

## 9 Teeth

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# Protective dental procedures



## Applying fluoride varnish to children's teeth

Start at 18 months, do every 6 months until adulthood, helps reduce cavities.

### Attention

- **Do not** apply varnish if child treated for asthma in past week, had fluoride varnish applied in last 3 months
- Try to clean and varnish **all** surfaces of teeth. If not possible, eg young child too restless — give priority to **front upper teeth**
- **Do not** use more than recommended amount of varnish
- Child will need to feel safe and comfortable. Take time to gain child's trust

### What you need

- 2–4 cotton rolls
- Gauze wipes
- Fluoride varnish
  - 0.25ml for children 18 months – 6 years (about the size of a pea, smaller than paracetamol tablet) — F 9.1
  - Up to 0.40ml for 7–12 years
  - Up to 0.75ml for child 12 years and over
  - Adult teeth will need more varnish
- Blue handled applicator, toothbrush and toothpaste (or gauze if no toothbrush) — F 9.2
- Mini plastic dish (dappen dish)



9.1



9.2

### What you do

#### Position person

- Young child
  - Sit child on parent/carer's lap facing you — F 9.3
  - *OR* Sit child on parent/carer's lap facing them. Sit knee to knee with parent/carer and lie child back onto your lap — F 9.4



9.3



9.4

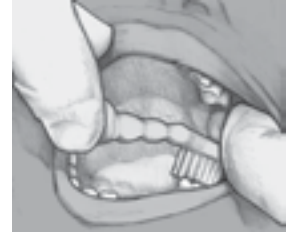
- Older child
  - Have child sitting or lying with head tilted back — F 9.5



9.5

### Clean teeth

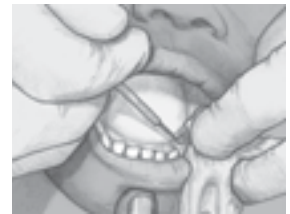
- Gently brush teeth using wet toothbrush only — **no** toothpaste
  - Clean all surfaces of teeth using circular motion — F 9.6
- If no toothbrush available — use gauze to clean teeth



9.6

### Dry teeth and apply varnish

- Most important step. Try to get child to keep mouth open and tongue off teeth
- If you can, start with back upper teeth. If not, do front upper teeth first
- Lift lip, put cotton roll by back teeth to hold cheek away from teeth
- Dry 2–3 teeth at a time using gauze wipe — F 9.7
- Paint varnish onto dried teeth straight away using blue handled applicator — F 9.8
- Continue drying and painting 2–3 teeth at a time until all teeth have varnish applied
- Change cotton roll when it becomes too wet



9.7

**Note:** When painting lower back teeth, helps to put cotton roll between teeth and tongue, but can be uncomfortable.



9.8

### Tell parent/carer

- Child can drink but mustn't eat for half an hour
- **Do not** brush child's teeth for 24 hours
- Works best if left on for as long as possible, but will come off over next 1–2 days
- **Older children and teenagers may be put off by appearance, so make sure they understand it will not last long**

# Dental care — equipment

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## Emergency Dental Kit

### Instruments

- Level I and Level II
  - Sterile No. 4 dental mirrors (pack of 12) and handles
  - Sterile dental tweezers
  - Sterile cheek and tongue retractors
  - Large syringes for irrigation
  - Suturing materials (usually standard in clinics)
    - 3.0 plain gut suture
    - Sterile suture set, suture holders, tissue forceps, scissors
- Level II
  - Sterile dental aspirating syringe for local anaesthetic
  - Sterile 'block/long' needles for local anaesthetic 27G (0.4mm) x 41mm
  - Sterile 'short' needles for local anaesthetic 30G (0.3mm) x 22mm
  - Sterile dental forceps (p220)
    - Lower forceps 73, 74, 74n, 86
    - Upper forceps 17, 18, 76, 76n
  - Sterile *Coupland 2* elevator
  - Sterile No. 11 scalpel blade and handle, for lancing

