"Surgical" Extractions  
Faster, Easier for the General Practitioner

Dr. Karl R. Koerner

Incision and drainage of lesion.

Excisional biopsy.

Frenectomy

Partial bony impaction (mesioangular). Flap with distal and buccal releasing incisions, follicle removal, root retrieval.

Maxillary (vertical) third molar impaction, with flap and buccal bone removal.

Multiple extractions (4) with alveoplasty, root retrieval, continuous lock suturing.

Surgical extraction, root tip removal, socket bone graft with barrier membrane, cross and interrupted sutures.

Maxillary surgical extraction with crown sectioning, root sectioning, root retrieval, Hedstrom endo file application, preventing root from going into the sinus on the model.

Don't plan on retiring at 55.

Probably not at 60 or 65 either.

Howard Farran, DDS, MBA
Answer to ‘how to do better’:

- Lower expenses
- Increase marketing
  - Have a good website and be “search engine optimized”
  - Have a Facebook page
- Add new products and services
- Do root canals, crowns, and dentures
  - Pull teeth, even upper wisdom teeth
- Join insurance plans
- Use 3D CBCT
- Don’t do gold (overhead too high)
- Place single root-form implants
- Do simple ortho, Invisalign
- Treat sleep apnea and snoring
- Make mouthguards

Level of competence....

- Recent graduate: minimal experience.
- Recent graduate: experience with “surgical” extractions.
- Surgery oriented GPR, AEGD, or being taught clinically by an experienced “mentor”.
- Years of experience doing and learning from many extractions.

What should you refer? Ask yourself:

- What is your level of competence with exodontia?
- How stressful does it become?
- How long does it take you to remove a difficult tooth?
- What is in your comfort zone?

So, when do you refer?
(Depends on your level.)

- Seriously medically compromised patient.
- Anxious patient, requiring IV sedation.
- Likely to take too much time.
- Likely to become “surgical” and outside your capability and “comfort” level.
- Predisposed to various complications.

The “standard” from the past.

Case in point. Similar cases on the right.
Step-by-step “surgical” extraction of a brittle non-vital tooth, broken at the bone level, in the dense bone of a 60 year old.

“Surgical” extraction.

1. Anesthetize
   - Mandibular block, long buccal injection
2. Reflect soft tissue coronally.
   - Use scalpel / periosteal elevator.

3. 301 elevator (don’t use where there is a crown [prosthesis] on the adjacent tooth)
   - mesial and distal, clockwise, counterclockwise,
     sustained pressure (8-10 seconds each direction)
   - don’t fulcrum against adjacent tooth
   - Luxate for a few minutes

4. 151 forcep
   - buccal – lingual, sustained pressure
   - for a few minutes

CROWN BROKE OFF AT CRESTAL BONE LEVEL
Some of the instruments used so far.

5. 3 mm wide straight Luxator.
   - push and wiggle vertically into the PDL space about 4 mm deep
   - mesial and distal only
   - turn clockwise and counterclockwise with “sustained” pressure
   - for a few minutes

It worked here, BUT the patient was 30.

It usually works for a case like this but didn’t here because of denser bone.

3 mm luxator with the MB root of an upper 1st molar.

Don’t try one modality for too long. When things aren’t working for you (after 2-3 minutes), do something different.

Oral surgeons pride themselves in taking out teeth quickly.
When rules change that you can’t remove facial bone to extract a tooth, how can you still do it in a short time?
You need a viable alternative to facial bone removal.

Solution: Periotome (skinny) bur vertically into the PDL.
6. Use 700 (or 701) bur into the PDL mesial and distal 2/3 to 3/4 of root length.  
- half root, half bone removal  
- only cut as wide as the bur

7. Then Luxator to depth (white lines)  
- turn clockwise and counter-clockwise (sustained pressure)  
- for a few minutes

"Another removal technique is to take a long, thin diamond [or carbide] and go around the tooth on the mesial, distal, and the palatal (if the bone is thick)."

"To preserve bone, it is preferable when creating a trough around the tooth, to cut slightly into the tooth rather than the adjacent bone."

Which handpiece is easier to cut apically along the tooth toward the apex?  
RPMs don’t matter.
Be careful.
The 700 or 701 bur is slender and effective but is also weak and cannot be moved "off-angle" without breaking. It is not a "default" bur for surgery. That would be the 702.

Another way.

ROOT FRACTURED, LEAVING A 7 MM LONG ROOT TIP.

6. Root tip deep in the socket. Try removing with some hand instruments first. But if it doesn't work...

9. With 701 bur in a straight handpiece, trough around the root cutting about 2-3 mm apically.
   Be careful of the mental nerve.

10. Then Luxator, elevator, root-tip pick, mini Cryer, Molt #2 curette OR...

Some other instruments used.

Heidbrink root tip pick

#2 Molt curette
Successfully and smoothly removed buccal crestal bone totally preserved.

Algorithm for difficult single root.

- Good x-ray
- Oral sedation?
- Good anesthesia
- Sever soft tissue attachments
- Elevator
- Forcep
- Luxator or similar instrument (4 mm deep)
- Periotome bur then Luxator (mesial/distal)
- Optional: Periotome bur then Luxator – lengthwise through the whole root (facial/lingual cut
- Root tip? Periotome bur
  - One side
  - two sides
  - Circumferentially
  - Cut root tip in half
- Then elevator, Luxator, Molt #2 curette, root tip pic, or small Cryer…
- Hedstrom file if near sinus (for insurance)
- Semilunar flap/buccal window if anatomy conducive

- Straight or “surgical” highspeed.

