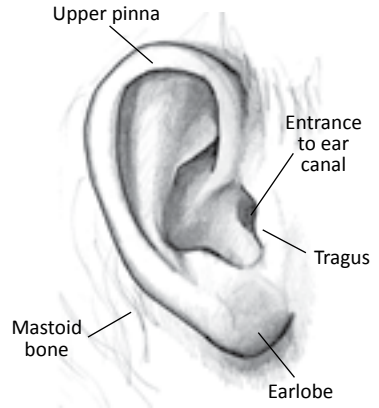
7 Ear, nose and throat

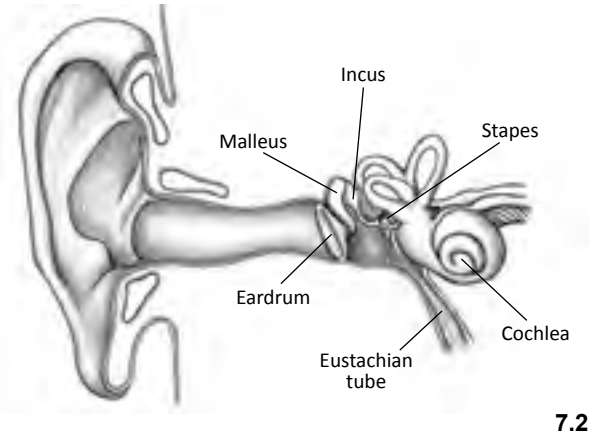
Ear examination and assessment 152
Ear examination 152
Testing hearing 156
Ear procedures 158
Dry mopping ears with tissue spears 158
Syringing ear 159
Putting in ear drops 160
Putting wick into ear — using ointment 160
Nose bleed (epistaxis) procedures 162
Stopping a nose bleed 162
Anterior nasal packing 162
Posterior nasal packing 165
Examination of mouth and throat 166

Ear examination and assessment

Anatomy of ear



7.1



7.2

Ear examination

Attention

- Always look at 'good' ear first
- If you find anything abnormal or worrying — **medical/specialist consult**

Position person

- **Infants/toddlers**
  - Put infant/toddler on carer's lap. Have ear you want to check first facing outwards
  - Have carer hold child's head firmly against their chest with one hand and hold child's arms and body with other hand to stop any movement — F 7.3
  - If child kicking — carer puts child's legs between their thighs and holds tight

7.3

- **Bigger children/adults**
  - Ask child to stand or adult to sit comfortably and tilt their head slightly away from you — F 7.4

7.4

Check outside of ear

- Look at bone behind ear (mastoid) and area under ear crease for infection, swelling, tenderness

Check ear canal

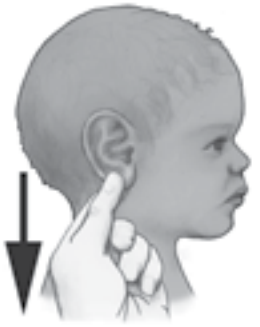
Attention

- Use new clean earpiece for each ear
- Dry mop (*p158*) any pus (discharge) before examining inside ear

If ear drum chronically stretched, sucked in (retracted), thinned — can look like a large hole (perforation) or defect.

What you need

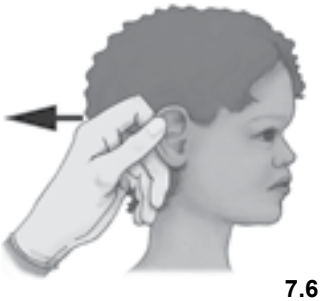
- Otoscope with right sized earpiece. Use largest size (adult or child) that fits comfortably in ear canal



7.5

What you do

- Straighten ear canal
  - Infants and toddlers — hold edge of ear (pinna) at bottom and pull gently down — F 7.5
  - Young children — hold middle of pinna and pull straight back — F 7.6
  - Older children and adults — hold top of pinna and gently pull back and up — F 7.7
- Look at entrance to ear canal for pus (discharge), swelling, redness
- Hold otoscope in left hand to examine left ear, in right hand to examine right ear
- Otoscope handle can be pointing up or down
- Must brace otoscope to stop injury if person moves suddenly
  - Brace by putting your fist against cheek or head — F 7.8, F 7.9