### Medicines and remedies

- Level I and Level II
  - Dry socket dressing, eg *Alvogyl*
  - Temporary filling material, eg *Cavit*
  - Oil of cloves (eugenol), small glass container to tip oil into
  - **Topical anaesthetic**, eg *Emla 5%*
  - **Paracetamol** (*CARPA STM p400*) (doses *CARPA STM p465*), other pain relief (*CARPA STM p399*)
  - **Normal saline**, sterile **normal saline**
- Level II
  - Local anaesthetic with **adrenaline** for dental use, eg **xylocaine 2%** with 1:80,000 **adrenaline**

### Dressings

- Level I and Level II
  - Cotton pellets, or small pieces of cotton wool rolled in gloved fingers to same size as hole in tooth
  - Sterile cotton gauze
  - Cotton buds

- Level II
  - Gelatine sponge, eg *Gelfoam*

### Other

- Level I and Level II
  - Suction equipment *OR* cup and tissues for spitting
  - Aluminium foil
  - Sterile specimen jar
  - Milk

### Personal protection

- Level I and Level II
  - Gloves, mask, goggles/glasses

### 'Dentist in a Box' emergency kit

- Kit not designed for remote areas but can be useful in some situations
- Replace after use and every 12 months (see [www.dentistinabox.com.au](http://www.dentistinabox.com.au))
- Person needs to see dentist within 1–2 days of you using kit
- Tooth trauma kit contains
  - Instructions — easy to follow and helpful
  - Mouth mirror
  - Temporary filling material
  - Sterile applicators (cotton buds)
  - Tooth splinting material
  - Disposable gloves
  - Tooth storage solution and container

### Temporary filling material

- Used if hole in tooth sensitive, to replace lost filling for a short time
- Will not last more than a few weeks
- Will not help with toothache
- Will not stay in chipped front tooth

# Dental care Level I — emergency dental care

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Need little or no dental training, minimal dental equipment and supplies.

## Attention

- Keep dental equipment and drugs together in well-marked container

## What you need

- See *Dental care – equipment (p204)*

## Toothache — from hole in tooth

### Attention

- Pain most likely due to dental pulp (nerve) inflammation if
  - Open hole in tooth
  - Pain made worse by hot or cold foods, drinks, air
  - No associated swelling or fever

### What you need

- Pain relief, eg **paracetamol**, oil of cloves (eugenol)
- Large syringe for irrigation, filled with warm water (cold will cause pain)
- Sterile tweezers
- Suction equipment *OR* cup and tissues to spit into
- Cotton pellets (small balls of cotton wool rolled between gloved fingers)
- Temporary filling material, eg *Cavit*

### What you do

- Give **paracetamol** (*CARPA STM p400*) (doses *CARPA STM p465*)
- Sit person in comfortable chair
- Remove food or debris from hole. Syringe with warm water or use tweezers
- Ask person to gargle and spit
- Dry hole with pellet of cotton pellet held in tweezers
- If pain not relieved by **paracetamol** — pick up hole-sized pellet of cotton wool, dip into oil of cloves, squeeze out excess, gently put in hole
  - Be careful, oil of cloves can sting gums or tongue
  - **Do not** use if pregnant, breastfeeding, under 12 years
- **If toothache not severe**, mostly after eating or drinking
  - Put temporary filling on index finger, push in firmly to fill hole
  - Filling will set after few minutes, but will keep putty-like softness. Can be dug out if needed. Won't last more than a few weeks

- **If toothache severe**
  - Don't fill tooth
  - Repeat oil of cloves application as needed
- Refer to dental service

