MEDICINES BOOK

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for

Aboriginal and Torres Strait Islander Health Practitioners

5th edition

Medicines Book for Aboriginal and Torres Strait Islander Health Practitioners

Supporting clinical practice in remote and Indigenous communities

5th edition









Alice Springs, 2022

Medicines Book for Aboriginal and Torres Strait Islander Health Practitioners

5th edition

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Preface

The Medicines Book for Aboriginal and Torres Strait Islander Health Practitioners covers medicines recommended in the CARPA Standard Treatment Manual and the Women's Business Manual, and other medicines commonly used in remote primary health care centres.

Remote Primary Health Care Manuals logo

The RPHCM logo, developed by Margie Lankin, tells this story: The people out remote, where they use the manuals, are coming into their health service. They are being seen from one of the manuals ... desert rose, the colours of the petals. The people sitting around are people who use the manuals – men and women. People who are working for Indigenous health... doctors and nurses and health workers. Messages are being sent out to the community from the clinic, from the people, to come in to the clinic to be seen. Messages about better health outcomes. People are walking out with better plans, better health, better health outcomes.

About this manual

The fifth edition of the *Medicines Book for Aboriginal and Torres Strait Islander Health Practitioners (Medicines Book*) has been produced as part of the suite of Remote Primary Health Care Manuals, through a collaboration between the Central Australian Rural Practitioners Association, Central Australian Aboriginal Congress, CRANAplus and Flinders University. The other manuals in the suite are the CARPA Standard Treatment Manual (CARPA STM), Minymaku Kutju Tjukurpa Women's Business Manual (WBM), and the Clinical Procedures Manual for remote and rural practice (CPM).

The *Medicines Book* does not stand alone, and does not claim to be fully comprehensive as it has been simplified for ease of use. It is intended to supplement other medicine reference books such as the *Australian Medicines Handbook* (*AMH*), *Therapeutic Guidelines* and *MIMS*. Dosage and prescribing guidelines have not been included. Refer to the *CARPA STM*, *WBM*, or your medicine reference book for these.

Your input

Feedback is an essential component of keeping the manuals 'by the users for the users'. Please submit your suggestions and comments via the online feedback form at www.remotephcmanuals.com.au

Acknowledgements

This manual was produced with funding from the Australian Government Department of Health. The Remote Primary Health Care Manuals are a Joint Venture partnership between Central Australian Rural Practitioners Association, Central Australian Aboriginal Congress, CRANA*plus*, and Flinders University, representatives of each organisation provided governance oversight of the project. As the agent of the Joint Venture agreement between these partners, project management for the revision was provided by Flinders University. Oversight of the review process was provided by the Remote Primary Health Care Manuals Editorial Committee.

Contributors

Thank you to the practitioners, from all over Australia, who volunteered their time and expertise to ensure the manual remains evidence-based, relevant, practical and user-friendly. More information about the review process and a list of the editorial committee members, project team members and the primary and secondary reviewers who contributed to the review of this edition can be found at http://www.remotephcmanuals.com. au/home.html

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Using the Medicines Book

The Medicines Book is designed to be used by clinicians, especially Aboriginal and Torres Strait Islander health practitioners (ATSIHPs) who

- May not be able to access or read other common medicine reference books
- Are able to supply and monitor medicines (eg under state or territory legislation)
- Want to share information on medicines with patients who have low levels of English literacy

How the manual is set out

- Medicines are grouped into chapter headings according to their use in the same way as in the Australian Medicines Handbook 23 (eg Analgesics, Eyes, Respiratory)
- Within each chapter medicines (active ingredients) are in alphabetical order
- A list of the all the medicines in alphabetical order with page numbers is at the front of the manual

The following information is included for each medicine

- Active ingredient, and other medicines that belong in the same group
- · Illnesses and conditions the medicine is used to treat
- · Simple information about how the medicine works
- Common side effects, and serious side effects
- Warnings about the medicine including
 - Safety in pregnancy and breastfeeding
 - Cautions when the person has other medical problems
 - Important interactions with other medicines, drugs or foods
- · Information to tell the person when supplying the medicine
- Patient checks that may need to be done.

Protocols in this manual have been checked against the Australian Medicines Handbook 2022.

Cultural tips

To be effective, health care must occur in a culturally safe/secure environment with practitioners who are culturally aware and competent.

- Learn all you can about the local culture
- Always be respectful, and carefully consider the following

Cultural beliefs

- Traditional concepts and understandings around health and healing remain strong in Indigenous communities
- Use of traditional healers and traditional medicine is common. It is very important to to acknowledge, respect and listen to community members regarding their practices

Effective communication

- English can be a second or third language for Indigenous Australians always ask if person would like an interpreter to assist
- Don't assume that conversations conducted in English have the same meaning for practitioner and the patient
- Hearing problems are common and can make communication difficult
- While efforts to learn the local language are usually appreciated, don't try to use a language learnt in another community
- Be aware of non-verbal body language and gestures pointing, hand signals, eye contact. Meanings may differ between cultures

When asking questions

- Direct questions can be considered rude
- Only ask one question at a time and allow person time to consider it. Person may be thinking in their own language before responding
- Check that you have understood what the person has told you
- Person may bring along a relative or friend
- Avoid double negatives. Example: 'You don't do nothing like that, do you'
- Ready agreement can be a sign of misunderstanding, or courtesy
- Silence is often OK, give person plenty of time to answer. But remember that silence can also mean misunderstanding, or that practitioner is on culturally unsafe ground

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Patient education

Tell the patient

- Everything they want to know about their medicines Contact pharmacist if there are any questions you can't answer. Use this book and show them pictures to help explain
 - If person travelling give them a list of their medicines and a copy of prescriptions with repeats so they can get them filled at other clinics
- Medicines can be DANGEROUS (especially for children) Keep medicines in a safe dry place where kids can't see them or get to them
- Medicines must be stored properly to work properly Always check packet to see how they should be stored some must be kept in the fridge
- Medicines have 'use by' dates
 Some medications like liquids or eye drops only last for 2–4 weeks after being opened. Always check packet to see if medicine is still in date and how long it will work after being opened. Write this on label
- Bring all their medicines with them when they come to clinic or hospital

Makes it easier to change their medicines and makes sure any old and out of date ones are destroyed safely

- Some medicines may not be needed if they exercise, eat well and try to keep themselves and their surroundings clean
- **Do not** share medicine with another person it could harm them
- Do not take someone else's medicine it could harm you
- Do not take medicine that is out of date
- **Do not** chew, cut or crush slow release tablets. Only cut tablets that have a line on them. Use a sharp knife on a piece of clean paper towel
- Do not throw medicines in the bin bring them back to clinic











Tell the patient about chronic disease medicines

Causes of chronic disease

- People (both Indigenous and non-Indigenous) have stopped being as active as they were before — less walking, running, hunting, or exercising in other ways
- People spend a lot of time sitting in front of televisions, computers, or games. Because humans are designed to move and be active, this makes us weak and unwell
- The way people eat can also make them unwell. Many people
 - Eat more than they need not much energy is needed to sit for most of the day
 - Eat the wrong types of food too much fat, sugar and salt, not enough fruit and vegetables
- Smoking, and drinking too much alcohol (grog) can make chronic diseases worse and cause illnesses of their own

Chronic conditions

- As a result of this modern lifestyle many people are overweight, have blood vessels blocked by fat and a weakened heart. They are likely to develop one or more chronic (long term) conditions
- Chronic conditions include problems with high blood pressure (BP), high blood glucose (sugar), and fats in the blood (cholesterol) that can speed up the blocking of arteries and damage your
 - Heart leading to heart attacks
 - Brain leading to stroke
 - Kidneys leading to kidney trouble and dialysis
 - Eyes leading to eye trouble and blindness
 - Feet leading to infection and amputation









Chronic conditions medicines

• As well as a healthy lifestyle, medicine can help to bring high BP, blood glucose and blood fat levels down to a safe level

Early treatment = less damage

- Taking medicines can be hard, especially long-term medicines for chronic disease
- You may not feel any different when you take the medicine but it is working to reduce damage to your organs
- Some people will need to take medicines all their lives because of existing damage to arteries or kidneys, or other problems they were born with (congenital problems)
- More exercise, eating healthy food, not smoking and drinking in moderation may help reduce the need for medicines

Tell the patient

- Have regular check-ups
- Know your medicine and remember to take your medicine
- Medicines are only one part of looking after your health
- Have a healthy daily lifestyle



 Move more as part of your day, spend less time in sitting in front of screens



Quit or cut down on smoking



 Eat a range of good food, and try not to eat more than you need



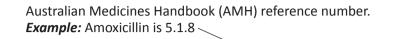
Cut down on alcohol (grog)



How the medicine monographs are set out

There are 2 pages of information for each monograph Australian Medicines Handbook (AMH) medicine classification. Example: Amoxicillin is classified as **ANTI-INFECTIVE** — Antibacterial — Penicillins CHAPTER — Medicine use — Medicine group Information in this section Page 1 ACTIVE INGREDIENT/S of the medicine Active • **Pictures** showing how the medicines may be given ingredients (eg tablets, injection) (generic • Other medicines from the same drug group name) • **Combinations:** Medicines from this group that are with medicines from a different group (if any) Information in this section What is it • The main reasons this medicine is prescribed used for Information in this section How it • An explanation of where and how the medicine works works in the body Information in this section Side • Lists the main side effects effects • Tell the patient about these, but also tell them not everyone will get side effects

Chapter — body system or type of condition _____



AMH 2022 section number

Page 2		 Information in this section Lists the problems or conditions that may make this medicine dangerous to the patient Contact doctor if your patient has any of these conditions
	Warnings	 Lists other medicines, drugs or foods this medicine should not be taken with Contact doctor if your patient is taking anything on this list
	22	Information in this sectionLists the things you should tell the patient when giving out this medicine
	Tell the patient	 Warning stickers Lists stickers used to remind patients of special instructions for this medicine (eg Take with food, Do not drive) — see Reference section for the stickers used in this manual
	Check	 Information in this section Lists the things you need to check (eg blood tests, blood pressure)

Active ingredients, generic and brand names

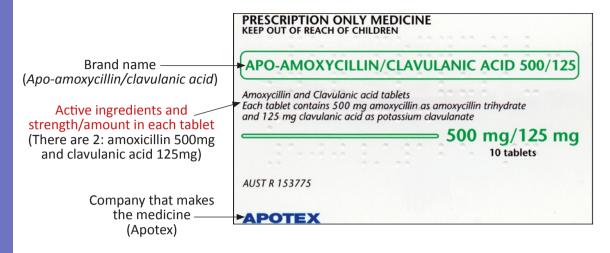
- Every medicine has at least one active ingredient the chemical that affects the body and makes the medicine work (eg paracetamol, aspirin). There are usually other (inactive) ingredients that control things like how it dissolves, how easy it is to swallow, or the colour
- Make sure you know active ingredient/s of the medicine. Name of active ingredient and its strength are on the medicine's label. Usually in small print, or it will say 'Each tablet contains', then list the active ingredient/s. If you are not sure check with the doctor or pharmacist
- **Combination medicines** have 2 or more **active ingredients**. This manual shows the active ingredients of combination medicines
- The term **generic name** may refer to **active ingredient** (eg paracetamol) *OR* may refer to a less expensive brand
- Companies that make and sell medicines give them a **brand name**. There can be many brand names and the brand used by your clinic can change
 - Example: Paracetamol is called Panadol, Panamax, Febridol, and Paralgin by different manufacturers.

Finding active ingredient and its strength on medicine packet

The active ingredient can be written in more than one place. Many medicines look the same — check carefully that you have the right one



On combination medicine packet



Different forms of medicines

Medicines come in different forms as well as different strengths

- Different forms include liquids, tablets, capsules, skin patches, injections, suppositories, wafers, depots
- There are also slow-release medicines
 - Medicine is released slowly and evenly into the body so the person can take it less often (eg only once a day)
 - Confusing slow-release and immediate-release forms of a medicine and giving the wrong form of the medicine can make the person very sick by increasing or decreasing the amount of medicine in their blood
 - > Do not chew, crush or cut slow-release or coated tablets
- Types of slow-release medicines include
 - ▶ SR sustained release or slow release
 - XR or ER extended release
 - CD controlled delivery
 - CR controlled release
 - OROS osmotic-controlled release oral delivery system
- Always check doctor's order against medicine to make sure it is the right form

Side effects

- Most medicines have more than one effect
 - Good (wanted) effects are why the medicine is prescribed
 - Bad (unwanted) effects are called side effects (or adverse effects)
- This book does NOT show ALL side effects, only the most common and serious. *Remember:* Not everyone gets side effects
- Side effects can sometimes take weeks to happen
- Mild side effects often go away after a few days
- Serious side effects must be reported to doctor so treatment can be changed
- Dangerous side effects can be a risk to person's life (eg anaphylaxis)
- If person has a new problem ask if new medicine started
 - New problem may be **side effect** *OR* may be new problem from disease
 - Always tell doctor about it

Record all side effects from medicines in file notes so other ATSIHPs, doctors or nurses know for next time

Interactions

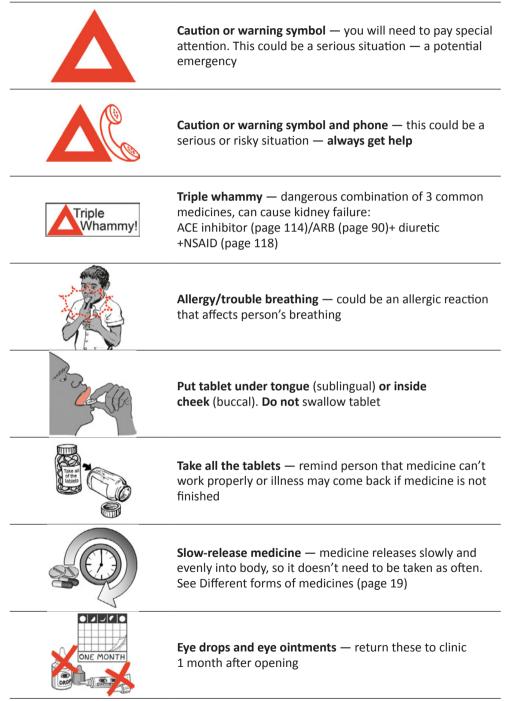
- If a medicine is taken with another medicine, drug (including alcohol and tobacco) or certain foods the medicine may not work properly *OR* it may become too strong (this can be dangerous). This is called an **interaction**
- Always check what other drugs person is taking and the interaction list
 If there could be an interaction always check with doctor
- If person needs to take 2 medicines that interact they will be carefully monitored by doctor
- This book does NOT list ALL interactions, only the most common and serious

For more information

- Contact doctor or pharmacist
- Look in other medicine reference books *Australian Medicines Handbook, MIMS*
- Call Medicines Line on 1300 633 424 (1300 MEDICINE)

What the pictures mean

The pictures make it easier to explain things to your patients. Make sure you know what the following pictures mean.



Special patient groups

These pictures are to remind you that these people may need smaller doses of medicine, or should not take this medicine

Pregnant

- Always ask a woman of childbearing age if she is or could be pregnant — do pregnancy test if not sure
- Most medicines taken by a pregnant woman can easily pass from her blood stream through the placenta and into the baby and may harm the baby
- Every medicine is put into a category (A, B, C, or D) based on how dangerous it is to the baby. Lowest risk is A, high risk are D, **really dangerous** ones are X
- This picture in the Warnings section lets you know medicine is category C, D or X and could seriously harm the baby
- Always tell doctor or pharmacist if woman is pregnant or planning to become pregnant. Some medicines can be stopped or changed but others may be needed to care for the mother's health. The doctor will assess the risks and talk with the woman about them

Breastfeeding



- Some drugs and medicines can stop the mother making milk, or pass through the mother's milk and harm the baby or stop the baby sucking
- This picture in the *Warnings* section lets you know this medicine should be used with caution by women who are breastfeeding

Babies and children



- Babies and children are not only smaller than adults but are growing and constantly changing. This affects how medicines are absorbed and eliminated from their bodies
- Always weigh children and check doses carefully

Old people	
	 Old people are more likely to suffer from side effects, medicine interactions and overdose because they Can't break down and eliminate medicines as well as younger people Are more sensitive to medicines Are usually taking more than 1 medicine at a time Remember that old people Are usually prescribed the smallest possible dose May have trouble swallowing medicine. Check if OK to break or crush tablets May need help remembering to take medicines — check if they need a dose aid, or if they have a carer who can help
Kidney trouble	
	 Indigenous people are more likely to have kidney trouble If patient has kidney trouble or kidney failure they usually need lower doses of medicines (or can't take some medicines) because their kidneys can't break down and remove medicine from their bodies
Other trouble or	r illnesses the patient may already have
C C DU	 Shown by picture with red lines around body part affected (eg liver trouble, kidney trouble, heart trouble) These pictures mean that the medicine can make these problems worse Also see Anatomy dictionary (page 319)
References	to Australian Medicines Handbook (AMH)
 Each medicine AMH is a stand should have the 	protocol in this manual includes an <i>AMH</i> reference number dard Australian reference book for medicines. All clinics ne current edition
	d into chapters according to the body system or type of medicine treats (eg cardiovascular system or allergies),

then medicine use, medicine group, and active ingredient For example

Amoxicillin is found in AMH Section 5.1.8

- **5** is the chapter (Anti-infectives)
- 1 is the medicine use (Antibacterial)
- 8 is the medicine group (Penicillins)
- Active ingredient is Amoxicillin

6 steps to follow when supplying a medicine

STEP 1 — Get the story

Use assessment and examination procedure such as SODA-F or SOAPF

STEP 2 — Follow the RIGHTS

- Make sure you have the RIGHT patient and the RIGHT set of records
- ► Ask person's name, date of birth, bush name, next of kin
- Check person's name and the date on the prescription

RIGHT medicine

- Check name and spelling of medicine against prescription
- Check use-by/expiry date on package
- Is it safe for this person

ALWAYS ask about allergies, pregnancy, breastfeeding, other medical problems (eg kidney trouble), other medicines including over the counter and bush medicines

- · Could it interact with other medicines the person is taking
- Is it in CARPA STM or WBM
- Look up in a reference manual (eg AMH, Medicines Book). What is it, how does it work, what is it used for
- Am I allowed to give the medicine or do I need to contact the doctor or pharmacist

RIGHT dose

- Check dose on prescription and in a reference manual (eg CARPA STM, WBM, AMH)
- Check strength medicine can be packaged in different strengths and forms
- · Measure dose carefully using proper equipment
- If dose is by weight check person's weight. Always weigh children
- Watch and help parent/carer give first dose to children

RIGHT route

- Check how to give (administer) medicine
 - ▶ Oral tablets, syrups, sublingual, buccal
 - ► Injection IM, IV, subcut
 - On the skin transdermal, topical

RIGHT time

- Check how and when medicine should be taken night, morning, with food, on empty stomach
 - Use times that are meaningful to the person

RIGHT documentation

 Record medicine administered/supplied in file notes. Include active ingredient, dose, frequency, quantity supplied (eg dicloxacillin 500mg 4 times a day [qid], 24 caps)

RIGHT to refuse

- Person may not want to take medicine you give them
- Make sure person knows reason for the medicine so they can make an informed decision
- If person doesn't want to take medicine try to find out why, a different medicine may be appropriate
- If person still doesn't want to take medicine always document this

STEP 3 — Label the medicine

See example of completed medicine label — Figure 1.1

Keep out of reach of children		
Active ingredient: Furosemide (frusemide) 40 mg tablets Brand name: Urex		
Take 1 tablet in the morning		
James Douglas 12/04/2		2/04/23
100 tablets Expiry date: 09/2023	Dr B Cooper Ref# 136891 ADK	\$0.00
Hospital Pharmacy 6 Gap Road, Alice Springs NT 0870		



- Written in red on white background KEEP OUT OF REACH OF CHILDREN
- Name (active ingredient) of medicine
- Strength (eg microgram, mg, g) and form (eg liquid, tablet, capsule)
- Total number of tablets or amount of liquid in package
- How to take it. Dose and number of times a day 'Take 2 tablets 3 times a day'
- Name of patient
- Name, address and phone number of clinic
- Your name or initials

- Date you gave out medicine
- Medicine use-by/expiry date take from original packet
- Prescription reference number (if your clinic uses these)
- Special directions 'Take with food', 'Keep in fridge'
 - Use warning stickers (page 310) if your dispensary has them
- Use medicine time stickers for people with poor English or eyesight
 - ► Morning/evening Figure 1.2
 - ▶ Middle of the day Figure 1.3
 - ▶ Night time, before bed Figure 1.4







Figure 1.2

Figure 1.3

Figure 1.4

STEP 4 — Check what you have done and write in file notes

STEP 5 — Before giving medicine make sure person knows

- Why they are taking the medicine
- Possible side effects and what to do about them
 - Explain common side effects and side effects that are rare but important
- Important messages from Tell the patient (page 13)
- When and how to take it
 - Does it need to be taken with or without food
 - Use times that have meaning for the person
- How to store it (eg in fridge, away from children)
- Give clear instructions in best language for person
- Ask person to repeat what you told them to make sure they understand
- Give instructions in writing and pictures. Written instructions for all medicines are a legal requirement

STEP 6 — Check before finishing

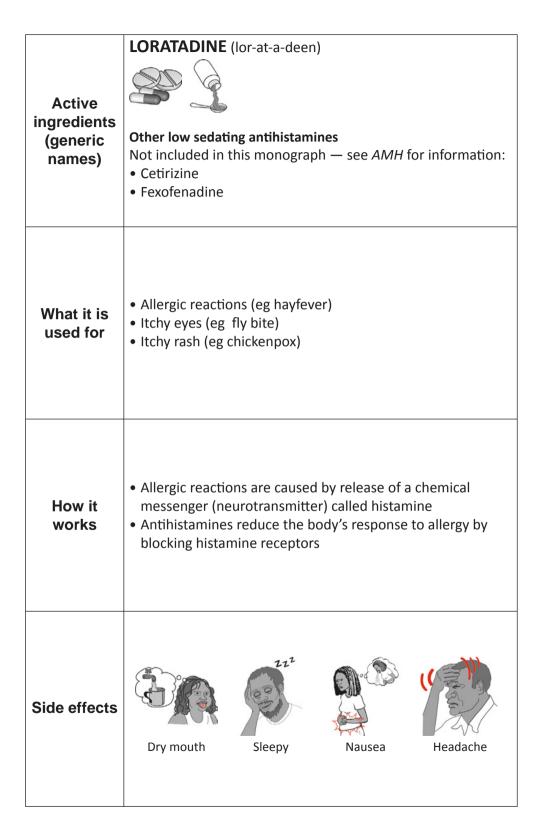
- Are tests needed (eg blood tests)
- Does person need to come back to clinic, when

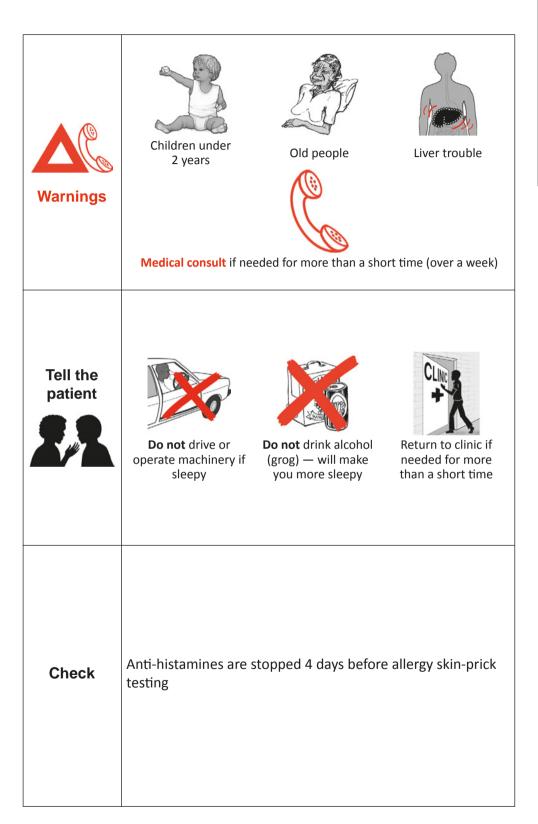
Medicine monographs — by classification

Allergy and anaphylaxis	28
Anaesthetics	34
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Antidotes and antivenoms	_44
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Eyes	184
Gastrointestinal (stomach, intestines)	
Genitourinary	
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Neurological	238
Obstetric and gynaecology (women's business)	252
Psychotropics (mental health)	270
Respiratory (lungs)	286
Vaccines	
Vitamins and minerals	300

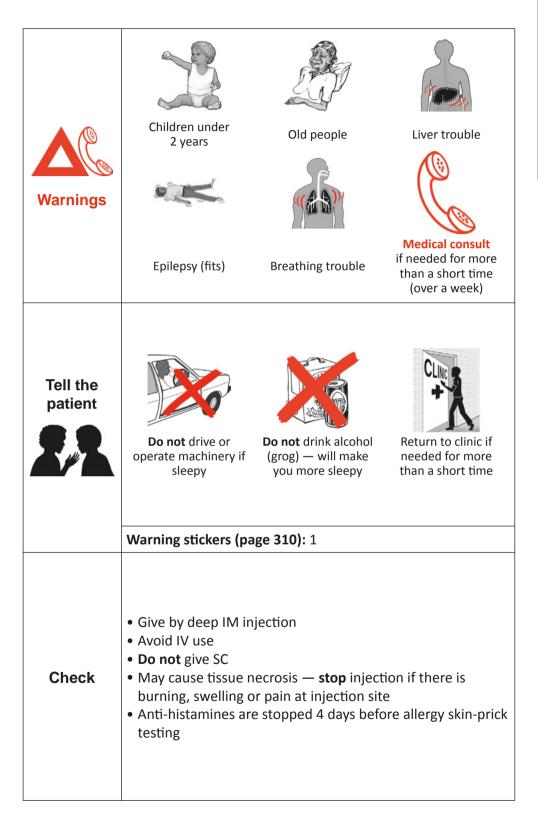
Active ingredients (generic names)	ADRENALINE (EPINEPHRINE) a-dren-a-lin [ep-in-ef- rin])
What it is used for	 Anaphylaxis — severe allergic reaction Cardiac arrest — when heart stops Shock
How it works	 The body makes its own adrenaline to deal with allergy and shock Extra adrenaline from outside the body (epinephrine) is sometimes needed quickly to stop anaphylaxis (severe allergic reaction), or to stimulate the heart
Side effects	Headache Tremor Dizzy

[
Warnings	Do not refrigerate. Keep in the dark and below 25°C – but not in fridge Urgent medical consult (may need another dose)	
Tell the patient	 Take adrenaline (epinephrine) self-injecting pen with you everywhere you go. On hot days, put in esky but not in fridge Be sure anyone who may need to give you adrenaline knows how and when to give it Another dose may be needed within 5 minutes Bring adrenaline (epinephrine) self-injecting pen back to clinic when it reaches its use-by/expiry date Go to clinic straight away after using self-injecting pen. You may need another injection 	
Check	 Note use-by/expiry date of adrenaline (epinephrine) self- injecting pen — make sure you will have stock to replace it 	



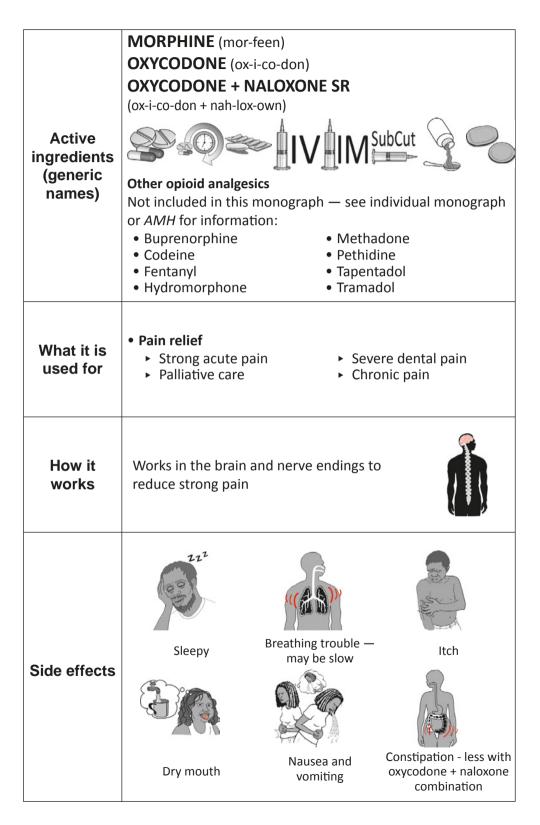


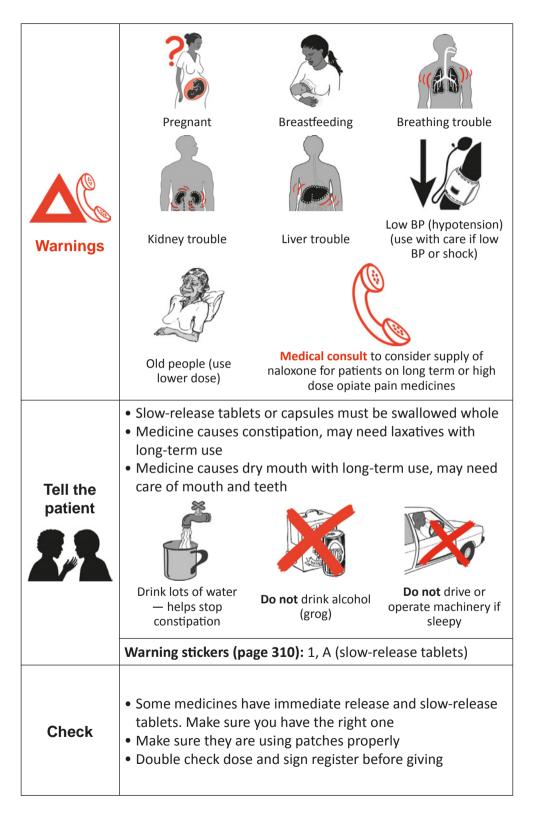
	PROMETHAZINE (pro-meth-a-zeen)	
	MIL 2 P	
Active ingredients (generic names)	Other sedating antihistamines Not included in this monograph — see AMH for information: • Alimemazine • Cyclizine • Cyproheptadine • Dexchlorpheniramine • Diphenhydramine • Doxylamine	
What it is used for	 Allergic reactions (eg hayfever, itch, rash) Itchy eyes (eg fly bite) Motion sickness (sea or car travel) Nausea and vomiting Sedation (eg penetrating eye injury) 	
How it works	 Allergic reactions are caused by release of a chemical messenger (neurotransmitter) called histamine Antihistamines reduce the body's response to allergy by blocking histamine receptors Promethazine also blocks other receptors to control nausea and prevent vomiting 	
Side effects	Sleepy Dizzy Dizzy Dizzy Dizzy Dizzy Dizzy Dizzy Dizzy Dizzy	
	Dry mouth Confusion Constipation	
	Neuroleptic malignancy syndrome — life threatening reaction presenting with mental status change, rigidity, fever, and increase heart rate, BP and breathing	



Active ingredients (generic names)	LIDOCAINE (LIGNOCAINE) (li-do-cane) LIDOCAINE (LIGNOCAINE) + ADRENALINE (EPINEPHRINE) (li-do-cane + a-dren-a-lin [ep-in-ef-rin]) LIDOCAINE (LIGNOCAINE) + PRILOCAINE (li-do-cane + pril-o-cane) SubCut SubCut Other local anaesthetics Not included in this monograph — see individual monograph or <i>AMH</i> for information: • Bupivacaine • Cocaine • Prilocaine • Levobupivacaine	
What it is used for	 Local anaesthetic for closing a wound Acute heart arrythmias Insect in ear Lessen pain of IM injections Stop bleeding + adrenaline (epinephrine) — head injury, nose bleed Stop pain from Bite or sting — stonefish, stingray Episiotomy — cutting, repairing Ulcers (gel) — genital herpes (<i>CARPA STM, WBM</i>), mouth ulcers Wound management — cleaning Note: Can use cream or gel on skin or in mouth but won't work as well as injection. 	
How it works	• Stops pain by blocking transfer of pain messages from skin to brain	
Side effects	Rash	

Warnings	 Allergic reaction to local anaesthetics (ask patient/carer) Do not use adrenaline (epinephrine) containing preparation in fingers, toes, nose, or ears — can cause ischaemic necrosis Medical consult if you need to give more than once
Tell the patient	 Injections may sting a little at first Apply patches to dry, non-irritated skin in the painful area If oral liquid or gel is used, avoid food and drink for 1 hour after application Rinse oral liquid or gel in the mouth
Check	 Lidocaine (lignocaine) + prilocaine applied as patch or cream Apply to intact and clean skin Cover cream with airtight (occlusive) dressing, leave on for 30 minutes before procedure Effect lasts up to 1–2 hours



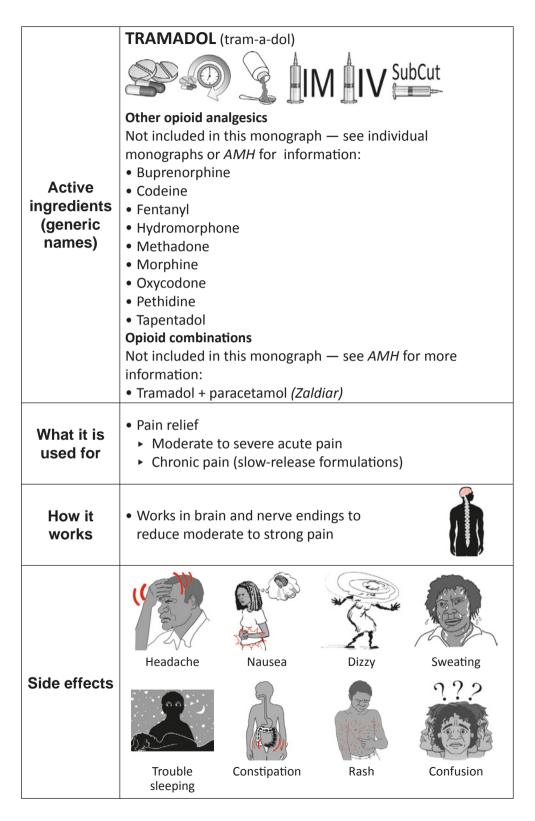


	PARACETAMOL (para-ceet-a-mol)	
Active ingredients (generic names)	 Paracetamol combinations not included in this monograph — see individual monograph for information: Paracetamol + codeine Paracetamol + ibuprofen Paracetamol is in lots of commonly available mixtures and tablets, alone or in combination. 	
What it is used for	 Mild to moderate pain relief Fever Chronic pain 	
How it works	 Reduces pain by blocking some pain pathways Lowers fever by reducing production of prostaglandins (hormone-like substances) Can be combined with stronger pain medicines (analgesics) — so less of the stronger pain medicine is needed 	
Side effects	Nausea and vomiting	

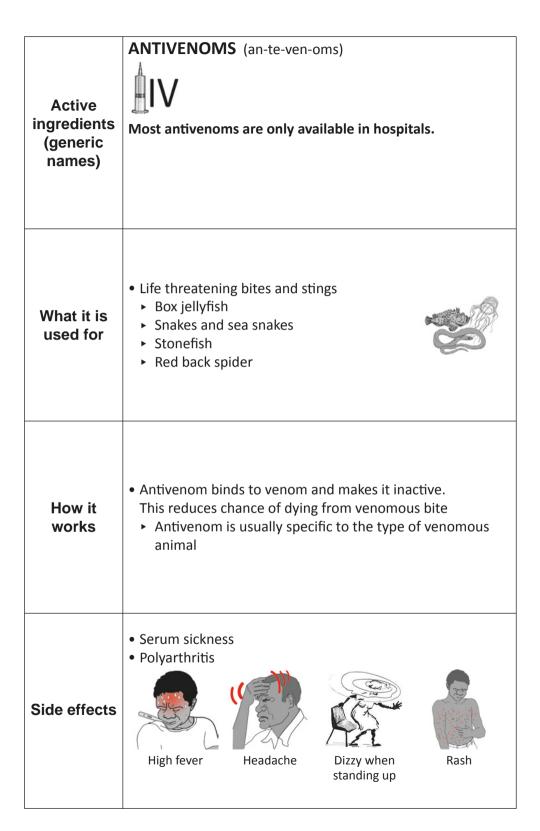
Warnings	 Do not give tablets closer together than 4 hours for regular tablets or 6 hours for slow release tablets (can cause liver damage) Medical consult if needed for more than a few days for adults or 48 hours for children Liver trouble Liver tr	
Tell the patient	 Make sure children are given correct dose Children's paracetamol comes in different strengths Use specially marked medicine cup or dropper Taking more than 6 slow-release or 8 regular tablets containing paracetamol in one day can damage your liver If taking paracetamol for pain or fever — make sure there is no paracetamol in other medicines you are taking (eg cold medicines, osteoarthritis medicines) Return to clinic if needed for more than a few days for adults or 48 hours for children OR you take too much 	
Check	 Children's paracetamol comes in different strengths — check the dose carefully Do person's other medicines contain paracetamol <i>OR</i> dosing aid contains paracetamol If also taking warfarin — monitor INR and decrease warfarin dose if needed 	

