

Oral Surgery

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Local Anesthesia for the Oral Cavity

Local Anesthesia

Topicals

- Superficial effect
- Short duration (2-10 minutes)
- Solutions or gels
 - Lidocaine 5%
 - Benzocaine 20%

Injectables

- TB or aspirating syringe
- 25-27 ga needle
 - Lidocaine 2%
 - Bupivacaine 5%

Local Anesthetic Dosage

- Lidocaine - Don't exceed 2-3 mg/lb
 - 2% Lidocaine = 20mg/ml
 - Don't exceed 1ml/ 7lb in dogs or cats
- Bupivacaine - Don't exceed 1mg/lb
 - 0.5% Bupivacaine (Marcaine) = 5mg/ml

Middle Mental Block

- Canine and Incisor Teeth

Lidocaine or Bupivacaine with or without epinephrine according to the patient

- Lidocaine 30-45 minutes duration
- Lidocaine w/Epi 1-3 hours duration
- Bupivacaine 1-3 hours duration
- Bupivacaine w/Epi 5-10 hours duration
 - Place pressure and inject up into the canal
 - Hold pressure with finger for 30-60 seconds
 - Can block premolars back to the level of the lower 1st molar

Infraorbital Block

- Upper Premolars
 - Block exit for buccal side of 1-3 PMs
 - Inject into the canal with pressure (hold pressure) for upper 4th Premolar back to 2nd Molar

Ligamental Block

- Any Teeth
 - Injected directly into the periodontal ligament around a tooth
 - Recommended only for extraction, as a general rule due to possible PDL injury

Local Infiltration Block

- Any Teeth
 - Local Infiltration is sometimes referred to as a “Splash” block
 - Injected around a tooth
 - Possibly the most common block used in veterinary dentistry
 - Most effective on maxillary teeth

2nd Degree Block

- Upper teeth
 - Infiltration of local anesthesia over the palatine artery, vein and nerve running along the palatal side of the maxillary teeth
 - Location must normally be calculated as the palatine groove cannot normally be palpated in most animals

Mandibular Block

- Mandibular 1st to 3rd molar
 - Alveolar or Lesser Alveolar Block
 - Careful with this block! Self induced tongue and cheek trauma occurs periodically

Doxirobe™ Gel

A Biodegradable Gel

Impregnated with Doxycycline in a syringe and needle applicator
Two Syringe System (A&B)
Syringe A contains the liquid polymer
Syringe B contains the Doxycycline powder

Doxirobe™ Gel

Requires Mixing

Remove caps of Syringes A & B
Connect and lock the caps together
Use the plungers to push the material back and forth between the two
Syringes 100 Strokes (50 Back and Forth Pushes)
Allow the syringes to set for a minute connected with the A Syringe down to allow all of
the gel to drain into it

Doxirobe™ Gel

Requires Mixing

Once properly mixed, deliver the gel into Syringe A
Disconnect the syringes
Remove the cannula
Apply the cannula to syringe A

Doxirobe™ Gel

Pockets > than 4 mm (Basic Technique)
Pockets < than 4 mm (Skill, Ingenuity & Technique)

Doxirobe™ Gel

Things to do prior to placement, in most cases:
The teeth should be cleaned
Root surfaces appropriately cleaned
Gingival curettage as required

Application

Gently slip the cannula 1-2mm below the gingival margin of the affected tooth
Inject a small amount of the gel into the periodontal pocket

Placement of the Gel

Light finger pressure over the gingival margin and cannula may be of help in some cases

Must Firm to Pack

Requires 1-3 minutes to firm unaided
Water will speed setting time, typically to 30-60 seconds

Should be lightly packed to improve retention

Pack with cord packer, No.7 Wax Spatula, Plastic filling instrument, such as a W3 (Beaver-Tail)

Fill, but don't go to excess

Don't "Over-Work" the product. It will only result in the material inadvertently being removed in the packing process

Packed Doxirobe™ Gel

Initially, the gel appears as a translucent light yellow gel

It then gradually turns a more opaque light yellow color

Within a few days it may take on a dark brown appearance

Doxirobe™ Gel is *Technician Friendly*

Any technician can be quickly and easily trained to mix Doxirobe™ Gel in states that allow they can also be easily taught how to properly apply the gel under the direction of a veterinarian

Use It!

