Oral Examination

Perform a thorough oral exam (extra and intraoral) as a component of each physical examination.

**EXTRAORAL EXAM**
Evaluate the following:

- Mandibular lymph nodes
- Observe chewing and swallowing
- Facial symmetry

**INTRAORAL EXAM**
Evaluate the following:

- Occlusion:
  - Normal
  - Abnormal
    - Class 1
    - Class 2
    - Class 3
    - Class 4
- Periodontal disease (gingivitis, calculus, recession, tooth mobility)
- Teeth:
  - Missing
  - Fractured
  - Discoloration
  - Superclosure
  - Enamel defects
  - Malformations
- Gums, tongue, palate and throat:
  - Gum color
  - Stomatitis
  - Oral masses
  - Ulcerations
  - Draining tracts
  - Trauma
  - Foreign bodies
Client Education

Educate all clients on periodontal disease prevention, treatment and minimum recommendations with time frames.

- **Perforom Thorough Oral Exam.**
  - Show client the patient's mouth. Explain any disease present.
  - Discuss periodontal disease risk, treatment and prevention using dental models, client handouts and brochures to educate clients.
  - Recommend Optimum Wellness Plan® that includes dental cleaning, when medically appropriate.
  - Patient has plaque, calculus, gingivitis or signs of periodontal disease.
  - Present client with treatment plan for dental cleaning; include radiographs, possible extractions and any other needed oral treatment.
  - Perform dental cleaning and additional treatment as needed.

- Patient does not have plaque, calculus, gingivitis or signs of periodontal disease.
  - Recommend annual dental cleanings and daily home care; explain and demonstrate (if applicable) how to use home care.

- Additional items:
  - Toothbrush
  - Dental wipes
  - Oral gel
  - Oral rinse
  - Dental diets
  - Dental chews
Dental Cleaning

Recommend a minimum of yearly dental cleanings and when calculus, gingivitis or signs of periodontal disease are present.

- Perform thorough oral exam as component of physical exam prior to premedication.
- Follow guidelines in Anesthesia for the Pet Practitioner for anesthesia protocols and anesthetize patient.
- Perform dental radiographs if needed (see indications).
- Perform dental charting and document in medical notes.
- Rinse mouth with chlorhexidine.
- Perform dental radiographs if needed (see indications).
- Scale teeth supra and subgingivally with ultrasonic scaler.
- Scale teeth subgingivally with curettes.
- Polish.
- Rinse mouth with chlorhexidine. Provide home care recommendations for client.

DISEASE IS PRESENT

NO DISEASE PRESENT
Dental Charting

Perform an extraoral examination and document the findings. Perform an intraoral examination. Chart and document each tooth using the modified Triadan tooth numbering system during every dental cleaning. Use an explorer and periodontal probe.

Record the following:
- Missing teeth
- Deciduous teeth
- Supernumerary teeth
- Fractured teeth
- Discolored teeth
- Malformed teeth
- Tooth resorption
- Enamel hypoplasia
- Other oral pathology

Probe and measure six surface areas of each tooth (three buccal and three lingual).

Record the following:
- Periodontal pockets greater than 3 mm in dogs and greater than 0.5 mm in cats
- Gingival recession in millimeters from the cementoenamel junction to the edge of the free gingival margin
- Furcation exposure (stage 1,2,3)
- Tooth mobility (stage 1,2,3)

Proceed to appropriate diagnostic and treatment plan (radiographs, extractions, etc.).
Nonsurgical Extractions

Pre- and post-extraction radiographs are highly recommended. Dental blocks are required. Nonsurgical extractions should be performed primarily on deciduous teeth and single-rooted teeth (except canine teeth).

1. Take pre-extraction radiograph(s).
2. Administer dental nerve block(s).
3. Elevate tooth or teeth and extract.
4. Rinse with air/water spray.
5. Take post-extraction radiograph(s).
6. Use bone curette to remove excess debris from alveolar socket(s).
7. Rinse with chlorhexidine.
8. Take post-extraction radiograph(s).
9. Document extraction(s) in medical notes.
10. Suture with simple interrupted pattern if needed. Use absorbable suture.
   - Send home appropriate pain medication, antibiotics and oral rinse.
12. Schedule two week recheck to ensure extraction site(s) healing as expected.
Surgical Extractions

Pre- and post-extraction radiographs are highly recommended. Dental blocks are required. Surgical extractions should be performed primarily on canine teeth and all multi-rooted teeth.