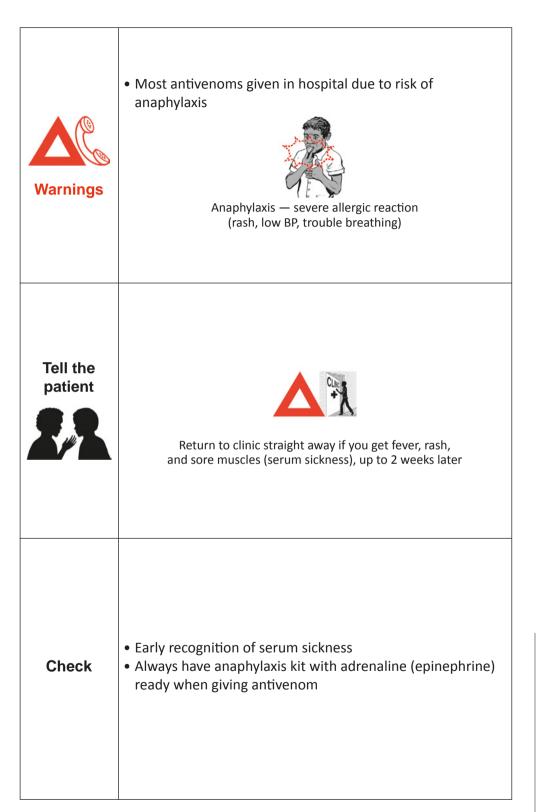
Active ingredients (generic names)	PARACETAMOL + CODEINE 30mg (para-ceet-a-mol + co-dean) PARACETAMOL + CODEINE 15mg PARACETAMOL + CODEINE 8mg
What it is used for	 Pain relief — moderate to strong acute pain May be in combination with other pain medicines
How it works	• 2 different medicines working together in brain and nerve endings to lessen pain
Side effects	Sleepy Sleepy Breathing trouble — may be slow

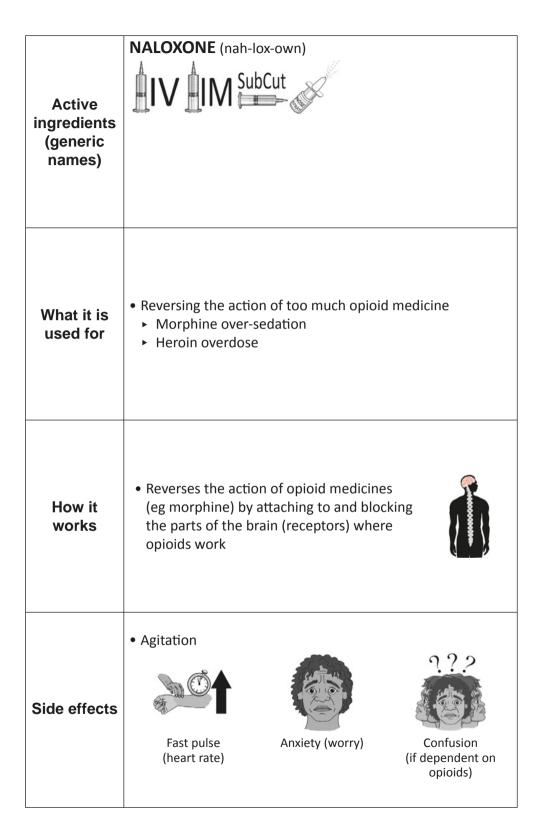
Warnings	Image: Search of the search
Tell the patient	 Taking more than 6 slow-release or 8 regular tablets containing paracetamol in one day can damage your liver If taking paracetamol-codeine for pain — make sure there is no paracetamol in other medicines you are taking (eg cold medicines, osteoarthritis medicines) Medicine causes constipation, may need laxatives with long term use Do not drive or operate machinery if sleepy
	Do not drink alcohol (grog) (medicine increases the effects) Return to clinic if needed for more than a short time Warning stickers (page 310): 1 (30mg codeine), 19a
Check	 Do the person's other medicines contain paracetamol Remember to sign the drug register If also taking warfarin — monitor INR and decrease warfarin dose if needed



		tool,	?	
	Epilepsy (fits)	Liver trouble	Pregnant	Kidney trouble
Warnings	Old people	Breath	ing trouble	Children under 12 years
	Interactions — TRAMADOL wit • Antidepressa • Carbamazepi • Ondansetron • Some opioids	:h nts ne	-	e)
	Slow-release	tablets must b	e swallowed	d whole
	 Medicine cau long-term use 		on, may nee	d laxatives with
Tell the patient				0
	Drink lots of wa — helps stop constipation		drink alcohol grog)	Do not drive or operate machinery if sleepy
	Warning sticke	rs (page 310):	1, 5, A (slov	v-release)
Check	right one • Remember to	o sign the drug varfarin — mo	register	check you have Id decrease warfarin

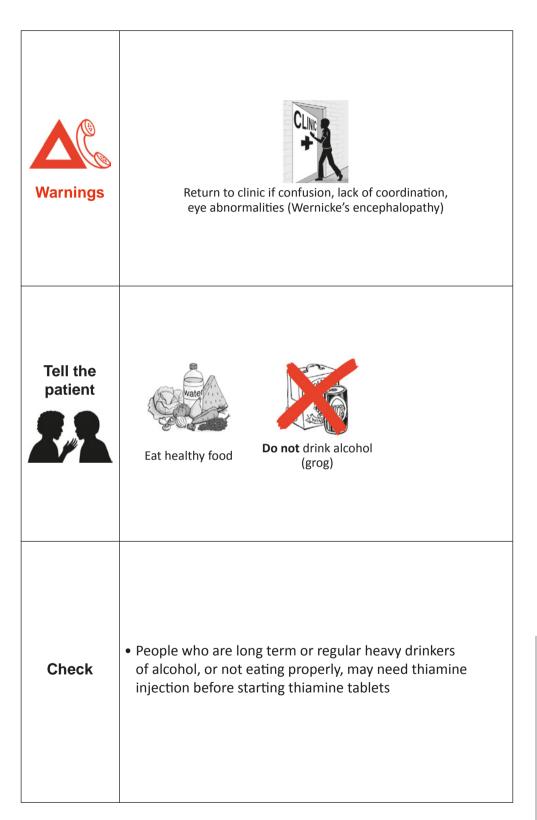


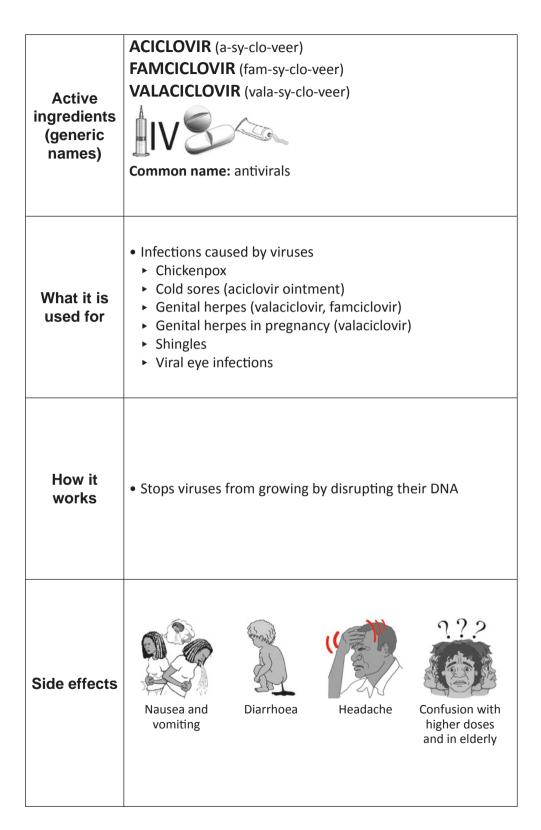




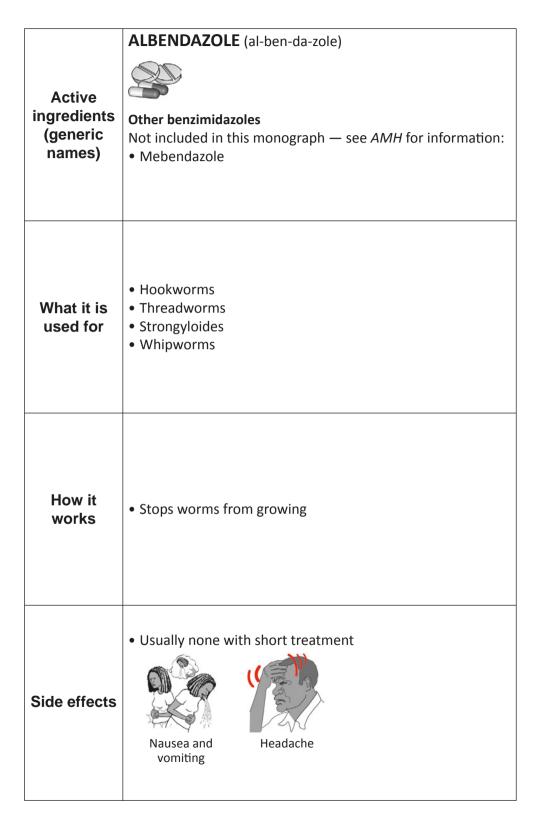
Warnings	 Need to repeat dose until person alert and responsive Long-acting medicines (eg methadone, or slow-release tablets) — may need longer observation period Wigent medical consult
Tell the patient	• May need more than 1 dose
Check	 Make sure oxygen and ventilation are available to support person until naloxone works Watch person for at least 2 hours — effects of opioid may return as naloxone wears off. May need to give another dose

Active ingredients (generic names)	THIAMINE (thigh-a-min)
What it is used for	 Low vitamin B1 comes from drinking too much alcohol, not eating enough breads or grainy foods, extended fasting or reduced absorption of nutrients from food Replacing lost thiamine Alcohol withdrawal Before glucose infusion Providing missing thiamine for people who don't get enough vitamin B in their diet — usually not eating enough bread, cereal or grains
How it works	 Low vitamin B1 can cause heart and brain problems Replaces lost or missing thiamine Thiamine is needed for Nervous system to work properly Body to use carbohydrates for energy
Side effects	 Usually no problems Allergic reactions can occur after an injection (rare)



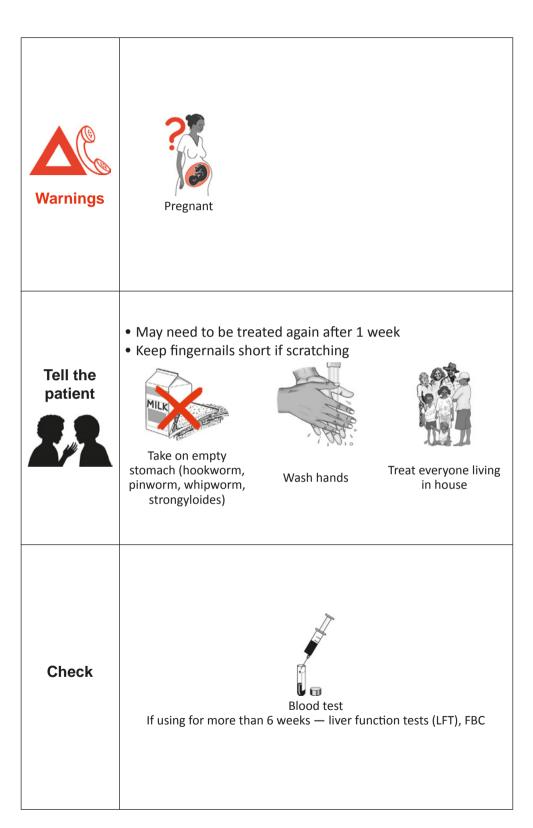


Warnings	 If breastfeeding — aciclovir or valaciclovir preferred to famciclovir Old people Kidney trouble Interactions — Do not use together without medical consult ACICLOVIR, FAMICLOVIR, or VALACICLOVIR with Mycophenolate 	
Tell the patient	 For herpes and shingles — medicine works best if taken as soon as rash appears (within first 3 days) For prevention of herpes — take medicine every day to stop symptoms coming back Take with large glass of water Take with large glass of water Finish medicine — even if you feel better Take all the medicine — makes sure all the virus is gone and the infection doesn't come back 	
Check	 Follow-up when treatment finished to make sure infection is gone. If not — medical consult 	



orm medicine:

nti-infectives



Active ingredients (generic names)	AZITHROMYCIN (a-zith-row-my-sin) ROXITHROMYCIN (rox-ith-row-my-sin)
What it is used for	• Used to treat infections, eg STIs, sore throat and trachoma
How it works	 Antibiotic that stops bacteria cell from making proteins, so it can't grow Different germs need different antibiotics. If not sure which one to use — check with doctor
Side effects	Nausea and vomiting Diarrhoea Abdominal pain

Warfarin Warfarin	
Warfarin	
 Take all the medicine — makes sure all the germs are gone and the infection doesn't come back Take on empty stomach (roxithromycin) Finish medicine — even if you feel better Warning stickers (page 310): Azithromycin medicine mixture 7a Roxithromycin 3b 	
 Follow-up when antibiotic treatment finished to make sure infection is gone. If not — medical consult Making mixture (azithromycin) Make sure right amount of clean water added to dry powder to reconstitute 	

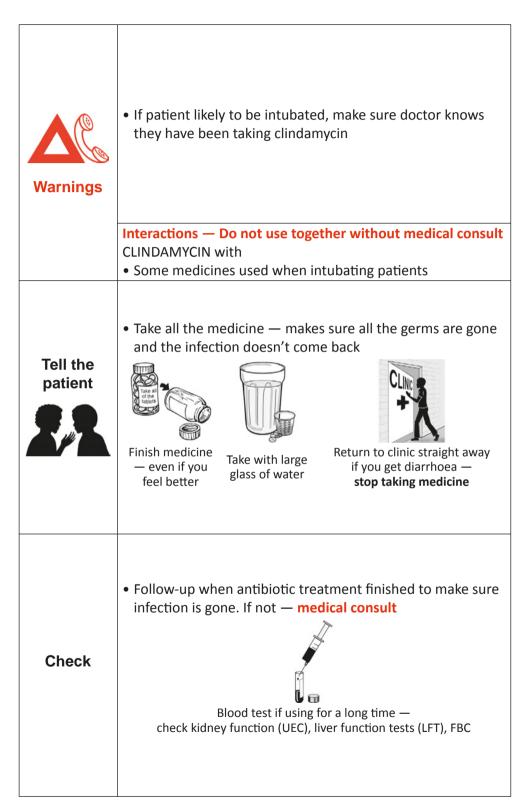
	CEFALEXIN (sef-a-lex-in)		
	CEFAZOLIN (ce-faz-o-lin)		
	CEFTAZIDIME (cef-ta-zi-din)		
	CEFTRIAXONE (cef-tri-ax-own)		
Active	CEFUROXIME (cef-uro-xim)		
ingredients (generic names)			
	Other cephalosporins		
	Not included in this monograph — see <i>AMH</i> for information:		
	Cefepime Ceftaroline		
	Cefotaxime Ceftolozane Cefoxitin		
What it is used for	 Lots of infections — gonorrhoea, kidney infections, mastitis, melioidosis, meningitis, pneumonia, septicaemia, skin and soft tissue infections, urinary tract infection (UTIs) Sepsis (ceftriaxone) Chronic suppurative lung disease (CSLD) in children — if acute episode (cefuroxime) 		
How it works	 Antibiotic that stops bacteria's cell wall from growing Different germs need different antibiotics. If not sure which one to use — check with doctor 		
Side effects	 Serum sickness-like reaction — rash, swollen glands, sore joints Anaphylaxis rare — but consider if trouble breathing Diarrhoea Nausea Rash Anaphylaxis — severe allergic reaction 		

• Person who is allergic to penicillin may also be allergic to cephalosporins	
 Take all the medicine — makes sure all the germs are gone and the infection doesn't come back A state of the infection doesn't come back Return to clinic straight away if you get rash, swollen glands, sore joints (serum sickness-like reaction) Store in fridge (not freezer) — if you don't the use-by/expiry date will be sooner and it won't work as well Finish medicine — even if you feel better Warning stickers (page 310): Cefaclor A, B Medicine mixture (cefalexin) 6, 7a 	
 Always have anaphylaxis kit with adrenaline (epinephrine) ready when giving ceftriaxone or cefazolin injections Follow-up when antibiotic finished to make sure infection is gone. If not — medical consult Making mixture Make sure right amount of clean water added to dry powder 	

	CIPROFLOXACIN (sip-row-flox-a-sin)	
Active ingredients (generic names)	Other quinolones Not included in this monograph — see AMH for information: • Moxifloxacin • Norfloxacin	
What it is used for	 Bronchiectasis in adults — acute episode because of <i>Pseudomonas</i> infection Bites Water-related skin infections Injuries - limbs Serious infections — sepsis 	
How it works	 Antibiotic that stops bacteria from making DNA. DNA is important for bacteria's growth Different germs need different antibiotics. If not sure which one to use — check with doctor 	
Side effects	 Skin more sensitive to the sun Tendon damage (rare) Rash Nausea and vomiting Abdominal pain Diarrhoea Dizzy 	

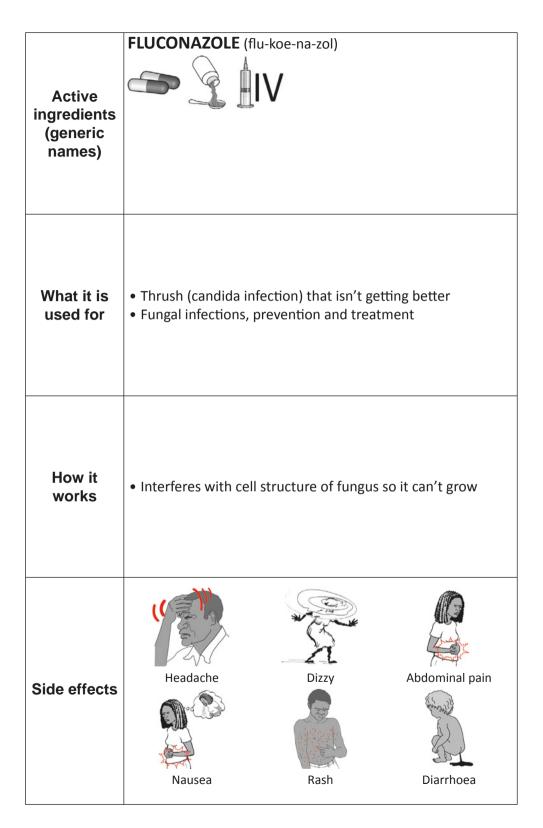
	Caution in people	who are taking or ha	ve just finished
	taking steroid med	licines	-
	?		
	Pregnant	Breastfeeding	Children
Warnings		the state	
	Kidney trouble	Liver trouble	Epilepsy (fits)
	Quinolones interaction	ot use together with ct with a lot of differe doctor or pharmacist	ent medicines —
	 Stop taking these tablets if you get sore tendons or joints Take all the medicine — makes sure all the germs are gone and the infection doesn't come back 		
Tell the patient	MILK	0	
	Take on empty stomach	Do not drive or operate machinery if dizzy or faint	Drink lots of water
	Keep out of the sun	Finish medicine — even if you feel better	Do not drink alcohol (grog)
	Warning stickers (pa	age 310): 3b, 4, 8, 12	
Check		ntibiotic treatment fi f not — <mark>medical cons</mark>	

Active ingredients (generic names)	CLINDAMYCIN (clin-da-my-sin) Contempositive Other lincosamides Not included in this monograph — see AMH for information: • Lincomycin
What it is used for	 Dental and oral problems Cellulitis Injuries - soft tissue Mastitis and breast abscess Premature rupture of membranes Bites Injuries - head Injuries - spear and knife (stab) wounds
How it works	 Antibiotic that stops the bacteria cell from making proteins so it can't grow Different germs need different antibiotics. If not sure which one to use — check with doctor
Side effects	Diarrhoea Nausea and vomiting Abdominal pain Rash Itch



	DOXYCYCLINE (dox-i-si-cleen)
Active ingredients (generic names)	Other tetracyclines Not included in this monograph — see AMH for more information. • Minocycline • Tetracycline
What it is used for	 Chronic lung disease — getting worse (exacerbation) Bronchiectasis in adults COPD Chlamydia Vulval problems Discharge from penis Infected testes Pelvic inflammatory disease (PID) Dental trauma Acne (pimples) Malaria prevention (prophylaxis) Leptospirosis (Weil's/canecutter's disease)
How it works	 Antibiotic that stops bacteria cell from making proteins so it can't grow Different germs need different antibiotics. If not sure which one to use — check with doctor
Side effects	 Heartburn Discoloured teeth (long term use) when used in kids and in pregnancy Increased skin sensitivity to the sun Nausea and vomiting Diarrhoea

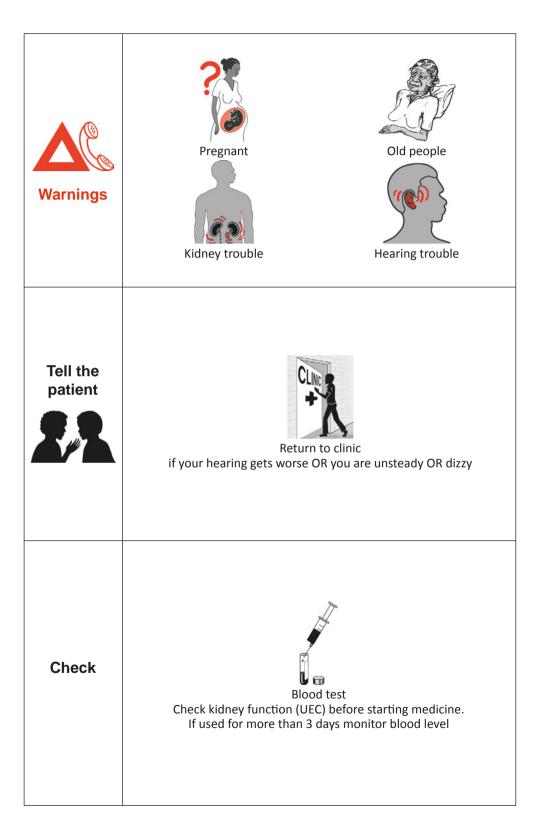
]
Warnings	Pregnant (if need that Interactions — Do not use to • Tetracyclines interact with	Astfeeding ded for more n 1 week) Children under 8 years Ogether without medical consult a lot of different medicines — or pharmacist before adding
Tell the patient	If the tablets stick in your t	Take with large glass of water Keep out of the sun
Check	 Follow-up when antibiotic infection is gone. If not — 	treatment finished to make sure <mark>medical consult</mark>

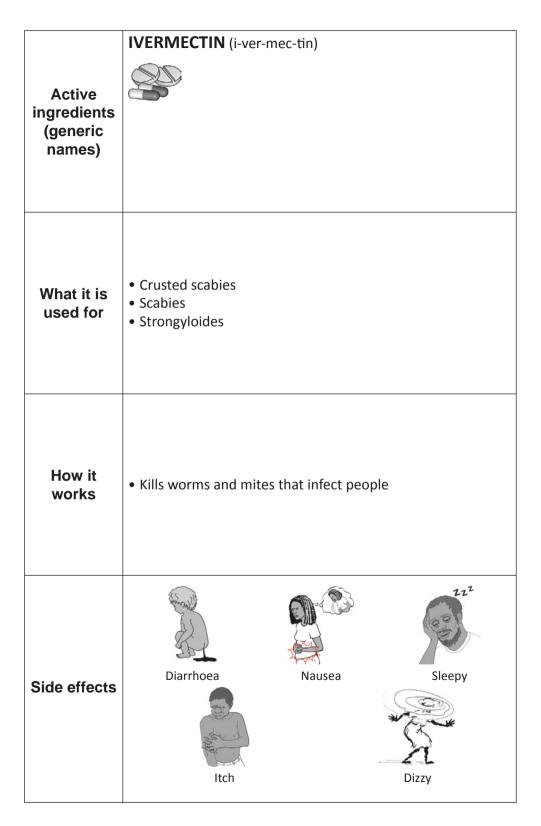


Anti-infectives (antibiotics, worm medicines)

Warnings	Pregnant Kidney trouble Interactions — Do not use together without medical consult • Fluconazole interacts with a lot of different medicines — always check with doctor or pharmacist before adding another medicine
	• Take all the medicine — makes sure all the germs are gone and the infection doesn't come back
Tell the patient	Take with large glass of water Finish medicine — even if you feel better
22	
	Return to clinic straight away if you are unusually tired, nauseous, or not eating OR dark urine, pale faeces, yellowing of skin or the whites of the eyes
	Warning stickers (page 310): 5
	 Follow-up when treatment finished to make sure infection is gone. If not — medical consult
Check	
	Making mixtureMake sure rightBlood test if using for a long timeamount of cleanLiver function tests (LFT), potassium levelwater added to drybefore starting, then every 1-3 monthspowder

Active ingredients (generic names)	GENTAMICIN (gen-ta-my-sin) Other aminoglycosides Not included in this monograph — see AMH for information: • Amikacin • Tobramycin
What it is used for	 Given to people with serious infection before being sent to hospital Serious infections (in hospital)
How it works	 Antibiotic that stops bacteria cell from making proteins so it can't grow Different germs need different antibiotics. If not sure which antibiotic to use — check with doctor
Side effects	Kidney trouble - if used for more than 1 weekEar damage - if used for more than 1 weekRinging in earsCan affect balance



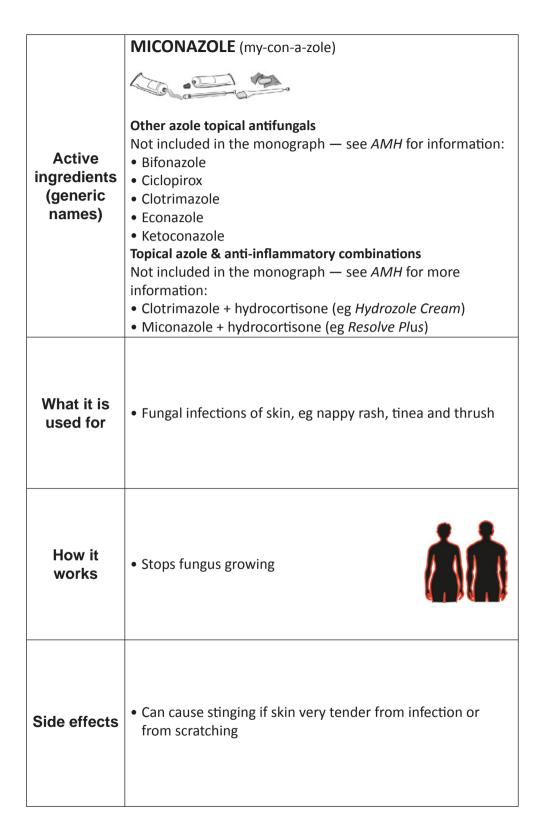


Warnings	Pregnant Children under 5 years or less than 15kg
Tell the patient	 May need to treat again after 1–2 weeks How to prevent scabies and/or strongyloides infections For crusted scabies Use skin cream like Lyclear at same time Treat other family members for scabies to prevent reinfection
Check	For strongyloidasis — do faeces test to see if treatment worked

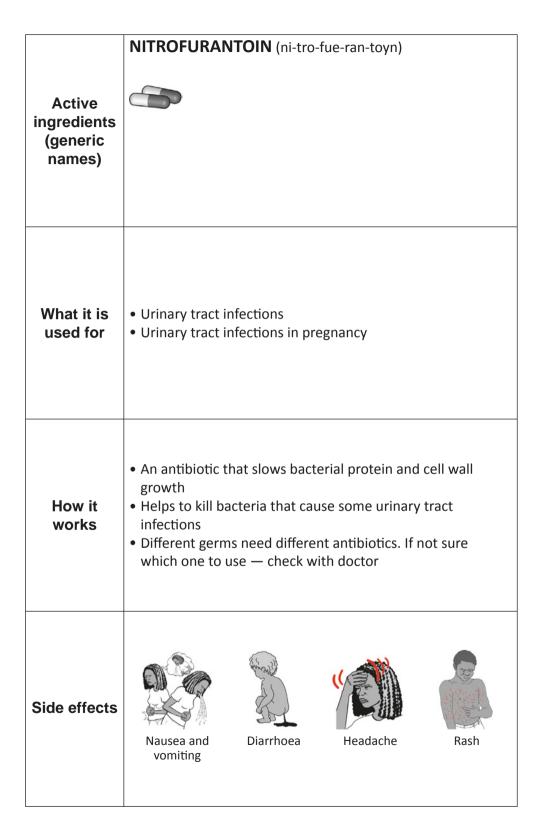
Medicines

Active ingredients (generic names)	METRONIDAZOLE (me-tro-ni-da-zole)
What it is used for	• Infections, eg giardia, dental, skin and STIs
How it works	 An antibiotic that stops bacteria from making DNA. DNA is important for the bacteria's growth Different germs need different antibiotics. If not sure which one to use — check with doctor
Side effects	 Metallic taste in mouth Vaginal thrush (candida) Nausea and vomiting Abdominal pain

Warnings	Liver trouble Interactions — Do not use together without medical consult METRONIDAZOLE with		
	 Alcohol Mycophenolate	PhenytoinWarfarin	
Tell the patient	 Mycophenolate Warfarin If you get a metallic taste in your mouth that bothers you suck on some lollies (if you don't have diabetes) Take all the medicine — makes sure all the germs are gone and the infection doesn't come back Take all the medicine — makes sure all the germs are gone back Take with food or milk — so medicine doesn't make you feel sick Take with food or milk — so medicine doesn't make you feel sick Take with food or milk — so medicine doesn't make you feel sick Take with food or milk — so medicine doesn't make you feel sick Take with food or milk — so medicine doesn't make you feel sick Take with food or milk — so medicine doesn't make you feel sick Take with food or milk — so medicine doesn't make you feel sick Take with food or milk — so medicine doesn't make you feel sick Take with food or milk — so medicine — even if you feel better Take you feel sick Take you feel better Too not drive or operate machinery if dizzy or faint Warning stickers (page 310): Metronidazole tablets 2, 5, B 		
Check	 Follow-up when antibiotic tr infection is gone. If not — m 	eatment finished to make sure <mark>edical consult</mark>	



Warnings	 Some combination antifungals can make a rash worse May need antifungal tablets Medical consult if needed for more than a short time OR if lots of fungal infections — may be other problems
Tell the patient	 Use vaginal treatments at bedtime Use a soothing cream or ice to relieve itch between antifungal cream applications Can take a few weeks to treat skin infections — need to use regularly for benefit Keep using antifungal cream for 2 weeks after all signs of infection gone to stop it coming back Do not scratch, even if itchy Warning stickers (page 310): E
Check	 Has patient been taking antibiotics — may cause vaginal thrush

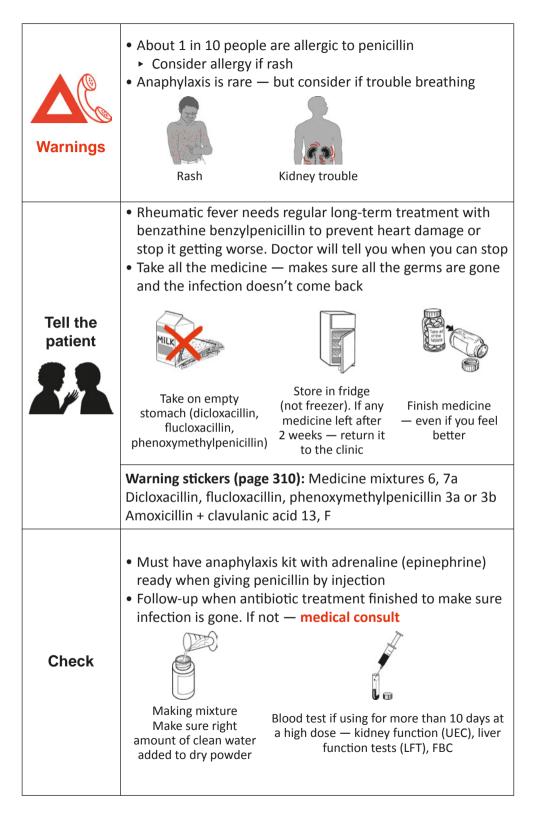


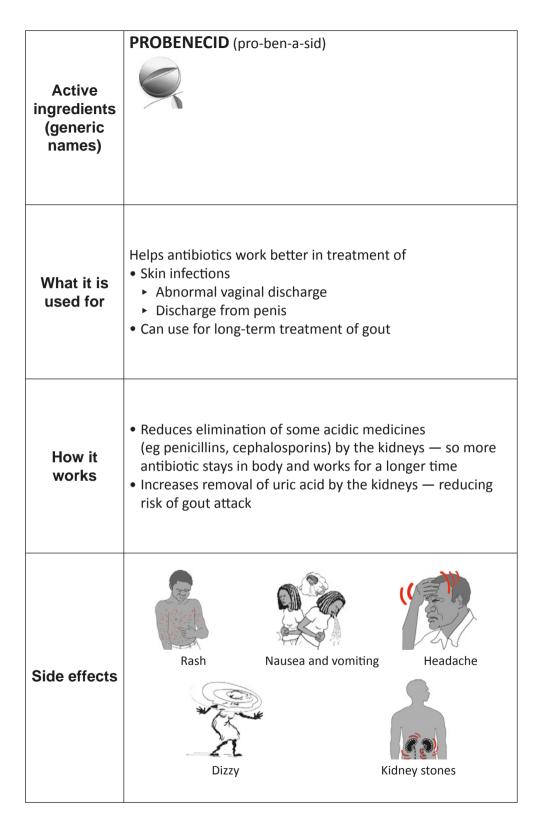
[
Warnings	Pregnant – late term Image: Second secon
Tell the patient	 Urine may turn a brownish colour Take all the medicine — makes sure all the germs are gone and the infection doesn't come back Image the medicine with glass of water Take medicine with food Take medicine with food Do not drive or operate machinery if sleepy or dizzy Image the medicine with food Image th
	Warning stickers (page 310): 12, B
Check	 Follow-up when antibiotic treatment finished to make sure infection is gone. If not — medical consult Blood test if using for a long time — kidney function (UEC), liver function tests (LFT)

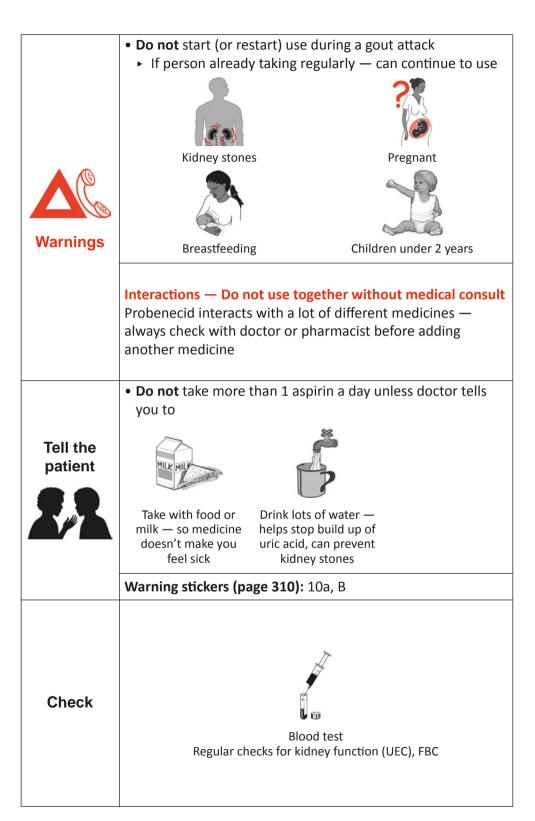
Active ingredients (generic names)	NYSTATIN (ny-stat-in)
What it is used for	• Fungal infections — thrush in mouth of babies or adults
How it works	• Acts on fungus in the mouth to stop it growing
Side effects	• Usually no side effects

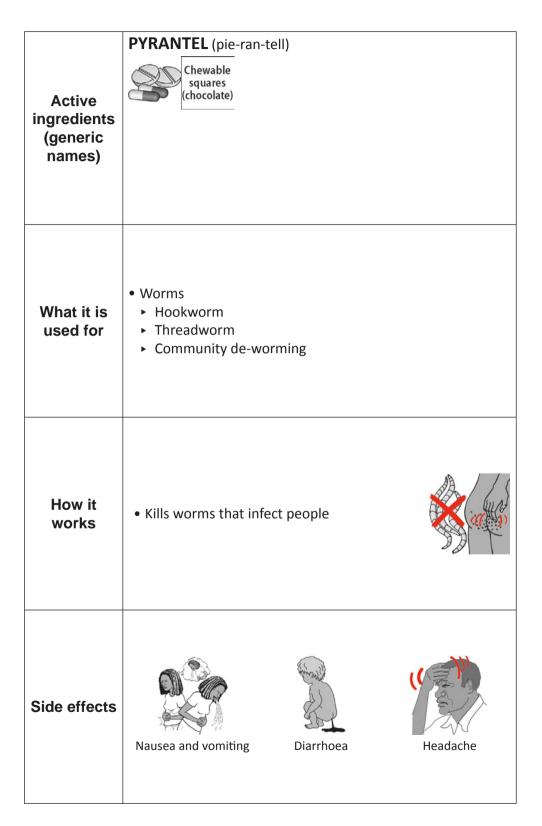
Warnings	 If mother breastfeeding — may need to treat mother's nipple area as well as baby's mouth Wedical consult if needed for more than a short time OR if lots of fungal infections — may be other problems
Tell the patient	 Do not eat or drink for at least an hour after applying medicine Keep using drops for 2 days after infection has cleared up Keep using gel for a week after infection has cleared up Return to clinic if needed for more than a short time Warning stickers (page 310): Skin E
Check	

