



The Weekly Probe

23rd September 2016

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Referrals to the CRS clinic – Recently there has been a number of referrals made to the clinic where the forms have been completed yet not faxed to the department. Please make sure all requests are faxed through to the listed number before the patient leaves the ED.

EMLA Substitute - TSH ED and the paediatric ward will be trialing a topical analgesia call LMX4 (Emla substitute). The advantages of LMX4 is:

1. It can be used from the age of full term neonates.
2. Takes 30 minutes to gain analgesic effect.
3. It is half the price of Emla.

The product is in resus 2 and the paediatric procedure room with the product information. If you use the product can you please email Andrew or Kellie or give them verbal feedback on the product.

THIS WEEK

Ear Blocks
Dental Bleeding
Next week's case
Joke / Quote of the Week
The Week Ahead

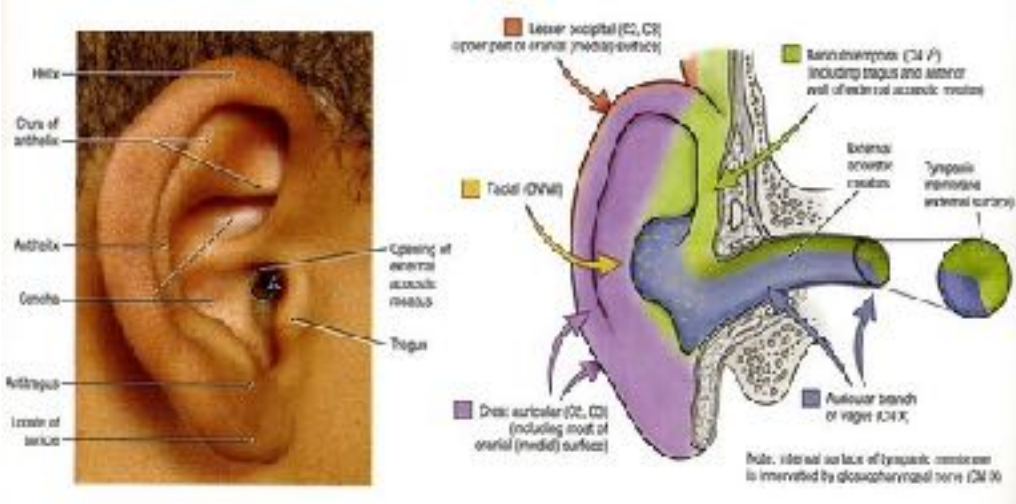
Ear-Blocks

A 88yo man presents with a lacerated pinna after falling at the local nursing home. You plan to suture the wound yet due to the tense overlying skin and pain on injection you feel it is worth considering a ear block to anaesthetise the area before cleaning and closure. What is the best technique?

First the anatomy as this will explain what needs to be blocked. (pinna = auricle)

Nerves

1. **auriculotemporal nerve**
sensory to : upper part pinna, tragus, ext acoustic meatus, tympanic membrane;
2. **lesser occipital nerve**
sensory to : upper part and posterior aspect of pinna;
3. **greater auricular nerve**
sensory to : pinna and lower part of concha;

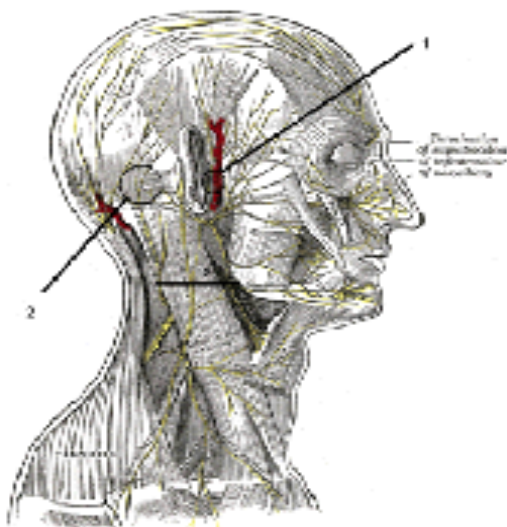


Use lignocaine 1% - (or longer acting bupivacaine (Marcaine) / ropivacaine (Naropin) if you are not in a rush) your choice of local anaesthetic. No need to use adrenaline, as there will be little benefit gained as this is not a block requiring large volumes of L.A and there would be a small risk of either intra-arterial injection into superficial temporal artery, or of local ischemia to the ear.

One technique is to use a V shaped infiltration inferior and superior to the ear.



However a more precise technique is to specifically block the 3 nerves .