1. Take pre-extraction radiograph(s).
2. Administer dental nerve block(s).
3. Create full thickness mucoperiosteal flap:
   - Make two diverging vertical incisions.
   - Ensure flap will be large enough to close over extraction site without tension.
   - Elevate full-thickness flap off of alveolar bone.
4. Section all multi-rooted teeth into individual roots with 701L crosscut fissure bur.
5. Use bone curette to remove excess debris from alveolar socket(s).
6. Rinse with chlorhexidine.
7. Rinse socket with air/water mist from high speed dental unit.
8. Remove enough bone to expose 25-50% of tooth root.
   - Use a size 4 or 6 round bur or a 701L crosscut bur.
9. Smooth alveolar ridges and sharp bone edges with football-shaped diamond bur.
10. Ensure flap has no tension by excising connective tissue at the base of the flap with scissors or a scalpel blade.
11. Elevate tooth roots.
12. Extract tooth roots.
13. Use bone curette to remove excess debris from alveolar socket(s).
14. Rinse with chlorhexidine.
15. Take post-extraction radiograph(s).
16. Suture with simple interrupted pattern to close flap.
   - Use absorbable suture.
   - Suture corners first to ensure proper placement and coverage.
17. Administer post-procedure pain medication.
18. Send home appropriate pain medication, antibiotics and oral rinse.
19. Schedule two week recheck.
Dental Radiography

Indications include the following:

- Periodontal disease
  - Periodontal pockets greater than 3 mm in dogs and 0.5 mm in cats
  - Gingival recession
  - Furcation exposure
  - Root exposure
  - Tooth mobility
- Missing teeth
- Fractured teeth
- Discolored teeth
- Enamel hypoplasia
- Malformed teeth
- Oral swelling/draining tracts/masses/tumors
- Tooth resorption (canine or feline) is indication for full mouth radiographs
- Pre- and post-extractions
- Other, as determined by individual patient need

It is recommended to have the dental radiography unit set up prior to beginning a dental procedure.
Instrument Sharpening

It is recommended to have only one to two associates responsible for sharpening the periodontal instruments.

Follow these instructions for sharpening:

- Test the sharpness of periodontal instruments before every use with a sharpening test stick.

- Hold the sharpening test stick in one hand and the instrument in the other. Run the cutting working surface of the instrument along the test stick at a 110 degree angle.

- If the cutting working surface of the instrument is sharp, it will grab the stick. If the cutting working surface of the instrument is dull, it will slide over the stick without grabbing.

- Place one drop of sharpening oil on Arkansas Flat Stone.

- Hold the instrument in your dominant hand and the stone in your other hand.

- Apply the stone to the cutting working surface of the periodontal instrument, forming a 110 degree angle with the face of the blade of the instrument.

- For curettes: Move the stone all the way around the toe of the instrument to avoid making a pointed tip.

- For sickle scalers: Continue sharpening to the point of the scaler on both cutting surfaces.

- Move the sharpening stone up and down along the instrument with short strokes, placing more pressure on the down stroke.

- Hold the instrument still and move only the stone in short even vertical strokes (usually three to five strokes) towards the tip of the instrument, keeping the stone in contact with the blade throughout the sharpening procedure.

- Finish sharpening the instrument with a down stroke, which prevents a rough edge from forming on the instrument.

- Wipe metal particles and lubricant off the instrument with gauze.

