MAXILLARY ANESTHESIA

SRM KDC
Dept of Oral and Maxillofacial surgery
Techniques of Maxillary Anesthesia

Local Infiltration

Field Block

Nerve Block
Maxillary Injection Techniques

Supraperiosteal
Periodontal ligament
Intraseptal injection
Posterior superior alveolar nerve block
Middle superior alveolar nerve block
Maxillary Injection Techniques

Anterior superior alveolar nerve block
Maxillary (second division) nerve block
Greater (anterior) palatine nerve block
Nasopalatine nerve block
Anatomy Review of Maxillary Arch

- Incisive foramen
- Palatine process of the maxilla
- Median palatine suture
- Transverse palatine suture
- Horizontal plate of palatine bone
- Greater palatine foramen
- Maxillary tuberosity
- Lesser palatine foramina
Maxillary Arch Injections

- Nasopalatine nerve block
- Middle superior alveolar nerve block
- Posterior superior alveolar nerve block
- Anterior superior alveolar nerve block (infraobital nerve block)
- Greater palatine nerve block (anterior palatine nerve block)
- Maxillary nerve block
Supraperiosteal Injection
Indications

Pulpal anesthesia of one or two maxillary teeth

Soft tissue anesthesia when indicated

Hemostasis
Contraindications

Infection or acute inflammation in the area

Dense bone covering apices of teeth
Advantages

High success rate (>95%)

Technically easy injection

Usually entirely atraumatic
Areas Anesthetized

Entire area innervated by the large terminal nerve branches:

Tooth pulp and root area
Buccal periosteum
Mucous membrane and connective tissue
Disadvantages

Not suitable for large areas
Multiple needle insertions
Large volumes of anesthetic solution
Percent Positive Aspiration:

Negligible, but possible (<1%)
Alternatives

Periodontal ligament injection

Regional nerve block
Technique

Apply topical

Landmarks - mucobuccal fold
  long axis of tooth

Insert needle at height of mucobuccal fold

Target area - apex of tooth

Aspirate, deposit approx. 0.6-1 ml solution
Signs and Symptoms

Numbness

Absence of pain during dental therapy
Safety Feature

Minimum opportunity for intravascular administration
Failures of Anesthesia

Inadequate needle penetration
- not adjacent to tooth apex

Needle too far from bone
Posterior Superior Alveolar Nerve Block

Nerve Anesthetized:

Posterior Superior Alveolar Nerve (PSA)

- for maxillary molars and buccal tissue
Indications for PSA Block

First or second maxillary molar

Supraperiosteal injection is contraindicated
Contraindication

Risk of hemorrhage is too great (eg. hemophelia, coumadin)
Advantages

Atraumatic
High success rate
Less number of injections
Minimize amount of local used
Disadvantages

Risk of hematoma

Does not anesthetize first molar completely

No bony landmarks
Positive Aspiration

Approximately 3.1%
Landmarks

Mucobuccal fold
Maxillary tuberosity
Zygomatic process of maxilla
Area of Insertion

Mucobuccal fold above maxillary second molar
Technique

25 gauge, long needle
Position patient and identify landmarks
Advance needle upward, inward and backward
Aspirate, inject 1.8 ml of solution
Failures of Anesthesia

Needle too lateral

Needle not deep enough

Needle too far superior
Complications

Hematoma

Mandibular anesthesia