7.6

7.7

7.8

7.9

- Gently put earpiece into ear canal — never force
- Look through earpiece as you go so you can see where you are putting it, and see behind any pus (discharge) or objects
- Look
  - At walls of ear canal — check for swelling, sores, scratches, injuries etc
  - For debris, wax or pus, objects (foreign bodies), eg flies, beads, old tissue, cotton wool
  - At condition of drum — colour (grey, yellow, white), dull or shiny, bulging outwards or inwards, bubbles/fluid behind drum
    - See *Ear examination chart* (*p155*)

Test ear drum for movement

Attention

- If person has middle ear infection (otitis media), hole in drum, painful ear — **do not** test drum for movement
- If drum doesn't move — usually fluid in middle ear (effusion)
- Tympanometry can be used to test drum mobility and middle ear if available
- Only test eardrum you can see clearly

What you need

- Otoscope with right sized earpiece
  - Use largest size (adult or child) that fits comfortably in ear canal
- Puffer (insufflation) bulb that connects to otoscope

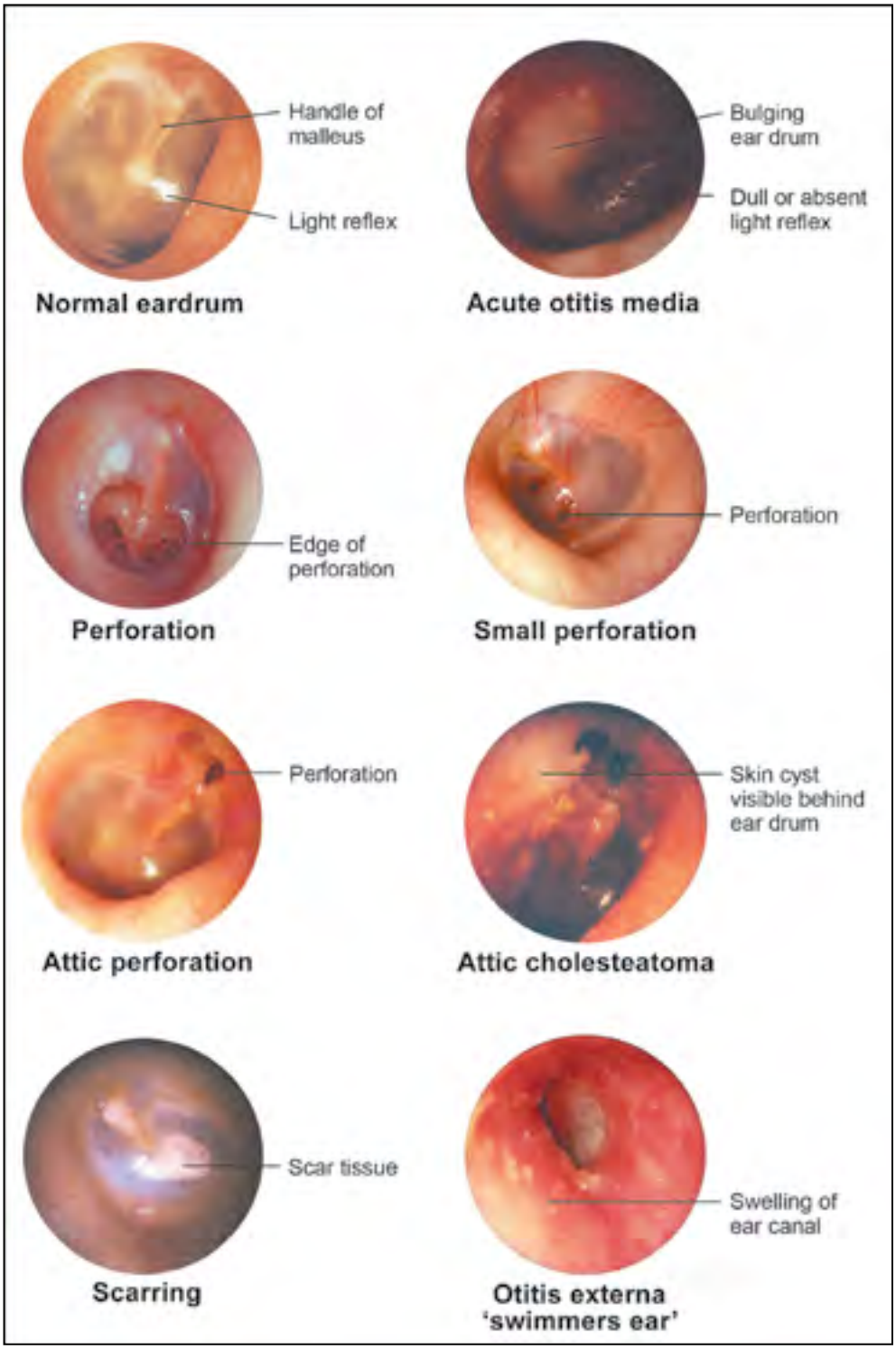
What you do

Using puffer bulb

- Attach puffer bulb to otoscope
- Explain that they will feel pressure in ear but it shouldn't hurt
- Gently push earpiece into outer canal as far as it will comfortably go, to make a tight fit
- Gently press puffer bulb, let go — F 7.10
- Watch for movement of eardrum
- If none — do it again with a little bit more pressure on bulb until there is movement or you are certain it will not move. **Stop if it causes pain**
- Gently take out earpiece and throw it away

7.10

Ear examination chart



Popping ears (Valsalva manoeuver)

- Get person to hold fleshy end of nose to block it, at the same time try to blow out though their nose with their mouth closed — F 7.11
- If eardrum intact and normal — it will move. Ask person if one or both ears 'popped'

7.11

Testing hearing

Attention