- Test the instrument for sharpness. If the cutting working surface of the instrument is still dull, repeat the sharpening procedure.
Infraorbital Dental Nerve Block

Dental nerve blocks should be used as part of multimodal pain management in painful oral procedures. Use the infraorbital dental nerve block when performing procedures that affect the following:

- Dogs: Upper third premolars to incisors (on the side of block)
- Cats: Upper molars, premolars, canines, incisors (on the side of block)

Calculate Bupivacaine 0.5% (5 mg/mL) dose

General dose per site is:
- Dogs: 0.5 mL
- Cats: 0.2 mL

Maximum cumulative dose:
- Dog: 2.0 mg/kg
- Cat: 1.0 mg/kg

Draw up Bupivacaine in a 1 mL syringe with 25 gauge 5/8 inch needle.

Palpate infraorbital foramen

Dogs: Indentation at the bony ridge in the maxilla dorsal to the distal root of the upper third premolar.
Cats: Bony ridge dorsal to the second premolar just ventral to eye where zygoma meets maxilla bone.

Insert needle to hub through the buccal mucosa in a caudal direction parallel to the dental arcade, into the entrance of the foramen.

Aspirate.
If blood appears in needle hub, reposition and try again.

Inject slowly.

Wait 5 to 10 minutes to begin procedure.
Caudal Maxillary Dental Nerve Block

Dental nerve blocks should be used as part of multimodal pain management in painful oral procedures. Use the caudal maxillary dental nerve block when performing procedures that affect the following:

- Dogs: Upper fourth premolars and molars (on side of block)
- Cats: Not applicable

**Calculate Bupivacaine 0.5% (5 mg/mL) dose**

- General dose per site is: Dogs: 0.5 mL
- Maximum cumulative dose: Dog: 2.0 mg/kg

**Draw up Bupivacaine in a 1 mL syringe with 25 gauge 5/8 inch needle.**

**Insert needle to hub into the area of soft tissue just caudal to the last molar at a 30 to 45 degree angle with the dental arcade.**

**Aspirate.** If blood appears in needle hub, reposition and try again.

**Inject slowly.**

**Wait 5 to 10 minutes to begin procedure.**
Middle Mental Foramen Dental Nerve Block

Dental nerve blocks should be used as part of multimodal pain management in painful oral procedures. Use the middle mental foramen dental nerve block when performing procedures that affect the following:

- Large and medium-sized dogs: Lower incisors (on side of block)
- Cats and small breed dogs: Not applicable

**Calculate Bupivacaine 0.5% (5 mg/mL) dose**
- General dose per site is: Dogs: 0.5 mL
- Maximum cumulative dose: Dog: 2.0 mg/kg

**Draw up Bupivacaine in a 1 mL syringe with 25 gauge 5/8 inch needle.**

**Insert needle into the submucosa in a rostral to caudal direction and advance it into the middle mental foramen.**

**Palpate ventral to the mesial root of the lower second premolar, just caudal to the mandibular labial frenulum.**

**Aspirate. If blood appears in needle hub, reposition and try again.**

**Inject slowly.**

**Wait 5 to 10 minutes to begin procedure.**
Dental nerve blocks should be used as part of multimodal pain management in painful oral procedures. Use the inferior alveolar (mandibular) dental nerve block when performing procedures that affect the following:

- Dogs and cats: Procedures affecting all lower teeth (on side of block)

**Calculate Bupivacaine 0.5% (5 mg/mL) dose**

- General dose per site is:
  - Dogs: 0.5 mL
  - Cats: 0.2 mL
- Maximum cumulative dose:
  - Dog: 2.0 mg/kg
  - Cat: 1.0 mg/kg

**Draw up Bupivacaine in a 1 mL syringe with 25 gauge 5/8 inch needle.**

Giant breed dogs may require a 1 inch needle.

**Insert needle into the submucosa just caudal to the last molar at a 30-45 degree angle to the dental arcade (direct towards the angular process). Advance needle along the lingual surface of the caudal mandible. Ensure that needle is angled toward the bone to avoid the soft tissue.**

**Aspirate. If blood appears in needle hub, reposition and try again.**

**Inject slowly.**

**Wait 5 to 10 minutes to begin procedure.**
Instrument Care and Storage

Dental instruments are extremely delicate and must be properly cared for and stored. Instruments should be washed thoroughly between each patient and autoclaved daily.