Once you have used it a few times and learned when & where to use it, it is simple to use.

Prepare estimates that include the possible use of the product. We do.

Therefore, We don't ask "can we use it?", we just use it.

Home Care Advice to Clients

Warn clients not to remove the popcorn hull-like material from between the teeth. As it turns brown it looks like debris around the teeth

Do not brush the teeth for a week

Being a biodegradable gel, **Doxirobe™ Gel** does not require a subsequent visit for removal. It will disappear on its own like magic, saving you time and money

Oronasal Fistula Closure

An oronasal fistula is a communication between the oral and nasal cavities that can be a result of periodontal disease, iatrogenic fracture of palatal bone during extraction or traumatic avulsion of a canine tooth. Symptoms may include chronic sneezing with serous nasal discharge or hemorrhagic nasal discharge. Often they are identified during periodontal therapy with no previous symptoms noted by the owner. This condition should be repaired to prevent passage of food and liquid into the nasal cavity and to stop any chronic nasal infection. Primarily a condition involving dogs, it can also occur in cats.

Method of repair of the oronasal fistula depends on the presence or absence of attached gingiva. If the attached gingiva is present on the buccal mucosa adjacent the fistula, the defect can be corrected using a single sliding mucoperiosteal graft. The margins of the fistula are first debrided of epithelialized or necrotic tissue. Releasing incisions are then made beginning at the mesial and distal margins of the fistula diverging apically into the buccal mucosa. This mucosal flap is elevated utilizing a periosteal elevator. The key to sliding this mucosal flap over the defect is making a horizontal incision at the depth of the flap through the periosteal attachments. When this releasing incision is made, the flap will slide down over the defect and can be sutured with no tension on the suture line. Be sure the suture line is not over the defect. I generally place 2-3 simple interrupted absorbable sutures to secure the mucosal tissue to the palatal tissue. An additional continuous suture is placed from the apical point of the mesial incision and continuing to the apical point of the distal incision.

Large defects where there is no attached gingiva adjacent the defect can be closed utilizing a double flap procedure. After debriding the mesial, buccal and distal margins of the fistula, two parallel full-thickness incisions are made from the mesial and distal margins extending just past the midline of the palate. The two incisions are then connected along the midline. With the aid of a periosteal elevator, the palatal tissue is elevated beginning at the midline and then inverted over the defect. Hemorrhage is a problem at this point because the rostral palatine artery will be severed. Ligation of the artery can be accomplished with careful dissection. The inverted palatal flap is sutured to the mesial, buccal and distal aspect of the defect. Again absorbable sutures are used. Next a releasing mucoperiosteal flap is provided as previously described in the single flap procedure and sutured over the palatal flap. There will be an area on the palate that will be left uncovered. This area will re-epithelialize in a short period of time. Topical application of chlorhexidine along with systemic antibiotics and pain medication should be given post-operatively.

References and suggested reading:

Veterinary Dentistry - Principles & Practices. Wiggs and Lobprise. Lippincott 1997, pp 241-242.

Veterinary Dental Techniques. Holmstrom, Frost and Eisner. Saunders 2nd Ed. 1998, pp 246-251.

Consil™

Consil™ (Bioglass® Synthetic Bone Graft Particulate) is composed of SiO₂, Na₂O, CaO and P₂O₅ (Figure 1) with a unique amorphous chemical structure'. Consil™ is a bioactive ceramic material used for the regeneration of bone loss due to periodontal disease and tooth extraction.

Consil™ elicits a specific biological response at the interface of the material which results in the formation of a bond between the tissues and the material. This bioactivity allows Consil™ to incorporate into the bone matrix without eliciting a foreign body response. Once Consil™ becomes chemically bound to the tissue surfaces adjacent to it, it takes on physiological loads and functions as an integral part of the tissue structure.

Bioactive Properties

The low silica content (45 by weight %) and the presence of sodium ions in Consil™ promotes a rapid ion exchange with the surrounding extracellular fluid. A silica gel layer forms on the particle surface, surrounded by a fluid environment of alkaline pH. This high pH level facilitates the nucleation and crystallization of hydroxyl carbonate apatite (HCA) on the silica gel surface. This will occur within three hours of implantation.