	AMOXICILLIN (am-ox-i-sil-in)		
	AMPICILLIN (am-pi-sil-in)		
	BENZATHINE BENZYLPENICILLIN		
	(benz-a-thine benz-el-pen-i-sil-in gee)		
	BENZYLPENICILLIN (benz-el-pen-i-sil-in)		
	DICLOXACILLIN (di-clox-a-sil-in)		
	FLUCLOXACILLIN (flu-clox-a-sil-in)		
Active	PHENOXYMETHYLPENICILLIN (fen-oxi-methal-pen-i-sil-in)		
ingredients (generic	PROCAINE BENZYLPENICILLIN (procaine		
names)	penicillin) (pro-cane benz-el-pen-i-sil-in)		
,	AMOXICILLIN + CLAVULANIC ACID		
	(am-ox-i-sil-in klav-u-lan-ic a-sid)		
	Other penicillin combinations		
	Not included in this monograph — see AMH for information:		
	• Piperacillin + tazobactam (eg PiperTaz, Piptaz, Tazocin EF)		
What it is used for	 Different types of bacterial infections 		
	• Kills bacteria sensitive to penicillin — stops cell wall from		
How it works	growingDifferent germs need different antibiotics. If not sure		
WUIKS	which one to use — check with doctor		
	• Pain at injection site with benzathine benzylpenicillin		
Side effects			
	Diarrhoea Nausea Rash Anaphylaxis — severe allergic		
	reaction		

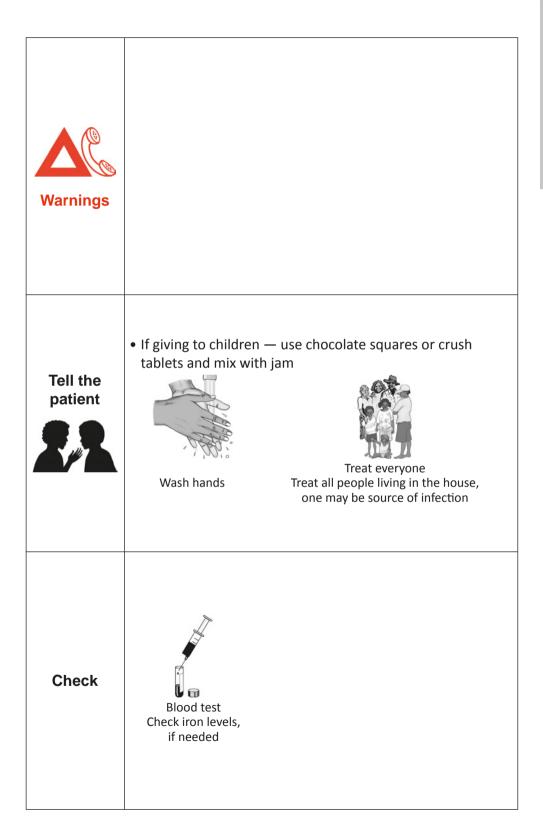




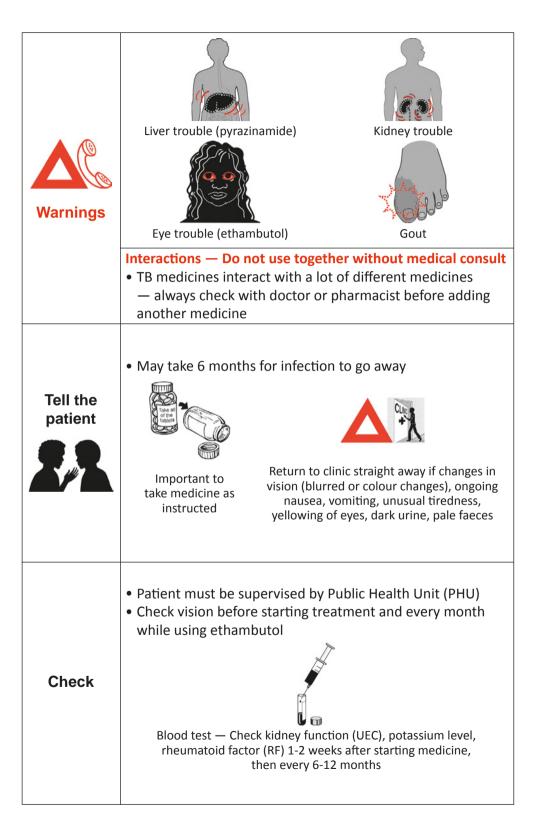




orm medicine:

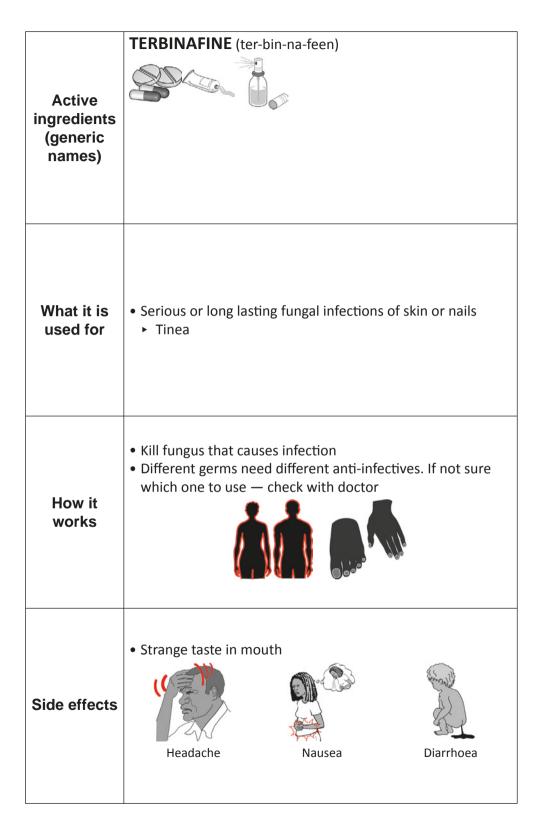


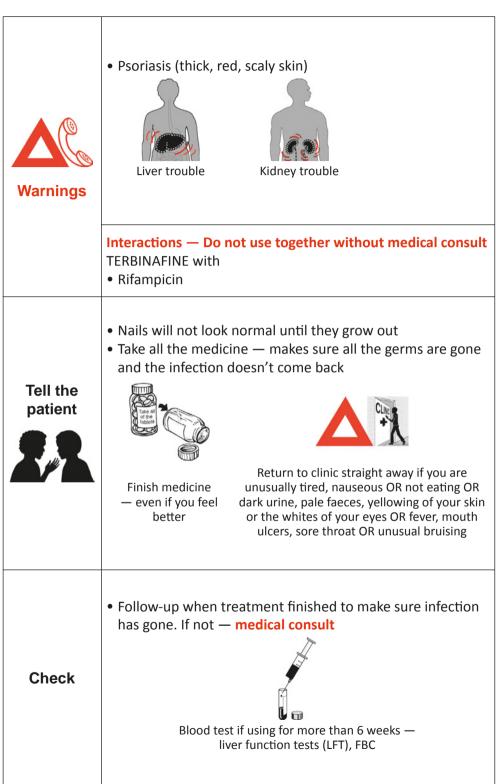
Active ingredients (generic names)	 ETHAMBUTOL (eth-am-bu-tol) PYRAZINAMIDE (peer-a-zin-a-mide) Only available through special access scheme (SAS) Standard short-course tuberculosis therapy — used in combination with standard long-course medicines for at least 2 months
What it is used for	• Tuberculosis (TB) treatment or prevention
How it works	• Kills or slows growth of bacteria that cause TB
Side effects	• Sore joints (pyrazinamide) Nausea and vomiting Eye trouble (ethambutol) • Sore joints (pyrazinamide) • Sore joints (pyr

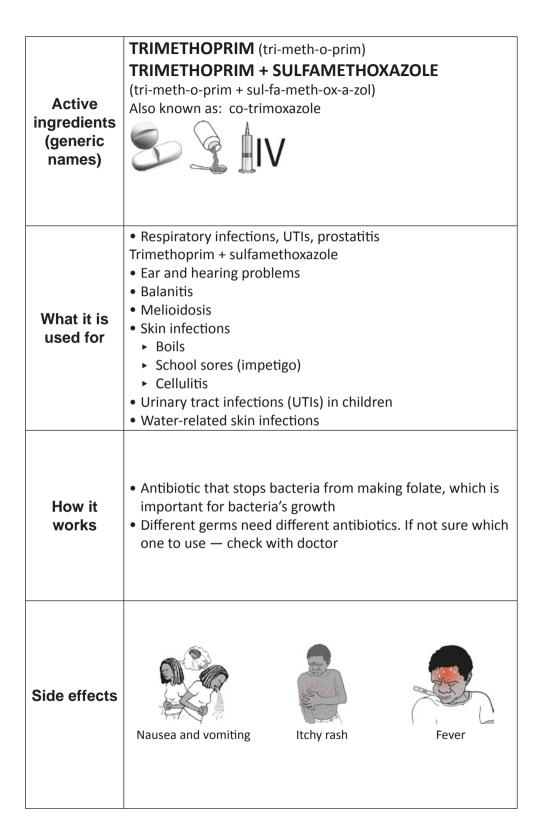


	ISONIAZID (iso-ni-a-zid) RIFAMPICIN (rif-amp-i-cin)		
Active ingredients (generic names)	Standard long-course TB therapy — used with short course TB medicines for at least 2 months, then just these 2 long course medicines for at least 6 months		
What it is used for	• Tuberculosis (TB) treatment or prevention		
How it works	• Kills or slows growth of bacteria that cause TB		
Side effects	 Red coloured urine and body secretions (eg sweat, tears) (rifampicin) Flu-like symptoms — sore bones/muscles Nerve (neuropathic) pain in legs and arms (isoniazid) Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk Taking vitamin B6 (pyridoxine) at same time reduces risk <li< th=""></li<>		

[Γ			
Warnings	Liver trouble Interactions — D TB medicines inter — always check wa another medicine	eract with a lot o with doctor or ph	id) her withou f different	
Tell the patient	nerve pain in le • Take medicine i • May take 6 moi • Red urine and k	egs and arms regularly so you onths for infectior	don't get fl a to go awa aren't dang Return to if nausea, y changes i rash gets w	y
	Warning stickers (page 310): Isoniazid 3b Rifampicin 3b, 5			
Check	 Patient must be supervised by Public Health Unit (PHU) Is person taking vitamin B6 (pyridoxine) with isoniazide Blood test — Check liver function tests (LFT), creatinine, FBC, thyroid function (rifampicin) before starting treatment, then LFT every 1–3 months 			

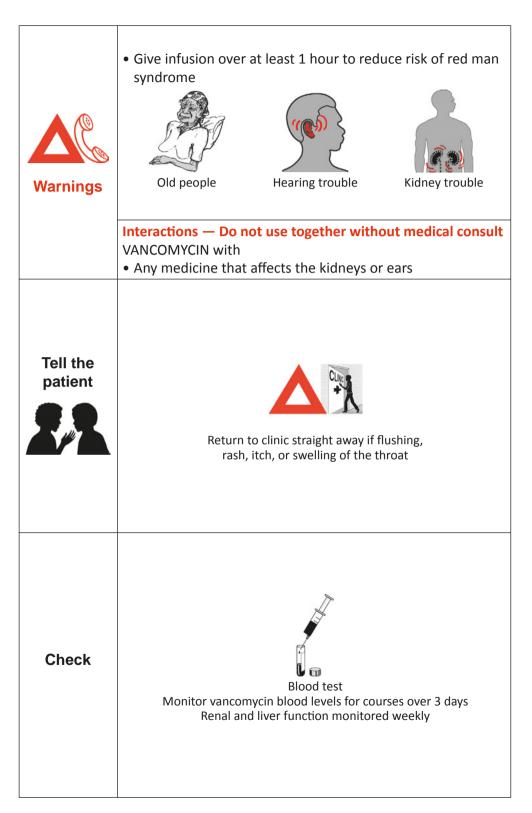






Fell the patient Image: Construction of the series of		1		
Warnings Interactions Do not use together without medical consult TRIMETHOPRIM with TRIMETHOPRIM + • Methotrexate • SULFAMETHOXAZOLE with • Phenytoin • Methotrexate • Phenytoin • Warfarin • Take all the medicine — makes sure all the germs are gone and the infection doesn't come back Image: Comparison of the infection infection is gone of the infection infection infection is gone. If not - medical consult Image: Comparison of the infection is gone. If not - medical		Pregnant		Kidney trouble
Tell the patient Take at night (trimethoprim + sulfamethoxazole) Take at night (trimethoprim + sulfamethoxazole) Interactions - Do not use together without medical consult Tell the patient • Phenytoin • Methotrexate • Phenytoin • Warfarin • Methotrexate • Phenytoin • Warfarin • Take all the medicine - makes sure all the germs are gone and the infection doesn't come back • Warfarin • Warfarin • • • • • • • • • • • • • • • • • • •		Old people	Liver trouble (severe)	
Tell the patient • Take all the medicine — makes sure all the germs are gone and the infection doesn't come back Tell the patient Image: Comparison of the sum (trimethoprim + sulfamethoxazole) Image: Comparison of the sum (trimethoprim + sulfamethoxazole & sum (trimethoprim + sum (trime	warnings	TRIMETHOPRIM with Methotrexate 	TRIMETHOPRI SULFAMETHO • Methotrexa • Phenytoin	M + XAZOLE with
Tell the patientand the infection doesn't come backTell the patientTake at night (trimethoprim)Take with food (trimethoprim + sulfamethoxazole)Keep out of the sun (trimethoprim + sulfamethoxazole)Finish medicine - even if you feel betterDrink lots of waterDrink lots of waterReturn to clinic straight away if you get a sore throat, 		- Take all the medicine		the gamme are game
Follow-up when antibiotic treatment finished to make sure infection is gone. If not — medical consult		and the infection does and the infection does Take at night (trimethoprim) Take with (trimetho sulfametho Drink lots of water Warning stickers (page	sn't come back	of the sun oprim + noxazole)
FBC, kidney function (UEC), liver function tests (LFT), folate levels regularly	Check	 Follow-up when antib infection is gone. If no Blood test if taking trimeth 	oprim + sulfamethox	sult azole for a long time —

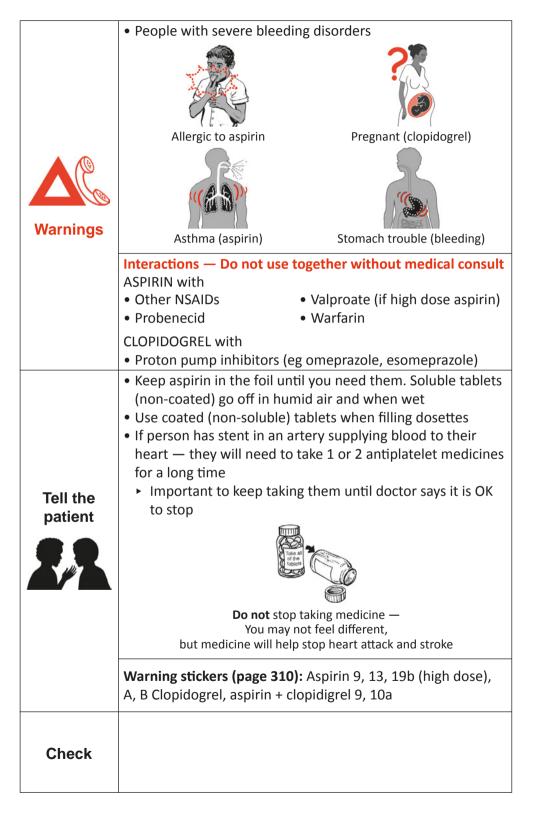
	VANCOMYCIN (van-co-my-sin)
Active ingredients (generic names)	Other glycopeptides Not included in this monograph — see AMH for information: • Teicoplanin
What it is used for	 Prevention of endocarditis during dental and surgical procedures for people with heart problems, if allergic to penicillin Serious infections in people allergic to penicillin or cephalosporins Sepsis Serious infections resistant to other antibiotics (see MRSA in Glossary)
How it works	 Antibiotic that stops bacteria cell from making proteins, so it can't grow Different germs need different antibiotics. If not sure which antibiotic to use — check with doctor
Side effects	 Flushing, rash, itch, swelling of throat (red man syndrome) rare Itch Kidney trouble

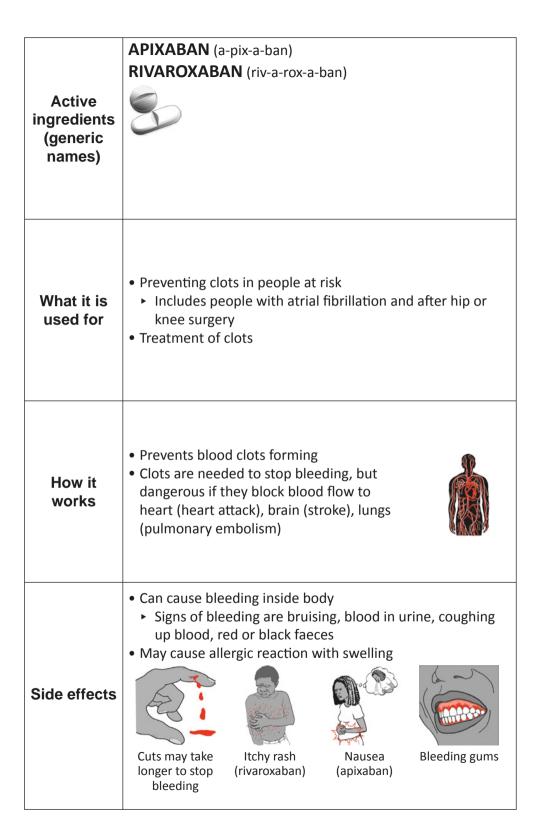


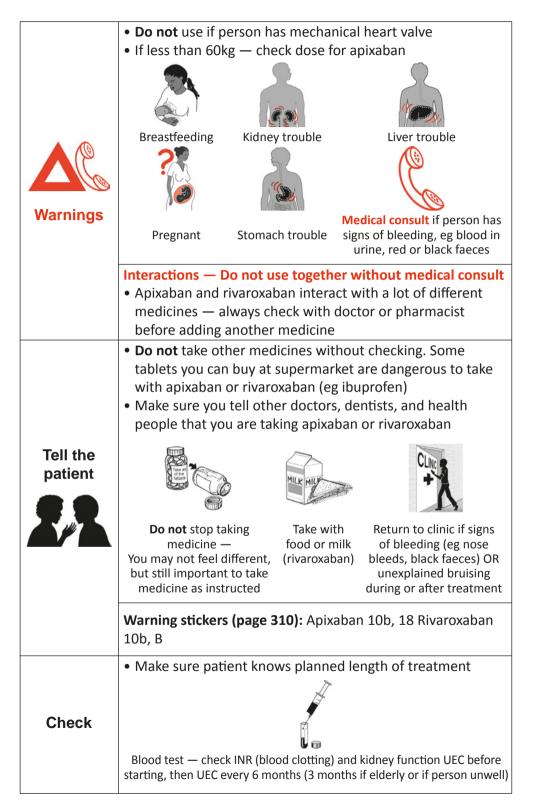
Active ingredients (generic names)	NIRMATRELVIR + RITONAVIR (ner-mah-trell-veer + ree-toe-nah-veer) Other antivirals for COVID-19 : Not included in this monograph — see AMH for information: • Molnupiravir • Sotrovimab
What it is used for	• Treatment of COVID-19
How it works	 Stops the virus that causes COVID-19 from making copies of itself and spreading throughout your body
Side Effects	Vomiting Diarrhoea Headache Kidney trouble

Warnings	Pregnant Image: Construction of the second seco	
Tell Patient	 Works best if taken soon after symptoms appear Take one of each type of tablet, swallow whole Image: Comparison of the symptom of tables, so the symptom of table	
Check		

Active ingredients (generic names)	ASPIRIN (as-pi-rin) CLOPIDOGREL (clo-pid-o-grel) ASPIRIN + CLOPIDOGREL (as-pi-rin + clo-pid-o-grel) See NSAIDs for using aspirin for pain relief (page 234) Other antiplatelet medicines Not included in this monograph — see AMH for information: • Dipyridamole • Prasugrel • Ticagrelor Antiplatelet combinations Not included in this monograph — see AMH for information: • Aspirin + dipyridamole
What it is used for	 Chest pain — initial management (aspirin) Coronary artery disease Reducing cardiovascular risk Thinning blood after heart surgery or after stent inserted (aspirin + clopidogrel)
How it works	 Prevents blood clots forming Clots are needed to stop bleeding, but dangerous if they block blood flow to heart (heart attack), brain (stroke), lungs (pulmonary embolism)
Side effects	 Stroke from bleeding in the brain — rare Cuts may take longer to stop bleeding







	DABIGATRAN (Da-big-a-tran)
Active ingredients (generic names)	
What it is used for	 Preventing blood clots in people at risk Includes people with atrial fibrillation and after hip or knee surgery
How it works	 Prevents blood clots forming Clots are needed to stop bleeding, but dangerous if they block blood flow to heart (heart attack), brain (stroke), lungs (pulmonary embolism)
Side effects	 Can cause bleeding inside the body Signs of bleeding are bruising, blood in urine, coughing up blood, red or black faeces Cuts may take longer to stop bleeding

	• Do not use if po	erson has me	chanical heart	valve
Warnings	Pregnant Pregnant Breastfeeding Interactions — D • Dabigatran inter always check w	Old people Old people Liver trouble	Kidney trouble Kidney trouble Stomach trouble	Medical consult if person has signs of bleeding, eg blood in urine, red or black faeces medical consult medicines —
	 another medici Do not use with (eg enoxaparin) 	h any low mol	lecular weight	heparin
Tell the patient	 Swallow capsul crush pellets Do not pack int Do not take oth tablets you can with dabigatrar Make sure you people that you Take with food of take with large glas Warning stickers (es whole. Do to dose aids – her medicines buy at super tell other doc u are taking da or milk Do tr d stil tak s of water page 310): 10k	- keep tablets without check market are dan n) stors, dentists, abigatran without stop taking edicine — you nay not feel ifferent, but l important to e medicine as instructed b, 13, A – bottle	in foil or bottle king. Some ngerous to take and health
Check		eck INR (blood or re starting, the	clotting) and kidr	ney function UEC onths (3 months if

Active ingredients (generic names)	DARBEPOETIN ALPHA (dar-be-po-e-tin) SubCut Other erythropoietin agonists Not included in this monograph — see AMH for information:. • Epoetin • Epoetin beta • Methoxy pegepoetin beta	
What it is	 Anaemia (lack of red blood cells) caused by kidney failure	
used for	and chemotherapy	
How it	 Replaces the hormone that helps bone marrow make more	
works	red blood cells	
Side effects	 Flu symptoms Bone pain High BP Headache 	

Warnings	Image: Non-StateImage: Non-StateImage: Non-StateBreastfeedingPregnantHeart trouble	
Tell the patient	 If patient self injecting — tell them to hold syringe or preloaded injector in their hand for a few minutes to warm it — it will hurt less If not kept in fridge — use-by/expiry date will be sooner and it won't work as well If not fridge (not freezer) 	
Check	Warning stickers (page 310): 6 Working stickers (page 310): 6 Blood pressure Blood test Check haemoglobin levels Check iron, vitamin B12, folic acid levels	

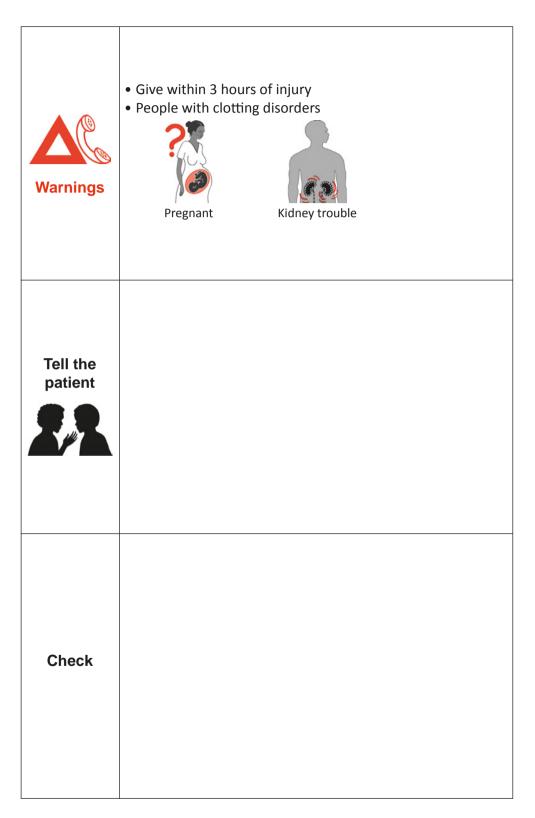
	ENOXAPARIN (ee-nox-ap-a-rin)
Active ingredients (generic names)	SubCut Definition Other heparins Not included in the monograph — see AMH for information. Dalteparin Heparin Danaparoid Nadroparin
What it is used for	 Management of heart attack With ST elevation Without ST elevation Preventing and treating blood clots (thromboembolism) Pregnancy and postnatal May be used with warfarin until patient's INR (blood clotting) is in target range
How it works	 Helps to stop blood clotting, reduces risk of large clots forming
Side effects	• Bruising and pain at injection site

Warnings	Kidney trouble Liver trouble Interactions — Do not use together without medical consult ENOXAPARIN with • Apixaban • Dabigatran • Rivaroxaban
Tell the patient	Return to clinic if signs of bleeding (eg nose bleeds, black faeces) OR unexplained bruising during or after treatment Warning stickers (page 310): 10b
Check	 Patient needs to know how to give injection correctly (subcutaneously) — IM injection will cause bad bruising (haematoma)

Active ingredients (generic names)	TENECTEPLASE (ten-ec-te-plase)
What it is used for	 Thrombolysis (treat suspected heart attack by breaking down blood clots in the heart)
How it works	• Causes fibrin to break down (fibrin helps clot the blood)
Side effects	 Bleeding at injection or IV site Signs of bleeding include bruising, blood in urine or red or black faeces Bleeding or bruising

Warnings Tell the	 Bleeding – recent trauma or other active bleeding Old people (use lower dose) Pregnant Interactions – Do not use together without medical consult TENECTEPLASE with Apixaban Bivalirudin Rivaroxaban Fondaparinux
patient	
Check	

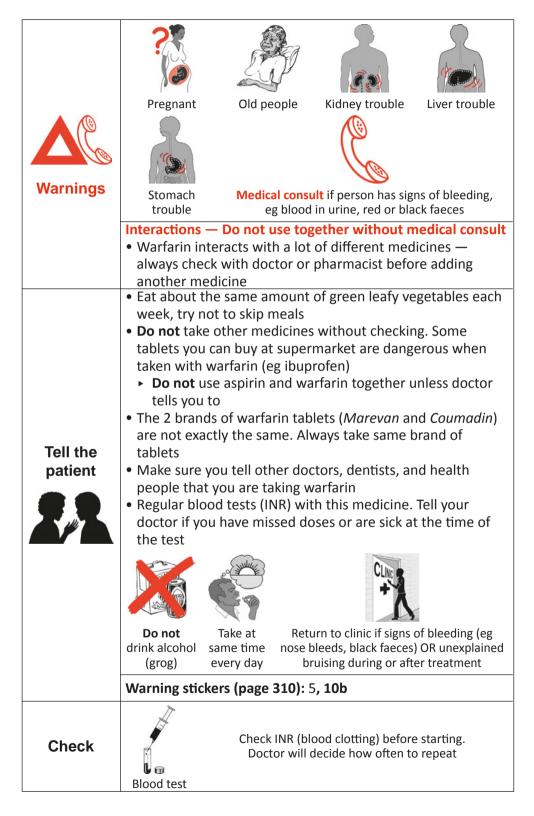
	TRANEXAMIC ACID (tra-nex-amic a-cid)				
Active ingredients (generic names)					
What it is used for	 Reduction of bleeding in Nose bleeds (epistaxis) Injuries — spear and knife (stab) wounds Injuries — abdomen and pelvis Injuries — bleeding Primary postpartum haemorrhage 				
How it works	Stops breakdown of clots by blocking binding of plasminogen and plasmin that help to break down fibrin (fibrin helps clot strength)				
Side effects	 Thrombosis, visual disturbances including transient disturbance of colour vision With IV administration With IV administration Low BP Dizzy Epilepsy (fits) With oral administration With oral administration Diarrhoea 				



Active ingredients (generic names)	VITAMIN K (vite-a-min K) Also known as: phytomenadione Other medicines that affect blood clotting (haemostasis) Not included in this monograph — see AMH for information. • Protamine • Idarucizumab					
What it is used for	 Prevents vitamin K deficiency bleeding (haemorrhagic disease) in newborn babies Reverses warfarin overdose — liquid for injection can be given orally 					
How it works	• Helps blood to clot					
Side effects	 Pain from IM injection Injection site may become tender and sore Allergic reaction (rapid injection) Allergic reaction Anaphylaxis – severe allergic reaction (rare) 					

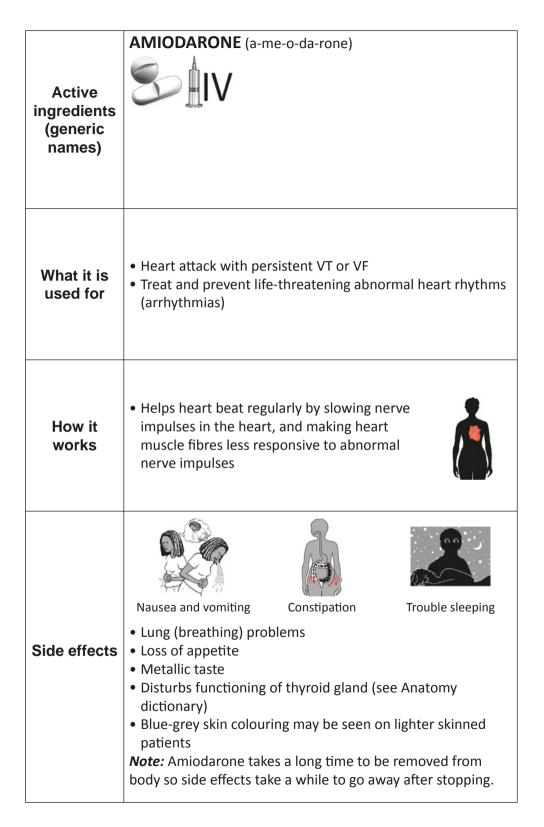
Warnings	Old people — use lower dose • Best to use IM injection of vitamin K to prevent vitamin K deficiency bleeding (haemorrhagic disease) in newborn babies Interactions — Do not use together without medical consult VITAMIN K with • Warfarin
Tell the patient	• Liquid for injection can also be taken by mouth (oral)
Check	• Always have anaphylaxis kit with adrenaline (epinephrine) ready when giving vitamin K injections Blood test INR (blood clotting)

	WARFARIN (war-far-in)				
Active ingredients (generic names)					
What it is used for	 Preventing clots in people at risk — people with Chronic heart failure Atrial fibrillation Mechanical heart valves Some clotting disorders (thrombophilias), heart diseases Treatment of clots Pregnancy and postnatal 				
How it works	 Prevents blood clots forming that may block blood flow to heart (heart attack), brain (stroke), lungs (pulmonary embolism) 				
Side effects	 Can cause bleeding inside body Signs of bleeding are bruising, blood in urine, coughing up blood, red or black faeces Cuts may take longer to stop bleeding 				

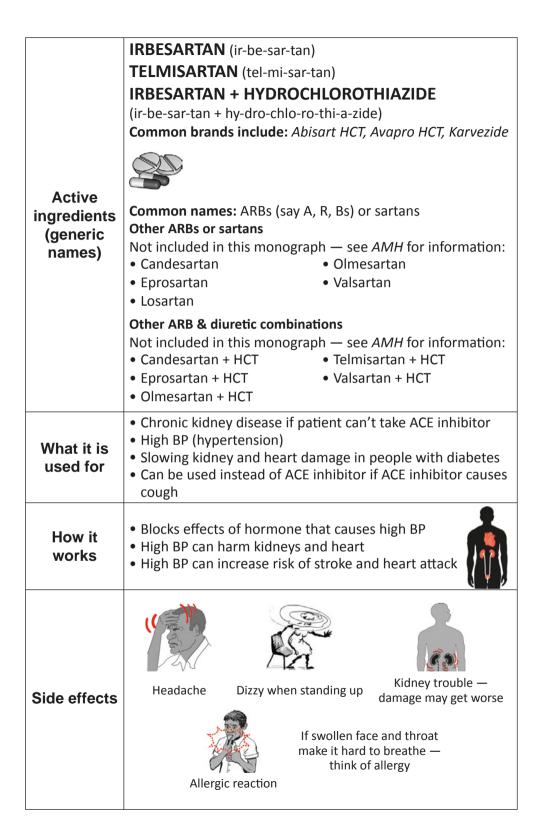


Active ingredients (generic names)	PERINDOPRIL (per-in-doe-pril) Note: 5mg of perindopril arginine (eg Coversyl) = 4mg of perindopril erbumine (eg Idaprex, Perindo). RAMIPRIL (ram-i-pril) PERINDOPRIL + AMLODIPINE (per-in-doe-pril + am-lo-dip-in) PERINDOPRIL + INDAPAMIDE (per-in-doe-pril + am-lo-dip-in) (per-in-doe-pril + in-dap-a-mide) Solution Common name: ACE inhibitors Not included in this monograph — see AMH for information: Enalapril Quinapril Other ACE inhibitor & thiazide combinations Not included in this monograph — see AMH for information: Enalapril + HCT (eg Renitec Plus) Fosinopril + HCT (eg Monoplus) Quinapril + HCT (eg Accuretic)				
What it is used for	 High BP (hypertension) Chronic kidney disease Coronary artery disease Heart failure Slowing kidney and heart damage in people with diabetes 				
How it works	 Blocks effects of hormone that causes high BP High BP can harm kidneys and heart High BP can increase risk of stroke and heart attack 				
Side effects	CoughImage: Cough of the second s				

Warnings	Image: Non-State interactionsImage: Non-State interactionImage: Non-State interactionImage: Non-State interactionsNon-State interactionImage: Non-State interactionInteractionsDo not use together without medical consult if face and throat start to swellInteractionsDo not use together without medical consult if face and throat start to swellInteractionsNon-State interactionsInteractionsNon-State interactionInteractionsNon-State interactionInteractionsNon-State interactionInteractionNon-State interactinInteractin <t< th=""></t<>			
Tell the patient	 Might make you feel dizzy when you stand up quickly Cough will sometimes settle down. If it doesn't see doctor to have the tablets changed Do not take potassium supplements unless they are prescribed for you Do not stop taking medicine — you may not feel different, but medicine will help stop heart attack and stroke Warning stickers (page 310): 11, 12, 16 			
Check	Blood test — check kidney function (UEC), potassium level before starting medicine and after 1–2 weeks, then every 6–12 months			

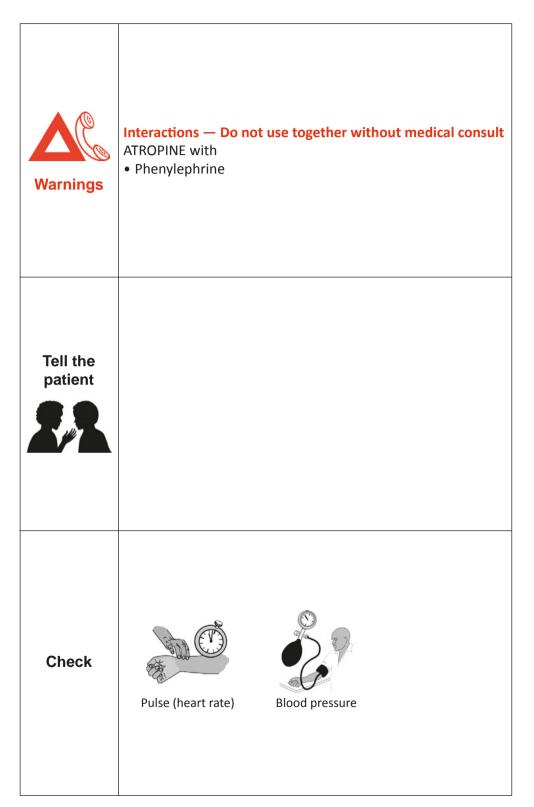


		•	1 Alexandre
Warnings	Amiodarone intera	ot use together wi cts with a lot of di	Old people Old people Liver trouble
Tell the patient	• Do not drink grape medicine in your b side effects Keep out of the sun Warning stickers (pa	lood stream and ye Return to clinic if yo dry cough, eye prob weakness, OR he	ncrease amount of our chance of getting u get shortness of breath, lems, weight loss, muscle art problems get worse
Check	Blood test – check FE (TFT), liver function te level before starting t every 6 r • Lung function befo • Vision every year	C, thyroid function sts (LFT), potassium reatment and then nonths	Do chest x-ray and ECG before starting and then every year very 6–12 months