## Problems after extraction

### Bleeding tooth socket [Step 1]

#### Attention

**Step 2** of this procedure needs more dental training — see Level II (p212).

#### If prolonged bleeding

- **Check file notes** for bleeding disorders, medicines that prolong bleeding
- Check past history of dental extraction. Talk with dentist who took out tooth
- Usually occurs because blood in socket won't clot normally. Likely causes
  - Person taking medicine that slows clotting, eg **warfarin, heparin, aspirin**
  - Blood vessel trauma that prolongs bleeding, eg wide open sockets, soft tissue damage after difficult/multiple extractions
  - Bleeding at night. Large clot stops direct pressure, causes prolonged oozing
  - Kidney disease, especially if person has missed or delayed dialysis

#### What you need

- **Paracetamol**
- Sterile cotton gauze

#### What you do

- Give **paracetamol** (*CARPA STM p400*) (doses *CARPA STM p465*)
- **Stop bleeding by applying finger pressure**
  - Sit person comfortably in chair
  - Pinch out any large clots with gauze
  - Fold new gauze in half, put over socket
  - Squeeze gum firmly against bony walls of socket, hold for 10 minutes by the clock
  - If bleeding stops — carefully put gauze pack over socket to keep gum against bone, ask person to bite down
  - Keep person under observation, check after 10–20 minutes
- **If bleeding continues** — see *Bleeding tooth socket – Step 2 (p212)* (Level II procedure), **dental consult**

## Dressing a dry socket (alveolitis)

- **Dry socket**
  - Blood clot in socket breaks down, exposing bone
  - Constant severe radiating pain, bad breath, bad taste in mouth
  - Usually within 2–4 days of extraction, lasts 10–14 days

### Attention

- **Will need pain relief before procedure**
- **Do not** use oil of cloves (eugenol). Will burn, won't give pain relief

### What you need

- **Paracetamol**
- Large syringe for irrigation, filled with warm sterile **normal saline** (cold will cause pain)
- Suction equipment *OR* cup and tissues to spit into
- Sterile cotton gauze
- Sterile tongue retractor, helper to retract tongue
- Sterile dental mirror
- Sterile tweezers
- Pinch of dry socket dressing, eg *Alvogyl*

### What you do

- Give **paracetamol** (*CARPA STM p400*) (doses *CARPA STM p465*)
- Sit person in comfortable chair
- Use syringe to gently wash (irrigate) socket with **normal saline**
  - Have person spit it out — or use suction
- Dry area with gauze
- Use fingers or tweezers to push dry socket dressing, eg *Alvogyl*, into socket
  - Tell person it will smell and may taste bad, but they will feel a lot better
- Tell person to use warm salt-water mouthwash morning, night, after food
- Check every 2–3 days. Repeat wash out, put in fresh dry socket dressing
- Tell person dressing can be left in place. It is reabsorbed

## Minor swelling or soreness after extraction

Causes include tooth or bone fragments or other debris trapped in socket.

### Attention

- Give pain relief first. May be all that is needed



## What you need

- Paracetamol
- Sterile tweezers
- Warm sterile **normal saline**

## What you do

- Give **paracetamol** (*CARPA STM p400*) (doses *CARPA STM p465*)
- If problem continues — **dental consult**
- May need to
  - Sit person in comfortable chair
  - Remove any bone fragments or debris with tweezers
  - Have person gargle with warm salt water and spit
- Tell person to use warm salt-water mouthwash morning, night, after food

## Dental trauma



Tooth may be loosened, displaced, fractured by trauma.

## Attention

- Treatments for baby (primary) teeth and adult (secondary) teeth different
- **Dental consult** first if possible
- Put tooth or tooth fragments to be taken to dentist in container of milk. Use cow (fresh, powdered, long life) or breast milk

## Fractured tooth crown

### What you need

- Sterile specimen jar
- Milk

### What you do

- Give pain relief if needed (*CARPA STM p399*)
- If adult — broken pieces of teeth can be stuck back on by dentist at any time, keep safe (in milk in fridge)
- If child
  - Baby (primary) tooth — no treatment
  - Permanent (secondary) tooth — send to dentist with broken pieces of tooth
- If tooth very sensitive — may help to press (mould) temporary filling over what is left of tooth in mouth
  - If no temporary filling available — try sugar free gum