Between each patient:

- Soak instruments in warm water immediately after use.
- Dry instruments immediately.
- Scrub instruments with soft nylon brush.
- Rinse instruments.
- Place instruments in warm water.
- Add instrument cleaner.
- Place instruments on a surgical towel.
- Place extraction instruments in extraction instrument tray:
  - Periosteal elevators
  - Extraction elevators
  - Extraction forceps
  - Root tip pick
- Place periodontal instruments in periodontal instrument tray:
  - Probe/explorer
  - Curettes
  - Scaler
  - Cheek retractor

At the end of each day:

- Write “Dental Extraction Pack” or “Periodontal Pack,” date and initials on top.
- Wrap each instrument tray with two layers of instrument wrap.
- Tape packs with autoclave steam indicator tape.
- Run autoclave on pack mode.
- When autoclave cycle is complete, verify autoclave steam indicator tape indicates the packs are sterilized.
- Place sterilized packs in a dry storage area with dental equipment.
- Spray instrument lubricant on all instruments with a box lock (hinge).
- Place a surgery towel and autoclave steam indicator strip in each instrument tray.
- Place extraction instruments in extraction instrument tray:
  - Periosteal elevators
  - Extraction elevators
  - Extraction forceps
  - Root tip pick
- Place periodontal instruments in periodontal instrument tray:
  - Probe/explorer
  - Curettes
  - Scaler
  - Cheek retractor
- Place in autoclave.

Banfield PET HOSPITAL

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Root Planing

Indications for root planing include the following:

- Periodontal pockets where subgingival plaque or calculus is present:
  - Dogs: pockets 4-7 mm
  - Cats: pockets 2-4 mm

Select curette based on tooth:

- Columbia Universal 13/14: Entire mouth of dogs
- Gracey 7/8: Canines and incisors of dogs
- Gracey 11/12: Premolars and molars of dogs
- Mini Gracey 11/12: Entire mouth of cats

Insert working surface of curette gently into the closed position (face of the instrument inserted parallel to the tooth).

The open working surface of the curette is withdrawn from the pocket in an oblique manner while applying pressure (working stroke).

Position the working surface of the curette against the root surface and open (turn face of instrument to engage working surface against root surface).

Repeat the process with overlapping strokes in horizontal, vertical and oblique directions. The goal is to remove all subgingival calculus and debris along the root surface.
Dentistry Standard Operating Procedures

**Doxycycline Gel Treatment for Dogs**

Indications for doxycycline gel treatment include the following:

- After root planing or periodontal debridement of 4-7 mm pockets in dogs

1. **Lock the Syringe A and Syringe B together.**
2. **Beginning with Syringe A, use the plungers of Syringe A and Syringe B to exchange the material between the syringes approximately 100 times (or for 30 seconds) to achieve a consistent mixture.**
3. **Fully deliver the mixture into Syringe A.**
4. **Separate the syringes.**
5. **Lock the supplied blunt cannula onto Syringe A.**
6. **The cannula may be bent to the desired angle.**
7. **Gently place the cannula 1-2 mm below the gingival margin of an affected tooth.**
8. **Express the mixture into the periodontal pocket and ensure pocket is filled approximately to gingival margin.**
9. **Repeat for each pocket that needs treatment.**
10. **Place a few drops of water or saline over the gingival margin.**
11. **Allow approximately 30 seconds for the polymer to harden before packing it into the pocket.**
12. **The exposed surface of the product may be pressed into the pocket with the flat surface of a periosteal elevator. Pressure may be applied to the gingival margin to avoid dislodging the polymer inadvertently. As the product is biodegradable, removal at a subsequent visit is not required.**
13. **Advise owner to wait two weeks before brushing the pet's teeth.**
Feline Subgingival Crown Amputations

Full mouth radiographs are required when tooth resorption is present, even if only one resorption is visible. Dental nerve blocks and post-extraction/crown amputation radiographs are required. Indications for crown amputations include:

- Stage 1-4 tooth resorption and type 2 root resorption
  - Type 2 root resorption is defined as:
    - When periodontal ligament space is lost
    - Tooth root is being replaced by bone
    - Root structure is not radiographically identifiable

Take pre-crown amputation radiograph(s).
Administer dental nerve block(s).
Use a small periosteal elevator to reflect an envelope flap to expose just the alveolar bone around the tooth.
Direct bur down into the root remnant 4-6 mm to remove any residual root structure.
Resect the crown of the tooth at the gumline.
Direct a 701L bur perpendicular to the tooth crown at the level of the alveolar crest.

