

Catheter Based Local Analgesia for the Fractured Mandible

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Inferior alveolar blocks can be used for pain relief with mandibular fractures [1]. It helps to negate the need for the use of opioid based medication. This technique uses a spinal needle as a catheter. The catheter is inserted to enable the repeated delivery of long acting local anaesthetic such as bupivacaine to the Inferior dental nerve. The catheter, allows re-administration of analgesia in a quick, effective and non invasive manner.

Patients awaiting definitive treatment for a fractured mandible often requires a prolonged period of being nil by mouth. This is because trauma occurs most frequently on the weekends [2], and this is when there is the most limited availability of theatre services [3]. The use of ID blocks and regional anaesthesia are well know to produce effective relief for mandibular fractures but do require a suitably trained person to deliver them, and repeated injection is not well tolerated by patients [4].

In addition the above factors many of the patients who suffer mandibular fractures tend to be under the influence of drink and/or drugs. This often means that producing a safe and clear medical and drug history can be difficult. Combined with this the risk of interactions of opioids with alcohol or illicit drugs [5], this technique allows safe and effective delivery of analgesia to the patient.

To the best of the authors knowledge there have no reported cases of an intra-oral approach to produce pre or post operative analgesia. The method could also be used with adapted techniques for patients with trismus. It also prevents the need for an extra-oral approach which may cause scarring and skin infection. The use of bupivacaine is well documented as an excellent method for long term analgesia, and does not have to be administered by a doctor/dentist once the catheter is *in situ*.

Technique

The technique has been developed using single items one would typically find in an accident and emergency or ward setting.



Figure 1: Demonstrates a pre-operative set of items required for placement- disposable needle and syringe, local anaesthetic, 22 Gauge spinal needle, 3-0 silk suture, needle holders and suture scissors.

Local anaesthetic is applied to the buccal mucosa to enable sutures to be placed to secure the cannula.

The catheter is placed in the same manner as an ID block, between the coronoid notch and the pterygomandibular raphe.

The needle is removed post insertion and disposed of correctly, and the catheter remains *in situ*.



Figure 2: Shows two sutures are placed to secure the catheter intra orally.

The cannula is reviewed to ensure it doesn't come into contact with the dentition.



Figure 3: Shows the ease of use for regular delivery of plain bupivacaine.

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