## Loose or displaced tooth — adult or child

### Attention

- **Person will need pain relief before this procedure**
- Baby teeth usually left as they are. Baby teeth pushed back up into gum (intruded) will usually grow out again (re-erupt) without help
- Displaced adult teeth must be put back in place or taken out (extracted)
- Loosened but undisplaced teeth are left alone
- Teeth may be partially pushed up (intruded) or hanging down (extruded)
- Root canal treatment usually needed later

### What you need

- **Paracetamol**
- Hand mirror
- Small strip of aluminium foil

### What you do

- Give **paracetamol** (*CARPA STM p400*) (doses *CARPA STM p465*)
- Sit person in comfortable chair
- Hold tooth firmly, move back to proper position. Check bone and gum are in position
  - Ask person to close teeth together gently
  - Check that bite and appearance are normal, ask patient to check too
- If both seem normal — splint tooth in place with aluminium foil. Cut and mould single layer of foil over inside and outside of tooth and teeth next to it
- Send person to dentist as soon as possible

## Knocked out adult tooth

### Attention

**Dental consult** about whether local anaesthetic needed — must be Level II practitioner to give.

If RHD, artificial heart valve, heart transplant, history of bacterial endocarditis, congenital heart problem — **medical/dental consult** about preventive antibiotics (*CARPA STM p419*) before starting procedure.

- **Person will need pain relief before this procedure** (*CARPA STM p399*)
- Put tooth back as soon as possible, best within 1 hour
- **Do not** replace baby (primary) teeth. If not sure whether baby or adult tooth — try to put back, **dental consult**

- **If you can't replace tooth** — have person hold tooth between cheek and gum, or put in container of milk and send with person to dentist within 12 hours
  - **Do not** store in water
- Only replace whole teeth with root attached. If fragments — see *Fractured tooth crown* (p209)

### What you need

- Cotton bud
- Topical anaesthetic
- Local anaesthetic, syringe, dental needles — see *Emergency Dental Kit* (p204)
- **Normal saline** (if tooth very dirty)
- Milk
- Sterile mirror
- Sterile tweezers
- Sterile suture kit
- 3.0 plain gut suture
- Small strip of aluminium foil

### What you do

- Give pain relief (*CARPA STM p399*)
- Sit person in comfortable chair
- Paint topical anaesthetic over injection site with cotton bud. Wait 1 minute
- Give local anaesthetic if needed, if skilled (*p215*)
- **Do not** touch root, only crown
- If tooth very dirty — hold crown, gently shake in **normal saline** to clean
- If need to store before replacement — have person hold tooth in mouth between cheek and gum, or put in container of milk. **Do not** store in water
- Look at shape of tooth, and teeth beside gap
  - Make sure tooth is right way around, ie front of tooth is to the front
- Firmly push tooth all the way back into gap
- Gently press (shape) gum back around tooth
- Hold tooth in place for a few minutes
- Ask person to close teeth together, check tooth in right place, ie looks right, teeth meet properly
- Suture cuts (lacerations) in gum if needed
- Splint tooth in place with aluminium foil. Fold (mould) single layer of foil all the way over tooth and teeth next to it
- Send person to dentist **urgently**

# Dental care Level II — invasive emergency dental care

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Need emergency dental training and Emergency Dental Kit (p204).

## Attention

- Keep dental equipment, emergency kit and medicines together, in well-marked container

## What you need

- See *Dental care – equipment* (p204)

## Bleeding tooth socket [Step 2]

Stopping bleeding using adrenaline injection and suturing.

