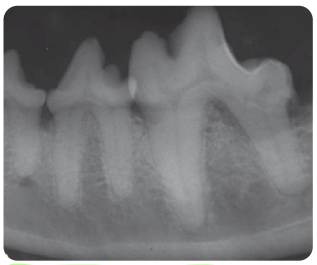
AVDC = American Veterinary Dental College
- → the AVDC considers it appropriate for the Veterinarian to delegate certain dental tasks to Vet Techs.
- → tasks include professional cleanings and certain procedures that do not alter the shape, structure, or positional location of teeth in the dental arch.

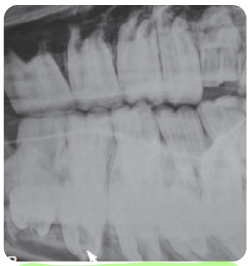
~Classifications of Teeth~



- limited eruption & developement time
- found in humans, Carnivores & pigs.

"Stops Growing"

Brachyodont



- Continual growth & eruption over lifetime.
- found in Horses, Rodents, and lagomorphs

"Keeps Growing"

Hypsodont

↳ Subcategories

- Radicular
  - Eventually stops growing.
- Aradicular
  - found in rodents and rabbits
  - Lack a true root structure
  - life long tooth growth.

- Diphyodont
  - → mostly seen in mammels
  - → means animal has two sets of teeth
    - Deciduous = primary or baby teeth.
    - Permanent = secondary adult teeth.

- Four types of teeth
  - Incisors
    - Rostral
    - For gnawing and grooming
  - Canines
    - Long
    - For prehending and holding
  - Premolars and molars
    - Cheek teeth
    - For shearing and grinding

dvm TABLE 1

Normal eruption times for deciduous and permanent teeth in dogs and cats

	Deciduous		Permanent	
	Puppies	Kittens	Dogs	Cats
Incisors	4–6 weeks	3–4 weeks	12–16 weeks	11–16 weeks
Canines	3–5 weeks	3–4 weeks	12–16 weeks	12–20 weeks
Premolars	5–6 weeks	5–6 weeks	16–20 weeks	16–20 weeks
Molars	—	—	16–24 weeks	20–24 weeks

~Common Terms~

Rostral: towards the nose

Caudal: towards the back of the head.

Vestibular: tooth surface facing the lips (also called buccal & labial)

Facial: vestibular surface of teeth visible from the front. (Incisors)

Lingual: the surface of the mandibular teeth adjacent to the tongue.

Palatal: the surface of the maxillary teeth adjacent to the palate.

Mesial: the portion of the tooth in line with the dental arcade that is closest to the most rostral portion of the midline of the dental arch.

Distal: the portion of the tooth that is closest to the most caudal portion of the dental arch.

Apical: a portion of the tooth that is closer to the apex (tip of the root)

Coronal: refers to a structure with a location that is closer to the crown of the tooth.

Canine Dental Formula :

2 x (I 3/3, C 1/1, P 4/4, M 2/3)

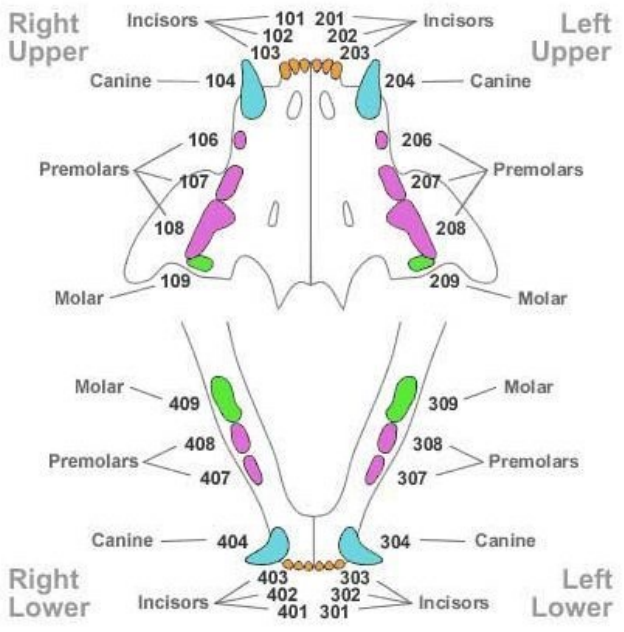
= 42 Teeth

Feline Dental Formula:

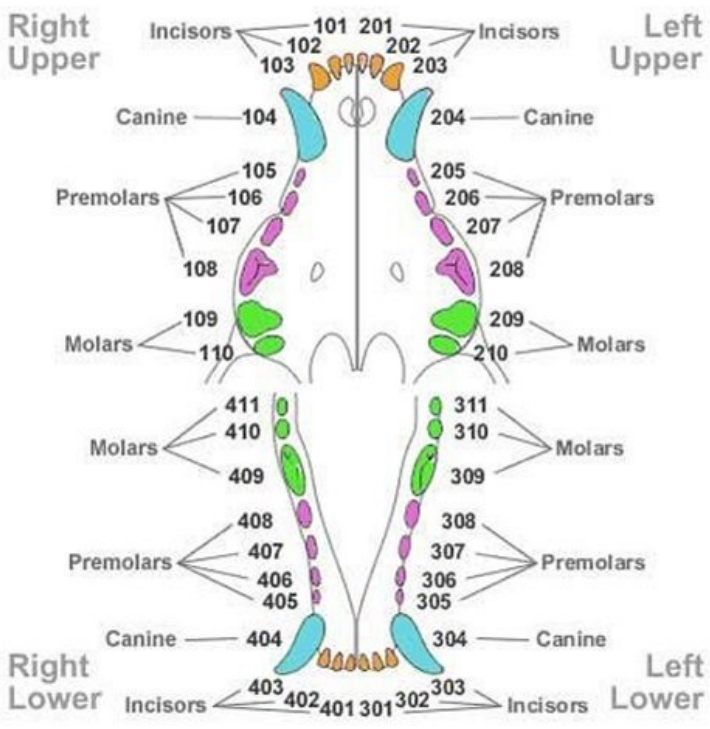
2 x (I 3/3, C 1/1, P 3/2, M 1/1)

= 30 Teeth

Cat Teeth



Dog Teeth



Malocclusion: Teeth or Jaws are incorrectly aligned.

V S

Sissors Bite: teeth and jaws are correctly aligned.

X Abnormal

✓ Normal

Carnassial = tearing of flesh

Anisognathism = the upper jaw is wider than the lower jaw.

Molars = · have occlusal surfaces for crushing food.
· Susceptible to cavities (caries)
· Cats have very few occlusal surfaces

*** A True Carnivore Is A Cat! ***

Carnassial = tearing of flesh

-Oral Examination & History-

↳ full medical history assessment
- ask about these clinical symptoms
  · Pawing at the mouth
  · Dropping or walking away from food after 1st bite
  · Rubbing face on furniture
  · Showing agression when face is touched.
- does the client perform at-home dental care?
- ask about diet, treats, and toys.

-Extraoral Examination-

↳ Includes head, face, eyes, ears, and neck
→ Symmetrical comparison, atrophy, enlargement, pain swelling
→ Discharge, odor or pain from ears and eyes
→ Salivary glands and lyph nodes
→ Occlusion, persistent diciduous teeth.

-Intraoral Examination-

↳ soft tissues of oral cavity, dental structures, periodontium.

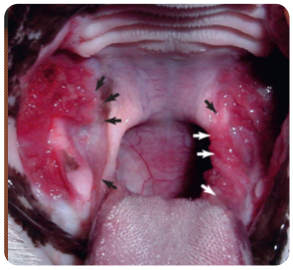
Chronic Ulcerative Paradental Stomatitis.
"CUPS" "Contact Stomatitis"

· Mucosal Ulcerations

· Cause = Bacteria in the plaque

Site: Areas of mucosa adjacent to diseased teeth

Chewing Lesions



Caudal Stomatitis
- in the area lateral to the palatoglossal folds in a cat.

~Dental Tools~

*Scalers are designed to be used on the tooth crown, & Curettes are designed to be used subgingivally.

Peridontal Probes are used
- for accessing mobility
- Accessing Gingival bleeding
- measuring = using Williams markings "Black Lines"

·Dental Explorer·
- explores the topography of the tooth surface.
- Uses tactile vibrations
- Detects = · surface irregularities
  · Completeness of debridement
  · Smooth transitions of fillings

ODU 11/12

Tufts 17

The Modified Pen Grasp
- Proper way to hold instruments.
- Provides tactile sensitivity and precise control

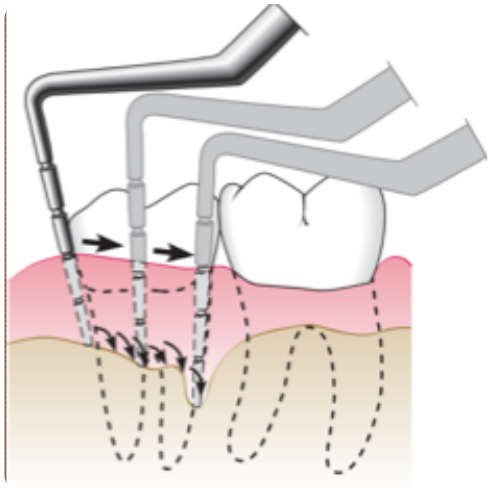
2A Pigtail

Sheperd's Hook 23

~Assessing Tooth Circumference~

- Insert into sulcus (b/w gingiva & tooth)
- Keep probe as parallel as possible to the long axis of the tooth
- Probe tip in contact with tooth
- Resistance: Mark probe level adjacent to gingival margin
- "Walk" probe around tooth to assess circumference

*Normal Sulcus depth is 0 to 3mm in dogs & 0 to 1mm in Cats.