Within a period of 3 months, this interface between the two surfaces becomes as strong as normal bone. Within 18 months, Consil™ is completely replaced by normal bone and soft tissues.

Osteoblasts then bind collagen between the HCA layer on the surface of Consil™ and the surrounding tissues. Osteoproduction follows five to seven days after implantation. Osteoproduction is defined in the literature as:

"The process whereby a bioactive surface is colonized by osteogenic stem cells free in the defect environment as a result of surgical intervention."

Oral Surgical Use of Consil™

In periodontal surgery and tooth extraction procedures, Consil™ will:

- Easily mix, transfer, compact and conform to a defect site.
- Be secure in a defect site due to its adherence and hemostatic properties.
- Initiate a rapid chemical bonding to bone and certain soft tissues, which inhibits epithelial downgrowth into periodontal pockets.
- Begin to repair bony defects through osteoproduction and new bone formation within 4 weeks.
- Have a bending strength and stiffness very similar to normal bone in 3 months.
- Be effective in repairing and restoring the periodontium.

Consil™ is designed for use in:

- Filling infrabony pockets caused by periodontal disease.
- Filling endodontic-periodontic lesions.
- Filling traumatic periodontal defects.
- Filling intraosseous flaws related to pulpal floor or lateral root perforations.
- Filling tooth extraction site defects.

Consil™ will allow the dental surgeon to fill periodontal defects and extraction site defects that would otherwise be left to spontaneously granulate in. Through the use of Consil™, these defects will be

replaced by normal bone and soft tissues. When teeth are extracted due to periodontal disease, significant bone loss due to infection and bone resorption has already occurred. Without the presence of the tooth to stimulate the alveolar bone, further bone resorption takes place. This loss of vertical bone may then lead to attachment loss of the roots of adjacent teeth, furthering the progression of periodontal disease and tooth loss. In the mandible (jaw), bone resorption can progress to spontaneous (pathologic) fractures of the mandible, or even total bone resorption at the mandibular symphysis. The use of Consil™ synthetic bone graft at the time of each extraction can be an important factor in preventing these pathologic developments.

Periodontal pockets with an attachment loss of fifty per cent or more on one to three sides of the tooth require bone graft procedures to restore normal anatomical support. Consil™ is ideally suited for this use. While forming new alveolar bone, Consil™ provides a barrier preventing epithelial downgrowth so new periodontal ligament production may also take place. Consil™ maintains a high pH at the implant site, thereby effectively inhibiting bacterial growth in these contaminated areas.

Indications

Consil™ is to be utilized for mucogingival periodontal flap operations and for tooth extraction site operations. Consil™ is indicated for use in the canine, feline, equine, porcine, ovine, bovine, and caprine species.

Contraindications

Consil™ should not be used in patients who:

- Are receiving chronic anticoagulant therapy.
- Are receiving immunosuppressant medication.
- Have had, or are undergoing irradiation of the jaw.
- Are poorly controlled insulin-dependent diabetics.
- Have any existing condition or disease which will interfere with good mucosal and bone healing.

In addition, the prognosis in oral applications must be considered less positive if home care is inadequate, if endodontic or pulpal disease exists, if the patient is on a steroid regimen which may cause bone destruction, or where mobile teeth are treated.



