Advise patient to buy footwear in the evening when the foot size is biggest</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>Do not cut calluses or corns – go to the clinic for treatment</td>
</tr>
<tr>
<td>If you have numbness in your feet, be careful near fires and hot water</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Diabetes is a lifelong condition, but treatable and controllable with lifestyle changes and medication. <strong>Treatment is also lifelong</strong></td>
</tr>
<tr>
<td>• Treating diabetes reduces the risk of strokes heart, blood vessel, vision and kidney problems and death</td>
</tr>
<tr>
<td>• 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</td>
</tr>
<tr>
<td>• A healthy diet, increased physical activity and no smoking are essential</td>
</tr>
<tr>
<td>• A person cannot give diabetes to others (but relatives and children are at increased risk)</td>
</tr>
<tr>
<td>• Encourage patients to share the message about healthy eating and increased activity with their relatives, to reduce their risk of diabetes and other diseases</td>
</tr>
</tbody>
</table>
# Mental health

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

## Presentation and management of common mental health conditions

<table>
<thead>
<tr>
<th>Depression</th>
<th>What to ask</th>
<th>What to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low energy, fatigue, sleep or appetite problems</td>
<td>Do you feel down or depressed? Have you lost interest/pleasure in things you usually enjoy?</td>
<td>If yes ask ‘depression’ questions on p17</td>
</tr>
<tr>
<td>Persistent sad or anxious mood/Irritability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low interest or pleasure in activities that used to be interesting or enjoyable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple symptoms with no clear physical cause (e.g. aches and pains, palpitations, numbness)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficulties in carrying out usual work, school, domestic or social activities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Anxiety – can be linked with depression (exclude physical causes before diagnosing anxiety)</th>
<th>What to ask</th>
<th>What to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restlessness, feeling constantly &quot;on edge&quot;, a sense of dread, difficulty concentrating</td>
<td>Do you have: • sudden episodes of anxiety? • anxiety in specific situations? • an inability to relax?</td>
<td>Assess for depression as above as often linked</td>
</tr>
<tr>
<td>Irritability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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

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

### Alcohol use disorders

<table>
<thead>
<tr>
<th>Symptoms/signs</th>
<th>What to ask</th>
<th>What to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being under the influence of alcohol (e.g. smell of alcohol, looks intoxicated, hangover)</td>
<td>Screen using CAGE questions</td>
<td>Consider underlying depression or anxiety, see p17</td>
</tr>
<tr>
<td>Presenting with an injury</td>
<td>Have you ever felt the need to Cut down your drinking?</td>
<td>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)</td>
</tr>
<tr>
<td>Somatic symptoms associated with alcohol use (e.g. insomnia, fatigue, anorexia, nausea, vomiting, indigestion, diarrhoea, headaches)</td>
<td>Have people Annoyed you by criticising your drinking?</td>
<td>Ask whether family or friends would be willing to support them</td>
</tr>
<tr>
<td>Difficulties in carrying out usual work, school, domestic or social activities</td>
<td>Have you ever felt Guilty about your drinking?</td>
<td>See IMAI guide and MHgap for further information - links in appendix</td>
</tr>
<tr>
<td></td>
<td>Have you ever felt the need for an Eye-opener (a drink first thing in the morning to make you feel better?)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If the answer is “yes” to 2 or more of these questions, consider an alcohol use disorder</td>
<td></td>
</tr>
</tbody>
</table>

### Drug use disorders

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

**Ask**

- How are you feeling? (listen without interrupting)
- Do you feel sad or depressed?
- 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:**

**Symptoms**

- 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
- 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?’

**Suicide Risk**

- If thoughts of death or suicide, assess risk by asking:
  - Do they have a plan? If so how and when?
  - Have they attempted suicide before?
  - If so how, and how serious was it?
  - Is the family aware?

**If they have a plan including how and when, they are high risk. See below.**

**How to diagnose**

- Ask questions as above and assess severity:
  - Difficult life events/bereaved
  - Do not routinely give anti-depressants or any other medication
  - Give support and reassurance of normal bereavement process

**Minor depression/complicated bereavement**

- Less than 5 depression symptoms and duration >2 weeks or bereavement with functional impairment >6 months after the loss
- Counsel to counter depression
- Start anti-depressant medication only if serious problem with functioning
- Address current psychosocial stressors
- Arrange follow up 2-4 weeks depending on severity

**Major depression**

- 5 or more depression symptoms and duration >2 weeks and/or suicidal thoughts
- Start anti-depressant medication
- Educate patient and family about depression and medication
- Address current psychosocial stressors
- Arrange follow up - weekly initially, once improving or stable, 2-4 weeks

**Suicidal thoughts**

- As well as following actions for severe depression
  - Provide support
  - Let the family know
  - 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 patient regularly until symptoms stable or resolved

