Impacted Teeth
Objectives

• Define impaction of a tooth
• List and assess the factors that may complicate extraction of an impacted tooth
• Classify impacted teeth by their orientation
• List the indications and contraindications for the removal of impacted teeth
Objectives

• List the risks of intervention and non-intervention with respect to impacted teeth
• Be able to draw the flap design, bone removal, tooth sectioning, elevator use, and suture placement in the removal of impacted third molars
Definition

Impacted tooth:

• A tooth is impacted when it is prevented from erupting into function by other teeth, bone, or soft tissue
Classification of Impacted 3rd Molars

- **Vertical**
- **Mesioangular**
- **Horizontal**
- **Distoangular**
- **Lingual**
- **Buccal**
Indications for Removal

• Pericoronitis or prevention of pericoronitis
• Dental caries or prevention of dental caries
• Periodontal disease or its’ prevention
• Prevention of root resorption
• Odontogenic cysts & tumours
• Pain of unexplained origin
• Patient’s informed refusal of non-surgical Tx
Indications for Removal

- Fracture of the jaw/tooth in the line of fracture
- Prosthetic problems e.g. under prosthesis
- Orthodontic relapse/facilitation of orthodontic tooth movement
- Tooth interfering with orthognathic and/or reconstructive surgery
- Patients with medical or surgical conditions requiring removal of third molar (e.g. organ transplants, alloplastic implants, chemotherapy, radiation therapy)
Contraindications for Removal

- Extremes of age
- Compromised medical status
- Excessive risk of damage to adjacent structures
Risk of Intervention: Minor transient

• Sensory nerve alteration
• Alveolitis
• Trismus
• Infection
• Hemorrhage
• Dentoalveolar fracture
• Displacement of tooth
Risk of Intervention: Minor Permanent

• Periodontal injury
• Adjacent tooth injury
• TMJ injury
Risk of Intervention: Major

- Altered sensation
- Vital organ infection
- Fracture of the mandible and maxillary tuberosity
- Injury and litigation
Risk of Non-intervention

• Crowding of dentition based on growth prediction
• Resorption of adjacent tooth and periodontal status
• Development of pathological condition such as caries, infection, cyst, tumor
Planning the Operation

- The position of the tooth in the jaws
- The natural line of withdrawal
- The point of application of the elevators or forceps
- Access by removing bone and elevating a soft tissue flap
- The obstacle of withdrawal (intrinsic & extrinsic)
Intrinsic Factors

- Shape of the tooth
- Orientation of the tooth
- Root shape
- Root curvature
- Root number
Extrinsic Factors

• Bone levels
• Adjacent teeth
• Adjacent vital structures
• Decreased access
Less Difficult

- Mesioangular impaction
- Occlusal surface close to occlusal plane of 2nd molar
- Anterior to anterior border of ramus
- Roots 1/3 - 2/3 formed*
- Fused conical roots

*Present in young patient
Less Difficult

- Wide PDL*
- Large follicle*
- Elastic bone*
- Separated from 2nd molar
- Separated from inferior alveolar nerve*
- Soft tissue impaction

*Present in young patient
More Difficult

- Distoangular impaction
- Occlusal surface below cervical line of 2nd molar
- Tooth within mandibular ramus
- Long, thin roots°
- Divergent curved roots
°Present in older patients
More Difficult

• Thin follicle °
• Dense, inelastic bone °
• Contact with 2nd molar
• Close to inferior alveolar canal
• Complete bone impaction
• Narrow PDL °
° Present in older patients
Relationship of Root to Nerve (Radiographic)
Pre-surgical Assessment

• Medical risk assessment
• Emotional condition
• Clinical evaluation
• Radiographic evaluation
• Overall difficulty
• Surgical approach
Treatment Plan

- Treatment: deliberate retention (no surgery) with monitoring
- Treatment: surgical removal
Sequence

- Local anaesthetic
- Wait for local anaesthetic effect!
- Access
- Visibility/Lighting/Retraction
- Suction
- Access: full-thickness mucoperiosteal flap
- Bone removal
Sequence

• Elevate or section tooth then elevate
• Irrigate: under flap and in wound
• Suture: 3-0 plain gut
• Post-op instructions and meds
• Follow-up
Access Mandibular 3rd Molar

Lingual Nerve
Mesioangular Impaction
Vertical Impaction
Horizontal Impaction
Distoangular Impaction
Mandibular Sutures
Access Maxillary 3rd Molar
Removal Maxillary 3rd Molar
Maxillary Sutures
Mercier P, Precious D.