Access the mobile friendly version of the handouts, articles, and schedule of courses at:

http://oralsurgicalservices.com/app

Minimally Traumatic Surgical Extractions in General Practice

MetLife Quality Resource Guide

Educational Objectives

1. Perform extractions faster, easier, and more predictably.
2. Perform extractions more accurately – with less bone removal and soft tissue manipulation.
3. Know about newer methods and devices that allow more effective oral surgery.
4. Perform oral surgery therapy in a way that causes less pain, swelling, and bleeding for patients.
5. Avoid common complications that can occur with difficult extractions.
The following are **alternatives** to the Luxator and periotome bur for removing a root. They were not presented first (above) because they:

- Use devices that are too expensive, or
- Are too slow, or
- Are somewhat unpredictable, or
- Are somewhat ineffective, or
- Have a more difficult learning curve

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**Double-ended Periotomes**
(also have single-ended that can be hand-held or malleted.)

![Double-ended Periotomes](image)

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**Mainly luxator Osteotomes**
(many choices)
hand-held or malleted

![Mainly luxator Osteotomes](image)

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3 devices where you screw a drill into the root and leverage the root out.
- Pry bar: The one shown here.
- 2 other types...
Piezo-type bone-cutting devices taken into the PDL.

A "beak and bumper" – type device for tooth removal.

Common practice.

The Most Effective Instruments for Surgery: Basic

- Periosteal elevator
- Straight elevator
- Surgical scissors
- Needle holder
- Retractor (Seldin or Minn.)
- Apical forceps (2)
- Surgical spoon curette
- Scalpel handle (flat or round)
- Bite block (child)
- Suction tip

Ways to organize and sterilize.
Infection not removed.

6 months later, infection replaced with fibrous tissue that had to be removed leaving a big defect. Grafting done.

Post-op.

Fish

One hour attempt by a dentist - and still not out. Removed in 1-2 minutes with bur/Luxator.

Burs For Oral Surgery

- Third molar impactions
- Bulk buccal bone removal
- FG or straight
- Third molar impactions
- Troughing, section cuts
- FG or straight
- Routine extractions
- FG, 15, 20, 30 mm
- “Periotome” or “skinny” bur
- Down PDL at expense of root
- FG or straight
- FG: 19, 25, 30 mm

For FG, recommend at least surgical length (25 mm).

Main surgical suction tip: 3.0 inside diameter.

“Special” surgical suction tip: 2.0 inside diameter.
3.0 mm (15P3A)
2.0 mm (03EA)

Wire to clean it out.

(Also 1.0 mm diameter: 02BA w/wire too.)

Which is better?

“Surgical” highspeed: no air.

Example of a “surgical” highspeed.

Cervicofacial subcutaneous emphysema: a clinical case and review of the literature

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Low speed extraction.

Tooth sectioning with regular highspeed handpiece.

Acute subcutaneous swelling.

Extension to contralateral side, crepitus.

Hospitalized, IV antibiotics, discharged in 2 days, swelling down in 1 week.

Can go to thorax and mediastinum.

TX: Observation, diagnosis, may want referral, CT scan, hospitalization, IV antibiotics.

Mandible and neck.

Sinus and orbit level.

Can’t find a rear exhaust air turbine highspeed (surgical) without the 45 degree head.

No air in the water is best.
Small Cryers.

Very effective.

Not as effective.

Inter-radicular bone removal instead of buccal bone removal.

Surgeon's knot summary.

2 throws one way
1 throw the opposite way
1 throw the same way as how you started (optional)

Clockwise twice around

Counter-clockwise once around

Finally, clockwise once around again

Mini flap made with a PE, exposing enough bone to place forcep beak to bone. Suture papillae when done.


Envelope flap closed by a simple horizontal mattress (instead of two interrupteds).


Cross Sutures: Pick the one that is best for your need.

1. Triangular flap.

2. Root tip removal or dislodgement through buccal window.

'Semilunar flap'

Angled release one tooth away from the one worked on.

'Sutures app video: crossed horizontal mattress.'
Rules of good suturing:
1. Needle penetration 3 mm from incision or gumline. OR at the base of the papilla
2. Thread 3 mm from any adjacent sutures
3. Cut the ends leaving 3 mm of thread beyond the knot
4. All knots should be on the buccal
5. Use needle holder. (hemostat grooves dull the needle and let it wobble)
6. Don’t grab needle on swedge or tip
7. Needle always through mobile side (flap side) first
8. Don’t blanch tissue when tie sutures

Suture Material
- Plain gut: tensile strength last 24-48 hours. Need minimum of 5 days. Usually too short.
- Chromic gut: tensile strength last 5 days. Absorbs in 7-10.
- Non-absorbables: silk, PTFE, polyester... have good tensile strength.
- Needle: 3/8 circle most common

Is it malpractice to leave a root?
Pull or not?
Not malpractice if..

1. The root is small (5 mm or less) not loose, and not infected.
2. You feel that it is in the best interest of the patient to leave it.
3. The patient is informed.
4. The occurrence is recorded in the patient’s chart.
5. An x-ray is taken for documentation.
6. Follow-up is scheduled.