Use under specialist advice if patient has bad reaction					
	ACE inhibitors				
Warnings	Pregnant Preastfeeding Kidney trouble Liver trouble Urgent medical consult if face and throat start to swell				
	Interactions — Do not use together without medical consult IRBESARTAN or TELMISARTAN with • NSAID (eg ibuprofen)				
Tell the patient	Po not take potassium supplements unless prescribed for ou Addicine may make you feel dizzy if you stand up quickly Image: Constrained the provided dizzy if you stand up quickly Image: Constrained dity if you stand up quickly				
	have trouble breathing incucine winnerp stop near attack and stroke Warning stickers (page 310): 11, 12, 16				
Check	Blood pressure Blood pressure Blood pressure Blood pressure Blood pressure Blood pressure Blood pressure Blood test Check kidney function and electrolytes (UEC) before starting THEN review 1-2 weeks. It can take 4 to 6 weeks for maximum effect on BP				

	ATROPINE (at-row-peen)				
Active ingredients (generic names)	ATROPINE (at-row-peen)				
What it is used for	 To increase a very slow heart rate (Life support — DRS ABC) Organophosphate (eg insecticide) poisoning 				
How it works	 Helps to increase the heart rate when it is too slow by affecting receptors in the involuntary (parasympathetic) and central nervous systems Blocks the uptake of some poisons (eg organophosphates), helps to reverse the effects 				
Side effects	Image: Second state Dry mouth Flushing Blurred vision Blurred vision Blurred vision Constipation Fast pulse (heart rate) Image: Difficult to wee / retention of urine Bothered by bright light Delirium				

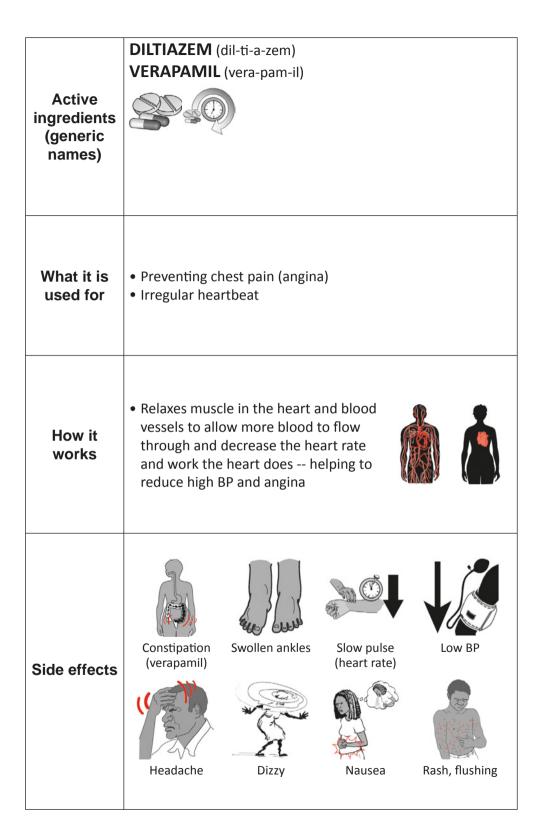


	ATENOLOL (a-ten-o-lol)				
Active	BISOPROLOL (bis-o-pro-lol)				
	CARVEDILOL (car-ve-dil-ole)				
	METOPROLOL (me-toe-pro-lol)				
	NEBIVOLOL (ne-biv-o-lol)				
ingredients	LABETALOL (la-be-ta-lol)				
(generic names)	So and a second				
	Other beta-blockers				
	Not included in this mo	nograph — see .	AMH for information:		
	Oxprenolol I	Pindolol	 Propranolol 		
	 Chest pain (angina) Chronic heart failure Irregular heartbeat (arrhythmias) Heart attack 				
What it is	Prevention of migraine				
used for	Lowering BP in				
	 Chronic kidney dise Coronary artery dise 				
	 Hypertension (High 				
	 Hypertension (high 	•	Cy		
	Beta receptors in hea	rt increase BP ar	nd heart rate when		
	activated				
	 Beta-blockers Block these receptors to reduce workload of heart. Can 				
How it works	also work in other parts of body				
WOIKS	 Lower BP, slow heart, even out irregular 				
	heartbeats Lower risk of heart attacks, and death in 				
	people who have had heart attacks				
	Coldness in fingers ar				
	A	the start			
	- all		((A D))		
Side effects	Nausea	Diarrhoea	Breathing trouble		
			112		
			22		
	Slow pulse (heart rate)	Low BP	Sleepy		
	[·····································				

	Pregnant	Kidney trouble (atenolol)	Liver trouble	Asthma or chronic lung	
Warnings	disease disease lf pulse less than 50/min — medical consult Slow pulse (heart rate)				
	Interactions – BETA-BLOCKEF • Amiodarone • Digoxin • Diltiazem • Verapamil		ether without r	nedical consult	
Tell the patient	Medicine may make you feel dizzy if you stand up quickly				
22	Do not stop taking medicine — you may not feel different, but medicine will help stop heart attack and stroke Do not drive or operate machinery if sleepy Warning stickers (page 310): Atenolol, nebivolol 9, 12 Bisoprolol, metoprolol 9, 12, A Carvedilol 9, 12, 13, 16				
Check	Blood press	ure Pulse (he	eart rate)		

	AMLODIPINE (am-lo-di-peen)
	FELODIPINE (fe-lo-di-peen)
	LERCANIDIPINE (ler-can-i-di-peen)
Active	NIFEDIPINE (ni-fed-i-peen)
ingredients (generic names)	
	Combination medicines Not included in this monograph — see <i>AMH</i> for information:
	 Calcium channel blocker + statin
	Calcium channel blocker + ACE inhibitor
What it is used for	 Coronary artery disease (eg angina) Hypertension (High BP) High BP (hypertension) in chronic kidney disease Preeclampsia (very high BP in pregnancy) (nifedipine) Stopping labour (tocolysis) (nifedipine)
How it works	 Relaxes muscle in blood vessel walls to allow more blood to flow through — helps reduce high BP and angina Relaxes muscles in uterus (in pregnancy)
	Palpitations
Side effects	RashImage: FlushingImage: FlushingImage: FlushingImage: FlushingNauseaNauseaSwollen anklesMouth and gum problems

	Pregnant	Breastfeeding (nifedipine appears safe)	
Warnings	Liver trouble	Heart failure	
	LERCANIDIPINE with • Metoprolol NIFEDIPINE with	together without medical consult	
Tell the patient	 Do not drink grapefruit juice — can increase amount of medicine in your bloodstream and chance of getting side effects Slow-release tablets (felodipine, nifedipine) must be swallowed whole Medicine may make you dizzy, especially if you stand up quickly Do not drive or Do not stop taking medicine — 		
	operate machinery if sleepy you may not feel different, but medicine will help stop heart attack and stroke Warning stickers (page 310): Amlodipine 9, 12 Felodipine 9, 12, 18, A Lercanidipine 9, 12, 18, C Nifedipine 9, 12, 13, 18, A		
Check	Blood pressure		



Warnings	Pregnant Pregnant Heart failure	use together wit	
	 Diliazem and verapan medicines — always of before adding anothe 	heck with docto	
Tell the patient	 Do not crush — swall Do not drink grapefrumedicine (verapamil) side effects Medicine may make y quickly Medicine may make y quickly Do not drink alcohol (grog) (verapamil) 	ow whole it juice — can ind in bloodstream a you dizzy, especia you dizzy, especia you dizzy, especia t drive Do not s t drive you may hery if medicin t py a	and chance of getting ally if you stand up with the stand up stop taking medicine — y not feel different, but he will help stop heart ttack and stroke
	Warning stickers (page 310): Diltiazem 5, 9, 12, A Verapamil 5, 9, 12, 13, 18, A, B		o, 9, 12, A
Check	Blood pressure	Pulse (heart rate)	

Active ingredients (generic names)	DIGOXIN (di-jox-in)	1
What it is used for	 Chronic heart failure Irregular heartbeat (atrial fibril 	lation)
How it works	 Makes heartbeat stronger Slows heart to stop fluttery irre heartbeat 	egular
Side effects	• Loss of appetite (anorexia)	Coloured (yellow, green or white) haloes around objects

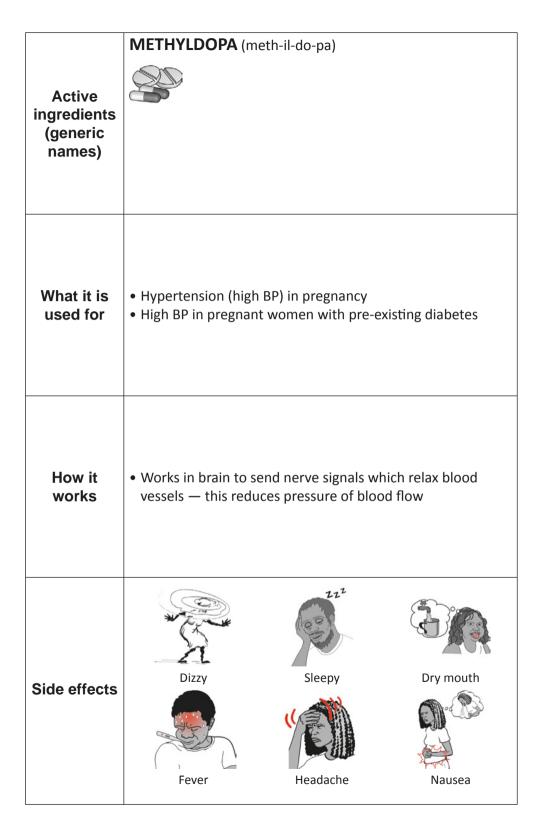
	• Digoxin is a strong medicine. Problems can occur if patient		
	given too much — check doses carefully		
Warnings	Old people Kidney trouble Old people Finder trouble Image: A state of the state of t		
	check with doctor or pharmacist before adding another		
	medicine		
	Make sure you tell other doctors and health people you are		
	taking this medicine		
Tell the	 Regular blood tests are needed 		
patient	CLIER		
	Return to clinic straight away if nausea, vomiting, anorexia (no appetite) — Signs of overdose		
	Warning stickers (page 310): 5		
	 If using with a diuretic — check potassium, calcium and magnesium levels Monitor digoxin levels as advised by doctor 		
Check			
	Blood test Pulse (heart rate) Check kidney function (UEC) before starting medicine, then every 3–6 months		

Active ingredients (generic names)	FUROSEMIDE (FRUSEMIDE) (fur-rose-mide)
What it is used for	 Pulmonary oedema (fluid in lungs) Chronic heart failure Reducing fluid build up associated with heart, liver and kidney trouble
How it works	• Slows down reabsorption of sodium and chloride (salt) in kidneys to stop fluid accumulating, and removes excess fluid
Side effects	 Risk of side effects increases as dose increases Body salts (electrolytes) out of balance (eg low potassium, low magnesium) Muscle weakness and cramps — from dehydration and low potassium Dizzy Rash Gout Dehydration

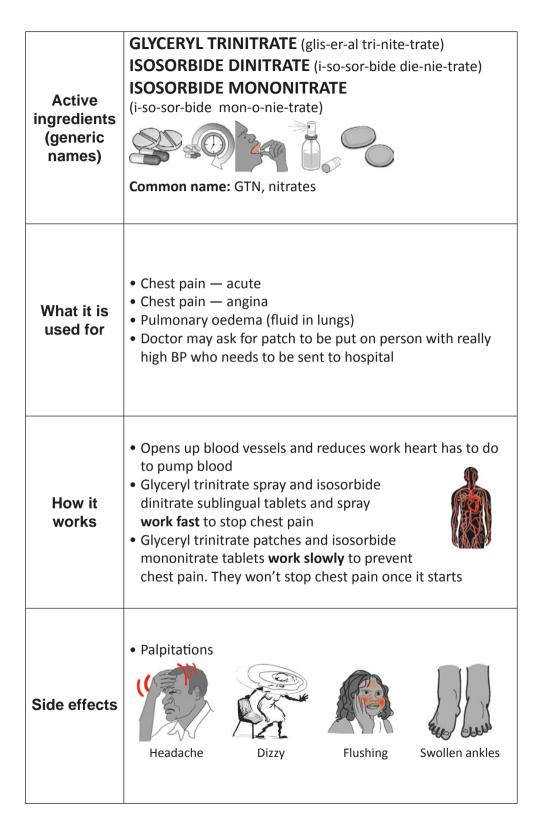
]
	Pregnant	Breastfeeding	Old people	Kidney trouble
	Pregnant	Breastieeuing		Kidney trouble
		z.	el la	
	Liver trouble	e Go	out	Dehydration
Warnings	FUROSEMIDE (F • NSAIDs • ACE inhibitors • Aminoglycosic • ARBs • Lithium • Thiazide diure • SGLT2 inhibito	RUSEMIDE) wit des etics ors (eg Dapaglifo	th ozin)	t medical consult
Tell the patient	 Do not take with NSAIDs (type of painkiller) Might make you pee a lot, so take in morning. If taking twice a day take second dose at midday Take in the morning to reduce night time waking 			
	Warning sticker	rs (page 310): 1	6, medicine n	nixture also 6 , 7b
Check	Weight	Bland		Check kidney function and electrolytes (UEC) before starting medicine, then every 6–12 months

	HYDRALAZINE (hi-dra	l-a-zeen)	
Active ingredients (generic names)	IV So		
What it is used for	 Preeclampsia (very higl High BP emergency Heart failure 	h BP in pregnar	ncy)
How it works	 Opens (dilates) blood v (arterioles) to quickly d 		n arteries and veins
Side effects	• Palpitations	Dizzy	Fast pulse (heart rate)

Warnings	Pregnant Heart trouble Kidney trouble Liver trouble Interactions — Do not use together without medical consult HYDRALAZINE with • Other medicines that lower BP
Tell the patient	Do not drive or operate machinery if dizzy or faint Warning stickers (page 310): 12, 16
Check	Blood test if taking for more than 6 months — antinuclear antibodies (ANA), FBC before starting and during treatment



Warnings	Kidney trouble Liver trouble Depression Interactions — Do not use together without medical consult METHYLDOPA with • Iron — can take 2 hours before or after methylodopa • Some antidepressants
Tell the patient	Do not drive or operate machinery if sleepy or dizzy • Stand up slowly if they make you dizzy Warning stickers (page 310): 12, 16
Check	Blood test Check FBC, liver function tests (LFT) within 6–12 weeks of starting



Warnings	Pregnant Low BP Interactions — Do not use together without medical consult NITRATES with • Medicines for impotence (eg sildenafil) • Medicines for BP
Tell the patient	 Slow acting Put patches on clean dry skin, on chest or upper arm Do not leave patches on all the time. Put on at night and take off in morning OR put on in morning and take off at night Slow-release tablets must be swallowed whole. Only take 1 a day Fast acting Sit or lie down when taking tablets or spray, then rest for 15–30 minutes, or you may get dizzy Keep tablet bottle closed and in a cool place Take isosorbide dinitrate tablets back to clinic 3 months after you open them (they will be out of date) Sublingual tablets – Do not swallow fast acting tablet. Put under tongue, spit out when chest pain stops – helps stop side effects
	Warning stickers (page 310): Glyceryl trinitrate 16 – patches also 13, 21 Isosorbide dinitrate 16 Isosorbide mononitrate 16, A
Check	 Make sure person has fast-acting nitrate spray or tablets at home and knows how to use it Blood pressure

Active ingredients (generic names)	 SPIRONOLACTONE (spir-on-o-lac-tone) Other aldosterone antagonists Not included in this monograph — see AMH for information: Eplerenone
What it is used for	• Chronic heart failure in combination with other medicines
How it works	 Aldosterone is one of the hormones in the kidney that works to control BP and keep kidney working. Too much aldosterone upsets balance of hormones and causes fluid build up, increases BP Spironolactone works against aldosterone and balances hormones
Side effects	 Muscle weakness due to hyponatraemia (sodium too low) Breast pain Hyperkalaemia (potassium too high) Signs are: slow heartbeat, muscle twitch, numbness, sore head, nausea, vomiting With the state of the stat

Warnings	Pregnant Old people Pregnant Old people Videoux Videoux Kidney trouble Liver trouble
Tell the patient	 If kidney trouble — don't have a lot of potassium rich food (eg bananas, potatoes) If unsure about what to eat — get advice from a dietitian Warning stickers (page 310): 11, 12, 16, B
	Warning Stickers (page 310). 11, 12, 10, 0
Check	Blood test Check potassium levels frequently when starting, check how often with Doctor and add to recall

Active ingredients (generic names)	ATORVASTATIN (a-tor-va-sta-tin)
	ROSUVASTATIN (row-soo-va-sta-tin)
	SIMVASTATIN (sim-va-sta-tin)
	Common name: statins
	Other statins
	Not included in this monograph — see AMH for information: • Fluvastatin
	• Pravastatin
	Combination medicines
	Not included in this monograph — see AMH for information
	or separate monograph
What it is used for	 Managing cardiovascular risk and abnormal blood fats Reducing risk of heart attack in coronary artery disease
How it works	• Stops liver making too much cholesterol. Cholesterol can block blood vessels and cause heart attack or stroke
	Sore muscles Nausea Dizzy
Side effects	
	Trouble sleeping Headache Liver trouble — Medicine can cause a change in liver function

Warnings	Pregnant Pregnant Kidney trouble – use lower dose Interactions — Do not use together without medical consult • Statins interact with a lot of different medicines — always check with doctor or pharmacist before adding another medicine
Tell the patient	 Important to exercise and eat low fat food as well as taking tablets Will need regular blood tests to make sure medicine is working and there are no side effects If taking atorvastatin or simvastatin — do not drink grapefruit juice. Can increase amount of medicine in bloodstream and chance of getting side effects Do not stop taking medicine – you may not feel different, but medicine wil I help stop heart attack and stroke Warning stickers (page 310): Atorvastatin, simvastatin 18
Check	Blood test Check LFT and CK before starting medicine, repeat if indicated clinically

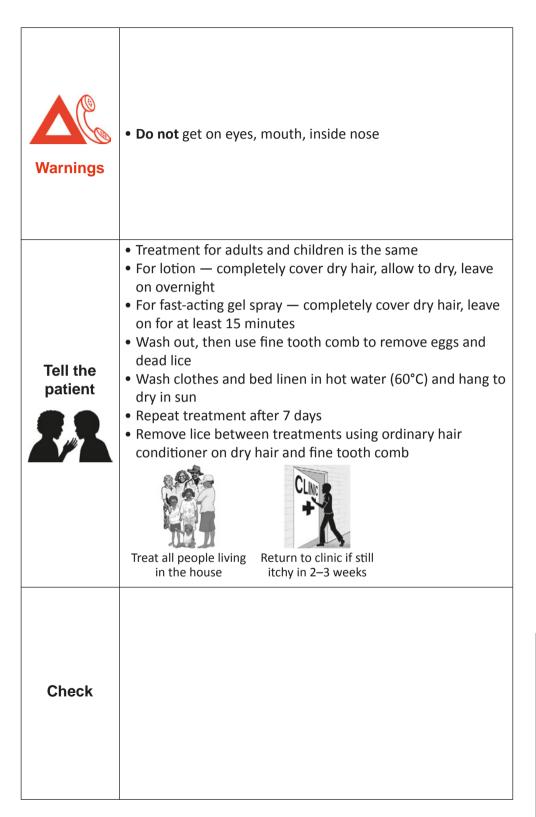
Active ingredients (generic names)	INDAPAMIDE (in-dap-a-mide) HYDROCHLOROTHIAZIDE + IRBESARTAN (hy-dro-chlo-ro-thi-a-zide + ir-be-sar-tan) INDAPAMIDE + PERINDOPRIL (in-dap-a-mide + per-in-doe-pril) Other thiazide diuretics Not included in this monograph — see <i>AMH</i> for information: • Chlorthalidine • Hydrochlorothiazide (HCT) Combination medicines Not included in this monograph — see <i>AMH</i> for information or separate monographs: • Enalapril + HCT • Fosinopril + HCT • Cuinapril + HCT • Cuinapril + HCT • Cuinapril + HCT • Candesartan + HCT • Valsartan + HCT • Olmesartan + HCT
What it is used for	 High BP (hypertension) Reducing fluid build up caused by heart failure or kidney problems
How it works	 In low doses — opens up blood vessels to lower BP In high doses — helps kidneys to remove extra fluid from body
Side effects	 The higher the dose the greater the risk of side effects Weak muscles or cramps Body salts (electrolytes) out of balance (eg low potassium, low magnesium) Dizzy Dehydration

Warnings	Pregnant Old people Videous Videous Videou
Tell the patient	 Slow-release tablets must be swallowed whole You may wee more to start but this will be much better after a few days Take in the morning to reduce night time waking Warning stickers (page 310): Indapamide 16, A Hydrochlorothiazide + irbesartan, indapamide + perindopril 11, 12, 16, 21, A
Check	Blood test Check BGL and kidney function and electrolytes (UEC) before starting medicine, then every 6–12 months

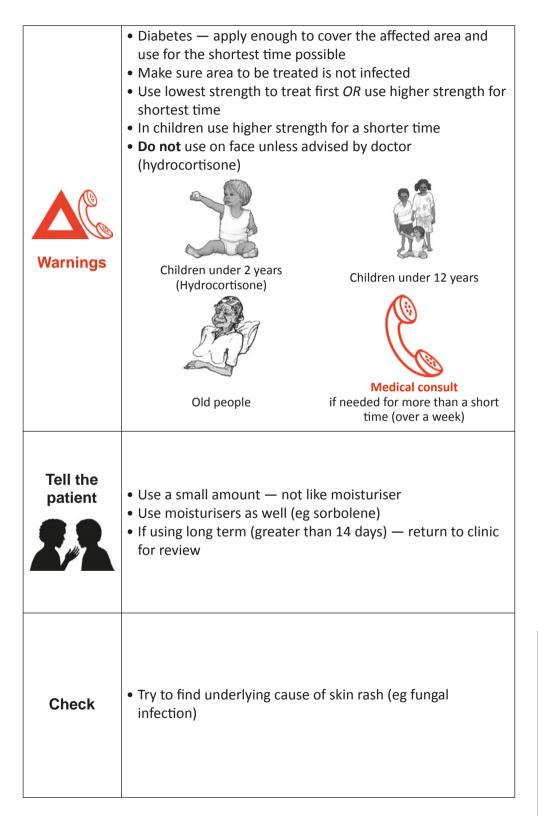
Active ingredients (generic names)	BENZYL BENZOATE (benz-el benz-o-ate) CROTAMITON (crow-ta-mi-ton) PERMETHRIN (per-meth-rin)
What it is used for	 Chickenpox — for itch (crotamiton) Crusted scabies (benzyl benzoate, permethrin) Scabies (benzyl benzoate, permethrin)
How it works	• Kills the mites
Side effects	 Stings when first applied (benzyl benzoate) Itchy rash and swelling — may get worse before it gets better

	1		
Warnings	Babies under 2 months (permethrin) • Do not put crotamit years and only use c • Dilute benzyl benzos children	once a day	
	 Children 6–23 mo benzoate Children 2–12 yea water and benzyl Test benzyl benzoate 10 minutes 	ars and sensitive ad benzoate e on small area of s	lults — equal parts skin first — wait for
Tell the patient	 Apply on dry skin of whole body excluding face and head and wash off after 8-14 hours (permethrin) 24 hours (benzyl benzoate) with warm soapy water, rinse thoroughly Do not use on eyes, lips, mouth or inside nose If scabies rash is still itchy after applying benzyl benzoate or permethrin cream — use soothing cream (eg sorbolene) Permethrin and benzyl benzoate — repeat treatment after 7 days Wash clothes and bed linen in hot water and hang to dry in the sun Return to clinic if still Treat all people living in the house 		
Check	 If patient immunocompromised or on immunosuppressants they are more susceptible to crusted scabies 		

Active ingredients (generic names)	DIMETICONE (di-met-i-cone)
What it is used for	• Head lice (nits)
How it works	 Kills the lice by affecting its ability to regulate water balance Does not kill eggs
Side effects	• Skin discolouration



	HYDROCORTISONE (hy-dro-cor-ti-sone)
Active ingredients (generic names)	Other corticosteroids Not included in the monograph — see <i>AMH</i> for information: • Betamethasone • Desonide • Methylprednisolone • Mometasone • Triamcinolone • Clobetasone Corticosteroid combinations • Topical corticosteroids can be combined with topical antifungals
What it is used for	 Severe nappy rash Inflammation of the skin
How it works	• Helps to reduce redness (inflammation) and itching from various skin conditions. Some brands are stronger than others
Side effects	 Short term use — usually none Long term use — skin damage can occur



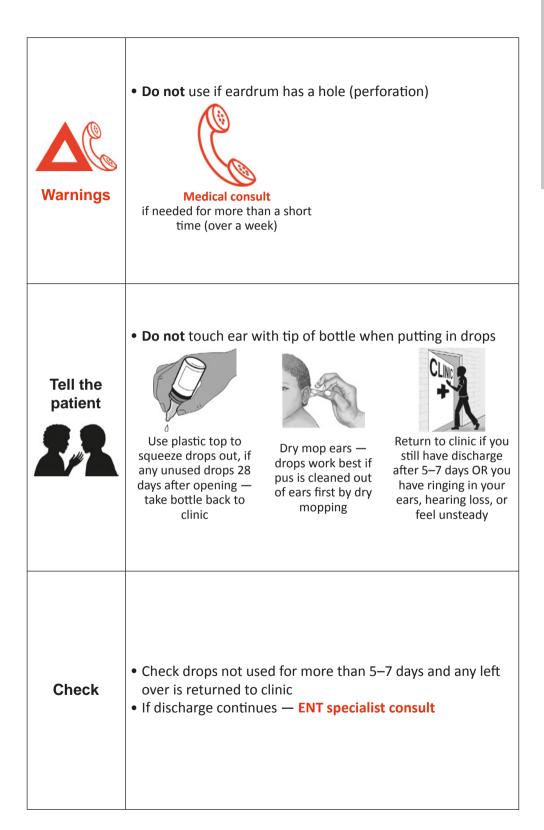
Active ingredients (generic names)	 PODOPHYLLOTOXIN (po-do-fill-o-toxin) Other medicines for warts Not included in the monograph — see AMH for information: Podophyllum resin Salicylic acid
What it is used for	• Genital warts
How it works	 Stops spread of warts to other areas of body and to other people
Side effects	Itchy, burning

Warnings	Pregnant Image: Children under 2 years • Do not use on broken skin	
Tell the patient	Wash hands (before and after use) • Wash skin with soap and water and let dry before applying • Do not use on or near hairline, eyes, ears, nose or lips — unless doctor tells you to • Apply with applicator to wart only, can burn skin Warning stickers (page 310): K	
Check	Warning stickers (page 310): K Image: Constraint of the stress	

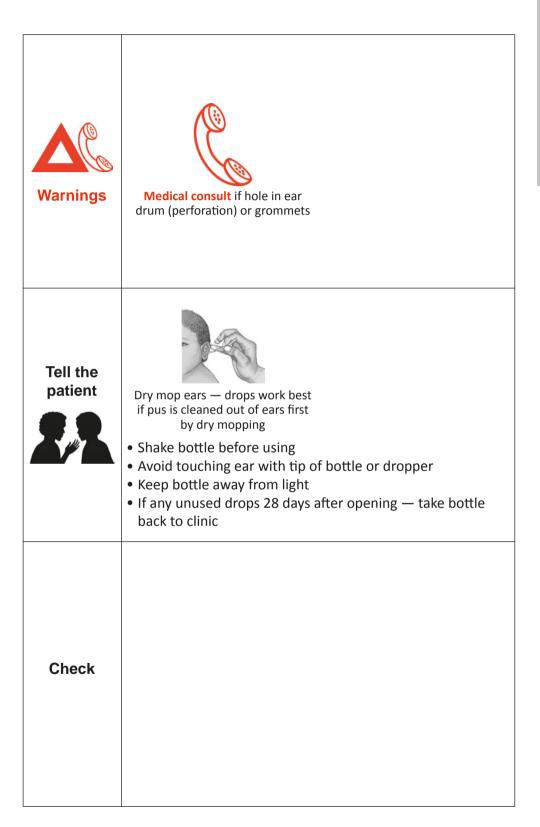
Active ingredients (generic names)	NANOCRYSTALLINE SILVER DRESSING (nan-no-cris-ta-line sil-ver) SILVER SULFADIAZINE (sil-ver sul-fa-di-a-zeen)
What it is used for	 Partial thickness burns at risk of infection Use dressing if available, rather than ointment/cream Treating infected leg ulcers and pressure sores
How it works	• Stops bacteria from growing on damaged skin
Side effects	• Skin discolouration

Warnings	hard to assess burn and	ng sent to hospital. Makes it delays further treatment
Tell the patient	 Do not use same tube/container for more than 1 person Burns and ulcers must be cleaned and have dressings changed regularly Do not wash cream off with soap — use normal saline May darken or discolour skin 	
Check	• Procedure for silver coated dressing	

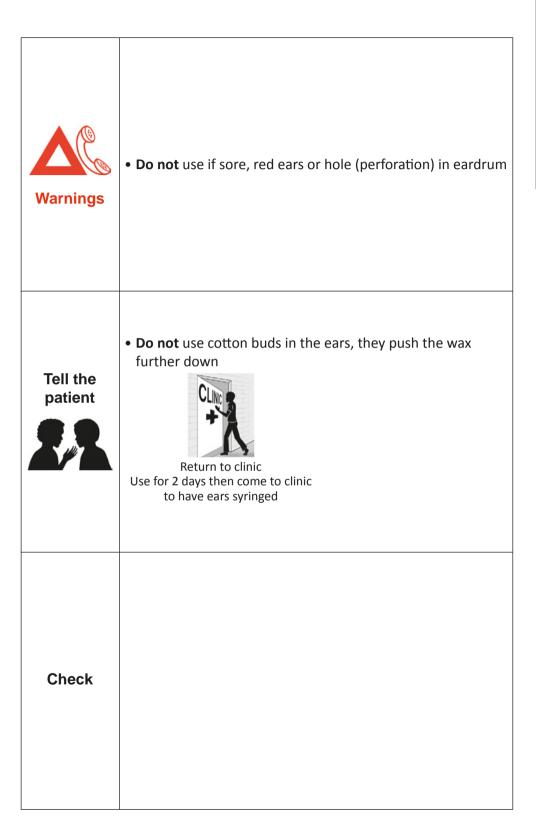
Active ingredients (generic names)	DEXAMETHASONE + FRAMYCETIN + GRAMICIDIN (dex-a-meth-a-sone + fra-my-cet-in + gram-i-ci-din) TRIAMCINOLONE + NEOMYCIN + NYSTATIN + GRAMICIDIN (tri-am-sin-o-lone + ne-o-my-sin + ny-stat-in + gram-i-ci-din) (tri-am-sin-o-lone + ne-o-my-sin + ny-stat-in + gram-i-ci-din) (tri-am-sin-o-m
What it is used for	• Inflammation of the ear canal (otitis externa)
How it works	• Kills germs causing ear infection, reduces inflammation
Side effects	• May cause redness (dermatitis) in ear if used for long time



Active ingredients (generic names)	 CIPROFLOXACIN (sip-row-flox-a-sin) Ciprofloxacin and steroid combination drops Not included in this monograph — see AMH for information: Hydrocortisone + ciprofloxacin (eg Ciproxin HC)
What it is used for	 Ear infection Acute otitis media with perforation Ongoing ear infection with discharge (chronic suppurative otitis media) Inflammation of ear canal (otitis externa) Discharging grommets
How it works	• Antibiotic that stops bacteria from making DNA
Side effects	• May cause skin irritation



	DOCUSATE (doc-u-sate)
Active ingredients (generic names)	SODIUM BICARBONATE SOLUTION Other wax softeners Not included in this monograph — see AMH for information: • Carbamide peroxide • Dichlorobenzene + chlorbutanol
What it is used for	• Softening wax before removal
How it works	• Softens wax so it is easier to clean or drain from ear
Side effects	• May cause irritation or itch in ear

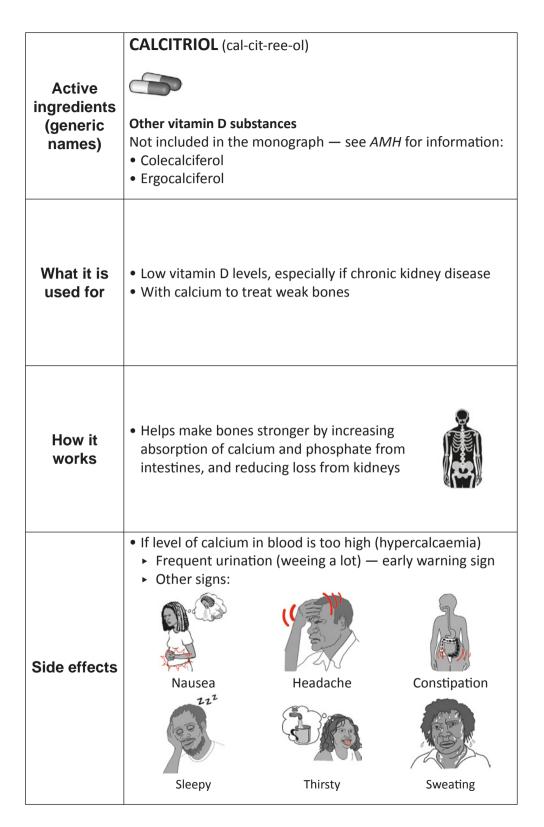


Active ingredients (generic names)	OXYMETAZOLINE (ox-ee-me-taz-o-leen) XYLOMETAZOLINE (zy-low-me-ta-zo-leen) Other nasal decongestants Not included in this monograph — see individual monograph or <i>AMH</i> for information: • Ephedrine • Phenylephrine • Tramazoline
What it is used for	 Colds Hayfever Sinus problems
How it works	 Narrows swollen blood vessels in nose to open up blocked nose Dries up runny nose
Side effects	 Might sting when first put in Nasal discharge may increase when first used If used for more than 4–5 days — nose may become blocked again and be worse than before (rebound congestion)

Warnings	Do not give to children under 6 years. Only give to children 6–11 years if told to by doctor or pharmacist
Tell the patient	 Do not use for more than 5 days without talking to doctor Try using saline drops for children with blocked noses How to use nose drops Blow nose, tip head back and put drops in nose while sniffing gently. Repeat with other nostril. Keep head back for a few minutes For children (if advised by doctor or pharmacist) — lay child on lap with head tilted back and down, put drops in nose Rinse dropper after use, don't share with other people How to use nasal spray Blow nose, shake bottle, put nozzle just inside nostril aiming towards outside wall while blocking the other nostril Squirt 1–2 times while sniffing gently. Repeat in other nostril Note: May need to be primed, check manufacturer's instructions
Check	

Active ingredients (generic names)	PHENYLEPHRINE (fen-il-eff-rin)
What it is used for	 Colds Hayfever Sinus problems
How it works	 Narrows swollen blood vessels in nose to open up blocked nose Dries up runny nose
Side effects	Can increase BPShaking, nervousDizzyTrouble sleeping

Warnings	Pregnant Pregnant Heart trouble Interactions — Do no PHENYLEPHRINE with • Atropine (IV or 10%	Do not give to children under 6 years. Only give to children 6–11 years if told to by doctor or pharmacist
Tell the patient	 Do not use for more Do not give to childe to 	ss the doctor tells you
Check	Blood pressure	



Warnings	Kidney trouble Interactions — Do not use together without medical consult CALCITRIOL with • Calcium — needs careful monitoring • Digoxin — needs careful monitoring • Thiazide diuretics — needs careful monitoring		
Tell the patient	• Do not take supplements that contain calcium or vitamin D unless prescribed by a doctor — risk of too much calcium (hypercalcaemia)		
Check	Blood test Check calcium and phosphate levels every 3 months		

	CALCIUM CARBO	NATE (cal-see-um o	car-bo-nate)	
	CALCIUM GLUCONATE (cal-see-um glue-co-nate)			
Active ingredients (generic names)	Other calcium salts Not included in this monograph — see AMH for information: • Calcium chloride • Calcium citrate Calcium combinations • Calcium is in many vitamin supplements and antacids			
What it is used for	 Calcium deficiency, osteoporosis, other bone diseases Life threatening heart arrhythmias (eg patients who have missed dialysis) (calcium gluconate) Magnesium overdose (eg when treating severe preeclampsia) (calcium gluconate) Reducing phosphate levels in chronic kidney disease (CKD) Can be an ingredient in antacids 			
How it works	 Replaces calcium if deficient in body Calcium binds to phosphate in stomach and stops it being absorbed by body. This reduces high phosphate levels 			
Side effects	Wind (burping and fa • If calcium in blood to • Passing urine mor • Other signs: Nausea	oo high (hypercalca		