- **Do not** use tuning forks tests to assess children's hearing. Children with ear disease or hearing impairment must be referred for audiology
- Whisper and tuning fork tests not as accurate as audiometers but provide useful information, can be used by all health practitioners
  - Tuning fork tests easier to interpret if hearing problem only on one side

Whisper test

Tests for clinically significant hearing loss.

What you do

- Stand beside test ear at arm's length away, so person can't lip read
- Make a masking sound for non-test ear so only test ear is being assessed
  - Rub your fingers together close to non-test ear
  - *OR* Rub tragus of non-test ear in circular motion
- Start with a normal voice then decrease to a whisper while saying a series of jumbled numbers
- Ask person to repeat series of numbers back to you
- If whispered numbers heard — normal hearing
- If whispered numbers not heard — do test again using different series of jumbled numbers
- Test other ear
- If problems — refer for audiometry

Weber test

Tests for one-sided conductive loss (loss of sound travelling through outer or middle ear) or sensorineural loss (nerve or hair cell damage in inner ear).

- Do Weber test before Rinne's test

What you need

- Middle C (512Hz) tuning fork, best with wide base

What you do


7.12

- Strike tuning fork lightly against your hand or knee
- Keeping single bar of tuning fork up straight, put it against middle of person's forehead — F 7.12
- Ask person if tone sounds the same in both ears
  - If it does — record 'normal' in file notes
  - If it doesn't this is 'not normal'— record which ear heard loudest sound
- If one ear known to have hearing loss
  - If sound louder in problem ear — **conductive** loss in problem ear
  - If sound louder in good ear — **sensorineural** loss in problem ear

Rinne's test

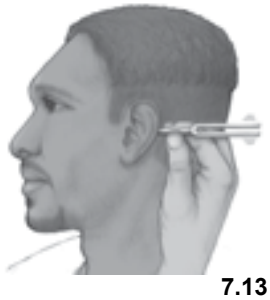
Compares air-conduction and bone-conduction hearing.