**Aim**

- Resolve symptoms and improve function
- Reduce suicide risk

**At diagnosis**

- Counsel all patients – see below
- Ask whether this can be discussed with family and friends
- Assess suicide risk
- Refer to health educator where available and ensure patient has a treatment supporter
| Medication | Check local availability and cost  
Start with a low dose and gradually increase until symptoms settle. If side effects, slowly reduce dose and start new medication. **Remember the delay in onset of effect** |
| First choice: | **Selective serotonin reuptake inhibitors (SSRIs)**  
Start Fluoxetine 20 mg daily if no response or partial response after 4-6 weeks increase dose by 20 mg (max 60 mg daily). In 4-6 weeks review response and consider a dose increase.  
Side effects: common - restlessness, nervousness, insomnia, anorexia and other gastrointestinal disturbances, headache, sexual dysfunction. Rare but serious - inner restlessness and an inability to sit still, bleeding abnormalities, suicidal thoughts |
| Second choice: | **Tricyclic antidepressants (TCAs)** e.g. amitriptyline  
TCAs are especially useful for patients having problems with sleeping  
TCAs are very dangerous in overdose - **do not start it with patients with suicidal thoughts**  
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 |
| At review appointments | Counsel the patient – see below  
Discuss medication and side effects and review if patient is taking them correctly.  
Reassess severity and assess for suicide risk |
| Patient education | 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  
Encourage the patient to engage often in positive self-talk  
Ask about sleep and encourage them to have a regular bed-time  
Identify things that they usually enjoy and encourage them to continue  
Encourage patient 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 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  
PRACTICE TENSING AND RELAXING MUSCLES SO THEY CAN FEEL THE DIFFERENCE BETWEEN TENSION AND RELAXATION AND GET THEM TO PRACTICE RELAXATION |
Epilepsy

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

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

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

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Limb shaking +/- Loss of consciousness – see table on p19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk factors</td>
<td><strong>Exclude underlying causes</strong>, e.g. infection, injury, low blood sugar, overdose, alcohol withdrawal. Family history of epilepsy. Previous head injury.</td>
</tr>
<tr>
<td>Complications</td>
<td>Injury from falls, sudden death, status epilepticus</td>
</tr>
<tr>
<td>How to diagnose</td>
<td>See table on p19</td>
</tr>
</tbody>
</table>

## Single seizure
- No epilepsy treatment required
- 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 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
- 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

#### Step 3
If still not controlled, change medication but **reach full dose of new medications before reducing old medication slowly**

#### Step 4
Reconsider diagnosis or refer

### Carbamazepine
1st choice for focal epilepsy but can use in all types.
- Start at 100-200 mg once/twice daily – increase slowly by 100-200 mg every 2 weeks (max 1400 mg daily divided doses). Avoid if anti-retroviral treatment (ART) for HIV or isoniazid for TB

### Phenytoin
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)

### Sodium valproate
1st choice if on ART or TB treatment, 200 mg twice daily starting dose increase by 150-300 mg weekly (max 2000 mg daily – divided doses). **Avoid in women of child-bearing age**

### Phenobarbital/phenobarbitone
Start at 60 mg, increase weekly by 2.5-5 mg (max 180 mg daily – divided doses) (avoid with ART)

### Caution
- **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

### At review appointments
- 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 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
- Epilepsy is not contagious and is not due to ‘demon’ possession
- Explain the importance of taking tablets every day - seizures may worsen if medication is stopped
- Epilepsy is a long-term condition, but seizures can be controlled in most patients with tablets
- Advise to carry a card with the diagnosis of epilepsy
- Do not swim or cook by open fire alone and avoid driving unless certified seizure free for 1 year
Asthma and COPD

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

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>COPD</th>
<th>Asthma</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Chronic cough and SOB, generally in smokers</td>
<td>Variable wheeze, SOB, cough improvement, and PEFR* after 10 minutes with 4 puffs of salbutamol through a spacer.</td>
</tr>
<tr>
<td><strong>Symptoms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Started &lt;40 years</td>
<td>Rare</td>
<td>Common</td>
</tr>
<tr>
<td>Smoking history</td>
<td>Nearly all</td>
<td>Maybe</td>
</tr>
<tr>
<td>Breathlessness</td>
<td>Persistent and progressive Poor response to salbutamol</td>
<td>Variable throughout the day and from day to day (episodic) Good response to salbutamol</td>
</tr>
<tr>
<td>Chronic cough with sputum</td>
<td>Common</td>
<td>Uncommon</td>
</tr>
<tr>
<td>Night time wheeze/cough</td>
<td>Uncommon</td>
<td>Common</td>
</tr>
<tr>
<td>Chest pain</td>
<td>Uncommon – consider alternative diagnosis</td>
<td>Uncommon - consider alternative diagnosis</td>
</tr>
</tbody>
</table>

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

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

### Symptoms
- Wheeze, cough, difficulty breathing, chest tightness, particularly if:
  - Frequent and recurrent
  - 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

### Risk factors
- Personal or family history of hay fever, eczema or asthma (atopic disease)
- Smoking significantly worsens asthma
- Usually in young patient (though can also be an older adult)

