Cone Beam vs Pan

- Study to investigate effectiveness of CBCT in reducing patient morbidity and to identify risk factors associated with IAN injury
- Multi-center, randomised, controlled trial in Netherlands
- Patients who were identified by panoramic film be at increased risk were included in study. Control had no additional radiographs, other group received CBCT.
- Primarily measured patient-reported altered sensations at 1 week post-op. Additionally measured IAN injury >6 months, OHIP-14 questionnaire, post-op pain, duration of surgery, number of emergency visits, missed days of work or study were also all scored
- 268 patients, 320 molars. Overall incidence of IAN injury was 6.3%. No significant differences between groups for temp IAN injury.
- Lingual canal position or narrowing of lumen at contact area between canal and roots were significant risk factors for temp IAN injury.
- Use of CBCT does not translate in to a reduction of IAN injury and other complications.
- In high risk cases an alternative strategy such as monitoring or coronectomy might be utilized.
To Suture or Not?

32 patients; 16 received primary closure, 16 were left to heal by secondary intention. Visual analog scale collected pain data at 3 days. Maximum opening and swelling were recorded pre-op, immediate post-op, 3 days post-op, 1 week post-op. All measurables showed statistical significance in favor of the secondary wound closure.


30 patients; split mouth study; mandibular third molars; control-3 sutures and primary closure, study side flap replaced, no sutures; significantly less postoperative pain and swelling when no sutures were used.


50 patients, split mouth study, one side secondary closure, opposite side received nonresorbable; checked pain and swelling on days 2, 5, 7. Statistical analyses and clinical observation revealed that sutured sites had greater swelling and post-op pain on days 2 and 5. No statistical difference was seen at day 7.

Damodar ND, Nandakumar H, Srinath NM. Postoperative recovery after mandibular third molar surgery: a criteria for selection of type of surgical site closure. Meta-analyses; 1,721 citations considered, 14 were eligible; pain and swelling at days 3 and 7 showed no difference; secondary closure had less trismus at day 3 and 7; low confidence in effect estimates; therefore the results do not support a preference for either approach.


Prophylactic Antibiotics

- Meta-analysis of randomized double blind placebo controlled trials of antibiotic prophylaxis in patients undergoing tooth extraction for any reason.

- 18 total studies qualified, 2456 patients

- Compared to placebo antibiotics probably decrease risk for infection in patients undergoing mandibular third molar removal by 70%, 1 in 12 is prevented from an infection.

- 38% reduced risk for dry socket; 1 prevented in every 38 patients.

- Some evidence of less pain. No evidence for less swelling, fever, or trismus

- However adverse reaction to antibiotics is 1 in 21.

Irrigation of site?

- 35 patients, split mouth study, partial or complete boney impactions’ study side had light curettage, no irrigation, control side was curetted, bone filed, and irrigated, all underwent secondary wound healing.

- Incidence of dry socket was 31.4% (Seems high)

- 2 patients experienced bilateral alveolar osteitis, 9 experienced unilateral dry sockets. **80% of dry sockets experienced in this study were on irrigated side.**


Bupivicaine

- prospective randomized study on pre-emptive analgesia, 45 patients with bilateral impacted third molars, study received Bupivicaine with epi 1:200,000 injection.

- Significant reduction in post pain at 6, 12, 72 h and overall reduction in pain for up to 7 days.

Lingual Nerve Injury

- 90 patients selected randomly for surgical removal of wisdom teeth, Ward's incision utilized, only buccal flap elevation
- 6 were diagnosed with lingual nerve paraesthesia, overall incidence rate of 6.6%
- Lingual nerve injury can occur with or without lingual flap elevation/protection


Musical Intervention?

- Study finds evidence to support its hypothesis that use of patient-chosen music during surgical extraction of impacted mandibular third molars lowers intraoperative anxiety levels.
- 219 patients with control group
- All patients vitals increased and peaked at time of incision and quickly decreased to within normal limits. BP difference was insignificant, but HR showed significant smaller change between the two groups

Anxiety Eval

- First question out of the gate: “would you like to be referred to an oral surgeon and be put to sleep with an IV or would you like to consider having it done here with us using an oral sedative you can swallow?”

- Ask the patient if they are nervous about having the procedure done.

- Ask what they are most nervous about.
  1. Most common answer is pain during procedure. - not a red flag, they will be completely numb, will feel pressure, but not pain. one benefit to the oral sedation is they are able to communicate with you and let you know if they feel pain and you can eliminate it.
  2. “Don’t want to feel a thing,” “know anything,” “see anything” - refer

- Be matter of fact with them, and examine both their response and their body language during conversation. Don’t let parent decide...

- Use key words to make them understand what it will be like. If you find yourself trying to convince someone, stop and refer

Surgical Eval

- Consider your experience, training, surgical skill, and confidence to safely provide treatment. Be honest with yourself and the patient. Refer when appropriate.

- Radiographs: Review panoramic film within last calendar year. Order and eval CT if prudent. (When possible, eval film before entering exam room.)