1. Choose the indentation just anterior to the tragus, posterior to the TMJ. Palpate the pulsation of the superficial temporal artery. The **auriculotemporal** branch of the mandibular branch of the trigeminal nerve is posterior to the superficial temporal artery. Inject 1-2 mls lignocaine adjacent / posterior to the artery. This will anaesthetise the upper and anterior part of the auricle, the tragus, and the external auditory canal, and partially the tympanic membrane. This seems to be the most effective/reliable of the ear blocks. Allow 5 minutes for onset. To anaesthetise the deepest third of the canal and the tympanic membrane, you could add some topical 2-4% lignocaine into the canal (variable effectiveness).

2. Identify the mastoid process. Infiltrate 1-2 mls L.A **intradermally** to make a 2-3 cm diameter weal

over the mastoid process. Use a 25 or 27 gauge needle gently as this may hurt. Branches of the **lesser occipital nerve** and perhaps the posterior auricular nerve pass over the mastoid process, and communicate in a variety of ways. Blocking them here should anaesthetise the upper and posterior aspect of the auricle.

3. Identify the angle of the mandible. Draw a line from the angle of the mandible horizontally to the posterior border of the sternocleidomastoid muscle. The **greater auricular nerve** is a subcutaneous nerve passing along the surface of the SCM. Infiltrate 2-3 mls L.A subcutaneously and a small amount intradermally to make a 2-3 cm diameter weal along this line and over the SCM. This should anaesthetise the pinna and lower part of the auricle.

A 65yo lady on warfarin for AF (stopped 4 days prior) presents with bleeding post extraction of 4 teeth left mandible (34, 35, 36, 37). What are you going to and not going to do ?

DENTAL BLEEDING POST EXTRACTION

A 65yo lady on warfarin for AF (stopped 4 days prior) presents with bleeding post extraction of 4 teeth left mandible (34, 35, 36, 37). What are you going to and not going to do ?

This is not an uncommon scenario particularly with the increase in the number of people on NOACs and antiplatelet agent. It is also a reminder of the recommendations of a Coronial investigation back in ~ 2013 following the death of an elderly male who presented post extraction. He was treated with a gauze soaked in cophenylcaine yet subsequently fitted and aspirated the dental pack.

The take home message from this policy directive is not to use any local anaesthetics on the pack and to tape the pack to the cheek if there is a risk of aspiration.

If a patient presents with bleeding following dental care, clinical staff should:

- ensure that the attending clinician is wearing personal protective equipment
- check for signs of shock and manage appropriately
- clean the mouth, remove any blood clots and identify the site of bleeding
- roll up a piece of dry gauze into a swab, so that it is narrow enough to fit between the teeth on either side, but broad enough to cover the whole socket
- apply the dry swab to the site of bleeding, ensuring that the gauze is pressed onto the site of bleeding and not impeded by adjacent teeth (refer to picture)
- not apply any topical local anaesthetic solutions to the socket or the swab
- ensure the swab is sufficiently bulky that when the jaw is closed the swab exerts pressure on the socket (refer to picture)
- apply constant finger pressure to the gauze, or have the patient close the mouth and bite firmly on the gauze, for at least 15 minutes
- once the bleeding has stabilised and the patient is safe to return home, ensure that the patient has been advised of the post-operative care required and initial steps to take if bleeding recurs, and has been advised to contact an oral health call centre, relevant private dentist or an ED if concerns arise.



Some additional measure that may be considered if bleeding continues:

- Confirm bleed is from socket and not a mouth laceration that needs suturing.
- Remove all clot except in socket. This may be painful and to complete the task you need to provide analgesia and subsequent compliance/ procedural success. To do this you may need to use a local anaesthetic – although this somewhat contradicts the MoH advice, consider the use of a topical anaesthetic such as cophenylcaine which combines the vasoconstriction with the anaesthetic. Most importantly , as pointed out with the Coroner’s case, cophenylcaine contains lignocaine which if used in excess may result in seizures or arrhythmias.

Co-phenylcaine forte which we stock contains lignocaine HCl 50 mg/mL (**5 mg per spray**), phenylephrine HCl 5 mg/mL (0.5 mg per spray)

Assuming a 70kg person absorbs the dose of lignocaine through the mucosa , and the recommended upper dose of lignocaine is 4mg/kg (ie **280mg for a 70kg patient**) then, excluding any anaesthetic injected locally, the maximum dose will be 280 / 5 ie **26 sprays**. So use the cophenylcaine judiciously and spray directly onto the bleeder, don't bathe the swab in ½ a bottle of cophenylcaine!!