- Do Rinne's test after Weber test

What you need

- Middle C (512Hz) tuning fork, best with wide base

What to do


7.13

- Strike tuning fork against your hand or knee
- On left ear, put single bar on base of bone behind ear (mastoid process) — F 7.13 (bone conduction)
- Count in seconds and ask person to tell you when sound stops. Remember how many seconds it took
- Move tuning fork next to ear opening but **do not** touch ear — F 7.14 (air conduction)


7.14

- Count in seconds and ask person to tell you when sound stops again
- Record both times
  - Number of seconds **against bone**
  - Number of seconds **next to ear**
- Ask which sound was louder
- Do again for right ear
- **Normal** hearing if
  - Sound louder next to ear
  - Sound next to ear lasts twice as long as sound against bone
- **Conductive** hearing loss if
  - Sound louder against bone
  - Sound against bone lasts the same time or longer than sound next to ear

Dry mopping ears with tissue spears

Removes bacteria laden pus, dries middle ear. Allows topical medicines to reach inflamed surfaces, makes conditions much less favourable for bacteria.

Attention

- If discharging ears — get child to blow nose before and during procedure
- **Must** push tissue spears well into ear canal, near ear drum — about 2.5cm
- Don't worry about pushing spear in too far, tissue is soft and won't do any damage

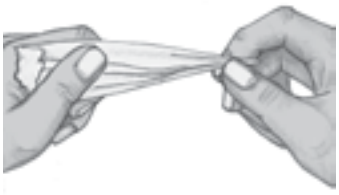
What you need

- Toilet paper (keep new roll in plastic bag just for making spears) — F 7.15
- Waste bin close by
- Ear drops — as needed under guideline or prescription

7.15

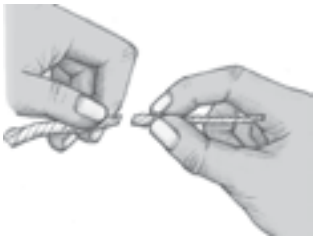
What you do

- Take piece of toilet tissue, hold in one hand and twist from corner — F 7.16
- Use thumb and first finger of both hands to **twist** until spear is tight — F 7.17
  - **Do not roll** — rolled tissue is too thick to put far enough into ear canal
- Break off tip (too floppy to use) and other end of spear. Spear should be about as long as your thumb — F 7.18



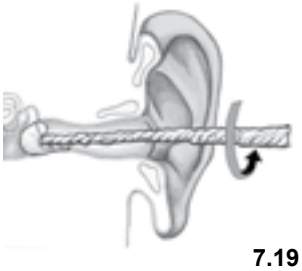
7.16

7.17



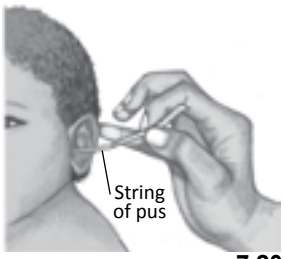
7.18

- Straighten ear canal (*p153*)
- Push tissue spear into ear with slight twist — 7.19
- Stop pushing when tissue stops going in *OR* child cries, coughs or blinks (about 2.5cm)
- Leave in place for 3–5 minutes to soak up pus
- Remove slowly, throw away. String of pus often connected to spear — F 7.20 (*p159*)
- Do again with new spears until spear comes out dry. At first this may take some time but gets quicker as ear improves



7.19

- When ear is dry, put in ear drops (*p160)*
- Teach child's carer and older children to make and use tissue spears
- Pus re-forms in middle ear cavity within hours — do
  - At least 4 times a day to begin with
  - Then twice a day for 1 week
  - Then once a day for 1 month



7.20

Syringing ear

Use to remove softened wax, foreign bodies, pus/debris from ear canal.

Attention

- **Do not** syringe ear if
  - Pain in ear
  - Recent trauma
  - Discharge due to AOM — dry mop instead
- Always look in ear before syringing. If any pain — stop and look again
- If CSOM — syringe using dilute **povidone-iodine** 1:20
- Soften wax with softeners before syringing
- Can drown and float out insects with oil or **amethocaine 1%** instead
- If foreign body doesn't come out — may need to see specialist
  - **Do not** use forceps to remove foreign body — may damage eardrum

What you need

- Otoscope and earpieces
- Bluey
- Kidney dish or similar (eg ice cream container) to collect run off
- Ear syringe *OR* sterile 20ml plastic syringe +/– tubing from scalp vein needle
- 20–50ml fresh warm water (body temperature)
- Dilute **povidone-iodine** 1:20, if needed