## Attention

- Try Step 1 (p207) before doing this procedure

## What you need

- Cotton bud
- **Topical anaesthetic cream**
- Local anaesthetic with **adrenaline**, dental syringe, dental needles
- Helper to retract tongue, cheek etc
- Sterile tongue retractor
- Sterile dental mirror
- Sterile tweezers
- Sterile cotton gauze
- Sterile suture kit
- 3.0 plain gut suture
- Gelatine sponge, eg *Gelfoam*

## What you do

- Paint **topical anaesthetic** over injection site/s with cotton bud. Wait 1 minute
- Inject local anaesthetic with **adrenaline** into surrounding soft tissue
- Wipe dry, remove any large clots, look for torn tissue or source of bleeding

- Put in suture by pushing needle right through **soft tissue only** from outside to inside of socket, then from inside to outside of socket — F 9.9
- Pull socket sides towards each other, knot and cut gut — F 9.10
- If gelatine sponge (eg *Gelfoam*) available — use tweezers to gently push into socket and under suture to hold in place. Will mould into position
- Watch for 10 minutes
- If still bleeding
  - Reapply finger pressure and gauze pack. See Step 1 (p207)
  - Recheck medical history. **Dental consult**



9.9



9.10

## Lancing a pointing abscess

### Attention

- Give pain relief (*CARPA STM p399*) and start antibiotics (*CARPA STM p359*) straight away
- **Check file notes**
  - Bleeding disorders, medicines that prolong bleeding
  - If RHD, artificial heart valve, heart transplant, history of bacterial endocarditis, congenital heart problem — **medical/dental consult** about preventive antibiotics before starting procedure (*CARPA STM p419*)
- If person has trouble opening their mouth due to dental infection — **send to hospital urgently**

- Only lance abscess if sure it is needed, skilled and confident to do so
- Make sure abscess is clearly pointing — can see pus just under skin (mucosa)
- **Do not** inject local anaesthetic into swelling. Will not anaesthetise area, can cause dangerous spread of infection
- Nerve block injections away from site of infection can be safe and effective

### What you need

- Sterile cotton gauze
- Cotton bud
- **Topical anaesthetic cream**
- Sterile No. 11 scalpel blade and handle
- Suction equipment *OR* cup and tissues to spit into
- Sterile suture kit
- 3.0 plain gut suture

## What you do

- Sit or lie person down
- Dry area to be lanced with sterile gauze
- Paint **topical anaesthetic** over injection site with cotton bud. Wait 1 minute
- Give local anaesthetic (*p215*)
- Tell person you are about to lance abscess, ask them to keep calm and still
- Plunge scalpel quickly in and out, **exactly where abscess is pointing**
- Use suction and gauze to soak up pus and blood
- Let person relax, then ask them to rinse and spit
- Put gauze pack over incision, have person close mouth to hold pack in place
- **If bleeding doesn't stop** — use simple suture to loosely close incision (*p213*). Small incision shouldn't need a suture
- Tell person to rinse with warm salty water 3–4 times a day
- Check daily
- Refer to dentist for extraction or root treatment within few days

# Giving local anaesthetic and extracting tooth — adult



Level II procedure — need some dental emergency training and Emergency Dental Kit (p204).

Emergency dental extraction usually needed if

- Severe prolonged pain from decayed tooth and root canal treatment not practical
- Abscess or infection in tooth (periodontal) or root (periapical)
- Very loose tooth due to periodontal disease

## Attention

- If RHD, artificial heart valve, heart transplant, history of bacterial endocarditis, congenital heart problem — **medical/dental consult** about preventive antibiotics (*CARPA STM p419*) before starting procedure
- **Do not** do extraction if
  - Bleeding disorder, eg haemophilia, von Willebrand disease, Christmas disease, leukaemia
    - Papuans in Torres Strait may have prolonged bleeding time due to malaria
  - Taking medicine that prolongs bleeding, eg **aspirin, warfarin, heparin, tricyclic antidepressant, steroid**
  - Has had radiation treatment to head or neck
  - Swelling in area — unless you can anaesthetise away from swelling
  - Taking bisphosphonate medicines for osteoporosis or cancer

## Giving local anaesthetic for tooth extractions

Numb (anaesthetise) tooth nerve, gum, bone on inside and outside of tooth.