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Oravet Homecare Kit

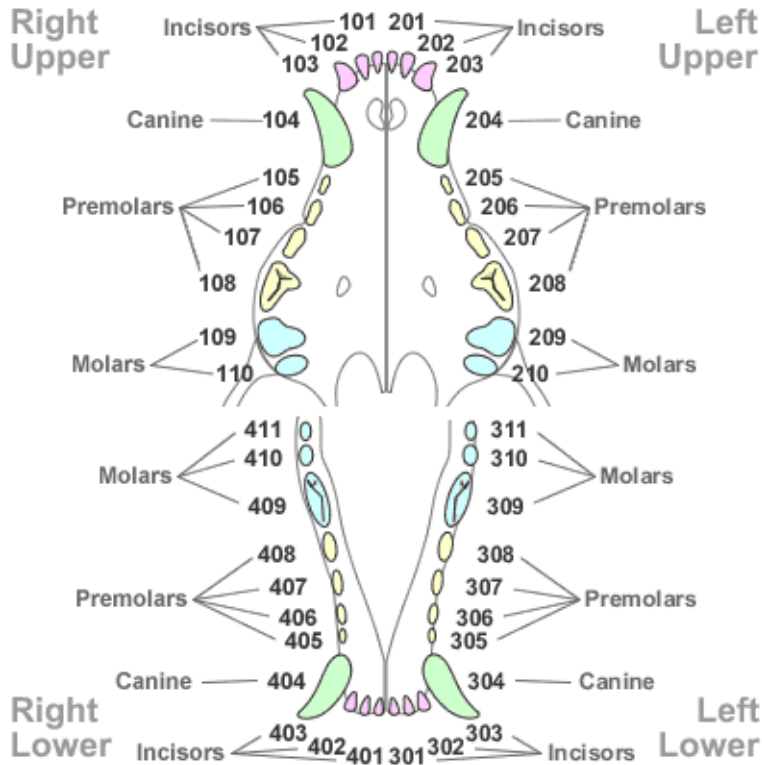
We are sending some ORAVET HOME CARE GEL home for your use. Oravet is a sealant designed to continue protecting your pet's teeth by preventing plaque build-up on the surface of the teeth. Before applying the Oravet product make sure your pet has not eaten, and make sure there are no food particles present on the teeth. Once a week, please follow these easy steps:

1. Oravet can be used at room temperature; however, it can be applied much easier by placing it in warm water for a few minutes.
2. Open the seal of one packet, and place a small amount on your index finger.
3. Lift the upper lip on one side and spread the gel on the upper teeth at the gum line.
4. Repeat the process by spreading the gel on the lower teeth at the gum line.
5. This should take you approximately 10 seconds on each side of the mouth.
6. Place the unused portion in a zip-lock plastic bag or container, and store at room temperature until the next session.

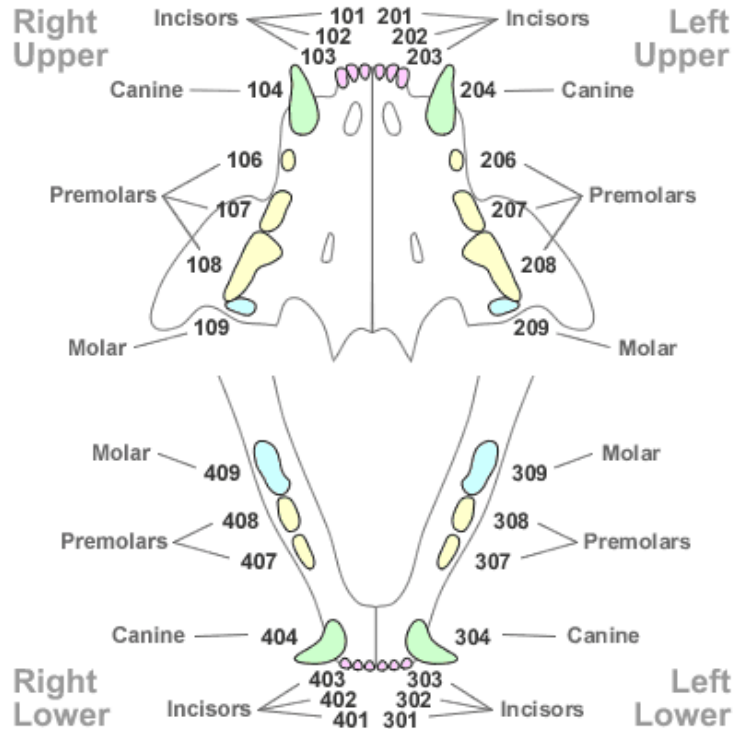


http://www.oravet.us.merial.com/merial/clinic_studies.html

Canine Dental Chart Modified Triadan System



Feline Dental Chart Modified Triadan System



Charts from Norman Johnston, DVM, FAVD, Dip AVDC