7.21

What you do

- Look in person's ear to find material to be removed
- Protect person's clothing with bluey, ask them to hold kidney dish under ear — F 7.21

- Fill syringe with warm water or dilute **povidone-iodine**. Make sure all air is removed, put tip of syringe or plastic tubing into ear canal
- Aim up and back so water runs along roof of ear canal
- Push water/**povidone-iodine** into ear with smooth, firm pressure on plunger. Water/**povidone-iodine** will spiral around canal, flush out foreign bodies
- Repeat until canal clean
- If one angle of 'squirt' doesn't get object out — try another, but be gentle
- Dry mop ear when finished

Note: After syringing, ear drum often looks pink, blood vessels dilated.

Putting in ear drops

Attention

- Always clean pus and foreign bodies out of ear first, so drops can reach middle ear
- **Do not** put tip of bottle into ear canal — keep end clean
- Leave canal open — don't use cotton wool

What you do

- Sit person in comfortable chair
- Ask them to tilt head away from you
- Straighten ear canal (*p153)*
- Hold dropper just above ear canal, squeeze in right number of drops
- Gently rub just in front of ear to make drops run down into canal
- Ask person to keep head tilted for 2 minutes
- Do other ear, if needed

Putting wick into ear — using ointment

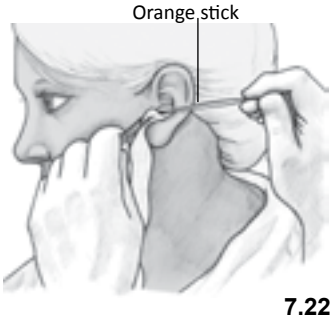
What you need

- Sterile dressing pack
- Sterile scissors
- Sterile ribbon gauze — about 10cm
- Medicine (drops or ointment) to be inserted or to go on wick
- Sterile gloves

- Clean probe or orange stick
- Sterile ear-packing forceps

What you do

- Lie or sit person comfortably
- Lay out dressing pack and equipment
- Wash hands and put on sterile gloves
- Drape site with sterile towels
- Cut about 10cm of ribbon gauze
- Put drops/ointment onto gauze, rub in with forceps
- Ask helper/person to straighten ear canal (*p153*)
- Pick up gauze at one end with dressing forceps and about 1cm in from other end with packing forceps
- With packing forceps, gently put gauze along line of canal as far as it will comfortably go
- Ask helper/person to let go of ear. Gently hold gauze in place with probe or orange stick so it doesn't fall out — F 7.22
- Pick up gauze again with packing forceps — about 2cm further along. Push gauze gently into ear canal to lay against gauze already there
- Repeat until ear canal comfortably filled with gauze to level of canal opening
- Cut off any leftover gauze
- Leave 1–2 days then take out packing. Dry mop canal, repack if needed



7.22

If ear very tender and/or swollen

- Try putting nozzle of ointment tube straight onto 18G or 19G plastic IV cannula (without needle)
  - *OR* Put ointment into 2ml syringe, connect to plastic cannula
- Looking with otoscope, guide cannula very gently to near eardrum, squeeze in medicine (this avoids air bubbles)
- After 2 days syringe with warm water
- Repeat, if needed

Nose bleed (epistaxis) procedures

Stopping a nose bleed

Attention

Need good preparation to treat nose bleed, nasal cavity often blocked by clots.

- Ask person to blow nose hard to clear before examination
- May restart bleeding, but allows better visibility and access, anaesthetic will work better

What you need

- Clean gauze or tissues
- Ice packs wrapped in towel *AND/OR* ice cubes
- Local anaesthetic/vasoconstrictor, eg **phenylephrine-lignocaine spray** (eg *Cophenylcaine forte*) or **lignocaine 1% with adrenaline** (1:100 000)

What you do

- Person sits up and leans forward
- Pinch 'fleshy' part of nose between finger and thumb (not over middle bony part) for at least 10 minutes — check if they can do this for themselves
- Put ice pack on forehead/back of neck and/or give them ice to suck
- Check temp, pulse, BP

If bleeding won't stop

- Apply pressure from inside by putting folded swab or ribbon gauze soaked in **phenylephrine-lignocaine spray** (eg *Cophenylcaine forte*) or **lignocaine 1% with adrenaline** (1:100 000) into nostril/s
- Pinch fleshy part of nose again for 10 minutes

If bleeding still won't stop

- See *Anterior nasal packing* (*below*)

Anterior nasal packing

Use if bleeding won't stop with simpler treatments.