### Complications
- Acute asthma attack – see below
- Recurrent chest Infections

### How to diagnose
- Examination: Widespread wheeze/rhonchi heard when listening to the chest, often worse on expiration+ Symptoms improve in response to inhaled salbutamol or steroids

### Well controlled asthma
- 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
- 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

### Uncontrolled asthma
- Any symptoms that are not controlled as above indicate that asthma is poorly controlled 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

#### Aim
- Few symptoms, no limitation of activity
- No exacerbations

#### At diagnosis
- Educate patient (see below)
- Assess severity
- Measure PEFR and show inhaler technique – refer to Health Educator’s Guide
- Ask about smoking – strongly advise to stop

#### Refer routinely if
- Asthma remains poorly controlled despite treatment and/or regular oral prednisolone is required to maintain control.
- The diagnosis of asthma is uncertain

### Medication
- 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 taking medication correctly and not responding - reconsider diagnosis
- Do not step down unless well controlled for at least 6+ months.
- Start by reducing the dose of inhaled steroids

#### Step 1
- Salbutamol as needed (reliever)

#### Step 2
- Salbutamol as needed + inhaled steroids (preventer) beclomethasone 200-400 μg daily

#### Step 3
- Salbutamol as needed + Steroids inhaler higher dose 400-1000 μg daily

#### Step 4
- 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 + Low dose oral steroid – consider referral at this stage

### Asthma medication ‘preventers and relievers’
- 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 effective ‘preventers’ and must be taken daily, whether the patient has symptoms or not
**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

**Document**: Record the main symptoms and PEFR on the chronic disease card and/or in the notebook held by the patient

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**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

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**Acute asthma**

Assess severity treat, review after treatment and step up treatment if needed. Keep reviewing until symptoms settle. Symptoms can quickly worsen to life-threatening.

<table>
<thead>
<tr>
<th>Signs and symptoms</th>
<th>What to do</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mild asthma attack</strong></td>
<td>Increasing wheeze and shortness of breath PEFR 50-75% best or predicted* No features of severe or life-threatening asthma (see below)</td>
</tr>
<tr>
<td></td>
<td>Inhaled salbutamol: 6-10 puffs via MDI ‘Double up’ Salbutamol and steroid inhalers When improved return to previous dose</td>
</tr>
<tr>
<td><strong>Severe asthma attack</strong></td>
<td>Unable to complete sentences in one breath Intercostal recession Breathing rate &gt;25 breaths/minute Heart rate &gt;110 beats/minute PEFR &lt;50% of best or predicted*</td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td><strong>Life-threatening asthma attack</strong></td>
<td>Exhaustion, poor respiratory effort. Confusion, altered conscious level, cyanosis, heart rate &lt;60 beats/minute, silent chest (unable to hear breath sounds), PEFR &lt;33% best or predicted** SpO2 &lt;92%</td>
</tr>
<tr>
<td></td>
<td>As above but refer immediately to hospital. If oxygen is available, maintain oxygen saturations at 94-98%</td>
</tr>
<tr>
<td><strong>In addition (at any level)</strong></td>
<td>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</td>
</tr>
</tbody>
</table>

*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)

| **Symptoms** | Chronic cough (Remember if cough for >2 weeks consider TB)  
Breathlessness  
Regular ‘chest infections’ |
| **Symptoms that make the diagnosis of COPD less likely** | Chest pain – heart disease  
Haemoptysis – TB, cancer  
Significant improvement in breathlessness after salbutamol - asthma  
Wakes at night with cough/wheeze - asthma |
| **Risk factors** | >40 years + exposure to smoke: cigarette smoker or prolonged exposure to smoke in an enclosed space or high exposure to dust in an occupational setting  
Wakes at night with cough/wheeze - asthma |
| **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 diagnosis** | Patient education  
Ask about smoking - strongly advise to stop  
Measure PEFR and show inhaler technique - see Health Educator’s Guide  
Refer routinely if COPD remains poorly controlled despite treatment and/or regular oral prednisolone is required to maintain control and/or the diagnosis of COPD is uncertain |
| **Medication** | Check local availability and cost  
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 |
| **At review appointments** | 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  
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 |
| **Patient education** | 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  
- 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 |

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<table>
<thead>
<tr>
<th>Acute COPD</th>
<th>Signs and symptoms</th>
<th>What to do</th>
</tr>
</thead>
</table>
| **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
- **Pain** is the most common feature of SCD, other presentations are:
  - Severe anaemia and/or jaundice
  - Stroke in a child or young adult
  - Respiratory 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 necrosis

#### Risk factors
- Family 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 2nd 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)

**WHO IMAI Guide - General guidelines on common illness**

**Cardiovascular Disease**
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**
http://www.who.int/mental_health/publications/mhGAP_intervention_guide/en/

**Medication**
Essential Medicines List
http://www.who.int-selection_medicines/country_lists/
Normal values for peak expiratory flow (PEF)
EN 13826 or EU scale