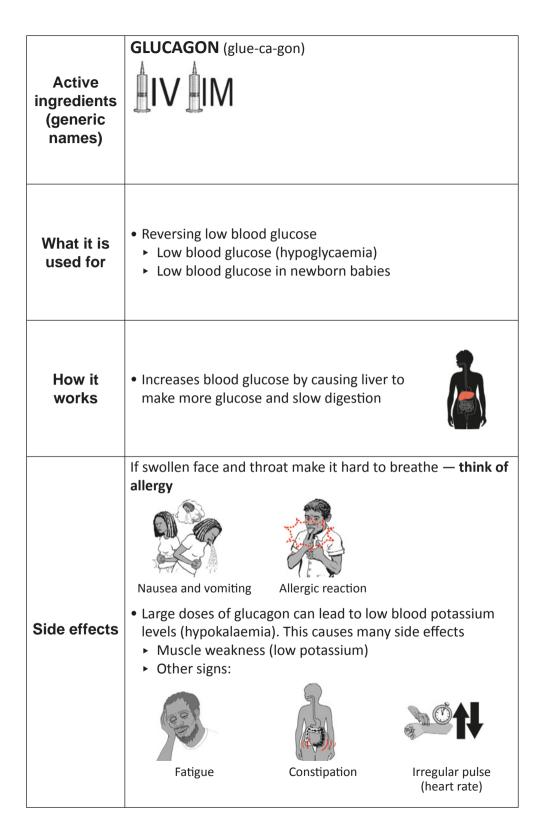
Warnings	 Interactions — Do not use together without medical consult CALCIUM CARBONATE or CALCIUM GLUCONATE with Digoxin — needs careful monitoring Iron tablets, doxycycline, alendronate, sotalol, ciprofloxacin — can take 2 hours before or after calcium tablets Thyroxine tablets — can take 4 hours before or after calcium tablets
Tell the patient	 If taking for kidney trouble and you skip a meal, skip calcium tablets too If taking calcium for bone trouble Take at night (bedtime) so more will be absorbed into bones Tell doctor or health worker if you become pregnant or finish menopause as dose may need to be changed If taking calcium for bone trouble Tell doctor or health worker if you become pregnant or finish menopause as dose may need to be changed Return to clinic if nausea, vomiting, constipation, headache, thirst or tiredness
Check	 Tablets come in different forms — some can be chewed, some need to be swallowed whole, some are dissolved in water. Make sure person understands how to take theirs Blood test Regular checks for calcium and phosphate levels

Active	DULAGLUTIDE (dew-lag-loo-tide) SEMAGLUTIDE (sem-a-gloo-tide)
ingredients (generic names)	
What it is used for	 Type 2 diabetes Metabolic syndrome in non-diabetics
How it works	 Acts like (mimics) a hormone (GLP-1) that releases insulin into body after a meal, and slows down glucose absorption Delays stomach emptying after a meal and reduces appetite
Side effects	 Blood glucose too low (hypoglycaemia or 'hypo') More likely to happen if patient is not eating enough food or dose too high or combination with other medicines for diabetes specially with insulin + sulfonylureas Warning signs — sweating, hunger, shaking (tremor), confusion, loss of consciousness Nausea and vomiting Diarrhoea Dizzy Stomach trouble (pancreatitis)

Warnings	DULAGLUTIDE or SEMAGLU	ering medicines — may increase	
Tell the patient	 Inject once a week, ideally on the same day each week What to do if they have a hypo, and to come to the clinic straight away if treatment doesn't work <i>Warning stickers (page 310):</i> 6 Dulaglutide also 7b (14 days), 13 Semaglutide also 7b (42 days), 10a, 20, 21 		
Check	Blood test Check kidney	chronic conditions up to date	

	LINAGLIPTIN (lin-a-glip-tin)		
	SAXAGLIPTIN (sax-a-glip-tin)		
	SITAGLIPTIN (si-ta-glip-tin)		
	VILDAGLIPTIN (vil-da-glip-tin)		
	ALOGLIPTIN (alo-glip-tin)		
Active ingredients (generic	Common name: Gliptins		
names)	DPP 4 combinations		
	Not included in this monograph — see <i>AMH</i> for information:		
	• Linagliptin + metformin (eg Trajentamet)		
	• Sitagliptin + metformin (eg Janumet, Janumet XR)		
	• Vildagliptin + metformin (eg <i>Galvumet</i>)		
	 Alogliptin + metformin (eg Nesina Met) Saxagliptin + dapagliflozin (eg Qtern) 		
What it is used for	• Type 2 diabetes		
How it works	 Increases concentration of a hormone (GLP-1) that releases insulin into body after a meal, slows down glucose absorption 		
	Muscle pain		
Side effects	Headache Stomach trouble (pancreatitis)		

Warnings	Pregnant Pregnant Interactions — Do GLIPTINS with ACE inhibitors — Other blood gluo risk of hypo (hyp	• need to be c cose lowering	ther witho	
Tell the patient	 Do not take mor doctor tells you for lf symptoms of h sweating, hunge consciousness – sugary drink, hor unwell. Eat healthy food Warning stickers (to pypoglycaemia r, shaking (tre - take some s ney or lollies.	a (low blood emor), confu ugar in fruit Return to c Take con (+ metformi or milk so m yc	l sugar level) usion, loss of juice or other
Check	• Are combined ch	<u> </u>		ns up to date

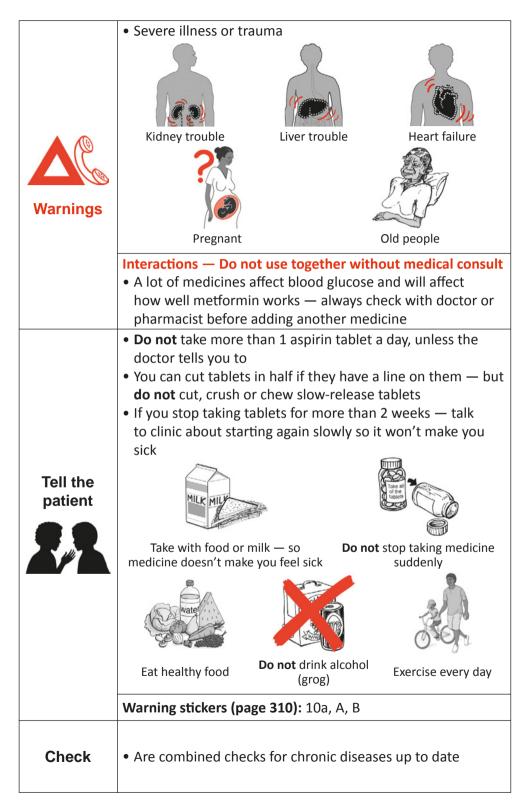


Warnings	
Tell the patient	 Make sure you always know where your glucagon is Make sure any person who may need to give glucagon knows how and when to give it It will take about 10 minutes for you to respond to the glucagon Have a light meal (eg sandwich or some stew) as soon as you can to stop the hypo coming back If they want more information — see Hypoglycaemia (low blood glucose)
Check	

Active ingredients (generic names)	 INSULIN (in-su-lin) INSULIN — LONG-ACTING or INTERMEDIATE (basal) Glargine 100 units/mL (eg Optisulin), 300 units/mL (eg Toujeo) Isophane (eg Humulin NPH, Protaphane), Detemir (eg Levemir) INSULIN — SHORT or RAPID ACTING (bolus) Neutral (eg Actrapid, Humulin) Aspart (eg NovoRapid), Glulisine (eg Apidra), Lispro (eg Humalog), faster-acting insulin aspart (eg Fiasp) INSULIN — MIXED, ANALOGUES (biphasic) (eg Humalog Mix 25, Humulin 30/70, Mixtard 30/70, NovoMix 30) Insulin aspart + degludec (eg Ryzodeg) There are different forms of insulin. If you are not sure which form patient is taking — ask doctor or diabetes educator
What it is used for	 Type 1 and Type 2 diabetes Diabetes in pregnancy
How it works	 Natural insulin is a hormone made by the pancreas Helps glucose in the blood enter body cells to be used as energy Helps store excess glucose in the liver or muscles Insulin (medicine) replaces natural insulin and helps control blood glucose levels in people with diabetes In Type 1 diabetes — body doesn't make insulin In Type 2 diabetes — body is insulin resistant and doesn't make or use insulin well
Side effects	 Blood glucose too low (hypoglycaemia or 'hypo') More likely to happen if person not eating enough food or dose too high or combination with other medicines for diabetes Warning signs: sweating, hunger, shaking (tremor), confusion, loss of consciousness Weight gain

	• More insulin may be needed when person is sick
	(eg infection), even if not eating much
	 Medical consult if person has a hypo — medical/diabetes educator consult
	Interactions — Do not use together without medical consult
Warnings	 A lot of medicines affect blood glucose and will affect how well insulin works — always check with doctor or
	pharmacist before adding another medicine
	 Injections can be given in abdomen or thigh Injections in abdomen are more evenly absorbed
	 Injections in abdomen are more evenly absorbed Use different place each time to stop skin getting sore
	 Use new needle each time, put old needle in sharps container
	• Pre-mixed and intermediate insulins — gently mix first (not
	<i>Ryzodeg</i>) • Do not inject rapid insulin if not eating
	 Rapid or short acting, or mixed insulin — eat straight after
	injectionMost insulins must be given at the same time each day (not
Tell the	Ryzodeg)
patient	 If insulin not kept in fridge use-by/expiry date will be sooner, it won't work as well
	 Take any left after 1 month back to clinic — it will be out
	of date
	Part A
	Store in fridge (not freezer) Eat healthy food Exercise every day
	Do not drink alcohol (grog)
	Drinking alcohol makes you more likely to have a hypo, and less likely to know you are having one
	Warning stickers (page 310): 6 (except vial in use), 7b (28 days), 10a
	 Are combined checks for chronic diseases up to date Does patient or carer know how to give injection
	(see pamphlet inside insulin box or ask for advice)
	 Does patient (and carer, friends and family) know what to do if they have a hypo, and to come to clinic straight away
Check	if treatment doesn't work
	h -
	Regular blood glucose (BGL) tests

Active ingredients (generic names)	METFORMIN (met-for-min)
What it is used for	 Type 2 diabetes — alone or in combination with other blood glucose controlling medicines
How it works	 Reduces glucose made by liver and causes more glucose to be used in other tissues Can take 2 weeks to start working
Side effects	 Lactic acidosis — rare but serious. Occurs mainly in patients with kidney trouble or heart failure Early symptoms — stomach cramps, nausea, vomiting, losing weight, feeling really bad, loss of appetite Body absorbs less vitamin B12 Mausea Diarrhoea is worse if dose increased too quickly



Active ingredients (generic names)	DAPAGLIFLOZIN (dap-a-glif-lo-zin) EMPAGLIFLOZIN (emp-a-glif-lo-zin) ERTUGLIFLOZIN (ert-u-glif-lo-zin) Common name: SGLT2 inhibitors MOA tablets MOA slow-release medicine SGLT2 inhibitor combinations Not included in this monograph — see AMH for information: • Dapagliflozin + metformin (eg Xigduo XR) • Saxagliptin + dapagliflozin (eg Qtern) • Empagliflozin + linagliptin (eg Glyxambi) • Empagliflozin + metformin (eg Segluromet) • Ertugliflozin + sitagliptin (eg Steglujan)
What it is used for	Type 2 diabetes
How it works	 Lowers blood glucose levels by blocking glucose reabsoprtion in the kidney. It does this by inhibiting sodium-glucose co-transporter 2 which increases glucose excretion into the urine
Side effects	 Frequent urination (weeing a lot) Urinary tract and genital infections Ketoacidosis — excessive thirst, nausea, vomiting, abdominal pain, feeling really bad, hard to breathe Dizzy Dehydration

Warnings	 SGLT2 inhibitors with Diuretics, particularly monitored Other blood glucose l risk of hypo (hypoglyce) 	loop diuretics lowering medic caemia)	ines — may increase
Tell the patient	 Do not take more that doctor tells you to If nausea, vomiting, a return to clinic What to do if they hat straight away if treatments Do not drink alcohol (generation) Exercise every day 	In 1 aspirin tabl Ibdominal pain, ve a hypo, and ment doesn't w grog)	thirst or tiredness — to come to clinic ork Eat healthy food Finth lots of water
	 Warning stickers (page 310): 10a, 16, 21, A Are combined checks for chronic diseases up to date 		
Check	Blood test Check kidney function	R	egular blood glucose (BGL) tests

	GLICLAZIDE (glick-laz-ide) GLIMEPIRIDE (gli-mep-ir-ide)
Active ingredients (generic	
names)	 Other sulfonylureas Not included in this monograph — see AMH for information: Glibenclamide Glipizide
What it is used for	• Type 2 diabetes
How it works	• Increases release of natural insulin from pancreas to help cells use glucose. This helps to control blood glucose levels in people with diabetes
Side effects	 Blood glucose too low (hypoglycaemia or 'hypo') More likely to happen if patient is not eating enough food or dose too high or combination with other medicines for diabetes Warning signs — sweating, hunger, shaking (tremor), confusion, loss of consciousness Weight gain

Warnings	Pregnant Pregnant Kidney trouble — use lower dose Interactions — Do not • A lot of medicines af		educator consult
Tell the patient	 A lot of medicines an well sulfonylureas well subscriptions w	ork — always check dding another medic an 1 aspirin tablet a ave a hypo, and to co ment doesn't work	with doctor or <u>cine</u> day unless doctor
	Warning stickers (pag Glimepiride 10a, F	e 310): Gliclazide 10	likely to have a hypo, and less likely to know you are having one
Check	• Are combined check Regular blood glucose (BGL) tests	s for chronic condition	ons up to date

	LEVOTHYROXINE (levo-thi-rox-een)		
Active ingredients (generic names)	 Other thyroid hormones Not included in this monograph — see AMH for information: Liothyronine Eltroxin is not bioequivalent to other brands 		
What it is used for	 Thyroid hormone too low (hypothyroidism) Thyroid gland not working properly or has been removed, or partly removed 		
How it works	 Replaces thyroid hormones when not enough in body Thyroid hormones help many parts of body grow and work properly 		
Side effects	 Dose can be reduced if signs of too much thyroid hormone (hyperthyroidism) — overdose Signs of overdose Weight loss Other signs: Other signs: Fast pulse (heart rate) Sweating Diarrhoea Trouble sleeping 		

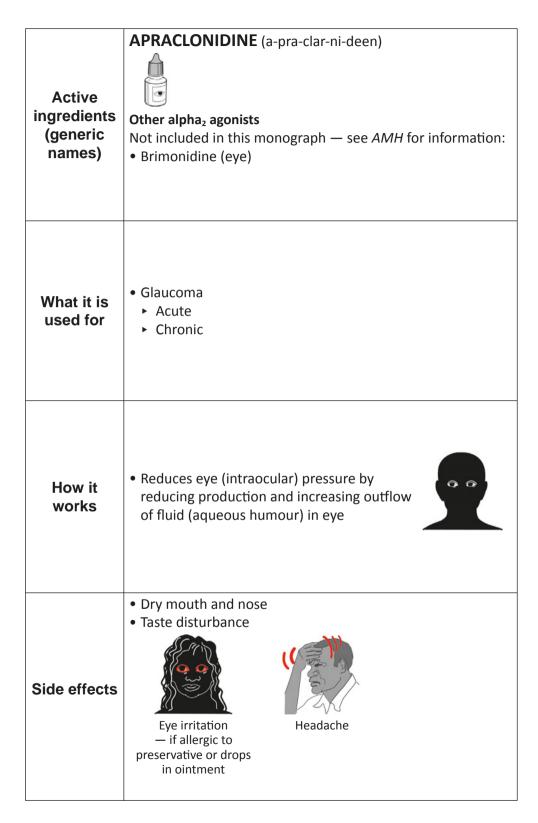
	• Dose often needs to be adjusted (depending on symptoms)	
	Heart trouble	
Warnings	 Interactions — Do not use together without medical consult LEVOTHYROXINE with Antiepileptics Ciprofloxacin — can take 6 hours before or after 	
	expronovacini can take o nours before or after levothyroxineDigoxin	
	 Iron + calcium, antacids — can take 4 hours before or after thyroxine 	
	Proton pump inhibitorsWarfarin	
Tell the patient	 Can take up to 6 weeks to work Will need regular blood tests especially when starting and to get dose right For infants or young children — mix crushed tablet in spoonful of water or milk (not soy milk) If not kept in fridge use-by/expiry date will be sooner, it won't work as well 1 strip can be kept out of fridge or in dose aid for up to 2 weeks Take on empty stomach usually Do not stop taking medicine — take medicine as instructed to stop symptoms coming back 	
	Warning stickers (page 310): 3b, 4a,	
Check	Blood test Thyroid function 6 weeks after changing dose, then once a year when stable	

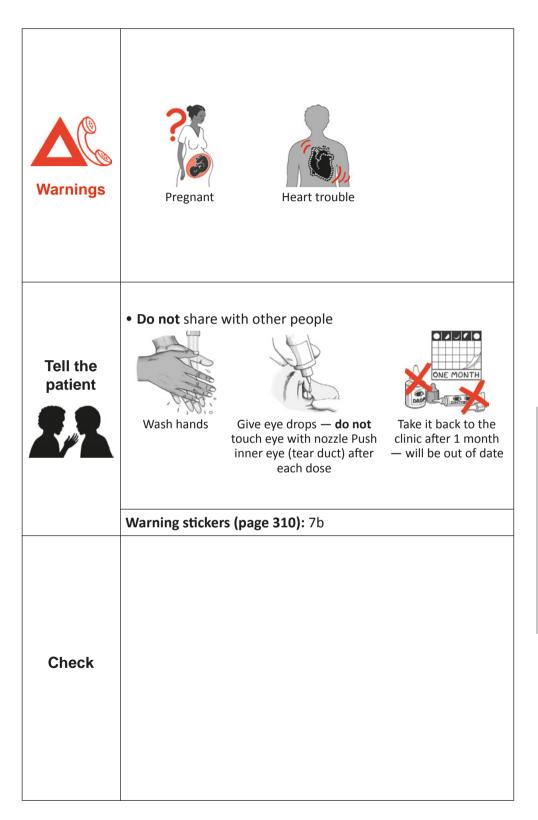
Active ingredients (generic names)	ACETAZOLAMIDE (a-seet-a-zole-a-mide)
What it is used for	• Acute glaucoma
How it works	 Reduces eye (intraocular) pressure by reducing production of fluid (aqueous humour) in the eye
Side effects	 Tingling (paraesthesia) in hands, face, feet Problems with sex (eg low sex drive) Bitter or metallic taste Metabolic acidosis, changes in body salts (electrolytes) Skin reactions (eg Stevens Johnson Syndrome) Diarrhoea Sleepy Depression Abdominal pain Kidney trouble (kidney stones)

	1]
Warnings	Pregnant Pregnant Kidney trouble – use lower dose Interactions – Do no ACETAZOLAMIDE with • High dose aspirin • Cyclosporin • Lithium		Old people Old people Gout
Tell the patient	Take with food or n so medicine doesn't n feel sick Warning stickers (pag	nake you	
Check	• Avoid use if allergy Blood test Regular checks for I function (UEC), F	to sulphonamides kidney	

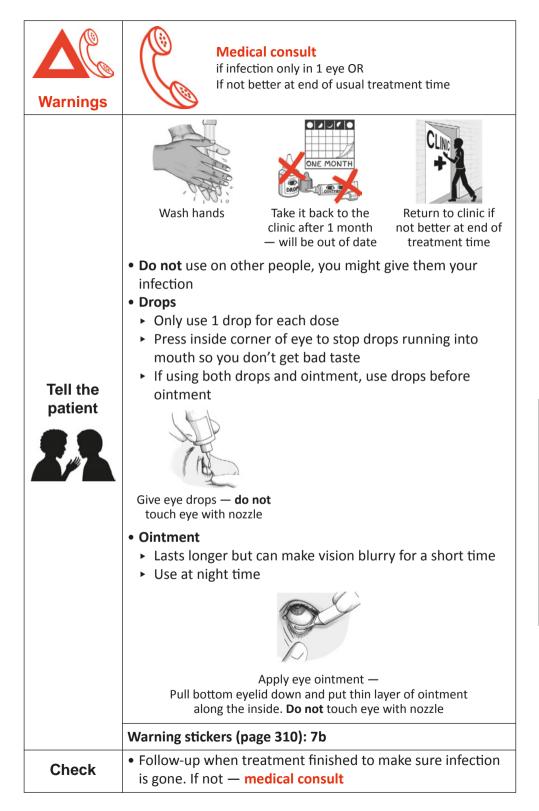
	KETOTIFEN (key-to-tif-fen)	
Active ingredients (generic names)	OLOPATADINE (oh-loe-pa-ta-deen) Other antihistamines (eye) Not included in this monograph — see AMH for information: • Azelastine • Levocabastine	
What it is used for	Allergic conjunctivitisFly bite	
How it works	 Histamines produced by the body cause most allergy symptoms. Antihistamines can Block the action of histamine by binding to histamine receptors. Ketotifen and olopatadine bind to H₁ receptors (selective H₁ antagonists) Stabilising the mast cells that produce histamines — reducing the amount of histamine released 	
Side effects	 Mild eye irritation, stinging when put in Dry eye (olopatadine) Engorgement or inflammation of the eye (olopatadine) Where the eye (olopatadine) Where	

Warnings	Children under 3 years Children under 3 years Interactions — Do not ANTIHISTAMINES (eye • Vasoconstrictor eye) with	out medical consult
Tell the patient	 Do not share with of May sting when first Only use 1 drop for e Wash hands 	put in each dose Give eye drops — do not touch eye with nozzle	Take it back to the clinic after 1 month — will be out of date
Check			



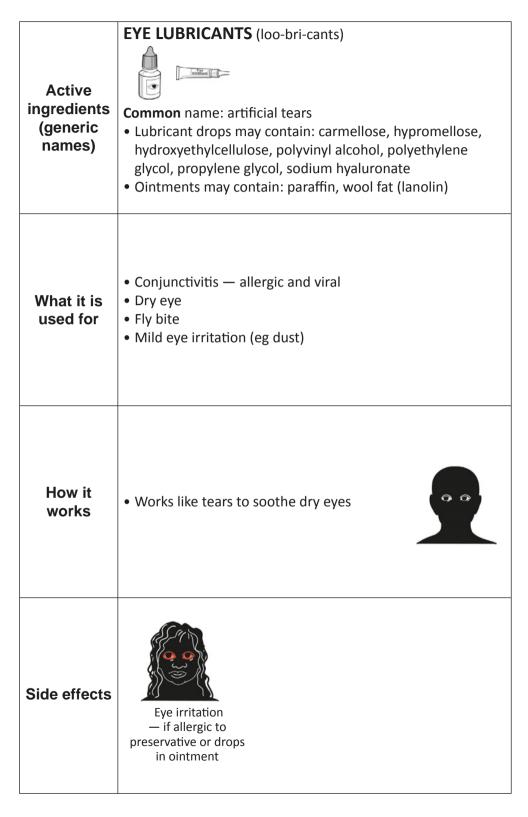


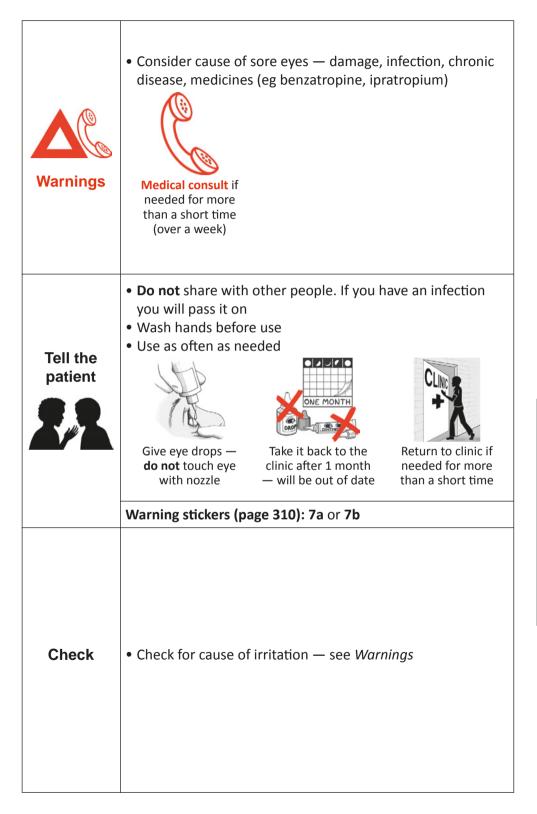
Active ingredients (generic names)	CHLORAMPHENICOL (clor-am-fen-i-col)
What it is used for	 Eye infections with pus and eyelids stuck together in morning Bacterial conjunctivitis Eye surface ulcer or infection Prevent eye infection if Eye damaged Something in eye Flash burn
How it works	 Kills bacteria that causes some common eye infections Can be used as drops or ointment
Side effects	 Bad taste if drops run into back of mouth Ointment and drops can sting or burn — need to close eyes for 5 minutes

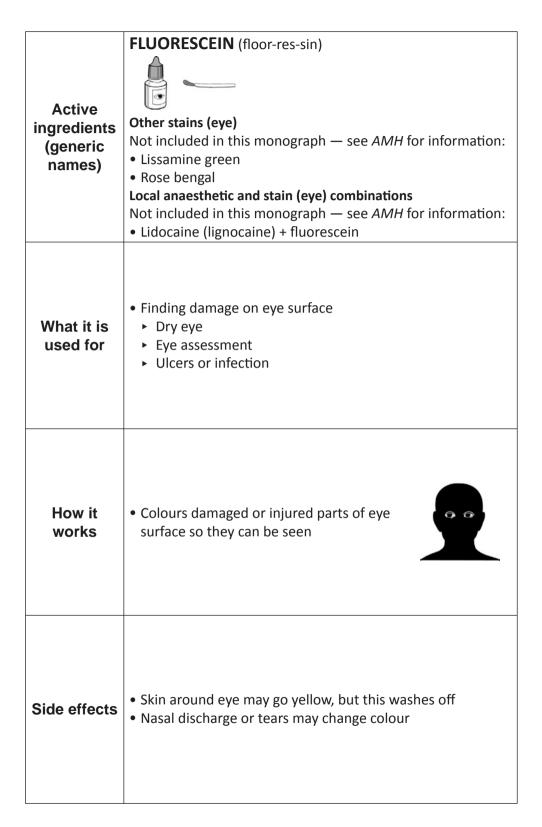


Active ingredients (generic names)	DEXAMETHASONE (dex-a-meth-a-sone) PREDNISOLONE 1% + PHENYLEPHRINE 0.12% (pred-nis-o-lone + fen-al-ef-rine) Other corticosteroids (eye) Not included in this monograph — see AMH for information: • Fluorometholone • Hydrocortisone (eye) • Prednisolone (eye)
What it is used for	 Acute glaucoma Allergic and inflammatory conditions of the eye
How it works	 Corticosteroid reduces body's inflammatory response, reducing pain and swelling Vasoconstrictor (phenylephrine) narrows small blood vessels in eye, reduces redness and pain
Side effects	 Eye damage can occur with longer term use Do not use for more than 2 weeks without supervision by ophthalmologist

	Person wears contact lenses
Warnings	Pregnant – if needed for more than 5 days (phenylephrine)Babies under 6 months (prednisolone + phenylephrine)Blurred vision (prednisolone + phenylephrine)Image: Description of the state
Tell the patient	 Do not share with other people Do not stop taking eye drops abruptly, talk to Doctor when you want to stop Wash hands Give eye drops - do not touch eye with nozzle Give eye drops - do not after 1 month - will be out of date
	Warning stickers (page 310): 7b
Check	

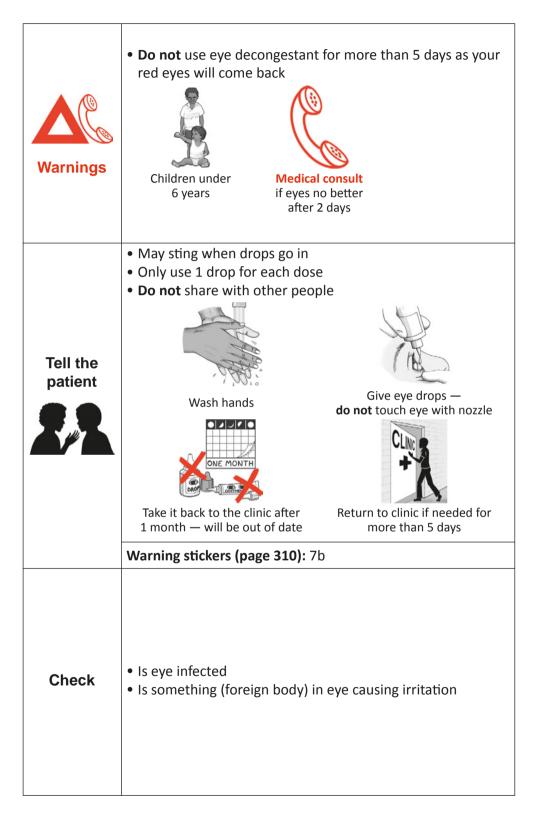






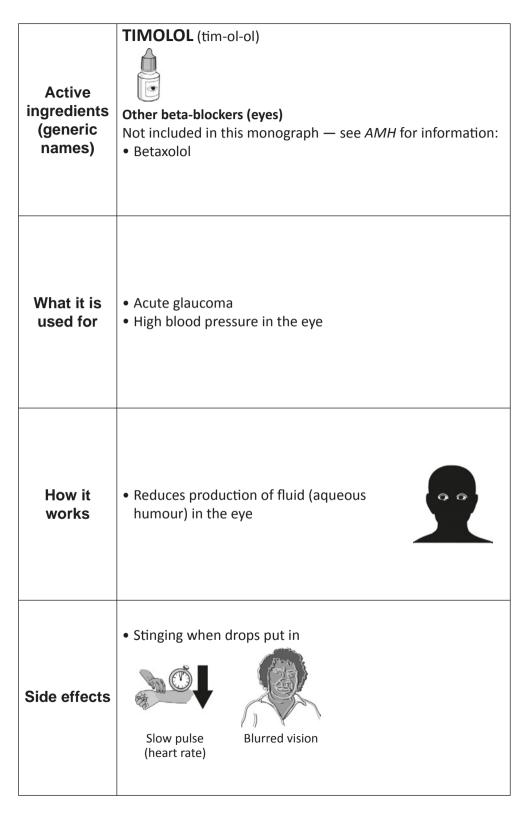
Warnings	 Soft contact lenses may be stained Image: Only use in clinic — Do not give to person to use at home
Tell the patient	 Might sting when drops go in Has no effect apart from helping to see damage
Check	

Active ingredients (generic names)	 NAPHAZOLINE (na-faz-o-leen) Other decongestants (eye) Not included in this monograph — see AMH for information: Phenylephrine Tetrahydrozoline (tetryzoline) Decongestant & antihistamine (eye) combinations Not included in this monograph — see AMH for information: Naphazoline + antazoline (eg Albalon-A) Naphazoline + pheniramine (eg Naphcon-A, Visine Allergy with Antihistamine) 		
What it is used for	 Allergic reaction to pollens, smoke, dust, insect bites (with antihistamine) Sore, red, itchy eyes with no pus 		
How it works	• Narrows small blood vessels in eye, reduces redness and pain		
Side effects	 Stinging when drops put in Redness may come back after drops wear off Blurred vision 		



Active ingredients (generic names)	OXYBUPROCAINE (oxy-bu-pro-cane) TETRACAINE (AMETHOCAINE) (tet-ra-cane [a-meth-o-cane]) Other local anaesthetics (eye) Not included in this monograph — see AMH for information: • Proxymetacaine
What it is used for	 Numbing the eye to Check for injury Do double eversion of eyelid Examine flash burns Remove foreign body Wash out burning chemical Removing tick from ear
How it works	• Blocks nerves in eye so pain messages can't be sent to brain
Side effects	• Tiny ulcers (sores) on eyes if used too much

Warnings	Only use in clinic — do not give to person to use at home
Tell the patient	 Stings when first put in. Close eyes for a little while Do not go outside until effects wear off to prevent damage to eye (10–20 minutes) If not able to stay in clinic — cover with pad If not rub eyes after drops put in
Check	

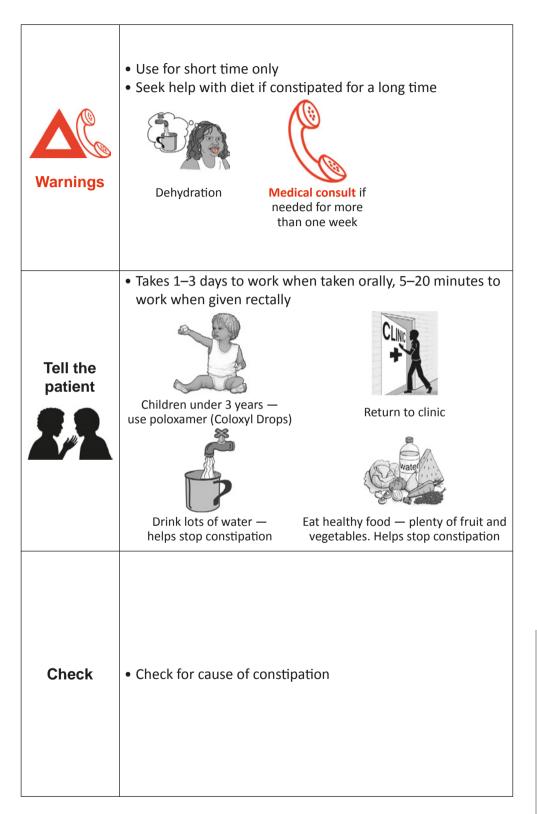


Warnings	Pregnant Pregnant Breathing trouble – Interactions – Do no TIMOLOL with:		Children Children Heart trouble
	 Adrenaline (epinep Beta₂ agonists Beta-blockers (oral) Clonidine Ergometrine Isoprenaline NSAIDs – low dose Verapamil 	aspirin OK	
Tell the patient	 May sting when drops ups applied Close their eyes and corners of eyes) aft Do not share with of Warning stickers (page) 	ide down so bubble d apply punctal occl er drop administration other people Give eye drops — do not touch eye with nozzle	usion (hold down on
Check			

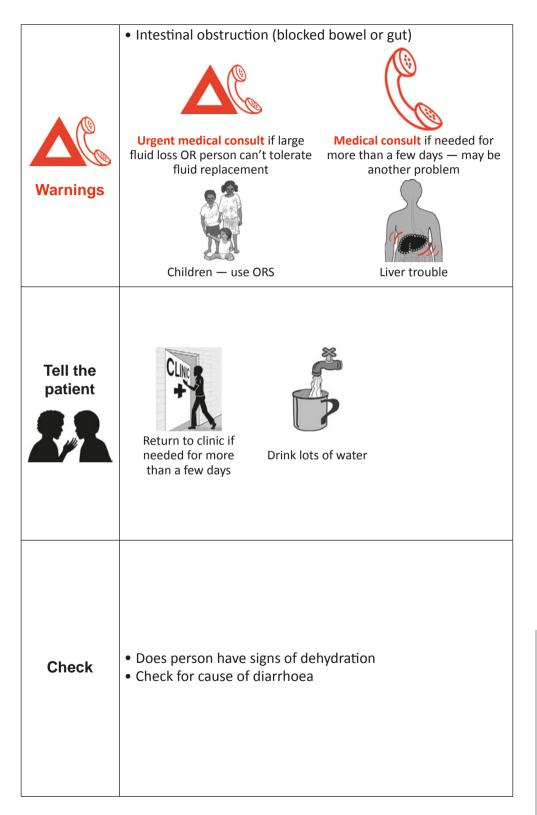
Active ingredients (generic names)	ANTACIDS (ant-acids)		
What it is used for	 Eases pain of stomach upset Gastritis, reflux, indigestion Heartburn in pregnancy Stomach ulcers 		
How it works	• Neutralises stomach acid to prevent pain if stomach acid comes back up oesophagus		
Side effects	• Usually none if taken for short time Constipation — if a lot of aluminium or calcium		

Warnings	Kidney trouble (antacids with sodium)Liver trouble (antacids with sodium)Heart failure - do not use antacids with sodiumMedical consult if needed for more than one weekInteractions - Do not use together without medical consultInteractions - Do not use together without medical consult• Antacids should not be taken at same time as other oral medicines. Leave 2 hours between taking an antacid and another medicine
Tell the patient	 Only use when you have symptoms Take between meals and at bedtime, or when needed Shake bottle before taking mixture Tablets work best if chewed but can be swallowed whole Tablets work best if chewed but can be swallowed whole To not drink alcohol (grog) – makes symptoms worse Return to clinic if not getting better OR symptoms come back
Check	 Check for underlying problem (eg heart trouble, stomach ulcer)

	DOCUSATE (doc-u-sate)		
Active ingredients (generic names)	POLOXAMER (pol-ox-a-mer)		
	DOCUSATE + SENNA (doc-u-sate + sen-na)		
	Other faeces softeners Not included in this monograph — see AMH for information: • Liquid paraffin		
What it is used for	 Constipation caused by some medicines Opioids Palliative care medicines Postnatal constipation Preventing straining following rectal surgery and in acute perianal disease 		
How it works	• Softens faeces by gathering moisture from body into bowels		
Side effects	• Excessive loss of body salts (electrolytes)		