## Attention

- First take medical history
  - Always double check and confirm **which tooth** needs extraction before giving local anaesthetic
- Method of injecting local anaesthetics depends on location of tooth being extracted

- **Infiltration technique** — anaesthetic injected directly into or around tissues to be anaesthetised, usually affects ends of nerves close to tooth to be extracted. Suitable for
  - All upper teeth
  - Anterior lower teeth (incisors, canines)
- **Mandibular nerve block technique** — anaesthetic injected close to mandibular nerve, can be some distance from tooth to be extracted. Suitable for
  - Lower premolars and molars
  - All lower teeth on one side, except central incisors

Complications of dental injections include sweating, nausea, fainting, fitting, hyperventilation. May need to

- Lie person down in recovery position
- If feeling faint — raise lower limbs
- If hyperventilating — slow deep breathing through nose. Take a few seconds to breathe in, a few seconds to breathe out, at least 10 times
- Get person to rest. Monitor temp, pulse, BP, RR

## What you need

### For local anaesthetic

- Cotton bud
- **Topical anaesthetic cream**
- Sterile dental aspirating syringe for local anaesthetic
- Sterile 'block/long' needles 27G (0.4mm) x 41mm)
- Sterile 'short' needles 30G (0.30mm) x 22mm
- Local anaesthetic with **adrenaline** for dental use, eg **lignocaine 2%** with **adrenaline** 1:80 000

### For tooth extraction

- Sterile dental mirror
- Sterile dental tweezers
- Sterile *Coupland 2* elevator
- Sterile dental forceps (*p220*)
  - Lower forceps 74, 74n, 73, 86
  - Upper forceps 76, 76n, 17, 18

### For post-operative care

- See *Bleeding tooth socket (p212)*



## What you do

- If local anaesthetic stored in fridge — warm to room temperature before use. Will cause pain if cold

## Position person

- **For upper teeth**
  - Sit person in chair with high back, tilt head backwards
  - Stand in front and to same side as tooth to be extracted, feet well apart, knees bent
  - May help to have helper support person's head with their hands
- **For lower premolar and molar teeth on right side**
  - Sit person in chair with high back, with head against wall and turned towards you
  - Stand in front and to left of person, feet well apart, knees bent
- **For all lower teeth on left side, right lower incisors and canines**
  - Sit person in chair with high back
  - Stand behind and slightly to right of person with head in crook of your left arm. Bend over to look into mouth

## Infiltration technique

- Person sitting up, head back, mouth wide open, good light on injection sites
- Paint topical anaesthetic over injection sites with cotton bud. Wait 1 minute
- Inject near root of tooth to be extracted
- First enter on outside of tooth where lip/cheek meets jawbone — F 9.11
  - Aim at root tip of tooth. Bevel of needle down towards bone
  - Needle should lie against bone about 7mm in
  - Inject  $\frac{7}{8}$  carpule **very slowly** to minimise pain
- Inject remaining  $\frac{1}{8}$  slowly into palate about 1cm away from gum margin of tooth to be extracted — F 9.12
  - Bevel of needle up towards bone
  - Tell person there will be some pain
- Gum is tight on bone, some pressure may be needed to force anaesthetic into tissue. Inject slowly
- If tooth sensitive to touch — give second carpule on outside of tooth
  - Sensitivity indicates inflammation around root area, will reduce effect of local anaesthetic. May need more anaesthetic to make numb
- Can use same infiltration process for lower incisors and canines



