Maximize performance and survivability of the warfighter
EO 2

• Basic injection techniques for local anesthesia.
Dental Anesthesia

• **Indications:**
  – Control dental pain resulting from pathology or trauma
  – Manage anatomic area for dental procedure(s)
  – Limit the amount of medication given
  – Around infection sites for I&D

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Dental Anesthesia

- **Contraindications:**
  - Hx of allergy or reaction to local anesthetic
  - ALWAYS review Health Questionnaire and pay close attention to allergies to agent
  - Uncooperative patients
  - Patients at risk for hematoma
Dental Anesthesia

- **Complications:**
  - Syncope
  - Broken needle
  - Bleeding/Hematoma
  - Persistent paresthesia
  - Ischemic ulcer
  - Blanching
  - Tachycardia
  - Paralysis
  - Visual disturbance
  - Over dosage
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Equipment

10 mL Luer-Lok syringe  Dental Anesthetic Syringe
Equipment

**long or short needle**

**27 Gauge Long needle**

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**Equipment**

- **2% Lidocaine with 1:100K epi**
- **.5% Bupivacaine with 1:200K epi**
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Equipment

Syringe harpoon

Must be engaged in stopper
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Topical Anesthetic

20% Benzocaine

Apply with applicator to injection site
Dental Anesthesia

• Two basic techniques:

1. **Local Infiltration** (near the tooth)

2. **Regional Block** (a nerve block)
Dental Anesthesia

• Infiltration
  – Primary mode for maxillary teeth
  1. Approximate needle tip to apex of tooth (local nerve block at the level of the apical foramen)
  2. Aspirate
  3. Deliver local anesthetic (SLOWLY)
Maxillary Local Infiltration

**Short** (20-25 mm) needle

**Needle**

- The Needle Gauge: the larger the gauge the smaller the internal diameter of the needle. Usual dental needle gauges are 25, 27, & 30.
- Length:
  1. Long (approximately 40 mm "32-40 mm"), for NB.
  2. Short (20-25 mm).
  3. Extra-short (approximately 15 mm), for PDL.

Block nerve impulses at the level of the Apical Foramen

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Maxilllary Local Anesthesia

Mucobuccal Fold

Short Needle:
hub to the free gingival margin

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Maxilllary Local Anesthesia

Mid-line of tooth, parallel with the root

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Maxillary Local Anesthesia

Needle hub to the free gingival margin

Local (single tooth) anesthesia

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Dental Anesthesia

• **Block** (nerve)
  – Primary mode for mandibular teeth
  1. Approximate needle tip near *inferior alveolar canal* and/or *mental foramen*
  2. Aspirate
  3. Deliver local anesthetic
Mandibular Intraoral Block

Inferior Alveolar Nerve (V3) and Artery

Entering the Mandibular Canal

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Mandibular Intraoral Block

- V3 Block Anterior Landmark: Coronoid Notch
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Mandibular Intraoral Block

IA Nerve Block: proper depth of (long) needle insertion

Hemi-mandibular Anesthesia will be achieved

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Mandibular Intraoral Block

IA Nerve Block: needle inserted too far to the anterior

Too far from the Lingula and Mandibular Canal

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Questions?

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UHMM...MARK THAT ONE VERY SENSITIVE TO HOT OR COLD