Attention

Do not pack both nostrils — can cause fatal arrhythmias.

Merocel nasal packing

Can use for both anterior and posterior epistaxis.

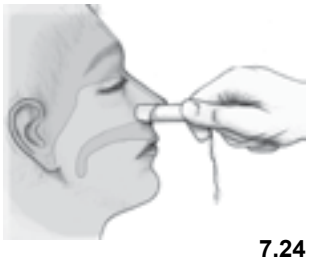
What you need

- *Merocel* nasal tampons pack
  - Anterior epistaxis — 8cm pack or 10cm pack trimmed to size with scissors
  - Posterior epistaxis — 10cm pack
- Scissors
- **White petrolatum** (eg *Vaseline*) or **triamcinolone-neomycin-nystatin-gramicidin ointment** (*eg Kenacomb*)
- **Normal saline**

What you do

- Lubricate *Merocel* tampon with **white petrolatum** or ointment
- Insert right to back of nasal cavity
  - Direct first 2cm 45° upwards — F 7.23
  - Then straight along floor of nasal cavity — F 7.24
- If pack doesn't fully swell with blood — drip saline onto it so it swells and packs nose

7.23



7.24

To remove

- Wet end of pack with 10ml of **normal saline** or water
- Leave for 5 minutes
- Gently pull out with forceps

RapidRhino nasal packing

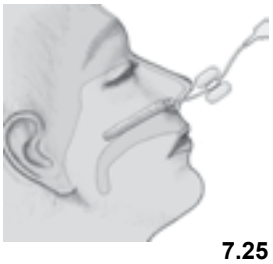
What you need

- *RapidRhino* nasal tamponade-balloon device
- Sterile water
- 20ml syringe
- Tape

What you do

- Soak *RapidRhino* device in sterile water (**not** saline) for at least 30 seconds to saturate it
- Insert into nostril in horizontal plane level with palate (as if you were putting in a nasogastric tube), **not** up the nose. If resistance — remove and re-insert

- Gently insert device until blue indicator ring just inside nostril opening — F 7.25
- Slowly inflate balloon with 20ml of air. Balloon will conform to shape of nose — F 7.26
- Pilot cuff (outside nose) allows monitoring of pressure inside nose. Should be taut but not hard
- Observe for 20 minutes. As nasal tissue adapts, might need to re-inflate
- Tape plastic butterfly to person's face — F 7.27



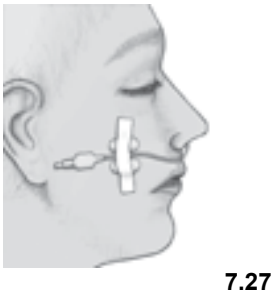
7.25

7.26

To remove

- *RapidRhino* should be removed after 24–72 hours
- Deflate cuff and gently remove. Watch for re-bleeding for 30 minutes

Gauze anterior nasal packing



7.27

Attention

- Hard to do properly — get help if you are not sure

What you need

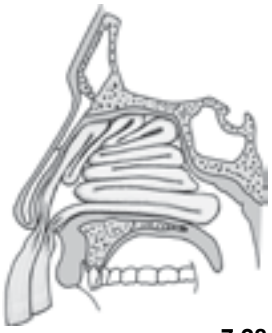
- Prepared nasal pack (if available)

OR

- **10% local anaesthetic spray** or **phenylephrine-lignocaine spray** (eg *Cophenylcaine forte*)
- 1cm x 20cm sterile gauze soaked in **white petrolatum** (eg *Vaseline*) or **triamcinolone-neomycin-nystatin-gramicidin ointment** (eg *Kenacomb*)
- Nasal-packing forceps
- Clean scissors — for cutting gauze
- Sticky tape

