

Small Animal Dental Anatomy and Pathology

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DENTAL ANATOMY

Teeth grow on a pair of upper and lower jaws. In the maxilla the incisors grow in the incisor bone, and the canines, pre molars and molars grow on the maxillary bone. In the lower jaw all tooth grow in the mandibular bone.

To facilitate identification, the oral cavity is divided into 4 quadrants like the Triadan System modification. Consecutive quadran 1 to 4 are: right upper jaw, left upper jaw, left lower jaw and right lower jaw. And each tooth gets a 3 digit numbering identity: digit 1 is the number of the qudran where the tooth is growing, and 2 digits are then the number of each tooth starting from the sagittal piece to the two jaws to the right or left. For example: 101 is the identity for 1st incisors in the right upper jaw, 204 is the identity for the canines in the left upper jaw.

The tooth structure in adult dogs is $2x I 3/3: C 1/1: P 4/4: M 2/3 = 42$, and in puppies is $2x i 3/3: c 1/1: p 3/3 = 28$. Tooth structure in adult cats is $2x I 3/3: C 1/1: P 3/2: M 1/1 = 30$, and in kittens is $2x 3/3: c 1/1: p 3/2 = 26$.

Dogs and cats tooth are: diphyodont (deciduous teeth will be replaced by permanent teeth), anelodont (teeth do not grow continuously) and brachyodont (teeth roots are longer than crowns of teeth covered with enamel).

The crown is encased in enamel and the root

in cementum. Enamel is the hardest substance in the body being densely packed with hydroxyapatite (mineral) crystal and heavily mineralized with calcium salts. Cementum is calcified connective tissue. Dentin, a bonelike material, is under the enamel and makes up most of the tooth. The pulp cavity includes blood vessels, lymphatics and nerves.

DENTAL PATOLOGY

- Enamel Hypoplasia

The enamel became thin, that it is easily damaged. It is caused by many things; tauma, heredity, malnutrition or systemic diseases.

- Tooth Wear (abrasion/attrition)

The erosion of enamel and dentin, caused by the use of teeth due to physiological conditions (mastication, hard surface biting), or due to pathological conditions (malocclusion).

- Tooth Fractures

Broken crown and / or root teeth that caused by mechanical trauma.

- Sequela

Directly pulp exposing cause by teeth damage.

- Tooth Resorption

Tooth resorption is the loss of dental hard tissue. Tooth resorption can be physiological (resorption of the root of primary teeth) or pathological.