- Record Initial findings with tissue variation and the evaluation of the teeth and supporting structures.

~Dental Radiography~

- Intraoral radiographs show pathologic conditions not visible in the mouth

Such as:
- Root Resorption
- Caries
- Periapical radiolucency
- Periodontal bone loss
- Retained Root Tips
- Disease of the Temporomandibular joint "TMJ"
- Unerupted teeth
- Osteomyelitis
- Neoplasia
- Tooth/jaw fractures
- Foreign bodies

"CDR" = Computed Digital Radiography

-Techniques-

- Paralleling technique = parallel to the long axis of tooth
- Bisecting angle technique = minimizes distortion
- Occlusal technique = larger areas on one film

"Paralleling Technique"

-Radiologic Interpretation-

- Radiopaque = Block or absorb radiation
  - Appears white
  - Ex: Cementum, dentin, bone
- Radiolucent = X-Rays pass through
  - Appears black
  - Soft tissue
  - Ex: Periodontal ligament space.

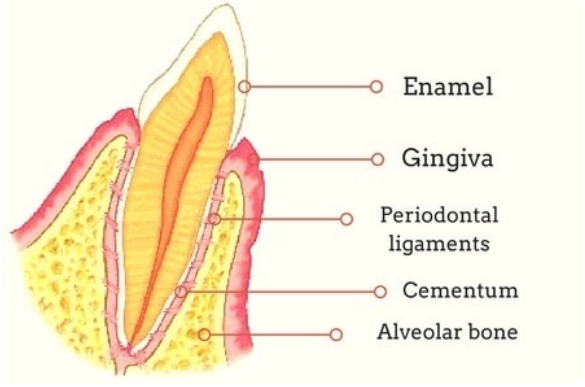
"The Enamel is the strongest part of any animal"

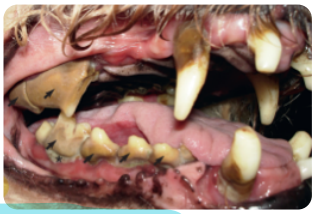
~Periodontal Disease~

* An image that appears too dark is often a result of too much exposure time.

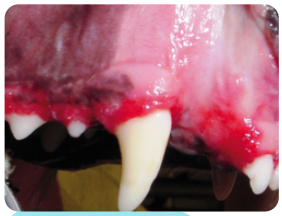
Periodontium

- Structures
  - Periodontal ligament
  - Gingival connective tissue
  - Alveolar bone forming tooth socket
  - Cementum





Periodontitis: accumulation of plaque/calculus



Gingivitis: Inflammation of the gingiva

* Plaque begins to mineralize as early as 24 hours after it adheres to the tooths surface

Periodontal Diseases:
- Periodontitis
- Gingivitis
- Attatchment loss
- Gram-positive bacteria
- Gram-negative bacteria
- Immune response
- Destruction of junctional epithelium, periodontal ligament, and mobility.

-Periodontal Debridement-
→ nonsurgical instrumentation focusing on removal of hard and soft deposits from supragingival and subgingival surfaces.
→ Prevents or arrests infection and restores health
→ Removes plaque, scale, root planes, and polishes.

furcation = Loss of Bone

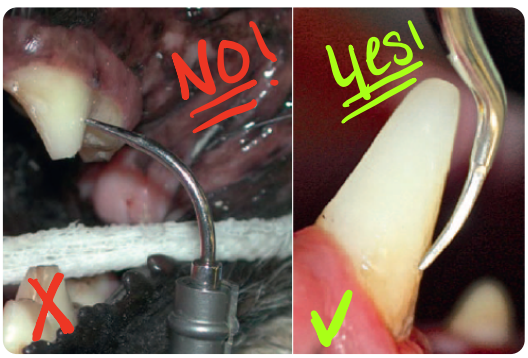
~Power Scaling~

* Done with routine debridement and advanced periodontal therapy.

- Sonic Scalers: 2000 to 9,000 cps
- Ultrasonic Scalers: 18,000 to 50,000 cps

* Vibrations remove deposits.