- Occlude socket with damp gauze roll across top and bite for 20mins.
- Infiltrate lignocaine and adrenaline into anterior gum deep to and around base of socket and repeat the cycle.
- Check platelet count and coagulation.
- Kids may need sedation/analgesia eg. Morphine.
- Surgicell (get this from theatres) may also be folded into a suitable size and inserted into the socket with before applying pressure from a folded gauze swab. A stitch across socket with 4/0 vicryl or similar absorbable suture may be considered.
- **Tranexamic acid** – as noted in the Rebelem link below there is a large body of evidence in the dental literature on the benefits the use of TXA in post extraction bleeding, including groups on oral anticoagulants or with clotting disorders.
 - Either dissolve 500 mg TXA tablets in 10 mL water (makes 5% solution) or the ampoule 1000mg/10ml - ½ strength with water (makes 5%). Moisten the pack with the solution in this scenario.
 - Others have advocated even stronger concentrations (neat IV solution or paste made from ~ 2.5 tabs crushed with 2ml water) for epistaxis
 - Safety?- need to consider risks vrs benefits - reduced transfusion requirements- Cochrane looked at TXA in intra-cardiac surgery, orthopedic surgery, epistaxis, and dental extractions, finding there were no adverse events reported regarding myocardial infarction, pulmonary embolism, stroke, or deep vein thrombosis. Considering this although this is an “off the label” indication, it seems a reasonable option when nothing else is working.
- Antibiotics may be considered if infection indicated by pain, abscess or sinus formation prior to bleed.
- Patient Advice - No mouthwash 6hrs, gentle thereafter. No etoh, no exercise, soft food, don't toothbrush socket area. No sucking (eg. Straw) as they may suck the clot out.

Management of the swab -If there is any concern that the gauze swab may be dislodged during sedation or that the patient may have a risk of aspiration or choking on the swab, the gauze swab should be placed with an extra-oral tag (put a long stitch through the pack) taped to the patient's cheek, to allow easy removal of the swab should it become dislodged.

In the case, there was no bleeding from a socket but from the lingual side of the mandibular mucosa adjacent to an extracted tooth. Injection of lignocaine with adrenaline + digital compression with a folded swab of surgicell “did the job”- biting down on a swab would not stop the bleeding .

Taking a step back how do we label the teeth? For our practice it is easiest to identify teeth by their names. A full set of dentition has four quadrants (upper and lower left and right, orientated from the patient perspective), with each quadrant containing a central and lateral incisor, a canine, two premolars, and three molars.

This makes any tooth easy to identify eg. Upper left lateral incisor.

Another way is the FDI system. This uses a two-digit numbering system in which the first number represents a tooth's quadrant – starts in the top left of the clock as we look at the patient 9ie their top right) For permanent teeth, the upper right teeth begin with the number, "1". The upper left teeth begin with the number, "2". The lower left teeth begin with the number, "3". The lower right teeth begin with the number, "4". The second number represents the number of the tooth **from the midline** of the face.

Editor: Peter Wyllie

For primary teeth, the sequence of numbers goes 5, 6, 7, and 8 for the teeth in the upper right, upper left, lower left, and lower right respectively.

adult

upper right - 1x upper left - 2x
18 17 16 15 14 13 12 11 | 21 22 23 24 25 26 27 28
R ----- L
48 47 46 45 44 43 42 41 | 31 32 33 34 35 36 37 38
lower right - 4x lower left - 3x

deciduous

upper right - 5x upper left - 6x
55 54 53 52 51 | 61 62 63 64 65
R ----- L
85 84 83 82 81 | 71 72 73 74 75
lower right - 8x lower left - 7x

I - Incisor
C - Canine
P - premolar
M - molar

Refs_ <http://rebelem.com/topical-tranexamic-acid-epistaxis-oral-bleeds/> <https://www.aliem.com/2016/trick-trade-topical-tranexamic-acid-paste-hemostasis/>

NEXT WEEK'S CASE

A 65yo lady presents with cough and SOB. The GP has performed a d-dimer – 0.6 mcg/ml. (upper limit of normal 0.5) What do we do now?

JOKE / QUOTE OF THE WEEK



Please forward any funny and litigious quotes you may hear on the floor (happy to publish names if you want)

THE WEEK AHEAD

Tuesdays - 14:30 – 15:30 Intern & JMO teaching -Thomas & Rachel Moore

Wednesday- 0800-0900 Critical Care Journal Club. ICU Conf Room / 14:30 – 15:30 Intern & JMO teaching -Thomas & Rachel Moore

Thursday 0730-0800 Trauma Audit. Education Centre / 0800-0830 MET Review Education centre / 1300-1400 Medical Grand Rounds. Auditorium.