	LOPERAMIDE (lo-per-a-mide)
Active ingredients (generic names)	Other opioid antidiarrhoeals Not included in this monograph — see <i>AMH</i> for information: • Diphenoxylate
What it is used for	 Stopping diarrhoea in adults Alcohol withdrawal
How it works	• Slows down gastrointestinal movements and increases absorption of fluid from the bowel into the body
Side effects	Abdominal pain Nausea Constipation

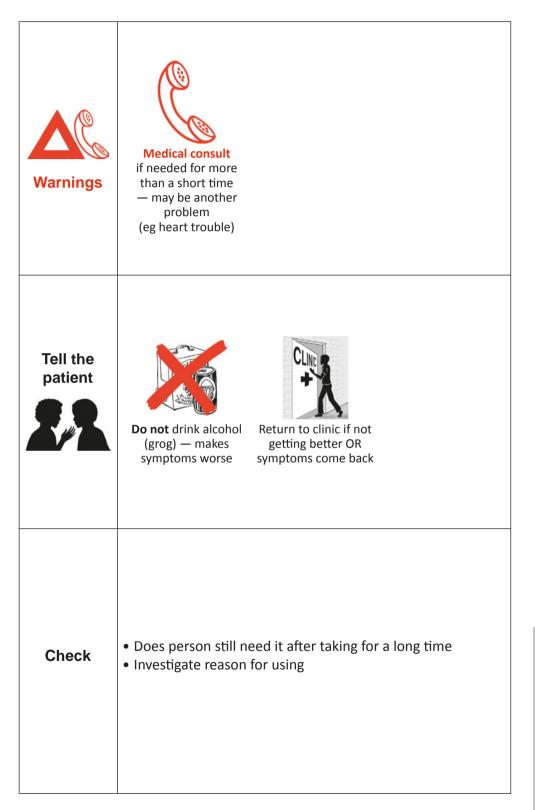


	METOCLOPRAMIDE (me-to-clo-pra-mide)		
Active ingredients (generic names) Other dopamine antagonists Not included in this monograph — see AMH for informati • Domperidone • Droperidol			
What it is used for	 Haloperidol Increasing gastrointestinal movement after operations Nausea and vomiting (adult) Metoclopramide Nausea and vomiting (adult) with: opioid withdrawl, palliative care, pregnancy Procholperazine Dizziness and vertigo 		
How it works	• Acts on dopamine hormone receptors in brain and gut to reduce nausea and vomiting and increase gastrointestinal movement		
Side effects	 Restlessness Agitation Muscle spasm Oculogyric crisis Sleepy Constipation Headache Dizzy (metoclopramide) 		

METOCLOPRAMIDE, PROCHLORPERAZINE

	People with Parkins	son's disease	
Warnings	Children Children Dehydration — may need oral rehydration salts	Old people Depression	Kidney trouble (metoclopramide) Medical consult if needed for more than a short time (one week)
Tell the patient	Do not drive or operate machinery if sleepy Warning stickers (page Prochlorperazine 1, 1		Return to clinic if still sick in 1–2 days
Check	 Does patient have signs of dehydration Check for cause of vomiting 		

Active ingredients (generic names)	NIZATIDINE (ni-za-ti-deen) Solution Other H₂ antagonists Not included in this monograph — see AMH for information: • Famotidine • Ranitidine
What it is used for	 Pain of stomach upset Heartburn, indigestion in pregnancy Stomach ulcer
How it works	 The stomach makes acid to help digest food. Acid can sometimes irritate stomach lining. H₂ antagonists reduce the secretion of acid in the stomach
Side effects	• Usually none if taken for short time



Active ingredients (generic names)	OMEPRAZOLE (o-mep-ra-zol) Other proton pump inhibitors (PPIs) Not included in this monograph — see AMH for information: • Esomeprazole • Lansoprazole • Pantoprazole • Rabeprazole
What it is used for	 Pain from stomach upset Gastritis, reflux, indigestion Stomach ulcers Preventing stomach irritation caused by taking NSAIDs
How it works	• Stomach makes acid to help digest food. Acid can irritate stomach lining. PPIs reduce amount of acid in stomach
Side effects	• Usually none for first 2 months Headache Headache Headache Headache

Warnings	Iver trouble – if needed for more than a short with higher doses time – may be another problem (eg heart trouble) Interactions – Do not use together without medical consult OMEPRAZOLE with • Clopidogrel • Diazenam		
Tell the patient	 Diazepam Warfarin Swallow tablets whole. Do not crush or chew Image: Constant of the state of the s		
Check	• Does person still need it after taking it for long time		

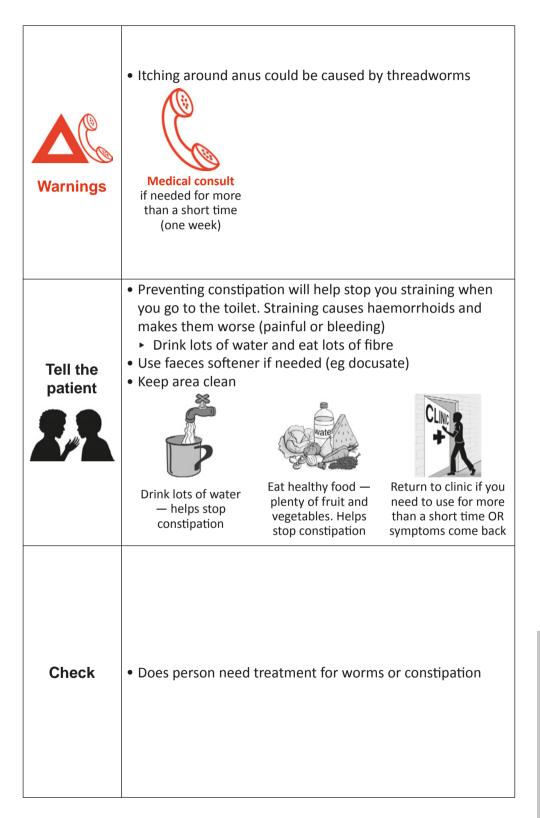
Active ingredients (generic names)	ONDANSETRON (on-dan-set-ron) Image: Constraint of the set of the se		
What it is used for	 Nausea and vomiting Persistent vomiting with diarrhoea (children) 		
How it works	 Stops nausea and vomiting by blocking central and peripheral 5HT3 receptors (a type of serotonin receptor) 		
Side effects	Constipation Headache Dizzy		

Warnings	InteractionsDo not use together without medical consultONDANSETRON with• Apomorphine• Rifampicin• Tramadol — reduces analgesic effect of tramadol
Tell the patient	 If too nauseous to swallow tablets or medicine mixture — dissolve wafer on the tongue
Check	• For cause of nausea

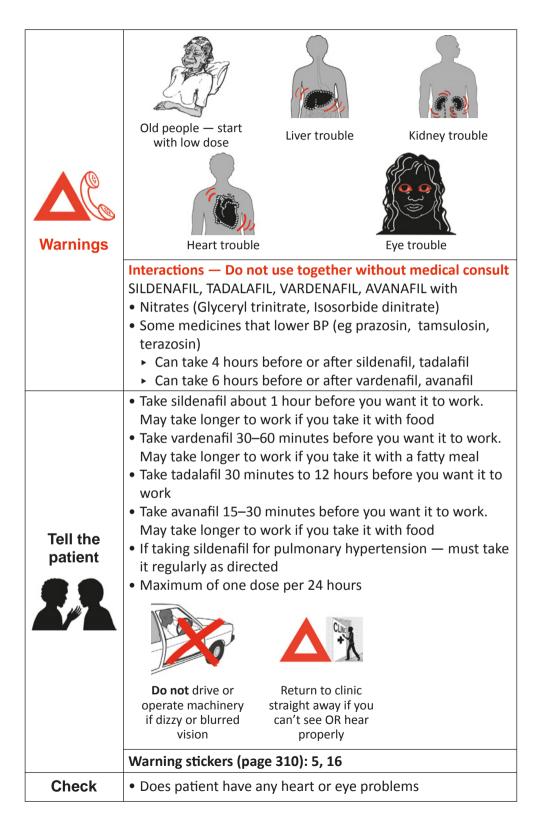
	ORAL REHYDRATION SALTS
Active ingredients (generic names)	Common name: ORS
What it is used for	 Replacing fluid, body salts (electrolytes), glucose lost when person at risk of or dehydrated due to Diarrhoea Vomiting Sweating a lot
How it works	 Provides replacement fluid, body salts (electrolytes), glucose
Side effects	• Usually none if taken for short time

Warnings	Children (watch for signs of dehydration) Medical consult if needed for more than a few days May be another problem Urgent Medical consult if large fluid loss OR person can't tolerate fluid replacement		
Tell the patient	 Important to measure right amount of clean drinking water before mixing Usually 2 tablets or 1 sachet in 200mL of water Children may take ORS better if frozen and given as an ice block 		
Check	• Dose given according to body weight and severity of diarrhoea		

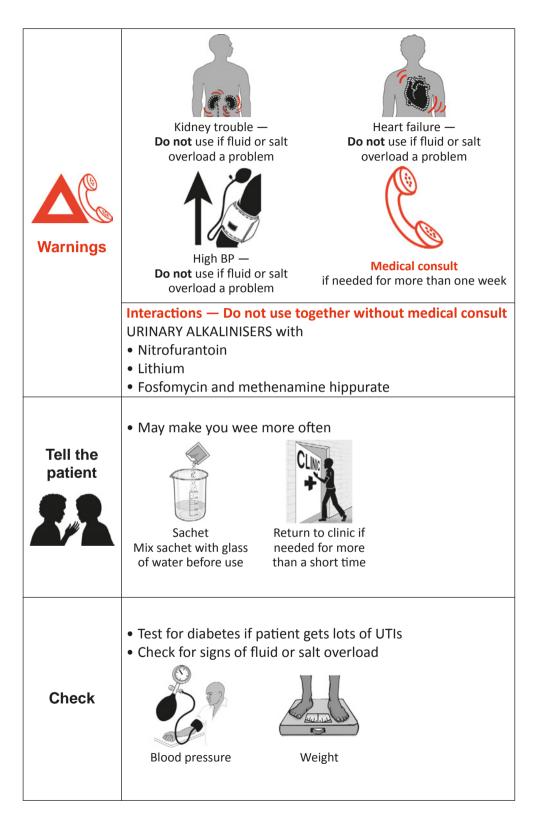
	TOPICAL ANORECTAL (a-no-rec-tal)	
Active ingredients (generic names)	May contain combinations of adrenaline (epinephrine), aluminium acetate, allantoin, balsam peru, benzocaine, cinchocaine, lidocaine (lignocaine), hydrocortisone, prednisolone, zinc oxide, benzyl benzoate	
What it is used for	 Relieving pain and bleeding of haemorrhoids (piles) Inflammation or itchiness around anus Tear or split in lining of anus (fissure) 	
How it works	 Contains local anaesthetic and corticosteroids to stop pain, adrenaline (epinephrine) to help stop small blood vessels bleeding, ingredients to soothe skin 	
Side effects	• May cause redness and irritation	



Active ingredients (generic names)	SILDENAFIL (sil-den-a-fil) TADALAFIL (ta-dal-a-fil) VARDENAFIL (var-den-a-fil) AVANAFIL (ava-na-fil)	
What it is used for	 Erectile dysfunction Pulmonary arterial hypertension (sildenafil and tadalafil) 	
How it works	 Chemical messengers increase flow of blood to penis during sexual stimulation and cause an erection. This medicine helps stops these messengers breaking down so that they work better to help erection In pulmonary hypertension it helps open up blood vessels in lungs to reduce pressure 	
Side effects	• Blocked nose	



Active ingredients (generic names)	URINARY ALKALINISERS (ur-in-ary alk-al-in-i-sers)	
What it is used for	 Relieving burning from infections of kidney, bladder, urine Some types of kidney stones 	
How it works	 Decreases levels of acid in urine and relieves pain, burning and discomfort of urinary tract infections (UTIs) or infections of kidney or bladder Doesn't kill bacteria that causes infection, but can help discomfort caused by UTIs 	
Side effects	Diarrhoea	



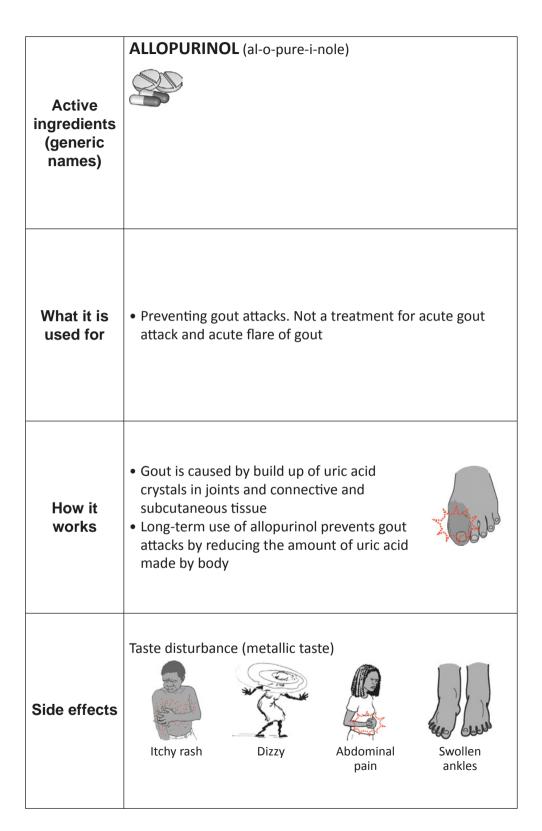
Medicines

Active ingredients (generic names)	DEXAMETHASONE (deks-a-meth-a-sone) HYDROCORTISONE (hy-dro-cor-ti-zone) PREDNISOLONE (pred-nis-o-lone)+ Other corticosteroids Not included in this monograph — see AMH for information: • Betamethasone • Cortisone • Methylprednisolone • Prednisone • Triamcinolone			
What it is used for	 Asthma or chronic lung disease Hydrocortisone: severe child asthma, moderate/severe adult asthma, acute COPD Prednisolone: mild/moderate child asthma, mild/ moderate adult asthma, acute COPD Meningitis (dexamethasone) Croup (dexamethasone) Immunosuppressant (eg after kidney transplant) Other severe inflammatory or immune disorders 			
How it works	 Reduces inflammation by blocking body's natural response to infection or injury 			
Side effects	 Blood glucose disturbance (hyperglycaemia), sleep disturbance Long term — many side effects including bone density loss, muscle weakeness, mood disturbance, skin atrophy, weight gain, infection 			

	Plood glucoso lovals	can increase in s	poople with disheter
	 Blood glucose levels can increase in people with diabetes Do not use soon after chickenpox, shingles or measles 		
	infections	i chickenpox, si	ingles of measles
Warnings	Stomach trouble	Heart trouble	High BP
	Mental health proble	n n	nore than one week
	 Interactions — Do not use together without medical consult Corticosteroids interact with a lot of different medicines — always check with doctor or pharmacist before adding another medicine 		
Tell the patient	 If taking for more than 3 weeks — do not stop suddenly, follow instructions for slowly reducing dose If taking for a long time — make sure you tell other doctors and health people that you are taking this medicine Can increase risk of infections (eg thrush) If possible take in the morning to avoid sleep disruption Different steroids are not interchangeable 		
22	Take with food		clinic if needed
	or milk for more than a short time Warning stickers (page 310): 9, B, prednisolone also 6 (some oral products)		
Check	Blood pressure	oones (steroid-ir Blood test — Cheo .FT BGL before givi	one density test for nduced osteoporosis)

	IMMUNOSUPPRESSANTS (imm-u-no-su-press-ants)		
Active ingredients (generic names)	Immunosuppressants include • Corticosteroids (eg dexamethasone, prednisolone) • Calcineurin inhibitors (eg ciclsporin, tacrolimus) • Cytotoxic immunosuppressants • Immunosuppressant antibodies • Sirolimus derivatives • Mycophenolate		
What it is used for	 Autoimmune and inflammatory diseases — rheumatoid arthritis, psoriasis, ulcerative colitis, Crohn's disease Organ transplants (kidney transplant) so body won't reject the new organ 		
How it works	 Reduces effectiveness of the body's immune system Suppresses over-active immune reactions (where immune system reacts more than needed) Stops reactions against transplanted organs 		
Side effects	 Easier for patients to get infections Increased risk of some cancers (eg skin cancer, lymphoma) There are many side effects — see the AMH for complete list Increased risk of some cancers (eg skin cancer, lymphoma) There are many side effects — see the AMH for complete list Increased risk of some cancers (eg skin cancer, lymphoma) There are many side effects — see the AMH for complete list Increased risk of some cancers (eg skin cancer, lymphoma) There are many side effects — see the AMH for complete list Increased risk of some cancers (eg skin cancer, lymphoma) There are many side effects — see the AMH for complete list Increased risk of some cancers (eg skin cancer, lymphoma) There are many side effects — see the AMH for complete list Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancer, lymphoma) Increased risk of some cancers (eg skin cancers) Increased risk of		

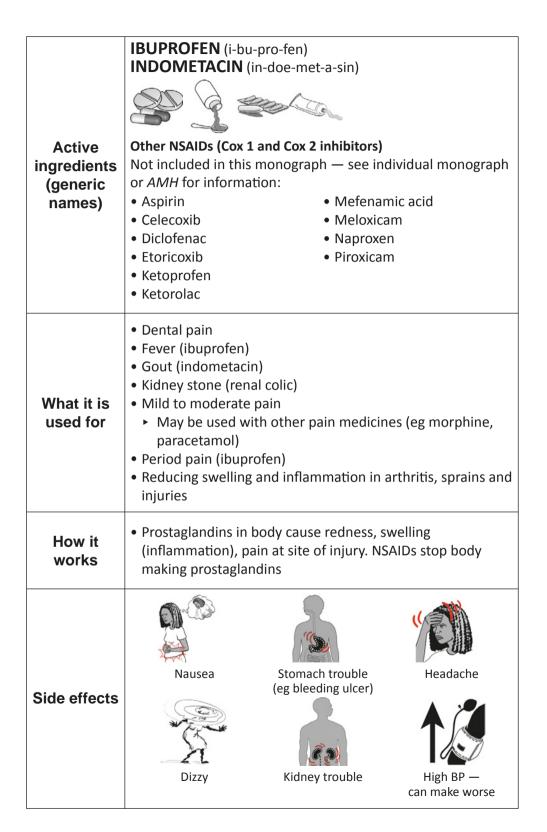
Warnings	Pregnant Kidney trouble Interactions — Do not use together without medical consult • Immunosuppressants interact with a lot of different medicines including herbal medicines — always check with doctor or pharmacist before adding another medicine	
Tell the patient	 Increased risk of skin cancers — have regular checks and protect from the sun If you forget to take a dose at the usual time — take it as soon as you remember. Don't skip a dose Always stick with the same brand and formulation Keep out of the sun Warning stickers (page 310): 8	
Check	 Blood pressure Regular blood tests needed (FBC, LFT, UEC) Screen for infection before starting (including latent TB and HBV) Grapefruit juice can cause some immunosuppressants to build up in body — ask doctor or pharmacist about this Does person needs antibacterial prophylaxis before dental work Has person had flu vaccination and all vaccines up to date 	

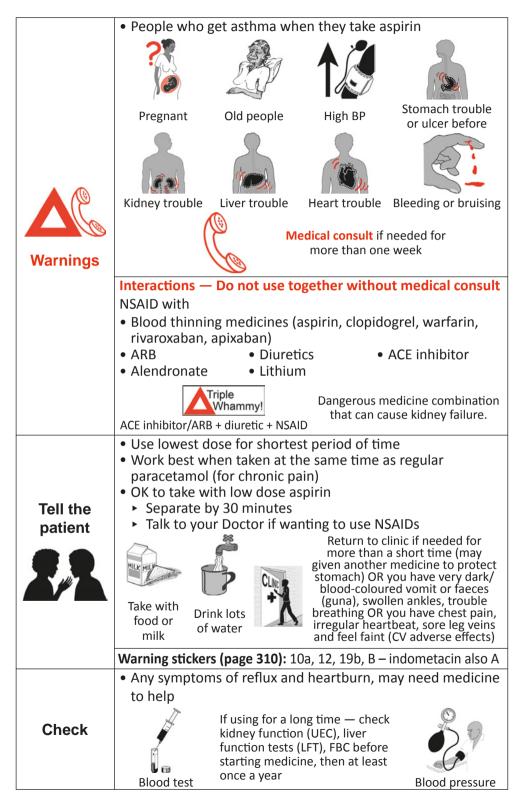


	• Do not start (or restart) during gout attack, but may be		
	continued if patient already taking regularly		
	?		
Warnings	Pregnant	Old people	Kidney trouble — use lower dose
Warnings	Interactions — ALLOPURINOL		vithout medical consult
	Amoxicillin	 Azatl 	hioprine
	Ampicillin	• Merc	captopurine
	 If you stop tablets you will need to start again at low dose (starting at high dose may cause gout attack and increase risk of hypersentivity reactions) If you have not taken them for a while and you get a gout attack do not take these tablets. Talk to doctor or clinic about different medicine until attack settles down Stop drug if rash occurs or other signs of allergy 		
Tell the patient	MIK		Co.
22	Take with food or milk	Do not stop taking medicine Take medicine as instructed to stop symptoms coming back	Do not drive or operate machinery if dizzy or faint
			CLINE T
	Drink lots of wa	ntor — hoing	to clinic if you get a rash,
	stop build up of	uric acid can swollen I	ips or mouth, or fever OR
	nrevent kidney stones		taking the medicine
	Warning sticke		
Check	Blood test	function Check u after starting me	tion tests (LFT) and renal uric acid levels 2-5 weeks edicine or changing dose, nths during maintenance

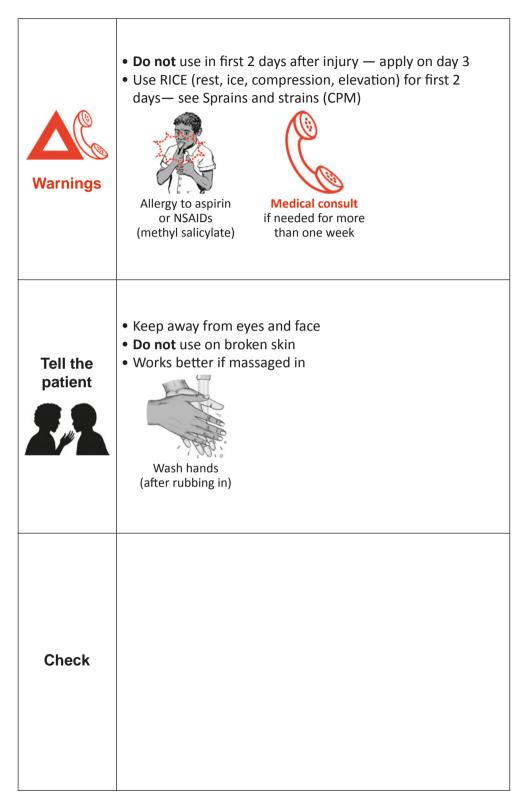
	COLCHICINE (col-chi-seen)		
Active ingredients (generic names)			
What it is used for	 Pain in gout attacks if NSAIDs can't be used Preventing gout attacks 		
How it works	 When uric acid crystal builds up in joints and connective and subcutaneous tissue, the body sometimes reacts with pain, swelling, redness Colchicine stops this reaction to uric acid to prevent or treat a gout attack 		
Side effects	Diarrhoea — if dose too high		

	• Pre-existing eye infections		
Warnings	Pregnant Image: Constraint of the second		
	nteractions — Do not use together without medical consult Colchicine interacts with a lot of different medicines — always check with doctor or pharmacist before adding another medicine		
Tell the patient	 When using for gout attack, do not take more than 3 tablets for one course. Stop for 3 days in between courses. If you have liver or kidney problems you may have to wait longer in between courses Do not drink grapefruit juice — can increase amount of medicine in your blood and chance of getting side effects Return to clinic if after completing your course your symptoms haven't improved Return to clinic if you get diarrhoea, muscle pain, tingling in fingers or toes, bruising or bleeding, infection — stop taking medicine Warning stickers (page 310): 5, 18 		
Check	Blood test if using for prevention — check uric acid Check FBC and CK before starting medicine, after 1 month and 6 months, then once a year		



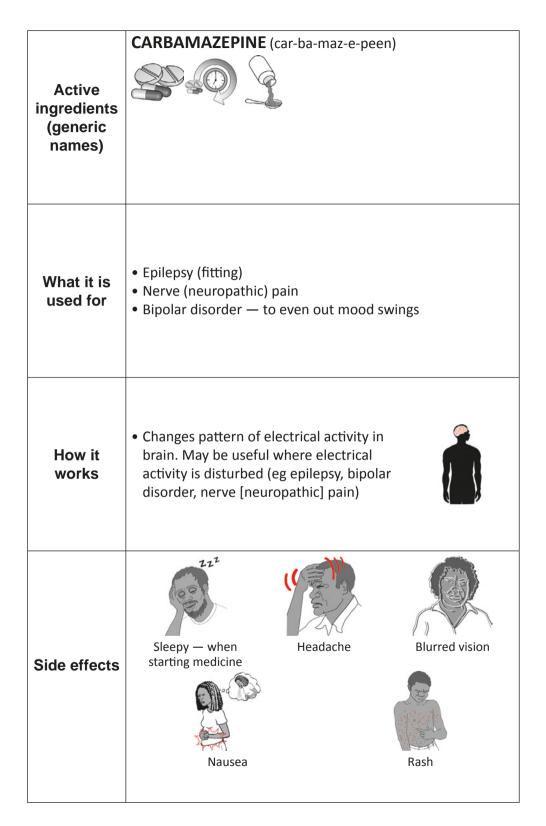


	RUBBING MEDICINE
Active ingredients (generic names)	Usually contains eucalyptus and/or methyl salicylate
What it is used for	 Pain of strains or sprains — start applying on day 3 after injury
How it works	• Mildly irritates skin to give a feeling of warmth or coolness to sooth pain
Side effects	Itchy, burning Rash

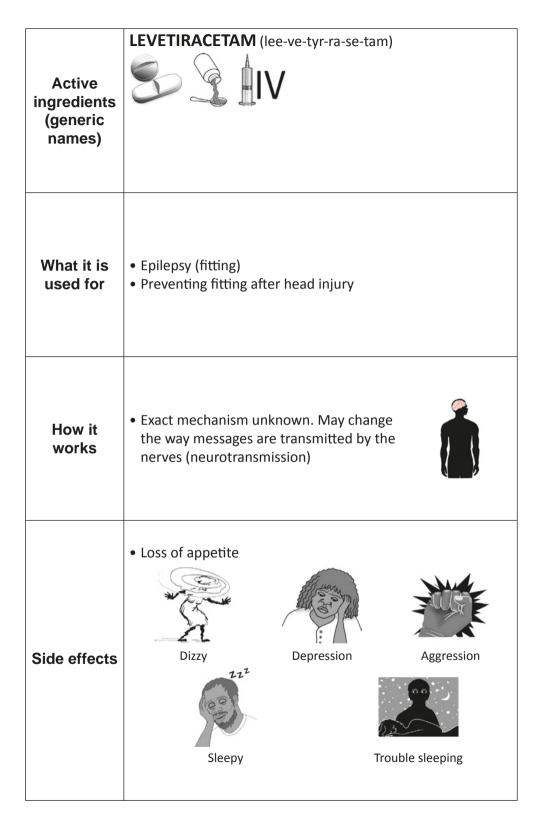


Active ingredients (generic names)	BENZTROPINE (benz-tro-peen)		
What it is used for	 Controlling side effects of antipsychotic medicines, eg haloperidol, depot antipsychotics Mental health emergency Psychosis Oculogyric crisis Parkinson's disease 		
How it works	• Works in brain to block cholinergic neurotransmitter receptors. This reduces some symptoms of Parkinson's disease (tremor, rigidity, too much saliva) and side effects of antipsychotics		
Side effects	 Urinary retention (can't pass urine properly) Image: Dry mouth constipation constipation Image: Dry mouth constipation		

	Bladder and bowel troubleDementia		
Warnings	Heart trouble Image: Construction of the second		
Tell the patient	Image: Nonot stop taking medicine Take medicine as instructed to stop symptoms coming backImage: Nonot drive or operate machinery if sleepy or blurred visionDo not drink alcohol (grog)Image: Nonot drive or operate machinery if sleepy or blurred visionImage: Nonot drink alcohol (grog)Image: Nonot drive or operate machinery if sleepy or blurred visionImage: Nonot drink alcohol (grog)Image: Nonot drive or operate machinery if sleepy or blurred visionImage: Nonot drink alcohol (grog)Image: Nonot drive or operate machinery if sleepy or blurred visionImage: Nonot drink alcohol (grog)Image: Nonot drive or operate blurred visionImage: Nonot drink alcohol (grog)Image: Nonot drive or operate blurred visionImage: Nonot drive or operate alcohol (grog)Image: Nonot drive or operate blurred visionImage: Nonot drive or operate alcohol (grog)Image: Nonot drive or operate blurred visionImage: Nonot drive or operate alcohol (grog)Image: Nonot drive or operate blurred visionImage: Nonot drive or operate alcohol (grog)Image: Nonot drive or operate blurred visionImage: Nonot drive or operate alcohol (grog)Image: Nonot drive or operate blurred visionImage: Nonot drive or operate alcohol (grog)Image: Nonot drive or operate blurred visionImage: Nonot drive or operate alcohol (grog)Image: Nonot drive or operate alcohol (grog)Image: Nonot drive or operate alcohol (grog)		
	warning stickers (page 510). 1, 9 (ii taking ior a long time)		
Check	Blood pressure		



Warnings	 Carbamazepir medicines — ; 	ne interacts wit always check w	h a lot of diff rith doctor or	it medical consult erent
Tell the patient	 May stop comimplant) from medicine and You will feel ti Do not drink genedicine in you effects Swallow slow- Swallow slow- Ta for the feel time of time of	working proper for 4 weeks aft red for first few grapefruit juice our bloodstrear release medici ake with bod or milk o not drive r operate bachinery sleepy or lurred vision	njected contr rly. Use cond er treatment v weeks — can increa n and chance nes whole	o not drink alcohol grog) o not stop taking hedicine Take hedicine as instructed o stop symptoms poming back
Check	• If used long term — consider bone mineral density test Blood test — Check FBC before starting medicine If using to treat epilepsy — check carbamazepine levels			



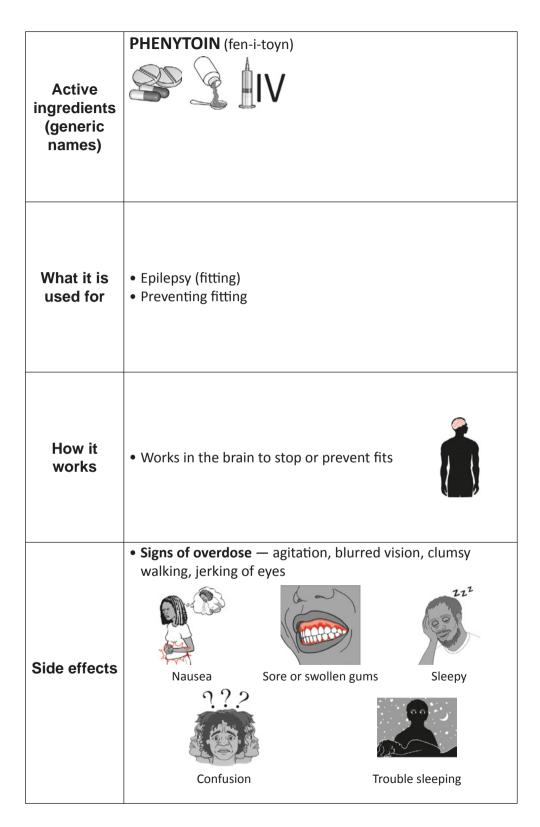
Warnings	Kidney trouble – use lower dose Pregnant Kidney trouble – use lower dose Pregnant Breastfeeding Mental health problems Interactions – Do not use together without medical consult LEVETIRACETAM with • Methotrexate
Tell the patient	 Can dilute mixture in a glass of water Do not drive or operate machinery if sleepy or dizzy Do not stop taking medicine suddenly Do not drink alcohol (grog) – medicine increases the effects
	Warning stickers (page 310): 1, 9
Check	• Monitor for changes in mood/behaviour

Active	LEVODOPA + BENSERAZIDE (le-vo-doe-pa + ben-ser-a-zide) LEVODOPA + CARBIDOPA (le-vo-doe-pa + car-be-do-pa)		
ingredients (generic names)	 Other dopaminergic combinations Not included in this monograph — see AMH for information: Levodopa + carbidopa + entacapone (eg Stalevo) 		
What it is used for	 Parkinson's disease — levodopa Benserazide or carbidopa added to reduce side effects like nausea, vomiting, low BP (hypotension) 		
How it works	• Dopamine is an important chemical messenger in the brain. Parkinson's disease happens when not enough dopamine. Levodopa increases dopamine in the brain		
Side effects	 Agitation Hallucinations Dyskinesia (strange movements) Anorexia (loss of appetite) Nausea and vomiting Sleepy Trouble sleeping Orever the standing up Depression Confusion 		

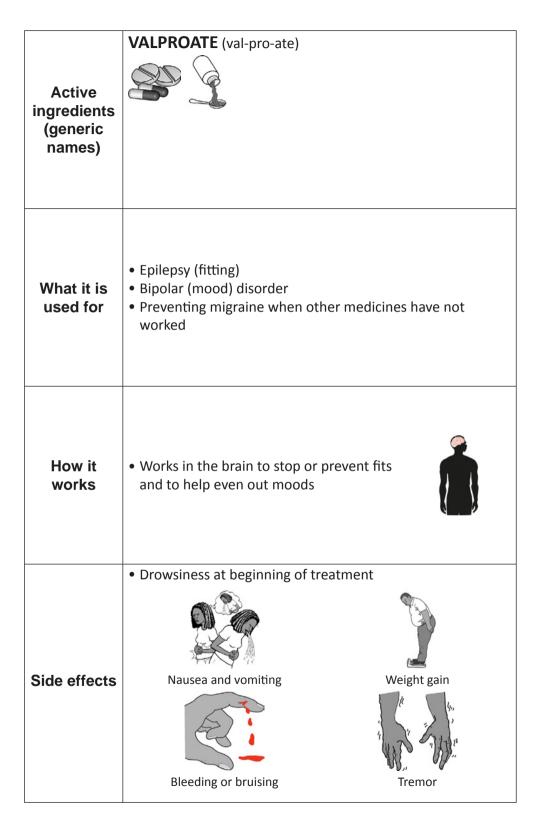
Warnings	Mental health problem Interactions — Do not us BENSERAZIDE with • Antiemetics (eg metocl prochlorperazine), dom • Antipsychotics (eg halo	se together w opramide, operidone OK peridol, rispe	ridone)	
	 Iron — can take 2 hours before or after medicine Methyldopa Nutritional supplement drinks — give medicine first Phenytoin Antacids — can take 2 hours before or after medicine 			
Tell the patient		chew	Do not drive or operate machinery if sleepy	
	Warning stickers (page 310): 4 (cross out dairy and calcium), 9, 16, A			
Check	• For abnormal body mo Blood pressure	vements		

	MIDAZOLAM (mi-daz-o-lam)		
Active ingredients (generic names)	Solution for injections can be trickled between the cheek and teeth (buccal), given in the nose, or given rectally Other benzodiazepines (neurological) Not included in this monograph — see individual monograph or <i>AMH</i> for information: • Clobazam • Clonazepam • Diazepam • Nitrazepam		
What it is used for	 Acute treatment of fits Includes seizures associated with poisoning, drug or alcohol withdrawal, high temperature (febrile), long lasting seizures (status epilepticus) Sedation in mental health emergency Palliative care 		
How it works	• Works in the brain to stop or prevent fits, and causes sedation		
Side effects	 Irritability and hyperactivity — mainly in children and the elderly Sleepy Aggression Confusion Breathing trouble — may be slow 		

[Γ		
Warnings	 MIDAZOLAM with Diazepam — unles Olanzapine short a able to manage air 	Breastfeeding Breastfeeding Liver trouble Warning Do not use if drank alcohol in last 6 Dot use together with so able to manage air acting IM with IV Mic rway and breathing e — unless able to n	–8 hours hout medical consult way and breathing dazolam — unless
Tell the patient	Do not drive or operate machinery if sleepy Warning stickers (page 310): 1 or 1a		
Check	• Remember to sign the drug register		



	• Diabetes — risk of high blood glucose (hyperglycaemia)		
Warnings	Pregnant	Liver trouble — use lower dose	Heart trouble (phenytoin IV)
	 Interactions — Do not use together without medical consult Phenytoin interacts with a lot of different medicines — always check with doctor or pharmacist before adding another medicine 		
Tell the patient	or implant) from v contraception wh treatment • Have regular check Take with food or milk — so medicine doesn't make you feel sick Do not drive or operate machinery if sleepy or blurred vision	ed oral or injected contra working properly. Use co ile taking medicine and f cks with dentist Do not stop taking medicine Take medicine as instructed to stop symptoms coming back	ndoms or other
Check		and liquid are not all equ enytoin	ual — check you



