Dental Hygiene -
More Than Just A Quick Clean

Dr Christine Hawke
BSc(Vet)(Hons) BVSc(Hons) PhD
MACVSc (Veterinary Dentistry)

Quick Quiz #1:
- What is the most common disease in small animal practice?
- Answer: PERIODONTAL DISEASE

Quick Quiz #2:
- What is periodontal disease?
- Answer: Inflammation of the periodontal tissues
Quick Quiz #3:
- What is the primary cause of periodontal disease?
- Answer: PLAQUE

Local effects of periodontal disease
- Gingival Recession
- Root exposure
- Furcation exposure

Systemic effects of periodontal disease
- Bacteria penetrate via the damaged gingival epithelium and enter the bloodstream
  - Heart, liver, kidneys
- Chronic antigenic stimulation induces pro-inflammatory mediator release
‘Doing a Dental’ - our goals:

- Remove plaque, calculus and debris from tooth surfaces and periodontal pockets
  - Remove the source of infection and inflammation
  - Allow healing to occur
  - Produce a smooth surface (decrease plaque reattachment)
- Remove or treat any damaged or diseased teeth

Three important points about treatment

1. Periodontal disease cannot be treated by the use antimicrobials alone. We need to physically remove the plaque and bacteria.
2. Removing supragingival plaque does NOT affect the subgingival plaque.
3. Once calculus forms, you cannot get teeth clean again by brushing alone.

Patient preparation

- Protect airway from fluid and debris
  - Intubate with a cuffed endotracheal tube
  - Pack the throat (remember to remove at the end!)
  - Have the throat raised above the mouth
- Keep the patient warm
  - Often quite wet, get heat loss
- Be gentle
  - Take care with mouth gags
  - Never pull hard on the tongue
Staff safety

- Avoid injury and infection
  - Protective eyewear, mask and gloves
  - Rinse animal’s mouth with chlorhexidine prior to scaling and polishing

Step by step guide to dental treatment

1. Gross removal of calculus (as required)
2. Oral and dental examination, periodontal probing and charting
3. Dental radiographs (as required)
4. Develop treatment plan
5. Periodontal debridement (supragingival and subgingival scaling)
6. Polishing using prophy paste
7. Irrigation to remove debris
8. Surgical procedures (as required)
9. Home care advice
10. Recheck and review

Examination, probing and charting

- Check the oral cavity for any abnormalities such as lumps, ulcers etc
- Check the teeth
  - Any extra or missing teeth – count them!
**Dental formula - dog**

MAXILLA 3.1.4.2

MANDIBLE 3.1.4.3

TOTAL = 42

---

**Dental formula - cat**

MAXILLA 3.1.3.1

MANDIBLE 3.1.2.1

TOTAL = 30

---

**Examination, probing and charting**

- Check the oral cavity for any abnormalities such as lumps, ulcers etc
- Check the teeth
  - Any extra or missing teeth - count them!
  - Tooth position (eg malocclusions, rotation, crowding)
  - Tooth structural changes (fractures, resorptive lesions etc)
Periodontal disease indices include:
- Plaque and calculus indices
- Gingivitis and mobility indices
- Furcation exposure
- Probing depths

Furcation index:
- F1: up to 1/3 of width of tooth
- F2: more than 1/3 of width of tooth
- F3: ‘through and through’

Normal probing depth for dogs is up to ~3mm
For cats it is up to ~0.5-1mm
Also note where the gingival margin sits

Recording your findings
- missing
- fractured
- furcation (F2)
- to extract
- extracted
Step by step guide to dental treatment

1. Gross removal of calculus (as required)
2. Oral and dental examination, periodontal probing and charting
3. Dental radiographs (as required)
4. Develop treatment plan
5. Periodontal debridement (supragingival and subgingival scaling)
6. Polishing using prophylaxis paste
7. Irrigation to remove debris
8. Surgical procedures (as required)
9. Home care advice
10. Recheck and review

Periodontal debridement

- Scaling needs to be done above AND below the gumline
- When using an ultrasonic scaler, take care not to overheat the tooth (10 seconds per tooth)
- Use the side of the tip with a light touch

Polishing and irrigation

- Polishing removes microscopic deposits and leaves a smooth surface
- Always have prophylaxis paste in the cup
- Flare the edges to polish under the gumline
- Irrigate to remove debris
Designing a dental home care program

For home-care to work we need:
- A motivated owner
- A motivated veterinary team
- A cooperative animal

It's all about controlling plaque

Home care does NOT replace professional cleaning under anaesthesia but helps space out the need for it

We need to consider the lifestyle and abilities of the owner – what are they willing and able to do?

Many products – can divide into mechanical or chemical methods

Aim for at least one form of mechanical plaque control

Chemical agents work best if used in conjunction with mechanical methods
Mechanical control of plaque

- **Toothbrushing:**
  - The gold standard
  - Ideally done daily

Mechanical control of plaque

- **Diet:**
  - Soft vs hard food
  - Some dental diets

Mechanical control of plaque

- **Bones, chew treats and toys:**
  - Hardness
  - Brittleness
  - Size
Chemical control of plaque

- Some dental diets
- Mouth rinses, gels

QUESTIONS?