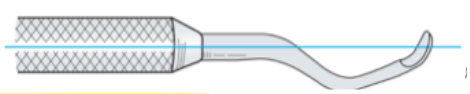
→ You should use a cuffed endotracheal tube and gravity (tip the nose lower than the body) to prevent aspiration of fluids and debris.



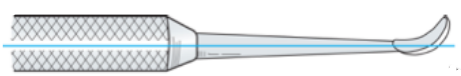
Tip Designs:
- "Universal" = broad tips
  → used for medium/heavy deposits
- Slim tips
  → used for subgingival pockets and furcation areas

YOU NEVER put a scaling tip directly on a tooth. It should always be parrallel.

~Hand Scaling~



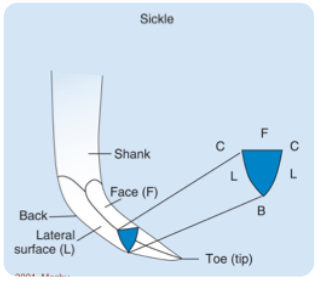
- Bent Shank = made for working on premolars & molars

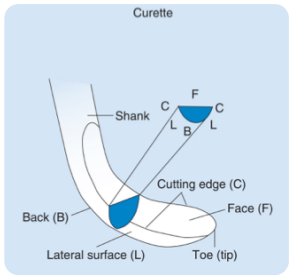


- Straight Shank = best used for scaling teeth in the rostral portion of the mouth

Dental Instruments: Have three parts
- Handle
- Shank
- Working end

→ Examination instruments: Probes & Explorers
→ Scaling Instruments: Curettes, sickles, files, & hoes.
→ two types of Curettes
- Langer
- Gracey





· Subgingival Instruments ·

→ Sickle scalers: triangle shape gets under gingiva

→ Subgingival Curettes: cup like gets under gums.

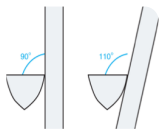
~Principles of Scaling~

· Adaptation - application of cutting edge against the tooth

· Angulation - relationship of the face of an instrument to the tooth

· Stroke - Exploratory, working, or Root planing

· Sharpening - Dull instruments can burnish calculus
- Can sharpen manually or mechanically
- Start with 90° angle to sharpening stone then increase angle to 110°



~Polishing~

→ smooths surfaces
→ removes extrinsic stains
→ Two methods
- Electric motor/air compressor
- Air polisher

~Periodontal Surgery~

· Grading System: Grade I
- Routine Cleaning

Grade II
- Root debridement, subgingival curettage

Grade III
- Root debridement, subgingival curettage, surgery

Grade IV
- Extraction

Reasons for Oral Surgery:
- Deep periodontal pockets
- Bone loss

~Regional Nerve Blocks for Oral Surgery~

· Benefits: - Preemptive analgesia, prevention of "Wind-up" pain.
- Postoperative analgesia
- Decreased concentration of inhalant anesthetic gas

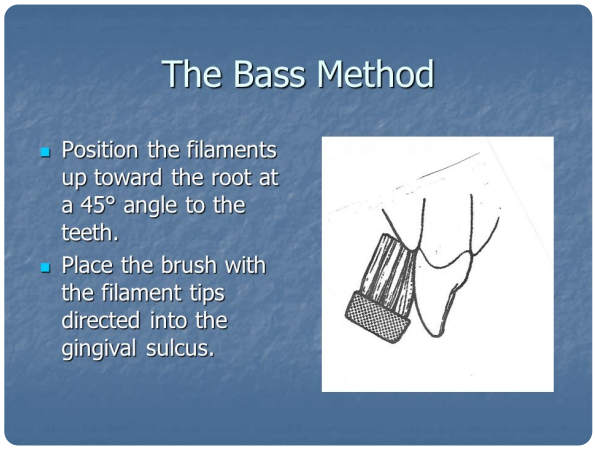
· Three Basic Uses: Splash block, local anesthesia, Regional anesthesia

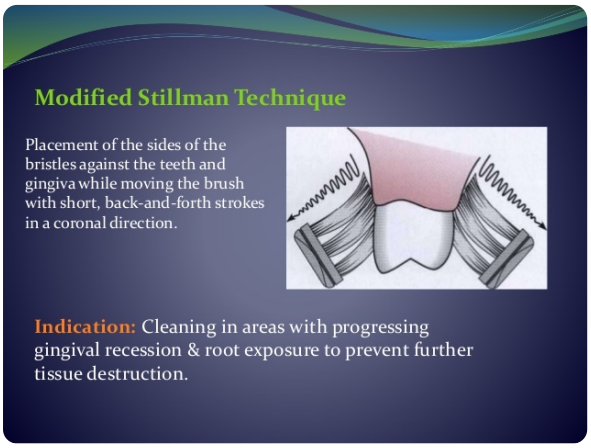
· Types of Nerve Blocks Used:
- Infraorbital
- Middle mental nerve block
- Inferior alveolar nerve block
- Maxillary nerve block

* Without proper post-op care the problem will return.