What you do

- Spray local anaesthetic up nose
- Leave end of gauze outside nostril
- Use forceps to gently put soaked gauze as far as possible into nasal cavity. Layer gauze back and forth until nostril completely packed — F 7.28
- Leave at least 3cm of gauze outside nose
- Cut off any extra gauze and tape both ends to face
- Check in mouth for blood trickling down back of throat
- If bleeding still won't stop — think about doing posterior nasal packing, **but only if experienced**



7.28

Posterior nasal packing

Balloon catheter

Attention

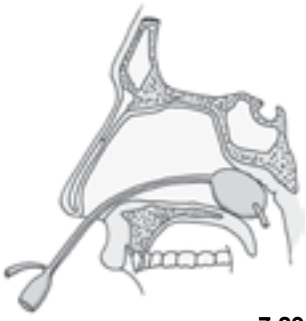
- If person having trouble breathing — **give oxygen**
- Person will need sedation before this procedure

What you need

- Water based lubricant
- Small retaining catheter — No. 12 or 14 with 30ml balloon
- 5ml syringe
- 1cm gauze — *Vaseline* or vas gauze pack
- Clean scissors (for cutting gauze)

What you do

- Lubricate catheter tip and push gently along floor of nose until resistance felt
- Use syringe to inflate balloon with 5ml of air
- Gently pull catheter forward until resistance felt
- Inject another 5ml of air — F 7.29
- Put in gauze nasal pack (*p164*)
- Hold ends of gauze and catheter in place just outside nostril with tape or clamp, eg umbilical cord clamp. Cut off extra gauze
- Put piece of gauze between nose and clamp to keep catheter taut
- If bleeding continues — take out catheter, try in other nostril

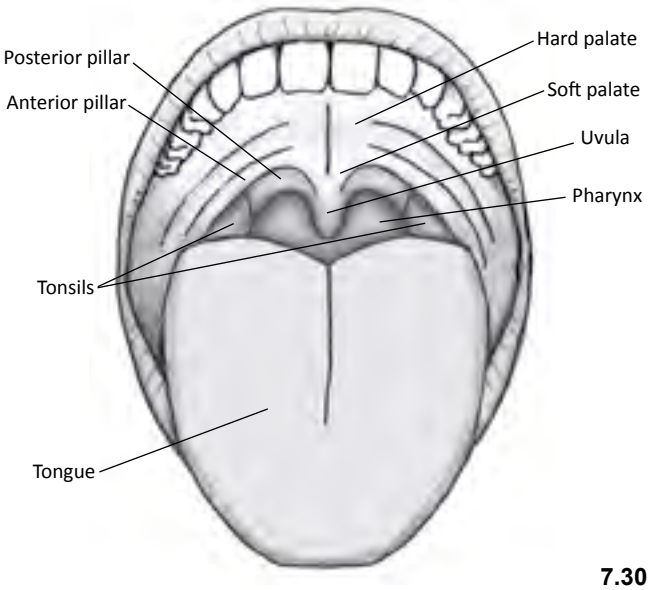


7.29

Examination of mouth and throat

If you find anything abnormal or worrying — **medical consult**.

Anatomy of mouth and throat



7.30

Examination

Attention

- When you examine mouth and throat don't forget the teeth and gums

What you need

- Torch or bright lamp
- Disposable wooden spatula

What you do

- Sit person in comfortable chair with good back support

Check

- Can you smell bad breath (halitosis)
- Ask person to stick out tongue. Does it lie straight, even on both sides (symmetrical)

Look

- Lips, all around inside of mouth, tongue — colour, lumps, swellings, ulcers, growths, white patches
- Gums — swellings, ulcers, growths, pain or redness (inflammation), and/or exposed, sensitive tooth roots (gingivitis)
- Teeth — stained, rotten (dental caries), chipped, loose
  - Tap any tooth that looks decayed to see if this causes pain
- Back of throat
  - Ask person to open mouth, with tongue in normal position, say 'aaghhh'
  - If you still can't see back of throat — press spatula firmly down on centre of tongue
  - Look at soft palate, posterior pillars, uvula, tonsils, pharynx
  - Check for colour, white patches, redness, lumps, ulcers, growths