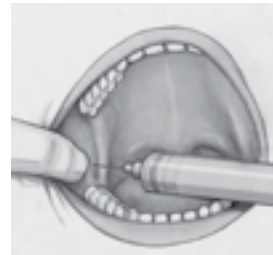
9.11



9.12

## Mandibular block injection technique

- Person sitting up, head back, mouth wide open, good light on injection sites
- Paint **topical anaesthetic** over injection sites with cotton bud. Wait 1 minute
- For right side, stand in front of person to give injection. For left side, inject from behind (if right handed)
- Put left index finger on top of lower molars into notch of mandible
- Look for near vertical ligament a few millimetres to inside of fingernail
- Angle syringe over premolar teeth on opposite side of mandible
- Insert tip of needle at point in line with middle of finger width and halfway between finger and ligament — F 9.13
- Push needle in slowly until it hits jaw bone — about  $\frac{3}{4}$  of 'long' needle
  - Area includes mandibular foramen, inferior dental nerve, blood vessels
- If you don't hit bone — withdraw needle, double check insertion point, re-insert at greater angle (same insertion point but move barrel of syringe closer to corner of mouth)
- If you hit bone much sooner than  $\frac{3}{4}$  of length of needle — needle angle needs to be straightened a little (same insertion point but move barrel of syringe slightly closer to midline of mouth)
- When needle correctly positioned, withdraw a couple of mm, pull plunger back (aspirate). If blood — move needle slightly, aspirate again. You should not draw blood
- Inject  $\frac{3}{5}$  of carpule slowly. Blocks inferior dental nerve that supplies teeth
- Withdraw needle  $\frac{1}{2}$  its length, swing syringe to lie over molar teeth, next to left index finger
- Inject remaining  $\frac{1}{5}$  carpule, withdraw. Blocks tongue (lingual) nerve
- Put another carpule in syringe and inject  $\frac{1}{4}$  as infiltration injection for premolar and molar teeth
  - Beside tooth, on outside (cheek side), directed towards back of mouth. Blocks buccal nerve



9.13

## Checking anaesthesia

- Skin over lip, chin, side of tongue should quickly get pins and needles then feel 'funny and fat' on injected side
- If lip or tongue doesn't feel numb after 5 minutes — repeat injection where needed, eg usually inferior dental nerve, which also supplies lip. If lip isn't numb — repeat mandibular block injection giving full carpule of anaesthetic, re-check anatomical landmarks and your positioning
- If after injecting 3 carpules there is little or no numbness — may be problem with technique or anatomical variations. **Dental consult** or referral

## If not enough anaesthesia

- Relatively common (at least 13% of the time), especially with mandibular block injections
  - Wait at least 5 minutes to see if anaesthesia deepens
- May be inflammation present, reduces effect of anaesthetic
- Give another carpule of local anaesthetic
- If numb but still pain — inject into periodontal ligament in 4–5 places all around tooth. Put bevel of needle away from root to allow flow of anaesthetic — F 9.14. Very small amount of anaesthetic needed
- Can safely give up to 4–5 carpules to healthy adults, but **should not be needed**



9.14

## Extracting a tooth

- **Simple extraction needs 3 things**
  - Enough sound tooth to get a good grip
  - Rupturing of gingival and periodontal ligament attachments between root and bone to free tooth
  - Expanding bony socket so any root lumps, bumps, curves can get out — like wriggling out a star picket

## What you do

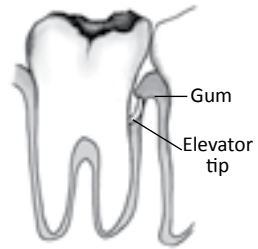
- **Check anaesthesia is working**
  - Ask person if toothache has completely gone
  - Have them bite teeth together and/or wiggle tooth with fingers to check pain has gone completely
- Push down into periodontal ligament on inside and outside of tooth with points of tweezers to check anaesthesia of soft tissues — F 9.15. Start gently, then use more force
- If still painful — give more anaesthetic or stop procedure



9.15

- Elevators used as levers to rock tooth root, rupture periodontal ligament, expand bony socket
- Very important to stay in control of force applied through elevator. Always brace your finger against teeth