Smooth rough bone edges and coronal portion of the tooth root with a football-shaped diamond bur.
Take post-crown amputation radiograph(s).
Rinse with chlorhexidine.
Allow for clot formation and primary closure of the gingival tissue by pressing gum tissue together.
Suture the gingival over the crown amputation site using a simple interrupted pattern with absorbable suture material.

Administer and send home analgesia, antibiotics and oral rinse.
Document all crown amputations in medical notes.

Schedule two to three week recheck and a six-month follow-up examination.
Oronasal Fistula Repair – Single Flap Technique

Oronasal fistulas should be repaired immediately upon diagnosis. However, if the tissue is severely infected, the patient should be placed on antibiotics for 10 to 14 days prior to the procedure.

Debride the fistula margins of necrotic and epithelialized tissue.

Make two diverging incisions: One incision is made beginning at the gingival ridge in the area of the first premolar (distal to the oronasal fistula) and continuing apically past the mucogingival line into the alveolar mucosa. The other incision is made mesial to the fistula continuing apically past the mucogingival line into the alveolar mucosa.

Incise the periosteum mesiodistally on the underside of the flap at its base.

Elevate the gingival flap with a broad periosteal elevator. Full thickness flaps are preferred.

Using a simple interrupted pattern, place sutures at each corner of the flap first and then every 2 mm between the corner sutures, as well as in the diverging incisions that were created. Use absorbable suture material such as Monocryl™. Avoid using PDS™ suture.

If needed, excise the connective tissue at the base to release the flap creating a larger flap with no tension. It should lay over the defect easily.

If needed for better closure of the flap, reduce the alveolar bone with a football-shaped bur.

Schedule two to three week recheck.

Document the procedure in the medical notes.

Administer and send home analgesia, antibiotics and oral rinse.
Oral Biopsies of Gingival Masses

Incisional biopsies are recommended prior to complete removal of the abnormality. Radiographs dental nerve local blocks are recommended prior to biopsy or tissue removal.

Indications for incisional biopsies include the following:

- Presence of a gingival mass, growth, inflammatory response or excessive gingival overgrowth

**Incisional Biopsy Process**

1. **Take Radiographs.**
2. Use dental nerve block(s).
3. Using a #15 blade, excise a small, wedge-shaped sample of the mass. Control bleeding with pressure or place sutures if needed.
4. Place sample in biopsy jar and label.
5. If needed, close suture surgical site using absorbable suture in a simple interrupted pattern.
7. Provide appropriate pain medication and schedule any needed recheck examination(s).

**Excisional Biopsy Process**

1. Using a #15 blade, excise entire mass to needed extent. This is either to the gingival margin or to bone depending on size, shape and location of mass. Control bleeding with pressure or place sutures if needed.
Full-Mouth Radiographs – Feline

- **Upper incisors 103–203**
  - Bisecting angle
  - One image

  - **Upper canine 104**
    - Oblique bisecting angle to avoid superimposition of 106
    - One image

  - **Upper premolars and molars 106–109**
    - Bisecting angle; slightly elongate position to avoid superimposition of zygomatic arch
    - Two images

  - **Lower canines and incisors 404–304**
    - Bisecting angle
    - One image

- **Upper canine 204**
  - Oblique bisecting angle to avoid superimposition of 206
  - One image

  - **Upper premolars and molars 206–209**
    - Bisecting angle; slightly elongate position to avoid superimposition of zygomatic arch
    - Two images

  - **Lower premolars and molars 307–309**
    - Parallel; may require bisecting angle technique in some cats
    - One image