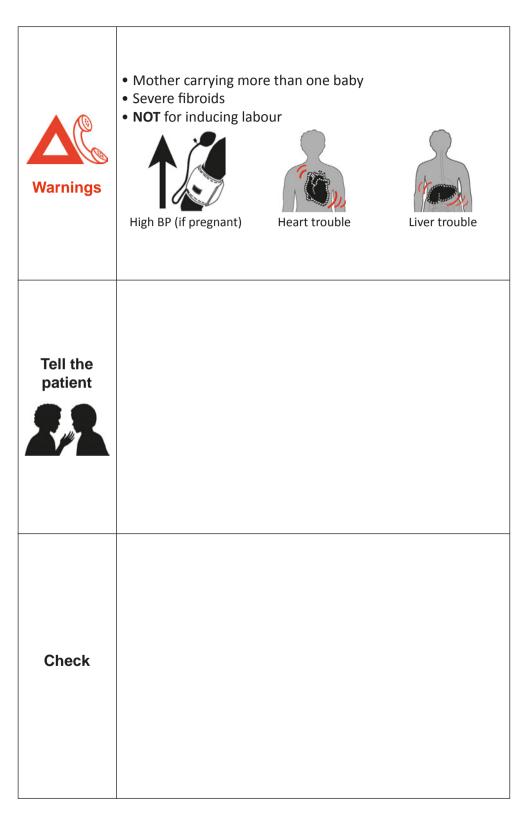
	T
	LEVONORGESTREL + ETHINYLESTRADIOL (lee-vo-nor-jess-trel + eth-in-ill-ess-tra-dye-ol)
Active ingredients (generic names)	Common name: the Pill, COC Other progesterone & oestrogen combinations Not included in this monograph — see AMH for information: • Cyproterone + ethinylestradiol (eg Brenda, Diane, Estelle) • Desogestrel + ethinylestradiol (eg Marvelon) • Dienogest + ethinylestradiol (eg Valette) • Drospirenone + ethinylestradiol (eg Yasmin, Yaz) • Gestodene + ethinylestradiol (eg Minulet) • Nomegestrol + estradiol (eg Zoely) • Norethisterone + ethinylestradiol (eg Brevinor, Norimin) • Norethisterone + mestranol (eg Norinyl)
What it is used for	 Contraception (stopping pregnancy) Painful or heavy periods Discomfort just before period (PMS) Acne
How it works	• Stops release of egg from ovary (ovulation), decreases chance of egg attaching to the uterus and helps thicken mucus to form a barrier to sperm
Side effects	 Increases risk of blood clots — need to check risk factors for clots before giving Bleeding between periods (spotting) Mood change Mood change Nausea Headache Sore breasts

	Women who have had blood clot, stroke, cancer
Warnings	Breastfeeding Greater risk of blood clot from smoking if person older or has diabetes Interactions — Do not use together without medical consult Combined oral contraceptives interact with a lot of different medicines that can stop them working as a contraceptive
	 always check with doctor or pharmacist before adding another medicine
Tell the patient	 Which tablet to start with and when Use condoms for 7 days When first starting this medicine (unless changing over from another COC) If you have vomiting or severe diarrhoea for more than 24 hours Need to take the Pill every day Best to take at same time, and makes it easier to remember See AMH for what to do about missed pills
Check	• Adult Health Check

Active ingredients (generic names)	LEVONORGESTREL (lee-vo-nor-jess-trel) <i>Note:</i> This monograph only applies to use of levonorgestrel for emergency contraception ULIPRISTAL (ul-li-pris-tal) Common names: emergency contraceptive pill, ECP, morning after pill
What it is used for	 Emergency contraception (stopping pregnancy) after unprotected sex Ulipristal (UPA-ECP) works for up to 120 hours (5 days) Levonorgestrel (LNG-ECP) works best in first 72 hours (3 days)
How it works	• Stops release of egg from ovary (ovulation), decreases chance of egg attaching to the uterus, and helps thicken mucus to form a barrier to sperm
Side effects	 Vaginal bleeding or spotting Waginal bleeding or spotting Waginal bleeding or spotting Headache Sore breasts Abdominal pain Abdominal pain Dizzy Nausea Vomiting If woman vomits after taking tablets Ulipristal — vomits within 3 hours Levonorgestrel — vomits within 2 hours Give the emergency contraceptive medicine again If a antiemetic is needed, wait about 30 minutes before giving the emergency contraceptive medicine again

Warnings	Do not breastfeed for 7 days after taking ulipristal Interactions — Do not use together without medical consult ULIPRISTAL with • Levonorgestrel ECP • Liver enzyme-inducing medicines LEVONORGESTREL ECP with • Ulipristal • Liver enzyme-inducing medicines — use higher dose of emergency contraceptive pills or copper IUD
Tell the patient	 The sooner it is taken after unprotected sex, the better it works. Ulipristal works for up to 120 hours (5 days) Levonorgestrel best taken in first 72 hours (3 days) Return to clinic for pregnancy test if next period more than 1 week late or unusually light Wait 5 days before starting a hormonal contraceptive (ulipristal) Next period likely to be on time but may be slightly early or late
Check	 Is woman already using contraception Can quick start any contraceptive after using levonorgestrel. It will take 7 days before contraception is effective. Use condoms or abstain from sex during this time Wait 5 days after taking ulipristal before starting hormonal contraceptive. Use other form of contraception during this time (eg condoms) STI check

	ERGOMETRINE (er-go-met-reen)
Active ingredients (generic names)	Other oxytocic medicines Not included in this monograph — see individual monograph or <i>AMH</i> for more information: • Oxytocin • Carbetocin
What it is used for	 To stop bleeding (haemorrhage) during and after childbirth Primary postpartum haemorrhage (PPH) Manual removal of placenta
How it works	 Causes uterus to contract and blood vessels to narrow, reducing blood flow to the uterus
Side effects	Nausea and vomiting Abdominal pain Nausea and vomiting Abdominal pain Image: Headache Image: Can increase BP



Active ingredients (generic names)	ETONOGESTREL (et-oh-no-jes-trel) Common name: Implanon
What it is used for	• Long-term contraception (stopping pregnancy)
How it works	 Stops sperm reaching egg by thickening cervical mucus Stops release of egg from ovary (ovulation) Decreases chance of egg attaching to the uterus
Side effects	 Bruising, pain when inserted or removed No periods, irregular periods, heavy periods Sore breasts

	 Breast or liver cancer Any unexplained vaginal bleeding must be investigated before starting this medicine Must be inserted by someone who is trained
Warnings	Pregnant Liver trouble
	 Interactions — Do not use together without medical consult Etonogestrel interacts with a lot of different medicines that can stop it working as a contraceptive — always check with doctor or pharmacist before adding another medicine
Tell the patient	 Ensure that you can feel implant — if you cannot, use additional contraception and contact doctor Can be removed at any time by someone trained to do it. Pregnancy is possible as soon as removed Stops working after 3 years. Work out date next implant is due with woman and record in file notes Return to clinic if menstrual bleeding is heavy OR doesn't stop after 5 days
Check	• Adult Health Check

Active ingredients (generic names)	MAGNESIUM SULFATE (mag-nee-see-um sul-fate)
What it is used for	 Fits in the second half of pregnancy Preventing fits if very high BP in pregnancy. See Preeclampsia Stopping labour (tocolysis) Arrhythmia (irregular heartbeat) Severe acute asthma
How it works	 Believed to protect nerves from injury caused by lack of oxygen, dilation of blood vessels may be involved
Side effects	Nausea and vomiting Flushing • If too much magnesium • Loss of tendon reflexes AND: • Loss of tendon reflexes AND: Image: Comparison of the tendon reflexes AND: Thirsty Headache Thirsty Headache Dizzy Breathing trouble – may be slow

Warnings	Kidney trouble — use lower dose Heart trouble • Must have calcium gluconate injection ready in case person gets too much magnesium Interactions — Do not use together without medical consult MAGNESIUM SULFATE with • Nifedipine — may increase effects of magnesium but is often used with it • Neuromuscular blockers — used under doctor's supervision in general anaesthesia and may increase effects of magnesium • Aminoglycosides (eg gentamicin) — may increase risk of
Tell the patient	loss of tendon reflexes
Check	 During infusion — monitor BP Pulse Respiratory rate O₂ sats Urine output Knee or other tendon reflex

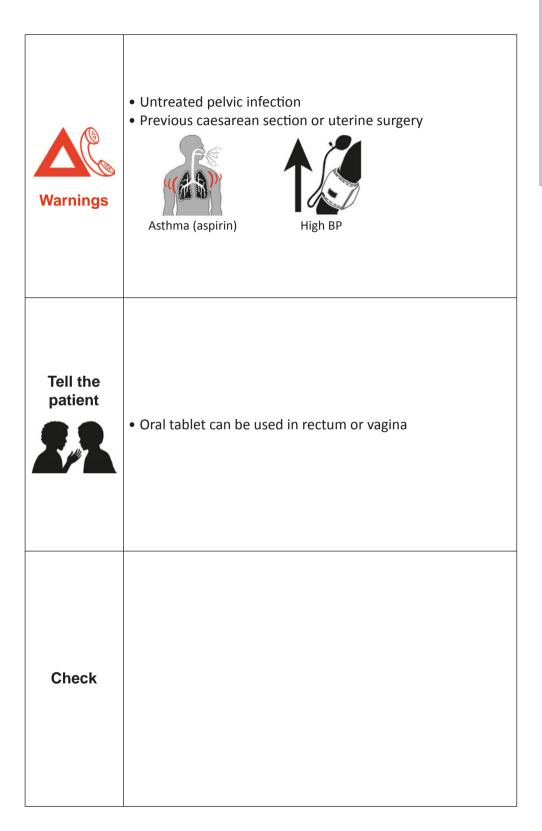
Active ingredients (generic names)	MEDROXYPROGESTERONE (me-drox-ee-pro-jes-ter-own)
What it is used for	• Contraception (stopping pregnancy)
How it works	 Stops sperm reaching egg by thickening cervical mucus Stops release of egg from ovary (ovulation) Decreases chance of egg attaching to the uterus
Side effects	 No periods, irregular periods May be hard to get pregnant for 12 months after stopping this medicine Decreased bone mineral density (thinner, weaker bones) Sore breasts Weight gain Depression

Warnings	 Any unexplained vaginal bleeding must be investigated before starting this medicine Long-term use weakens bones (loss of bone mineral density) Avoid use if under 18 years or over 45 years Do not use if over 50 years See AMH for full list of warnings Pregnant Liver trouble
Tell the patient	 Next injection due in 12 weeks. Work out with woman date of next injection and record in file notes (can be given up to 2 weeks early or 2 weeks late without need for additional contraceptive protection) May be hard to become pregnant for up to 12 months after injection When first starting — use condoms for 7 days after injection Can't be withdrawn once it has been given
Check	• Adult Health Check Vrine pregnancy test before giving Weight Blood pressure

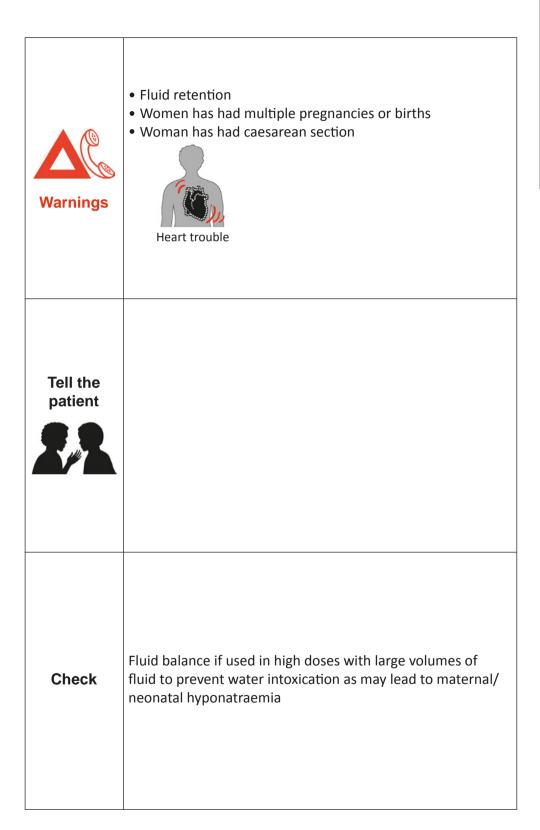
Active ingredients (generic names)	MISOPROSTOL (my-so-pros-tol) Other prostaglandins Not included in the monograph — see AMH for information: • Dinoprostone • Gemeprost		
What it is used for	 Bleeding in early pregnancy (eg miscarriage) Heavy bleeding after birth — primary postpartum haemorrhage 		
How it works	• Softens and dilates the cervix and causes contractions		
Side effects	 Back pain Back pain Wausea and vomiting Headache Headache Diarrhoea Diarrhoea High BP OR Low BP Breathing trouble – makes airways narrow 		

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Active ingredients (generic names)	OXYTOCIN (ox-e-toe-sin) Other oxytocic medicines not included in the monograph — see individual monograph or AMH for information: • Ergometrine • Carbetocin		
What it is used for	 To contract the uterus and stop it bleeding Primary postpartum haemorrhage (PPH) Secondary postpartum haemorrhage Uterine inversion To help deliver the placenta Final stage of normal labour — Labour and birth, Birth of twins Retained placenta To start or strengthen contractions during labour — hospital only 		
How it works	• Causes muscles of the uterus to tighten (contract)		
Side effects	Nausea and vomiting — rare		



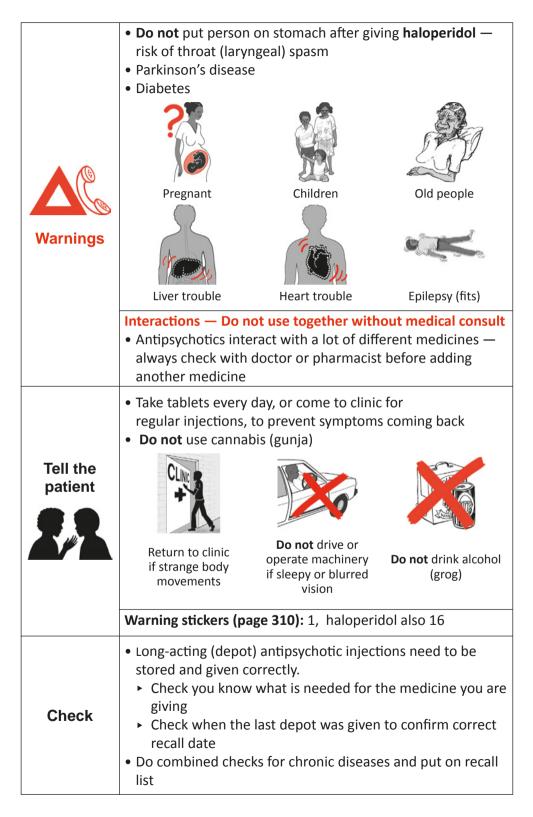
Active ingredients (generic names)	LEVONORGESTREL (lee-vo-nor-jess-trel) NORETHISTERONE (nor-eth-is-ter-own)	
What it is used for	 Contraception (stopping pregnancy) Better choice if woman Breastfeeding Can't take combined oral contraceptive pill 	
How it works	 Stops sperm reaching egg by thickening cervical mucus Makes uterus unsuitable to keep a fertilised egg Stops release of egg from ovary (ovulation) in some women 	
Side effects	 Irregular periods or prolonged periods Bleeding between periods (spotting) Depression 	

Warnings	 Women with breast and liver cancer Any unexplained vaginal bleeding must be investigated before starting this medicine Liver trouble Interactions — Do not use together without medical consult 	
	 Progesterone interacts with a lot of different medicines that can stop it working as a contraceptive — always check with doctor or pharmacist before adding another medicine 	
Tell the patient	 Can start POP anywhere in packet Use condoms for 2 days When you first start this medicine If you are more than 3 hours late taking the pill If you have have persistent vomiting or severe diarrhoea See AMH for what to do about missed pills Take another pill if there is vomiting within 2 hours of taking one 	
Check	• Adult Health Check Weight Weight Blood pressure	

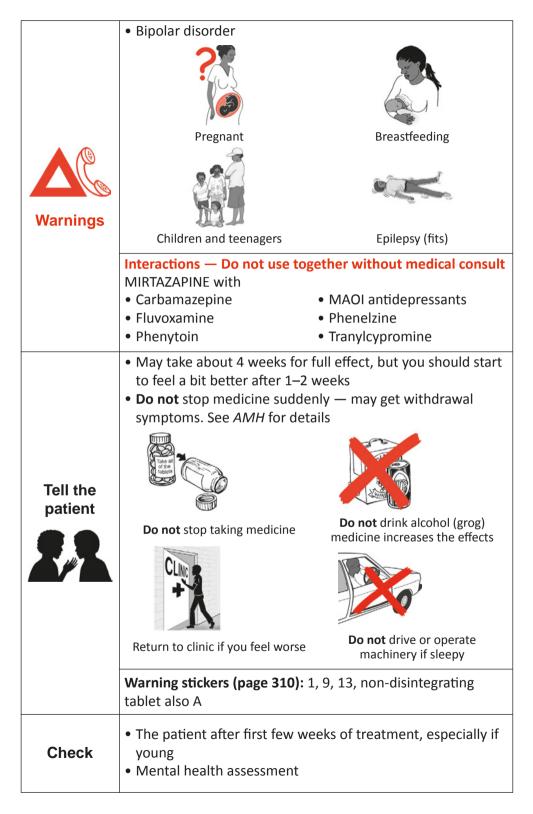
Active	DIAZEPAM (dye-az-e-pam) TEMAZEPAM (te-maz-e-pam) Other benzodiazepines (psychotrophic) Not included in this monograph — see individual monograph		
(generic	or		
names)	 AMH for information: Alprazolam Clonazepam Lorazepam Nitrazepam Oxazepam 		
What it is used for	 Anxiety disorders Acute behavioural disturbances Depression Drug withdrawal Alcohol withdrawal Cannabis withdrawal Volatile substance withdrawal Insomnia — to help patient sleep (temazepam) Sedation in a mental health emergency 		
How it works	• Acts on specific place (receptor) in brain and makes person feel calm, sleepy, relaxed, less worried		
Side effects	 Memory loss Slurred speech Unsteady on feet or dizzy — risk of falls (especially old people) Irritability and hyperactivity (mainly children and old people) 		

			in an fan a lana tinna
	 If person has been taking benzodiazepines for a long time, stopping suddenly can cause serious withdrawal symptoms 		
Warnings	Pregnant	Breastfeeding	Old people
	Kidney trouble Interactions — Do r	Liver trouble	Breathing trouble
	 Interactions — Do not use together without medical consult Benzodiazepines interact with a lot of different medicines — always check with doctor or pharmacist before adding another medicine 		
Tell the patient	 This medicine is only for short-term use and needs to be used as part of a plan (talk about plan with patient) If taken regularly for more than 2–4 weeks it will not work as well. Need to be stopped slowly as you may become addicted. Talk to a doctor about stopping this medicine Do not drive or operate machinery if sleepy Do not drink alcohol (grog) Warning stickers (page 310): 1 or 1a, 9 		
		age 310]. 1 01 1a, 9	
Check	 Look for cause of symptoms Remember to sign the drug register 		

	DROPERIDOL (dro-per-i-dol) HALOPERIDOL (hal-o-per-i-dol)			
Active ingredients (generic names)	Haloperidol – long-acting depot injection available if people can't take tablets every day Other typical antipsychotics Not included in this monograph – see AMH for more information: • Chlorpromazine • Flupenthixol			
What it is used for	 Agitation due to alcohol withdrawal (haloperidol with benzatropine) Psychotic symptoms in mental health emergency (haloperidol with benzatropine) Schizophrenia, perinatal psychosis, conduct disorder, agitation due to dementia (short-term use only) 			
How it works	 When people behave in strange or violent ways, or think strange thoughts, a brain chemical (dopamine) can be out of balance. Sometimes this is caused by using alcohol, cannabis, or sniffing volatile substances Antipsychotics can help bring back the balance by blocking dopamine. This helps the patient deal with these thoughts and behaviours and get healthy 			
Side effects	 Problems with sex (Strange uncontrolla body Neuroleptic malignary reaction presenting 	eg decreased sex dri ble movements of m	outh, eyes, head or fe threatening change, rigidity	



Active	MIRTAZAPINE (mir-taz-a-peen)			
ingredients (generic names)				
What it is used for	 Major depression Helping people with depression to sleep 			
How it works	 Blocks specific receptors in the brain to improve the effects of serotonin and noradrenaline Serotonin helps control mood, emotions, eating and sleep Noradrenaline helps control energy, motivation, alertness and sleep People who are depressed and sad may not have enough of these Mirtazapine stops serotonin and noradrenaline going inside nerve cells so there is more left in the brain to help patient with building spirit and being strong again 			
Side effects	Weight gain Sleepy Swollen ankles			



	NICOTINE – for nicotine replacement therapy (NRT) (nic-o-teen)		
Active ingredients (generic names)	Gum Inhaler Lozenge		
What it is used for	 Stopping smoking Person should also have counselling 		
How it works	 Nicotine (in gum, skin patch, etc) is released into blood stream and goes to nicotine receptors in brain. Replaces nicotine usually supplied by smoking cigarettes and helps reduce withdrawal symptoms and craving Nicotine is an addictive drug but small amounts are less dangerous to body than inhaling cigarette smoke 		
Side effects	 Usually mild and don't last long Vivid dreams Dizzy Headache Nausea and vomiting 		

Warnings	Heart trouble Stomach trouble or ulcer Asthma - don't use nicotine inhaler • Sore throat — use skin patches not oral forms of NRT • Skin trouble — don't use skin patches • Not for long-term use Interactions — Do not use together without medical consult NICOTINE with • Cigarette smoking
Tell the patient	 Do not smoke — you will get too much nicotine, you will feel sick and your heart will beat too fast Do not use gum if you have dentures. Use lozenge or skin patch If pregnant — gum, lozenges, inhalator best Make sure you use medicine properly Gum — chew until bitter taste and rest gum between teeth and cheek. When taste gone, chew again in the same way until gum makes no more taste Skin patch — put on clean dry skin on upper body or outer arm, remove at night Lozenge — do not swallow or chew, let it dissolve in your mouth (takes about 30 minutes). Do not eat or drink during this time Sublingual tablet — place 1–2 tablets under tongue and let them dissolve slowly Inhaler — takes about 20 minutes of puffing to work properly Return to clinic if you feel unwell — may need dose reduced Warning stickers (page 310): 21 (patches)
Check	

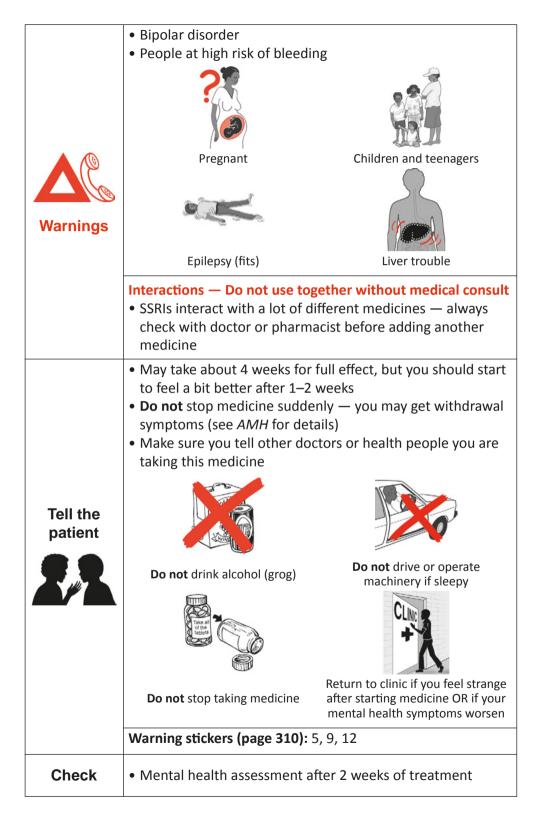
Active ingredients	OLANZAPINE (o-lan-za-peen) PALIPERIDONE (pal-ee-per-i-done) RISPERIDONE (ris-per-i-done)		
(generic names)	Other atypical antipsychoticsNot included in this monograph — see AMH for information:• Amisulpride• Clozapine• Aripiprazole• Quetiapine• Brexpiprazole		
What it is used for	 Agitation due to withdrawal Amphetamines, cannabis, volatile substance misuse (olanzapine) Psychotic symptoms in mental health emergency and long term prevention (olanzapine or risperidone) Schizophrenia, bipolar disorder, perinatal psychosis, conduct disorder, agitation due to dementia (short-term use only) Sedation in mental health emergency (olanzapine) 		
How it works	 When people behave in strange or violent ways, or think strange thoughts, a brain chemical (dopamine) can be out of balance. Sometimes this is caused by using alcohol, cannabis, or sniffing volatile substances Antipsychotics can help bring back the balance by blocking dopamine. This helps the person deal with these thoughts and behaviours and get healthy 		
Side effects	 Strange uncontrollable movements of mouth, head or body (happens less than with typical antipsychotics) Problems with sex (eg decreased sex drive) Neuroleptic malignancy syndrome — life threatening reaction presenting with mental status change, rigidity, fever, and increase heart rate, BP and breathing Dizzy when Sleepy Trouble Anxiety Headache Weight standing up 		

	Parkinson's disease	• Type 2 diabetes (olanzapine)
Warnings	Old people — use lower dose and short term only Epilepsy (fits) (olanzapine) Interactions — Do not use to • Antipsychotics interact with always check with doctor of	Kidney trouble — use lower dose Liver trouble Degether without medical consult h a lot of different medicines — or pharmacist before adding
Tell the patient	alcohol (grog) machiner	a) ive or operate y if sleepy or ed vision Colanzapine 1, 8, 16,
Check	 Long-acting (depot) antipsy stored and given correctly Check you know what is giving Check when the last dep recall date 	Blood test iver function tests (LFT), FBC ychotic injections need to be needed for the medicine you are bot was given to confirm correct pronic diseases, and put on recall

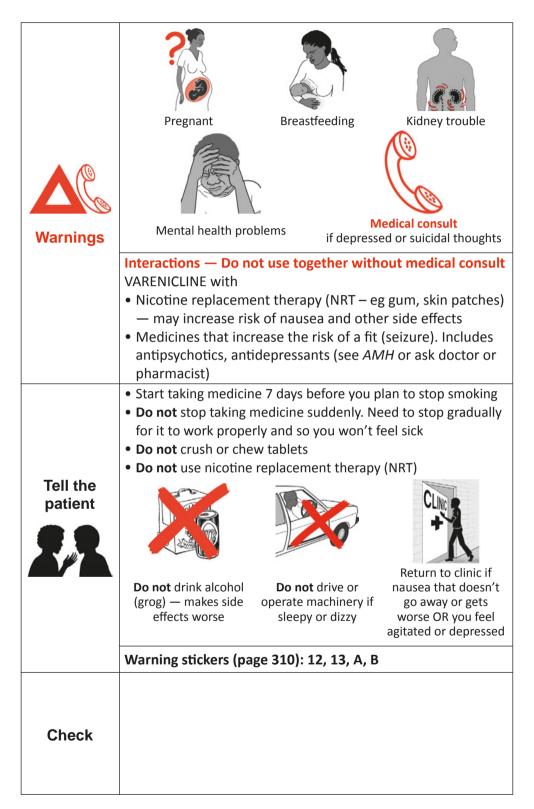
	DESVENLAFAXINE (des-ven-la-fax-een)		
Active ingredients (generic names)	VENLAFAXINE (ven-la-fax-een)		
	Common name: SNRIs		
	Other SNRIs Not included in this monograph — see <i>AMH</i> for information:		
	• Duloxetine		
What it is used for	 Depression Other stress related conditions (eg anxiety, panic disorder) 		
	Serotonin and noradrenaline are chemicals in the		
	 brain Serotonin helps control mood, emotions, eating, 		
	 sleep Noradrenaline helps control energy, motivation, 		
How it works	alertness, sleepPeople who are depressed and sad might not have		
	enough of these		
	 SNRIs stop serotonin and noradrenaline going inside nerve cells so there are more left in the brain 		
	to help patient with building spirit and being strong		
	again		
	Problems with sex (eg low sex drive)		
Side effects			
	Nausea and vomiting Headache Rash		
	Dizzy Sweating Tremor High BP		

	Poisonous (toxic) in a	overdose — a	void use if high risk of		
	overdose				
	 Bipolar disorder 				
	 High risk of bleeding 	(eg old peopl	le, previous upper GI		
	bleeding)Risk of increased suicidal thoughts in young people				
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	Pregnant	Children	Kidney trouble		
Warninga			1		
Warnings					
	A more A				
	1 Carly				
	Liver trouble	High BP	Epilepsy (fits)		
	Interactions — Do not	use together	without medical consult		
	Venlafaxine interacts				
	always check with doctor or pharmacist before adding				
	another medicine		-		
	 Swallow whole. Do n 	ot crush or cl	new sustained release		
	(XR) capsules				
	 May take about 4 we 	eks for full ef	fect, but you should start		
	to feel a bit better after 1–2 weeks				
	• Do not stop medicine	e suddenly —	you may get withdrawal		
	symptoms. See AMH	for details			
			A		
Tell the		Take all			
patient	MILK MILK	and the second	+		
			Return to clinic if you		
2 1107	Take with food or milk	Do not	feel strange after starting		
	 — so medicine doesn't make you feel sick 	stop taking medicine	medicine OR if your mental		
	ITTAKE YOU IEEI SICK	medicine	health symptoms worsen		
		7			
		1			
			epy Do not drink alcohol (grog)		
	Warning stickers (page	310): 5, 9, 1	2, A, B		
	Mental health assess	sinent			
	2				
Check					
UICCK					
	mar C				
	BP especially venlafaxir	ne			
L					

Active ingredients (generic names)	CITALOPRAM (si-tal-o-pran FLUOXETINE (flu-ox-e-teen) ESCITALOPRAM (es-kit-alo-p FLUVOXAMINE (flu-vox-a-r PAROXETINE (par-ox-e-teen SERTRALINE (ser-tra-leen)) pram) mine)	
What it is used for	 Anxiety disorders (eg obsess Bulimia nervosa Depression Perinatal anxiety and depress Post-traumatic stress disord Premenstrual dysphoric disc 	ssion er	
How it works	 Serotonin is a chemical in the brain. It helps control mood, emotions, eating and sleep. People who are depressed and sad may not have enough serotonin SSRIs stop serotonin going inside nerve cells so there is more left in the brain to help patient with building spirit and being strong again 		
	 Agitation Problems with sex (eg decreased sex drive) 		
Side effects	2.2.2		
	Sleepy	Trouble sleeping	
	Diarrhoea	Nausea	



Active ingredients (generic names)	VARENICLINE (ver-en-e-kleen)	
What it is used for	 Stopping smoking Person should also have counselling 	
How it works	 Stops nicotine binding to nicotine receptors in brain so smoking is no longer enjoyable, reduces withdrawal symptoms 	
Side effects	Side effects may be caused by giving up smoking not medicine • Indigestion Nausea and vomiting Headache	



Active ingredients (generic names)	BECLOMETASONE (be-clo-met-a-sone) BUDESONIDE (bu-des-o-nide) CICLESONIDE (cic-les-o-nide) FLUTICASONE FUROATE (floo-tic-a-zone fuo-ro-ate) FLUTICASONE PROPIONATE (floo-tic-a-zone pro-pi-o-nate) $$ $$ $$ $$ Common name: preventers
What it is used for	 Managing asthma — children, adults Managing chronic lung disease — COPD (fluticasone propionate + salmeterol)
How it works	• Reduces swelling of airways in lungs to help make breathing easier
Side effects	 Hoarse voice Thrush (fungal infection) of mouth or tongue — painful, often white coating If dose high — can affect natural hormones, especially in children

	Not suitable for relieving acute attack of asthma but should
	be continued if already using
	Can be used with relievers, cromones or montelukast
Warnings	
	Children under Children under Pregnant
	6 years (ciclesonide) 12 years (fluticasone (ciclesonide) furoate) (ciclesonide)
	,
	• Use every day, even if you feel better
	• Rinse mouth with water and spit out after each use
	 If using inhalation device Keep clean, especially nozzle
	 Make sure you know how to use it properly
	 If using both preventer and reliever — use reliever first
Tell the	• Do not use more often than prescribed, especially in
patient	children
	Talk with doctor if you think you need more
	a company and a
	Puffer works best
	with a spacer
	Warning stickers (page 310): 14
	 Is asthma or COPD action plan up to date
	Can person use device properly and keep it clean
Check	 Ask them to demonstrate
	• Is spacer being used with puffer — especially important for
	children and the elderly

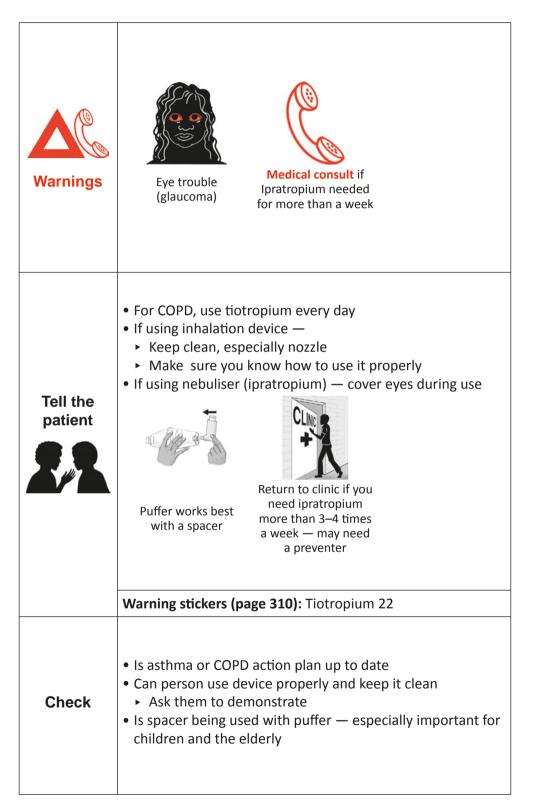
Active ingredients (generic names)	BUDESONIDE + FORMOTEROL (EFORMOTEROL) (bu-des-o-nide + for-mo-te-rol) FLUTICASONE FUROATE + VILANTEROL (floo-tic-a-zone fur-o-ate + vil-an-te-rol) FLUTICASONE PROPIONATE + FORMOTEROL (EFORMOTEROL) (floo-tic-a-zone pro-pi-o-nate + for-mo-te-rol) FLUTICASONE PROPIONATE + SALMETEROL (floo-tic-a-zone pro-pi-o-nate + sal-me-te-rol) Common name: preventers
What it is used for	 Managing asthma Adults Children (budesonide + formoterol [eformoterol], fluticasone propionate + salmeterol) Managing chronic lung disease — COPD (fluticasone propionate + salmeterol) Can be used with inhaled relievers, montelukast, cromones
How it works	• Reduces swelling of airways in lungs to help make breathing easier
Side effects	 Hoarse voice (salmeterol + fluticasone propionate, formoterol [eformoterol] + budesonide) Thrush (fungal infection) of mouth or tongue — painful, often white coating If dose high — can affect natural hormones, especially in children

Warnings	Children under 12 years (fluticasone furoate)
Tell the patient	 Use every day, even if you feel better Rinse mouth with water and spit out after each use If using inhalation device — Keep clean, especially nozzle Make sure you know how to use it properly If using both preventer and reliever — use reliever first Do not use more often than prescribed, especially in children. Talk with doctor if you think you need more Puffer works best with a spacer Warning stickers (page 310): 14
Check	 Is asthma or COPD action plan up to date Can person use device properly and keep it clean Ask them to demonstrate Is spacer being used with puffer — especially important for children and the elderly

Active ingredients (generic names)	 FORMOTEROL (EFORMOTEROL) (for-mo-te-rol) SALMETEROL (sal-mee-ter-all) Common name: LABA Other beta₂ agonists (long-acting) Not included in this monograph — see AMH for information: Indacaterol Beta₂ agonist combinations See Corticosteroids (inhaled) and beta2 agonists (long acting)
What it is used for	 Maintenance treatment of asthma if also using inhaled or oral corticosteroids
How it works	• Opens up small air passages in lungs to help make breathing easier and prevent asthma attacks
Side effects	Image: Weight of the sector