- **Loosen/extract tooth using Coupland 2 elevator** — unless tooth very loose or in front of mouth
  - Put tip of elevator between teeth, with concave curved face against root of tooth to be extracted
  - Push elevator under gum and down root of tooth to be extracted — F 9.16. 'Lock' into position between root and bone so you **lever off bone**, not next tooth
  - Maintaining pressure, rotate elevator a few degrees backwards and forwards. Rocks root/s in socket and ruptures periodontal ligament to loosen tooth — F 9.17
- Choose forceps for extracting tooth — see Table 9.1



9.16



9.17

**Table 9.1: Extraction forceps**

Upper forceps — upper (maxillary) teeth	Lower forceps — lower (mandibular) teeth
76 – upper incisors, canines, premolars	74 – lower canines, premolars
76n – root remnants	74n – root remnants, lower incisors
17 – right molars	73 – molars
18 – left molars	86 – molars

- Hold forceps as shown
  - Upper teeth — F 9.18
  - Lower teeth — F 9.19
- Use non-extracting hand to
  - Support jaw
  - Retract lip for vision and safety
  - Hold gum and bone on inside and outside of tooth — F 9.20. Helps you feel bone expansion and tooth movement
- **Position forceps on tooth**
  - Tips of forceps must be on sound tooth structure or tooth will crumble, leaving root behind
  - Put beaks of forceps under gum and on roots — F 9.21
  - Push forceps as far up roots as possible. Especially important when tooth badly decayed
- Move tooth maintaining pressure towards root tips, firm grip on roots
- Position and action of 86 molar forceps slightly different — F 9.22. May be better for extracting lower molars, especially if broken crowns
  - Put pointed beaks between 2 roots (1 front, 1 back), squeeze forceps together, slowly rotate tooth towards cheek and out of mouth
  - May need to rotate tooth in slight 'figure of 8 movement' to expand socket
- **Movement used to extract tooth depends on root anatomy** — F 9.23. See Table 9.2 (p222)



9.18



9.19



9.20



9.21



9.22

### Possible complications

- **Not enough anaesthesia** — see *Check anaesthesia is working* (p219)
- **Tooth breaking** — brittle and/or decayed
  - Try to use elevator more where tooth root is sound
  - Use very firm pressure on forceps towards root tips
  - Use No. 86 forceps on lower molars
  - Remove what you can and leave rest of root alone. If still pain — **dental consult** and/or referral



9.23



• **Tooth won't move**

- Be patient and take rests. Try to feel which way the tooth wants to move
- Stop after 10–15 minutes. Shape of some teeth makes them difficult to extract, must be surgically removed. Refer to dentist

**Post-operative care**

- See *Bleeding tooth socket* (p207)
- Think about pain relief (*CARPA STM p399*)

**Table 9.2: Root anatomy and tooth extraction**

Root anatomy	How to extract the tooth	
<p><b>Group I:</b> Single rooted teeth</p> <ul style="list-style-type: none"> <li>• Upper incisors and canines</li> <li>• Lower incisors, canines and premolars</li> </ul>	<ul style="list-style-type: none"> <li>• Rotate tooth backwards and forwards to loosen it — F 9.24</li> <li>• Extract tooth outwards towards lips</li> </ul>	 <p style="text-align: right;">9.24</p>
<p><b>Group II:</b> Upper premolars, upper and lower molars</p> <ul style="list-style-type: none"> <li>• Upper molars have three roots</li> <li>• Lower molars have two roots</li> <li>• Upper first premolars generally have two roots</li> <li>• Upper second premolars usually have one root</li> </ul>	<ul style="list-style-type: none"> <li>• Move tooth inward and outward, slowly increasing movement as tooth loosens — F 9.25</li> <li>• Start some rotation</li> <li>• Extract tooth outwards when loose</li> </ul>	 <p style="text-align: right;">9.25</p>

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