- Clinical exam: evaluate soft tissue in area, hard tissue anatomy (location of leading edge of ramus vs distal edge of second molar), soft palate and airway, access to surgical site, TMD signs or symptoms (don’t unnecessarily risk being the dentist they accuse of giving them “TMJ”)

- Medical history

- Refer when anything makes you question their level of fitness for the surgery or your ability to provide appropriate care for the patient.
Reasons to Refer

- Anxiety level
- Complex medical history
- TMD concerns
- Surgical access
- Airway management
- Difficult tooth position
- Scheduling

ASA status

<table>
<thead>
<tr>
<th>ASA Classification</th>
<th>Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASA I</td>
<td>Healthy; no smoking, no or very minimal drinking.</td>
</tr>
<tr>
<td>ASA II</td>
<td>Smoker; more than minimal drinking; pregnancy; obesity; well controlled diabetes, well controlled hypertension; mild lung disease.</td>
</tr>
<tr>
<td>ASA III</td>
<td>Diabetes, poorly controlled hypertension; distant history of MI, CVA, TIA, cardiac stent; COPD, ESRD; dialysis; active hepatitis; implanted pacemaker; ejection fraction below 40%; congenital metabolic abnormalities.</td>
</tr>
</tbody>
</table>

ASA classes III - VI are not sedated in my practice (particularly for wisdom teeth)
Mallampati Score

Figure 1. The Mallampati score:
- Class 1. Complete visualization of the soft palate
- Class 2. Complete visualization of the uvula
- Class 3. Visualization of only the base of the uvula
- Class 4. Soft palate is not visible at all
Third Molar Classification

Inclination
A-P Relationship to Ramus

Depth of Impaction
Sedation

Surgery Kit
Handpiece

Procedure

- Patient led to “quiet room,” patient monitoring equipment applied; confirm sedation protocol followed (NPO, etc.); establish name of escort and permission to speak with them about post-op care; confirm procedure with patient; ask for any questions; reassure patient; administer sedative and record time; pre-op Chlorhexidine rinse; position patient ready for anesthetic; allow sedative to take effect quietly while safely monitored

- Record procedure start time; deliver anesthetic – LIAN, RIAN, LPSA, RPSA, Long buccal infiltration L and R; place bite block; Begin LL, expose (incision, flap elevation), inject into follicle tissue; remove necessary bone; section appropriately; deliver tooth and follicle tissue; approximate edges of incision with silk and/or 3-0 chromic gut; repeat for #32; Administer Palatal anesthetic (waiting allows patient to maintain soft palate feeling and better control of airway); expose and deliver 16, 1; minimal gauze placed

- Record end time; ice pack given; clean up patient and room; get escort and provide verbal and written POI and signed Rxs.
POI

- Review the procedure: tolerated well, patient did great, patient cried whole time, difficult to keep numb, etc.

- Today, numbness will wear off in 3-8 hours, about 2 hours from now take Norco with some “easy-to-get-down food” (milkshake with a spoon). You want to stop pain before it starts. Harder to stop it once it breaks through. Ice for the next 24 hours. 5-10 minutes on and off, both cheeks, do not fall asleep on ice pack (we give small, comfort sided, round, re-freezable ice pack with our logo for patient to take home). No smoking, sucking through a straw, or spitting. Do not aggressively rinse the mouth. You have or have no stitches and they will resorb/ not resorb... Keep indoors and cool, Heart rate low and BP low.

- Tomorrow is usually a “good day.” Patient may wake and not need narcotic. But may need it later in day. Want to continue to stay cool, and keep BP and HR to a minimum to minimize swelling. General goal is to minimize swelling which will help minimize pain. You may eat most anything you want with simple guidelines to avoid chewy foods that may cause muscle inflammation and trauma to surgical site which may increase swelling and pain.

- Expect peak pain and swelling around day 3, what they do day 1 and 2 dictate how bad day3 may be. Swelling should begin decreasing after day3, if it swells again later contact us.

- Meds: Take meds as prescribed (Norco 7.5/325 in 2 hours with food repeat prn; take 800mg Motrin in 3-4 hours and repeat on clock schedule for 2-3 days, antibiotic use for 5 days).

- Make sure they know that sedated patients cannot drive the rest of the day, and do not need to be left alone until patient is alert and oriented and taken meds with no apparent side effects.

- I provide 2x2 gauze, but recommend they only use it to stop bleeding. I describe difference between oozing and bleeding. I ask them to call with any questions or concerns, but if they have an emergency then to seek emergency care at a hospital ASAP. Using wheelchair, assist alert and oriented patient to escort’s vehicle; record discharge time.

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Post Op Complications

- **Still bleeding:** Common concern, but rarely bleeding. Usually parents see the color red in their child’s mouth and they must be bleeding. Warn them that they will ooze blood for the first day. Will continue to see occasional blood for several days. Cold water rinse with Moist gauze and pressure.

- **Nausea** - treat with Ondansetron 8mg. Take 16mg po first dose, then 8mg q8-12 h. (This is just one medication that can help, you prescribe prn)

- **Minimal opening** - normal response from some of our patients to surgery due to proximity of muscles and associated inflammation. Persists for more than 5-7 days accompanied by swelling consider infection. Tx: anti-inflammatory and/or antibiotic

- **Dry socket** - treat as needed

- **Dysesthesia/Paresthesia** - notify Doctor the day following surgery if any numbness persists. Map feeling or lack of and document. Good time to have relationship with oral surgeon.

- **Others?**
1st Case

1/13/15

4.5 years
Referred Cases, why?
Thank you