~Home Care~

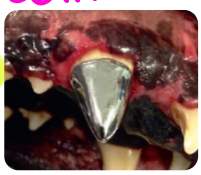
→ essential for reducing bacteria
→ Brushing
→ Diet
→ Toys





-Restorative Dentistry-
→ restores or maintains tooth's structure and function.
→ preservation is key
→ corrects caries, fractures, endontically treated teeth
→ Can put on metal or Zirconium Crowns

full-metal Jacket Crown



-Endontics-
→ Study and treatment of the inside of the tooth (pulp) and periapical tissues (at the apex of tooth root)
→ Treatment for Endontic disease:
- Removal, shaping of root canal, obturation, extraction
- Radiographs are necessary.

-Extraction Techniques-
· Closed extraction
→ single rooted teeth or severe periodontal disease
· Surgical extractions
→ root fractures, often less traumatic

·Tooth Resorption·
→ common in cats & dogs
→ lesions are commly seen at the cervical protion of the tooth (the junction where the crown meets the root, "neck")

·Malocclusions·
→ Four classes:

Class I : Neutroclusion
· one or more teeth are in an abdormal position

Class II : Mandibular Distoclusion "overshot"
· Mandible shorter than maxilla

Class III : Mandibular Mesioclusion "undershot"
· Maxilla shorter than mandible

Class IV : Wry Bite
· Maxillary-mandibular asymmetry.


Dolichocephalic


Brachycephalic


Mesocephalic

- Interceptive Orthodontics -

- Extraction of adult teeth that are causing or will cause malocclusion problems.

- Persistent diciduous teeth
  - baby teeth that are retained

Stomatitis = diffuse inflamation of entire oral cavity
Common in cats

~Equine Dentistry~

- Horses have 24 deciduous teeth
- 36-44 permanent teeth
- You can determine an equines age by their teeth:
  - Occlusal surface features
  - Eruption times
  - Dental Star

- Canine teeth
  - Absent or rudimentary in females
  - Four permanent teeth in males
- Premolars
  - "Wolf Teeth"
  - Each quadrant contians six, closely arranged
  - Normal angulation
- Jaws
  - Anisognathism = Mandibles fuse at midline (Not in cats & Dogs)

Signs of Severe Dental Disease in Equine:

- Early detection
  - → Weight loss, quidding, head shaking, tilting head
  - → Predispose to impaction colic & esophageal choke
- Extraoral Examination
  - → Facial swelling, atrophy, discharge
- Intraoral Examination
  - → Requires sedation

Dental float: Removes raised areas/points from occlusial surfaces of teeth.

- Common Dental Problems for Horses -

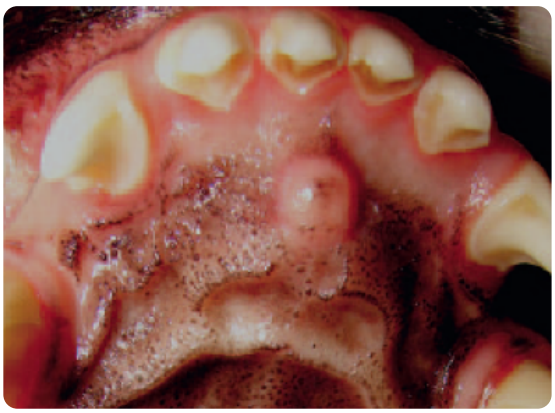
- Tooth root abscess
  - pulp exposure or tooth death
  - tooth fracture, excessive wear, decay
- Periodontal Abnormalities
  - loss or damage to structures

- Jaw length discrepancies
  - Mandibular brachygnathism
    - → "parrot mouth"
    - → lower jaw shorter than upper jaw
  - Maxillary brachygnathism
    - → "monkey mouth"
    - → upper jaw shorter than lower jaw
  - Wry Nose
    - → deviation from the midline

- Gingivitis
- Cemental hypolasia
  - loss of cementum
- Caries

* The cheek teeth of horses are an example of Radicular hypsodont teeth

The incisive papilla is a raised structure located at the midline behind the maxillary incisors in Dogs & cats.



* The major salivary glands of the Dog & cat are the paired mandibular, sublingual, zygomatic, and Parotid glands.