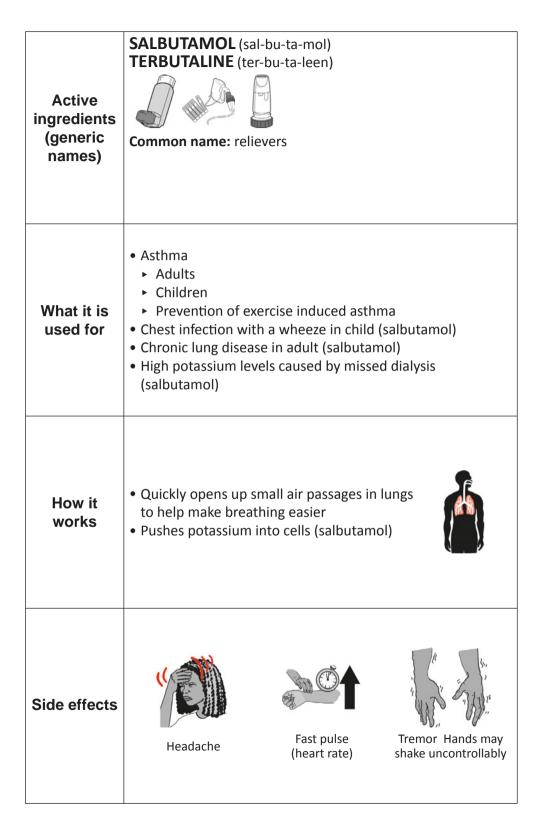
Warnings	 Do not use salmeterol as reliever in acute asthma attack. Use salbutamol Formoterol (eformoterol) may be used in acute asthma attack, as well as for prevention of asthma Interactions — Do not use together without medical consult SALMETEROL with Beta-blockers
Tell the patient	 For asthma — must be used with preventer For COPD — can be used alone Do not use salmeterol to treat acute asthma attack Use every day, even if you feel better After using inhaler with corticosteroid (preventer), rinse mouth and throat with water and spit out Keep inhalation device clean, especially nozzle Make sure you know how to use properly Freturn to clinic if wheeze gets worse
Check	 Is asthma action plan up to date Can person use device properly and keep it clean Ask them to demonstrate

Active ingredients (generic names)	Short-acting IPRATROPIUM (ip-ra-trop-ium) Long-acting TIOTROPIUM (tio-trop-ium) Tiotropium Common name: relievers Other long-acting anticholinergics Not included in this monograph — see AMH for information: • Aclidinium • Glycopyrronium • Umeclidinium Long-acting anticholinergic combinations • Aclidinium + formoterol (eformoterol) (eg Brimica) • Aclidinium + indacaterol (eg Ultibro) • Tiotropium + olodaterol (eg Spiolto) • Umeclidinium + vilanterol (eg Anoro)
What it is used for	 Severe asthma attack — children, adults (ipratropium) Chronic lung disease (COPD) Exacerbation (acute episode) (ipratropium) Ongoing management (tiotropium)
How it works	• Opens airways so sputum easier to cough up
Side effects	 Sore throat Trouble passing urine (urinary retention), or worse symptoms if bladder obstruction Dry mouth Dizzy (ipratropium) Blurred vision (if using nebuliser)



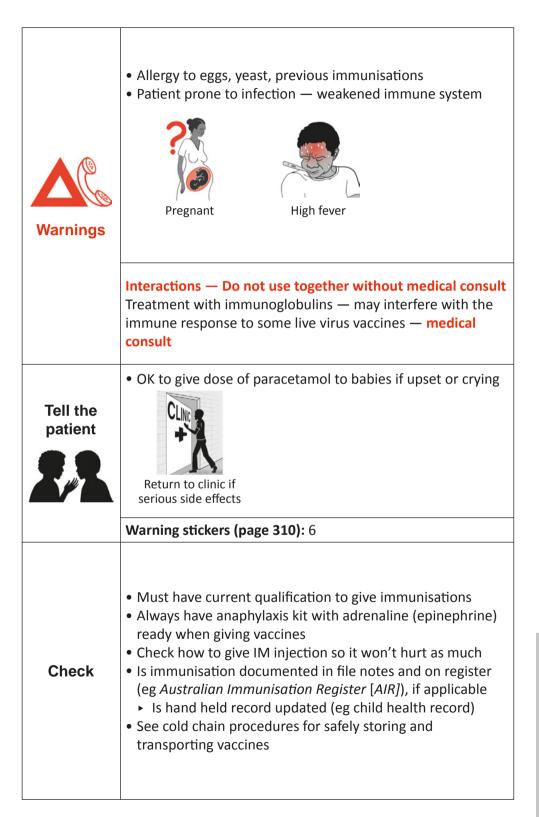
Active ingredients (generic names)	MONTELUKAST (mon-te-loo-kast)
What it is used for	 Asthma Helps prevent symptoms — children, adults Prevention of exercise-induced asthma Allergic rhinitis (blocked nose caused by allergies)
How it works	 Makes airways less sensitive Decreases swelling of the lining of the airways
Side effects	Image: Weight of the second

	1
Warnings	 Not for relieving acute asthma attack, but should be continued if already using
Tell the patient	 Chew tablets well before swallowing If using to prevent exercise-induced asthma — take 2 hours before exercise No more than 1 dose in 24 hour Do not use montelukast to treat asthma attack
Check	• Is asthma action plan up to date



Warnings	Medical consult if person using more than 3–4 times a week — may need a preventer Interactions — Do not use together without medical consult SALBUTAMOL and TERBUTALINE with
	Beta-blockers
Tell the patient	 Use when needed to help make breathing easier Keep inhalation device clean, especially nozzle Make sure you know how to use properly Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you know how to tell when inhaler is empty Make sure you kno
	Warning stickers (page 310): Salbutamol — capsules/ nebules 22, if foil wrapping 7b
Check	 Is asthma or COPD action plan up to date Can person use device properly and keep it clean Ask them to demonstrate Is spacer being used with puffer — especially important for children and the elderly

	IMMUNISATIONS
Active ingredients (generic names)	 Refer to <i>The Australian Immunisation Handbook, AMH</i> or regional immunisation schedule for complete list of vaccines and more information Some combination vaccines are available
What it is used for	 Protection against serious infectious diseases
How it works	 Immunisations help the body's natural defence mechanism (immune response) to make antibodies that protect against certain germs If most people in a community are immunised, they can help to stop serious infection and sickness in people with low immunity, like babies and old people
Side effects	 May be different side effects for each immunisation — see Australian Immunisation Handbook or AMH If acute febrile illness — postpone all vaccinations until patient is well Pain, swelling or redness at injection site Upset or cranky (babies) Anaphylaxis — severe allergic reaction (rare)



	FOLIC ACID (foe-lik as-id)
Active ingredients (generic names)	Also known as: folate, vitamin B9 FOLIC ACID + IRON (foe-lik as-id + i-on) SubCut
	 Other medicines for anaemia Not included in this monograph — see individual monograph or <i>AMH</i> for more information: Iron Vitamin B12
What it is used for	 Anaemia (weak blood) in pregnancy in combination with iron Preventing birth defects — neural tube defects and spina bifida. Given in Antenatal (pregnancy) care Diabetes in pregnancy Epilepsy in pregnancy Preventing folate deficiency during dialysis To help prevent side effects in patients taking some medicines (eg methotrexate) Treating folate deficiency in pregnancy
How it works	 Folic acid is needed by the body to make protein and build red blood cells, especially important for healthy development of foetus Higher doses are needed for pregnant women who have diabetes, epilepsy, BMI more than 30, have had a previous pregnancy with a neural tube defect Replaces folate when levels are too low Replaces folate lost when people take some medicines (eg methotrexate), so side effects less likely
Side effects	

Warnings	 Folic acid should not be given on the same day as methotrexate
Tell the patient	 For women who are pregnant or planning to become pregnant — if possible take folic acid for at least 1 month before getting pregnant, and then for first 3 months of pregnancy
Check	

Active ingredients (generic names)	 IODINE (i-o-dine) Iodine combinations Not included in this monograph — see AMH for information: Iodine + folic acid (eg <i>I-Folic</i>) Iodine + multivitamins (eg <i>Elevit, Fabfol plus, I-Folic</i>)
What it is used for	 Makes sure both mother and baby have enough iodine during pregnancy and breastfeeding. Important for development of baby's brain and nervous system Antenatal care Diabetes in pregnancy Postnatal care Part of treatment for overactive thyroid (Graves' disease)
How it works	 Replaces iodine needed to make thyroid hormones Pregnant and breastfeeding women need it for good development of the baby's brain and nervous system
Side effects	• Allergic reaction (rare)

Warnings	Thyroid problems
Tell the patient	 Take once a day while pregnant and breastfeeding — unless you have a thyroid condition
Check	

Active ingredients (generic names)	 IRON (i-on) IRON (i-on) IRON (i-on) IRON (i-on) IRON (i-on) IRON (i-on) Other medicines for anaemia Not included in this monograph — see individual monograph or <i>AMH</i> for information: Vitamin B12 Folic acid Anaemia medicine combinations Not included in this monograph — see <i>AMH</i> for information: 		
	 Iron + folic acid (eg FGF , Fefol , Ferro-F) Iron + Vitamin C (eg Ferrograd C) 		
What it is used for	 Anaemia (weak blood) in children and youth Strengthens the blood in people who have low iron stores or iron deficiency anaemia (weak blood) Pregnant women Women who have heavy periods People who have lost a lot of blood from injury People with kidney failure People who don't get enough iron from food they eat 		
How it works	 Iron is needed to build red blood cells which carry oxygen to body's cells Iron and folic acid normally come from red meat, eggs and leafy vegetables, but sometimes this isn't enough for the body's needs 		
Side effects	• Black faeces		

Warnings	Anaphylaxis, (severe allergic reaction) — rare, with injection Interactions — Do not use together without medical consult IRON with • Doxycycline (tetracyclines), antacids, calcium, zinc — take at least 2 hours before or after iron medicine • Quinolones (eg ciprofloxacin) — take at least 2 hours before taking iron medicine • Levodopa • Thyroxine
Tell the patient	 Too much iron medicine is dangerous. Measure amounts carefully. Keep in a safe place out of reach of children Do not take with tea — stops it working properly Mixture can stain teeth. Mix with water and drink through straw Causes dark stools Some iron medicines need to be swallowed whole (eg slow-release or coated tablets) Eat foods with lots of iron — red meat, leafy vegetables Lock up medicines Take on empty stomach — unless upsets stomach
Check	 Always have anaphylaxis kit with adrenaline (epinephrine) ready when giving iron injections Check for and treat cause of anaemia (low iron) (eg heavy periods, NSAIDs, hookworm) Blood test – do fasting iron studies, if needed

Active ingredients (generic names)	ZINC
What it is used for	• Persistent diarrhoea in children
How it works	• Zinc increases body's immunity to infection and reduces inflammation
Side effects	Nausea

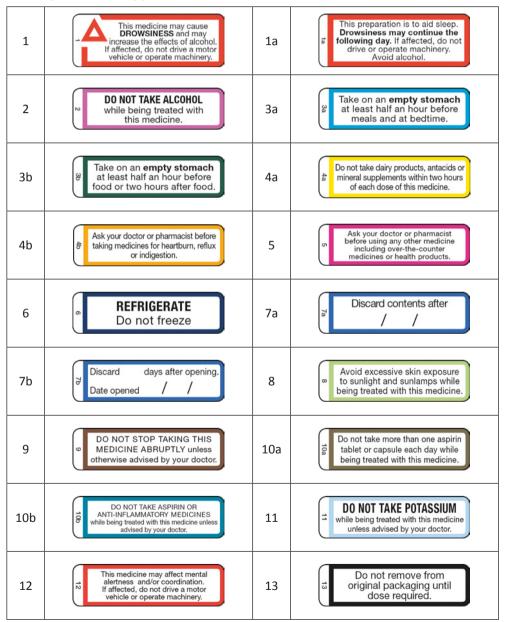
Warnings	 Interactions — Do not use together without medical consult ZINC with Calcium salts, iron medicine — may interfere with absorption of zinc. Take 2–3 hours before or after zinc Quinolones (eg ciprofloxacin) — take at least 2 hours before taking zinc Tetracyclines (eg doxcycline) — take at least 2 hours before taking zinc
Tell the patient	Take with food or milk — if medicine upsets stomach Warning stickers (page 310): B
	warning suckers (page S10): D
Check	• Zinc is available in different strengths, you need to know the amount of elemental zinc in the medicine and check the dose in mg

Reference section

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Warning stickers

- These warning stickers (or Cautionary Advisory Labels CALs) help with legal requirements to correctly label medicines, especially those causing sedation. These stickers should be used if available
- See the Australian Pharmaceutical Formulary and Handbook for the complete list of approved CAL recommendations



14	RINSE MOUTH with water after each use.	15a	This medicine replaces
15b	Active DO NOT Ingredient: USE Polaces: BOTH	16	This medicine may cause dizziness especially when you stand up quickly. Ask your doctor or pharmacist for advice.
18	Avoid eating grapefruit or drinking grapefruit juice while being treated with this medicine.	19a	Contains PARACETAMOL. Consult your doctor or pharmacist before taking other paracetamol products.
19b	Consult your doctor or pharmacist before taking other medicines for pain or inflammation.	20	Take once weekly on the same day.
21	 Special handling and disposal required – ask your pharmacist. 	22	[№] Use only with approved or recommended device.
23	This product has been compounded by the pharmacist.	24	FOR 3 DAYS USE ONLY can cause addiction
A	> SWALLOW WHOLE Do not crush or chew	В	TAKE WITH OR SOON AFTER FOOD
с	• TAKE AT LEAST HALF AN HOUR BEFORE FOOD	E	CONTINUE FOR 14 DAYS AFTER SYMPTOMS CEASE
F	TAKE IMMEDIATELY BEFORE FOOD	G	o TAKE IN THE MORNING drink plenty of water
н	STORE FROZEN	I	CERTAIN FOODS AND JUICES SHOULD BE AVOIDED
J	SHAKE WELL BEFORE EACH USE	к	★ FOR EXTERNAL USE ONLY
L	CAUTION NOT TO BE TAKEN		rmaceutical Society of Australia. duced with permission 2022

Abbreviations

5ht3	5-hydroxytryptamine
ACE	angiotensin-converting enzyme
АМН	Australian Medicines Handbook
ARB	Angiotensin receptor blocker
ATSIHP	Aboriginal and Torres Strait Islander health practitioner
BP	blood pressure
CAD	coronary artery disease
сар	capsule
CARPA	Central Australian Rural Practitioners Association
CARPA STM	CARPA Standard Treatment Manual
CD	Controlled delivery
CDC	Centre for Disease Control
СКD	chronic kidney disease
CNS	central nervous system
COPD	chronic obstructive pulmonary disease
СРМ	Clinical Procedures Manual
CPR	cardiopulmonary resuscitation
CR	controlled release
CSLD	chronic suppurative lung disease
CVS	cardiovascular system
Depo	medroxyprogesterone depot injection
DNA	deoxyribonucleic acid
DPP4	dipeptidyl peptidase-4
eg	exempli gratia – for example
ENT	ear, nose and throat
EPO	epoetin (medicine group)
ER	extended release
g	gram
GLP-1	glucagon-like peptide-1
НСТ	hydrochlorothiazide
HIV	human immunodeficiency virus
IM	intramuscular (in the muscle)
IV	intravenous (in the vein)
kg	kilogram
L	litre

mgmilligramMIMSmedicines information referenceminminutemLmillilitreMRSAMethicillin-resistant Staphylococcus aureusNOACnovel oral anticoagulantNRTnicotine replacement therapyNSAIDnon-steroid anti-inflammatory drugO2OxygenOROSosmotic-controlled release oral delivery systemORSoral rehydration saltsPHUPublic Health UnitPIDpelvic inflammatory diseasePMSpre-menstrual syndromeqidquarter in die - 4 times a daySASspecial access schemeSNRIserotonin and noradrenaline reuptake inhibitorSRslow-release OR sustained releaseSSRIselective serotonin reuptake inhibitorSTIsexually transmitted infectionTBtuberculosisUPA-ECPulipristal acetae emergency contraceptive pillUTIurinary tract infectionTBtuberculosisBGLblood glucose levelCKcreatine kinaseFBCfull blood countINRinternational normalised ratioLFTliver function testRFrheumatoid factorTFTthyroid function testUECurea, electrolytes and creatinine. Includes a kidney function test	LNG-ECP	levonorgestrel emergency contraceptive pill
MIMSmedicines information referenceminminutemLmillilitreMRSAMethicillin-resistant Staphylococcus aureusNOACnovel oral anticoagulantNRTnicotine replacement therapyNSAIDnon-steroid anti-inflammatory drugO2OxygenOROSosmotic-controlled release oral delivery systemORSoral rehydration saltsPHUPublic Health UnitPIDpelvic inflammatory diseasePMSpre-menstrual syndromeqidquarter in die – 4 times a daySASspecial access schemeSNRIserotonin and noradrenaline reuptake inhibitorSRslow-release OR sustained releaseSSRIselective serotonin reuptake inhibitorSTIsexually transmitted infectionTBtuberculosisUPA-ECPulipristal acetate emergency contraceptive pillUT1urinary tract infectionWBMWomen's Business ManualXRextended releaseBGLblood glucose levelCKcreatene kinaseFBCfull blood countINRinternational normalised ratioLFTliver function testRFrheumatoid factorTFTthyroid function test	mg	
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Blood testsBGLblood glucose levelCKcreatine kinaseFBCfull blood countINRinternational normalised ratioLFTliver function testRFrheumatoid factorTFTthyroid function test	WBM	Women's Business Manual
BGLblood glucose levelCKcreatine kinaseFBCfull blood countINRinternational normalised ratioLFTliver function testRFrheumatoid factorTFTthyroid function test	XR	extended release
CK creatine kinase FBC full blood count INR international normalised ratio LFT liver function test RF rheumatoid factor TFT thyroid function test	Blood tests	
FBCfull blood countINRinternational normalised ratioLFTliver function testRFrheumatoid factorTFTthyroid function test	BGL	blood glucose level
INRinternational normalised ratioLFTliver function testRFrheumatoid factorTFTthyroid function test	СК	creatine kinase
LFTliver function testRFrheumatoid factorTFTthyroid function test	FBC	full blood count
RFrheumatoid factorTFTthyroid function test	INR	international normalised ratio
TFT thyroid function test	LFT	liver function test
· · · · · · · · · · · · · · · · · · ·	RF	rheumatoid factor
UEC urea, electrolytes and creatinine. Includes a kidney function test	TFT	thyroid function test
	UEC	urea, electrolytes and creatinine. Includes a kidney function test

Glossary

Active ingredient — chemical in a medicine that makes the desired changes in the body (eg aspirin reduces inflammation). Other non-active ingredients in medicines do not cause changes — these include wheat, sugar, colouring. Acute — starts suddenly, usually lasts for a short time, can get worse quickly, may need urgent care.

Adrenaline (epinephrine) — hormone and neurotransmitter produced by the body, usually in response to stress. Increases heart rate, constricts blood vessels, and opens air passages. Also a medicine used to treat anaphylaxis, shock, cardiac arrest.

Allergic reaction — overly sensitive immune response to substances that are usually harmless (eg pollen).

Anaphylaxis (anaphylactic shock) — severe allergic reaction that needs urgent medical attention. Symptoms include difficult or noisy breathing, swelling of tongue or throat, loss of consciousness.

Angina — chest pain felt when the heart can't get enough blood and oxygen. Usually caused by coronary artery disease.

Antibiotic — medicine that kills or stops growth of certain bacteria. Antibiotics can attack a bacteria's cell wall, or stop it from reproducing.

Antibody — molecule made by body's immune system that can recognise and attack a specific invading germ. Created when person is infected with a germ or immunised against it. Can also pass from mother to child during breastfeeding, another good reason to breastfeed.

Antivirals — medicines that can slow growth of, but not kill, certain viruses. Used for treating viral diseases including HIV and herpes.

Arrhythmia — when the heart skips a beat, beats irregularly, beats too quickly or too slowly.

Autoimmune disorder — person's immune system mistakenly attacks its own body tissues and makes person unwell (eg rheumatoid arthritis). Bacteria — single cell micro-organisms that exist everywhere. May be essential, helpful, harmless, or cause infections or disease.

Beta receptor — special molecule that responds to messages carried by central nervous system and hormones. Most found in the heart and blood vessels, where they can increase BP. Some medicines block beta receptors to reduce BP and the work load on the heart.

Bloating — swelling of the abdomen.

Cardiac arrest — heart is unable to contract properly so the blood stops circulating. Can be caused by a heart attack. Treatment is cardiopulmonary resuscitation (CPR) and defibrillation.

Cholesterol — fat-like substance made by the body and found in foods made from animals (eg meat, dairy products). Important for cell structure and function. Too much cholesterol will gradually clog blood vessels supplying the heart.

Chronic — illness or health condition that lasts for a long time.
Congenital — condition that a person is born with (eg a heart problem). It can be inherited (genetic) or caused by environmental factors.

Coronary artery disease (CAD) — blood vessels going to the heart are clogged and narrowed so the heart doesn't get enough oxygen and nutrients to function properly. People with CAD can have chest pain, can be short of breath, and are at risk of having a heart attack.

Diabetes — health condition where levels of glucose (sugar) in blood are too high. Pancreas can't make enough insulin to control blood glucose levels. Can lead to heart disease, kidney, eye or nerve damage

- **Type 1 diabetes** autoimmune disease. Usually starts in childhood or adolescence, often in people who are otherwise healthy
- **Type 2 diabetes** metabolic disease where some organs (eg pancreas, liver) become diseased or do not function normally. Usually starts in adulthood, contributed to by an unhealthy lifestyle (eg overweight, lack of physical activity).

Diuretic — medicine that increases urination and passing of water from body. Used to remove fluids that build up when the heart is not pumping properly.

Drug — substance that, when absorbed by body of a living organism, changes how the body normally functions. Called medicines when used to treat, cure, prevent, or diagnose disease, or to improve physical or mental wellbeing.

Electrolytes — electrically charged salts found in body fluids. Include sodium, potassium, magnesium, calcium. Help carry nerve impulses, help muscles contract. Kidney failure, severe vomiting, diarrhoea or dehydration can cause electrolytes to become unbalanced.

Full blood count (FBC) — laboratory blood test. Also called FBE – full blood examination, CBC – complete blood count, CBE – complete blood evaluation.

Fungus — an organism that's not a plant, animal or bacteria. Yeasts, moulds and mushrooms are all types of fungi. Some fungi grow on human skin and nails and cause infection — more common in moist conditions. Penicillin is made by a fungus.

Heart attack (myocardial infarction) — blockage of blood to the heart causing heart cells to die. Cardiac arrest occurs when the heart is unable to contract.

Histamine — produced as part of the body's immune response to a threat (eg from bacteria or viruses). It triggers inflammation that helps damaged body parts to heal, and acts as a neurotransmitter. Antihistamines or histamine antagonists inhibit the action of histamine and are used to treat allergic reactions (eg runny nose).

Hormone — chemical released in one part of the body that takes messages through the blood stream to cause changes in another part of the body. **Hyperglycaemia** — blood glucose levels too high. Can indicate diabetes or impaired glucose tolerance. Happens when body doesn't make enough insulin or can't use it properly, or person with diabetes isn't taking enough blood glucose control medicine.

Hypoglycaemia (Hypo) — blood glucose level too low. Causes person to tremble, sweat, and become confused. Can happen if person gets too much insulin or has not been eating properly. Hypos range from minor to very serious.

Immunisation — receiving a vaccine and then becoming immune to a disease. Vaccines create immunity by enabling the body to build antibodies to fight the particular disease (eg polio, whooping cough).

Infection — invasion of micro-organisms (eg virus, bacteria, fungus) in a body part or tissue. Can cause damage or disease.

Inflammation — body's response to infection, damage or irritants. Caused by increased movement of plasma and white blood cells into damaged tissues, makes tissue look red and swollen.

International nomalised ratio (INR) — test of how well blood clots. Mainly used to check warfarin therapy, which is used to thin the blood.

Liver enzyme-inducing medicines — medicines that cause liver to make more of some enzymes it normally produces. Extra enzymes change the way other medicines work (eg increasing or decreasing their effect). Medicines causing the liver to make more enzymes include:

- Strong effect carbamazepine, enzalutamide, phenytoin, rifampicin, St John's wort
- Moderate effect bosentan, efavirenz, etravirine, modafinil
- Other aprepitant, corticosteroids, dabrafenib, nevirapine, phenobarbitone, rifabutin, ritonavir, tipranavir, vemurafenib

Medicine — drug used to treat, cure, prevent, diagnose disease, or to improve physical or mental wellbeing.

Metabolism — the chemical and physical processes in the body that use energy for growth and to maintain life. Hormone thyroxine helps determine how fast or slow the chemical reactions of metabolism happen in a person's body.

Micro-organism — organism that is too small to see without a microscope. Usually single cell organism such as bacteria.

Mood — emotional state, may last for longer than usual if person is unwell. **Methicillin-resistant** *Staphylococcus aureus* (MRSA) — type of

Staphylococcus aureus bacteria resistant to methicillin and some other antibiotics. Usual antibiotics don't work so infection harder to treat, more dangerous to the patient.

Neurotransmitter — chemical used by the brain and nerves to pass messages.

Opioid — medicine that binds to receptors in the brain, decreases pain and increases pain tolerance. Opioids include heroin, morphine, codeine.

Organism — living thing such as an animal, plant, fungus, bacteria. **Osteoporosis** — condition where bones become thinner and weaker over

time.

Pathogenic — something able to cause disease or infection (eg a germ).
Platelets — similar to cells, circulate in the blood. Not enough can lead to excessive bleeding, too many can cause unwanted blood clots.

Prophylaxis — use of a medicine or other treatment to prevent disease. **Receptor in the brain** — sensory nerve ending that changes specific stimuli into nerve impulses.

Resistance (to antibiotic) — when antibiotic once used to kill a certain bacteria no longer does so (ie antibiotic stops working). For example mupirocin is no longer used on school sores as resistance quickly develops.

Serum sickness — body's immune system reacts to antibodies that come from animals (eg in antivenoms). Can take up to 2 weeks to develop. Usually includes rashes, itching, muscle or joint pain — but can be more serious.

Shock — when there is not enough blood being pumped around the body. Life threatening condition usually brought on by serious injury or illness. **Steroids** — hormones that are important for metabolism, immune reactions, water and salt balance. Human body produces a range of steroids for different purposes. Steroids are also strong, effective medicines (cream, ointment, tablet, injection) for a variety of medical conditions (eg allergic reactions, asthma, skin conditions). **Stroke** — supply of blood to the brain is disrupted because an artery is blocked or has burst. Lack of oxygen causes brain cells to be damaged or die.

Therapeutic — helps treat or improve illness.

Triple whammy — dangerous combination of 3 medicines: ACE inhibitor/ ARB + diuretic + NSAID. Can cause kidney failure. Patients taking ACE inhibitors or ARBs **and** diuretics **should not** take NSAIDs.

- ACE inhibitor/ARB decrease blood pressure and increase blood flow by widening the blood vessels, inceases blood flow out of the kidneys
- Diuretic acts on the kidneys, increases urination and passing of water from body
- NSAIDs anti-inflammatory analgesics (eg aspirin, ibuprofen) restrict blood flow to the kidneys

Interaction is more dangerous if the kidneys are already starting to fail. **Urinary tract infection** — infection of kidney, bladder or urinary tract. **Vaccination** — having a vaccine, ie actually having the injection.

Virus — infectious agent that grows inside other organisms. Causes an immune response. Antibiotics can't fight viruses, but antiviral medicine can slow their growth, and vaccines help immunise the body against them.

Anatomy dictionary

Using this dictionary

This dictionary gives a brief overview of some body organs and systems.

- First point tells you what it does and how it works
- · Second point tells you about things that can make it stronger or weaker
- Third point tells you how it is affected by medicines or other drugs

Brain



- The brain is the centre of the nervous system and controls all other organ systems in the body through electrical impulses or chemicals
- Affected by diseases such as epilepsy and mental illnesses (eg depression, schizophrenia). Damaged by impact (injury), lack of blood supply, chemicals in the blood (eg alcohol). Exercise helps keep a good blood supply to the brain and can improve depression
- Some medicines alter messages being sent within, and to and from the brain (eg pain messages). Medicines can help to control seizures, relieve anxiety and depression, make you sleep

Central nervous system (CNS)



- CNS is made up of the brain and spinal cord. Operates using electrical impulses or chemicals so all parts of the body can communicate
- Damaged by injury and infection. Damage can result in paralysis if messages from the brain can't pass along spinal cord
- Drugs such as alcohol and opioids can depress (slow) CNS so that the heart, breathing, or movements may slow or stop altogether. Some medicines act by stimulating or depressing the CNS or reducing pain messages

Heart

- The heart is a muscle that contracts regularly to pump blood around the body
- Regular exercise makes the heart strong. Damaged or weakened by smoking, lack of physical activity, fatty and/or salty foods. Blockages that stop blood reaching it can cause a heart attack. Affected by cardiovascular diseases such as high BP, problems with rhythm (arrhythmia), diabetes



- Medicines can help the heart by
 - Evening out the heartbeat (antiarrhythmics)
 - Thinning the blood (antiplatelets, warfarin)
 - Opening up or relaxing blood vessels and lowering BP (antihypertensives)
 - Removing excess fluid (diuretics)
 - Lowering fat (lipids) in the blood
 - Dissolving blood clots or stopping blood clots forming (thrombolytics)

Blood — ci	rculatory/cardiovascular system (CVS)
	 CVS is made up of the heart and blood vessels (arteries, veins and capillaries) Good blood supply to all parts of the body needed for good health blood provides nutrients and oxygen, removes waste. Damaged by smoking (kills small capillaries and blocks arteries), diabetes (damages walls of blood vessels), too much fatty food (blocks arteries) See Heart for how medicines affect the blood system
Lungs — re	espiratory system
	 Lungs put oxygen into the blood so it is circulated around the body Badly damaged by smoke, dust, infections (eg pneumonia), especially during childhood. Affected by conditions such as asthma and COPD. Lungs are kept healthy with exercise, good hygiene, not smoking, keeping out of dust and fire smoke Medicines help treat lung infections (eg antibiotics), control asthma, help breathing
Stomach	
	 The stomach is the main organ in the digestive system. It begins breakdown (digestion) of food by churning it with enzymes and acid Damaged by infections that cause ulcers, too much acid, too much alcohol, some medicines Medicines treat infections and help stop the stomach producing too much acid (eg proton pump inhibitors). Some medicines (eg NSAIDs) must be taken with food so they don't damage stomach lining
Digestive s	ystem
	 Digestive system breaks down food, provides nutrition for the body, removes waste. Includes mouth, oesphegus, stomach, intestines, rectum Doesn't work well if not enough fibre (eg fruit, vegetables, grains) in food eaten or if person eats too much. Bowel cancer is associated with obesity Medicines can help reduce acid in the stomach, and relieve nausea (antiemetics), constipation (laxatives), diarrhoea
Kidneys —	urinary system
	 Kidneys help remove waste from the blood and regulate the body Affected by repeated urinary tract infections, skin infections, high BP, diabetes, too much alcohol (grog), old age Can be badly damaged by taking too much of some medicines. Other medicines help damaged kidneys function better and remove waste from the body
Liver	
	 The liver cleans the blood and helps with digestion Badly damaged by too much alcohol (grog), infections (eg hepatitis), too much of some medicines (eg paracetamol) Medicines can help treat infections and improve functioning

Pancreas
 Pancreas makes hormones (eg insulin) and enzymes that help to break down food in the small intestine Damaged by too much alcohol, gallstones, infections (eg mumps). If pancreas can't make enough insulin to break down sugar — person will develop diabetes Medicines can help increase the amount of insulin made by the pancreas to help control diabetes, and replace enzymes that break down food
Thyroid
 The thyroid is one of the largest glands in the body. Produces hormones that regulate metabolism and affect the growth and functioning of many other systems in the body Wrong amounts of thyroid hormones can make people very unwell Medicine (eg thyroxine) can help to control amount of thyroid hormone in the body
Reproductive system
 In women — vagina, uterus, ovaries. In men — testes, penis Damaged by infections, especially STIs. Problems for women include having trouble getting pregnant, bleeding, cancer Medicines can prevent pregnancy (eg the Pill), help to control bleeding and ovulation, and treat infection. Some medicines can harm production of sperm, others can harm an unborn baby
Musculoskeletal system
 Musculoskeletal system gives us shape, lets us move by contracting the muscles to pull the bones Affected by injuries that break bones or tear muscles, bone infections, arthritis, osteoporosis. Physical activity and good nutrition when young build strong bones and muscles Some medicines can help build bones, others can damage them. Medicines can help to relieve pain associated with arthritis and inflammation, and treat infections
Skin
 The skin is the largest body organ. It helps regulate temperature, protects the body from germs and fluid loss, and stores water, fat and vitamin D. It allows us to feel sensations Damaged by injuries (especially burns), too much sun, smoking. Affected by dermatitis, eczema, allergies, infections Medicines can treat infections, reduce inflammation and allergies (eg cortisone creams)

Ears	
	 The inner and outer ear let us hear by sensing movements in the air and converting them to signals that are sent to the brain. The inner ear also helps us to balance Structure of ear can be badly damaged by meningitis, chest and ear infections (especially when young) resulting in poor hearing, learning, language development Medicines can help treat meningitis, ear and respiratory infections
Eyes	
	 Eyes allow us to see by detecting light and converting it into a picture (image) in our brain Affected by allergies, infections, glaucoma. Badly damaged by too much sun (especially midday sun), diabetes, smoking, infections such as trachoma. Important to protect eyes by keeping them clean, out of bright light, eating good food, having regular eye checks Medicines can help treat eye infections, glaucoma, allergies
Nose	
S C	 The nose lets us smell and taste, cleans and warms the air we breathe in Allergies and infections can irritate lining of the nose causing swelling and blockages, make the nose run Medicines can treat allergies, or open a blocked nose (eg nasal sprays)

Calculating medicine doses and drip rates

Dose calculations

Dosages often written as amount/kg/dose (eg 25mg/kg/dose)

- This means a dose is made up of 25mg for each kg of body weight
- Dose needed = amount of mg/kg × weight of person in kg

Example

- Amount in mg/kg is 25mg/kg, weight of person is 12kg
- Dose needed = 25 (mg/kg) × 12 (kg) = 300mg

Table 6.4 Calculating doses	
TABLETS	
Number of tablets needed =	Example:
dose needed $[a]$ ÷ strength of tablet $[b]$	Dose needed is 15mg [a]
	Strength of tablet is 10mg [b]
	Number of tablets = 15mg ÷ 10mg
	= 1.5 = 1½ tablets
MIXTURES	
OR INJECTIONS — small volume IM or IV push	
Volume needed (mL) =	Example 1:
(dose needed [<i>a</i>] ÷ strength of mixture or	Dose needed is 300mg [a]
injection [b]) × volume this strength is in mL [c]	Strength is $250 \text{mg}/5 \text{mL}[b/c]$
OR	Volume needed = $(300 \div 250) \times 5mL$
_dose needed (a) × volume this strength is in mL (c)	= 1.2 × 5 = 6mL
strength of mixture or injection (b)	OR Volume needed = $\frac{300 \times 5}{250}$ = 6mL
	Example 2:
	Dose needed is 20mg [a]
	Strength is $30 \text{mg/mL}[b/c]$
	Volume needed = $(20 \div 30) \times 1$
	= 0.67mg × 1
	= 0.67mL

Dosage examples given in mg, but same formulas can be used for other strengths (eg microgram). Must use same unit for strength and for dose needed (eg mg and mg, microgram and microgram)

Quick calculations

- Dose needed = amount of medicine per kg x body weight (kg)
- Number of tablets needed = dose needed ÷ strength of tablet
- Volume of mixture or injection needed (mL) =

```
aose needed
strength of mixture or injection × volume this strength is in (mL)
```

Drip rate and infusion rate calculations

Table 6.5 Calculating drip rates and infusion rates for IV fluids

GRAVITY ADMINISTRATION SET		
Remember: Check drop rate on infusion set packet (eg 20 drop/mL, 60 drop/mL)		
Rate (drops/minute) =	Example	
(total volume of solution (mL) $[a] \times$	Volume of fluid to give is 1,000mL (1L) [a]	
number of drops/mL [b]) ÷ time in	Set delivers 20 drop/mL [b]	
minutes [c]	Time to give is 5 hours = $5 \times 60 = 300$ minutes [c]	
	Rate (drops/min) = (1,000mL × 20 drops/mL) ÷	
	300min = 20,000 drops ÷ 300 = 67 drops/min	
INFUSION PUMP — setting dials		
Remember: Always check instructions for your machine		
Rate (mL/hr) =	Example	
total volume of solution (mL) [a] ÷ time	Volume of medicine is 5mL, volume of fluid is	
in hours [<i>b</i>]	1000mL (1L). Total volume of solution to give is	
	1,005mL [<i>a</i>]	
	Time to give is 5 hours [b]	
	Rate (mL/hr) = 1,005mL ÷ 5 hours = 201mL/hr	

Units and concentrations

- 1 litre (L) = 1,000 millilitres (mL)
- 1 gram (g) = 1,000 milligrams (mg)
- 1 milligram (mg) = 1,000 micrograms
- 1% solution = 1g of solute dissolved in 100mL of solution
- 1:1,000 = 1g solute dissolved in 1,000mL of solution = 1mg solute dissolved in 1mL of solution

Converting units

- Grams (g) to milligrams (mg) = g × 1,000
 - OR Move decimal point 3 numbers to right (1g = 1.000g = 1,000mg)
- Milligrams (mg) to grams (g) = mg ÷ 1,000
 - OR Move decimal point 3 numbers to left (1mg = 0001.0mg = 0.001g)
- Milligrams (mg) to micrograms = mg × 1,000
 - OR Move decimal point 3 numbers to right (1mg = 1.000mg = 1,000microgram)
- Micrograms to milligrams (mg) = microgram ÷ 1,000
 - OR Move decimal point 3 numbers to left (1microgram = 0001.0microgram = 0.001mg)
- Litres (L) to millilitres (mL) = L × 1,000
 - OR Move decimal point 3 numbers to right (1L = 1.000L = 1,000mL)

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