Dental Extractions
Dr. Martin C. Langhofer
Extraction Technique

- Periosteal elevators
- Tooth spreaders-allow clot to begin forming
- Apply extractors-rock, rock, rock side to side
- Wait, wait, wait
- Resume rocking then wait, wait, wait
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- Dental fulcrum
Extraction Technique

- Extraction
- Pack off alveolus to control bleeding with saline soaked gauze
- Pull pack
- Instill Bio-cell or Gel-foam in socket
- Add antibiotics (SMZ-TMP, metronidazole, Biotene oral gel)
- Seal with dental wax or STAT-soft acrylic
- Pull STAT plug in 7 days

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- Alternative
  - Flush alveoli socket daily with Chlorhexidine gluconate dilute solution
  - Then seal with Bio-cell
- NOTE: Gel-foam may be a holding place for bacteria
Control Bleeding

- Pack with wet saline gauze
- Gel Foam (Pfizer)/Bio-stat (A/cell)
- Dental wax/STAT-dental impression acrylic
- Electrocautery
- Daily dental packs
- Surgical-oxidized regenerated methylcellulose (binds platelets and releases fibrin) (Surgicel-Johnson and Johnson)
- Topical thrombin (Thrombostate, Pfizer) saturate with Gel-foam
- Microfiber collagen (Avitene, Dacroln) either colluplug or collatape (Sulzer Calcitek)
- Dental hemostatic powder/paste
Problems with Clotting

- Salivary enzymes
- Clot dislodgment with tongue/chewing motions
- Bleeding disorders
- Liver or kidney disease
- Drugs
  - Aspirin-platelet interference
  - Antibiotics-decreased Vitamin K production
  - Anticoagulants
  - Alcohol/mycotoxins-causes hepatopathy
- Hypertension
Healing Process of Extraction

• Extraction
• Blood flow from alveolar bone and gingiva
• Blood clot formation
  • Forms barrier to debris, food, irritants, bacteria
  • Forms a supporting structure for granulation tissue
• Local tissue damage from extraction site
  • Evokes an inflammatory reaction → local expansion of blood vessels
  • WBC’s and fibroblasts invade the connective tissue at the alveolus until granulation tissue is formed
• Leukocytes digest the blood clot as granulation tissue is formed
Healing Process of Extraction

- Bone is laid down by osteoblasts
- Coarse, trabecular, and compact bone is used in bone remodeling
After Extraction

- Pain medication (bone)
  - Augenal
  - Benzocaine
  - NSAIDS such as phenylbutazone and banamine
- Antimicrobials
  - Iodofoam packing gauze
  - Aluyljel (Septodont)-a fibrous product
  - Biotene oral gel (A/cell)-enzyme that releases iodine and lactoferrin
  - Calcium sulfate (plaster of paris) antibiotic plugs
    - SMZ-TMP
    - Metronidazole
    - Amikacin
Complications with Extractions

• 50% of extractions have complications
• X-Rays should be taken before ALL extractions
• Improper extraction tools
  • Dental Elevations
  • Extraction Tools
    • Molar, incisor, canine, wolf teeth-long thin blade screw driver, trephines (Michelle and Mallet) and assorted dental punches
• Strong peridental supporting structures
Complications with Extractions

- Abnormal root morphology-divergent, hooked, locked, ankylosed, germinated, misshaped, tumors of the tooth
- Hypercementotic teeth
- Teeth that are weakened (eg-dental decay that has been repaired)
- Teeth with abfraction or deep caries
- Desiccated teeth or brittle teeth associated with endodontic treatment
- Patients with inflammatory disorders associated with alveolar bone disease or Cushing’s disease
Complications with Extractions

- Patients with limited opening or trismus (lock jaw)
- Oro-sinal fistula
- Broken off root tips
- Fractured bone
- Invasion into sphenoid bone—possible bacterial meningioencephalitis
- Sepsis systemically
- Dry socket or non-healing socket
- Sinusitis
- Pain
- Bleeding
Factors causing a Dry or Non-Healing Extraction

- Exzyme fibrinolytic production
- Alveolar infection
  - Especially anaerobes, but can be aerobes
  - Streptococcus
  - Fusospiral
  - Treponema
  - Bacteroids
- Immunocompromised patient
- Systemic disease
Non-Healing Site

Non-Healing Site

- Betadine flush
- Chlorhexidine gluconate
- Antibiotic tablets or calcium sulfate antibiotic plugs –
  - SMZ/TMP + metronidazole
- Tetracycline PO or IV
- Clindamycin
  - Mix capsule with calcium sulfate or gelfoam (drug of choice for anaerobes)
  - Soak gauze with Clindamycin mixture and fill in alveolar socket
  - Open caspules and place in alveolar socket
- Look for systemic disease
Dental Extractions
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