Pet Owner Educational Atlas

DENTISTRY AND ORAL SURGERY

Texts and review: Aurora Mateo Román



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PREFACE

Firstly, I would like to thank the publisher for its initiative in dedicating a volume of the Pet Owner Educational Atlas series to the specialty of dentistry and oral surgery in cats and dogs. I would also like to thank Lisa Milella, my mentor, for her invaluable support during my residency and in the preparation of this work.

Pet owners are increasingly demanding more effective and painless treatments, and veterinary dentistry is gradually ceasing to be a difficult and little-known specialty. This book provides the tools required to educate owners on the importance of an early diagnosis, given that pets do not "talk" and it is our responsibility to learn to detect their discomfort as soon as possible. Of course, to achieve this, the collaboration and participation of owners is of vital importance. Pets with dental pathologies usually do not lose their appetites, and owners do not typically detect if their pet is suffering from oral discomfort or pain. Because of this, pets sometimes have to endure a greater or lesser degree of "pain" and "infection" for months or even years until they are finally treated.

Some of these pathologies can be easily identified in the consultation room, with the animal conscious, but, in most cases, the definitive diagnosis and true extent of the disease can only be detected under general anesthesia.

Here, a complete data collection system (odontogram) is provided to help professionals learn how to write dental reports, file relevant clinical information, and tell owners what specific problem their pet has and what type of treatment should be implemented.

Each pathology is explained in a simple way, with drawings based on real cases and accompanied by the different treatment options available. Veterinarians can draw on the sheets to help them convey their message to pet owners. I am convinced that this new atlas will be as useful for clinicians as it is for me in my daily work.

Aurora Mateo, DVM

FOREWORD

Dental and oral diseases are among the most common disorders in companion animals. They also affect wild animals both in the wild and in captivity and have important consequences on animal health and welfare when undiagnosed and untreated. However, these diseases are still frequently underestimated. The lack of university programs that include training in veterinary dentistry is a global problem that affects even the most developed countries.

Fortunately, awareness of animal welfare in this sense has increased in recent years. Training options in veterinary dentistry are becoming more frequent. Veterinary practitioners are also more aware of the need for training, both in basic dental diagnosis and treatment and in the detection of pathologies that require referral to a specialist. Working together with veterinary dentists, clinicians can provide their patients with a standard of quality in animal welfare in accordance with modern veterinary clinical practice.

I have had the pleasure of learning about Aurora's enormous body of work and of mentoring her during her residency at the European Veterinary Dental College. This book is the product of her experience and I am sure that it will contribute to the development of this specialty, increasing the interest of veterinary clinicians in veterinary dentistry, both in terms of identification and diagnosis and in providing their clients with an adequate explanation of the various treatment options.

The best reward will be the owner's satisfaction at seeing an improvement in their pet's quality of life after receiving adequate and effective dental treatment.

Lisa Milella, DEVDC
Founder of The Lisa Milella Veterinary Dental Fund
https://www.internationalanimalrescue.org/lmvdf

Table of contents



01 ANATOMY APPLIED TO DIAGNOSIS

1 Location terminology 7
2 How many teeth do dogs have? 8
3 How many teeth do puppies have? 9
4 How many teeth do cats have? 10
5 Dental eruption 11
6 Tooth and periodontium anatomy 12
7 Oral examination in the veterinary clinic 13
8 Normal occlusion 14
9 Dental malocclusion 15
10 Skeletal malocclusion 16
11 Malocclusion in cats 17
12 Oral examination under general anesthesia 18
13 Intraoral radiography: Importance and techniques 19



02 PERIODONTAL DISEASE

14 Typical scenario: 2–3-year-old dog 20
15 Typical scenario: 3–5-year-old dog 22
16 Typical scenario: 5–7-year-old dog 24
17 Local sequelae 26
18 Systemic sequelae 27
19 How to brush a dog's teeth 28
20 How to brush a cat's teeth 29
21 Tooth brushing accessories and extras 30



03 DENTAL PATHOLOGIES

22 Persistent deciduous teeth 31
23 Unerupted teeth: Dentigerous cysts 32
24 Alterations in enamel formation 33
25 Dental fractures 34
26 Pathogenesis of periapical lesions 35
27 Tooth color changes 36
28 Attrition and abrasion 37
29 Best practices to avoid abrasion 38
30 Caries 39
31 Resorptive lesions in cats 40
32 Resorptive lesions in dogs 42



04 ORAL DISEASES AND NEOPLASMS

33 Ulcerative stomatitis in dogs 43
34 Feline chronic gingivostomatitis 44
35 Oronasal communication and palatal defects 46
36 Oral neoplasms 48
37 Salivary gland alterations 50

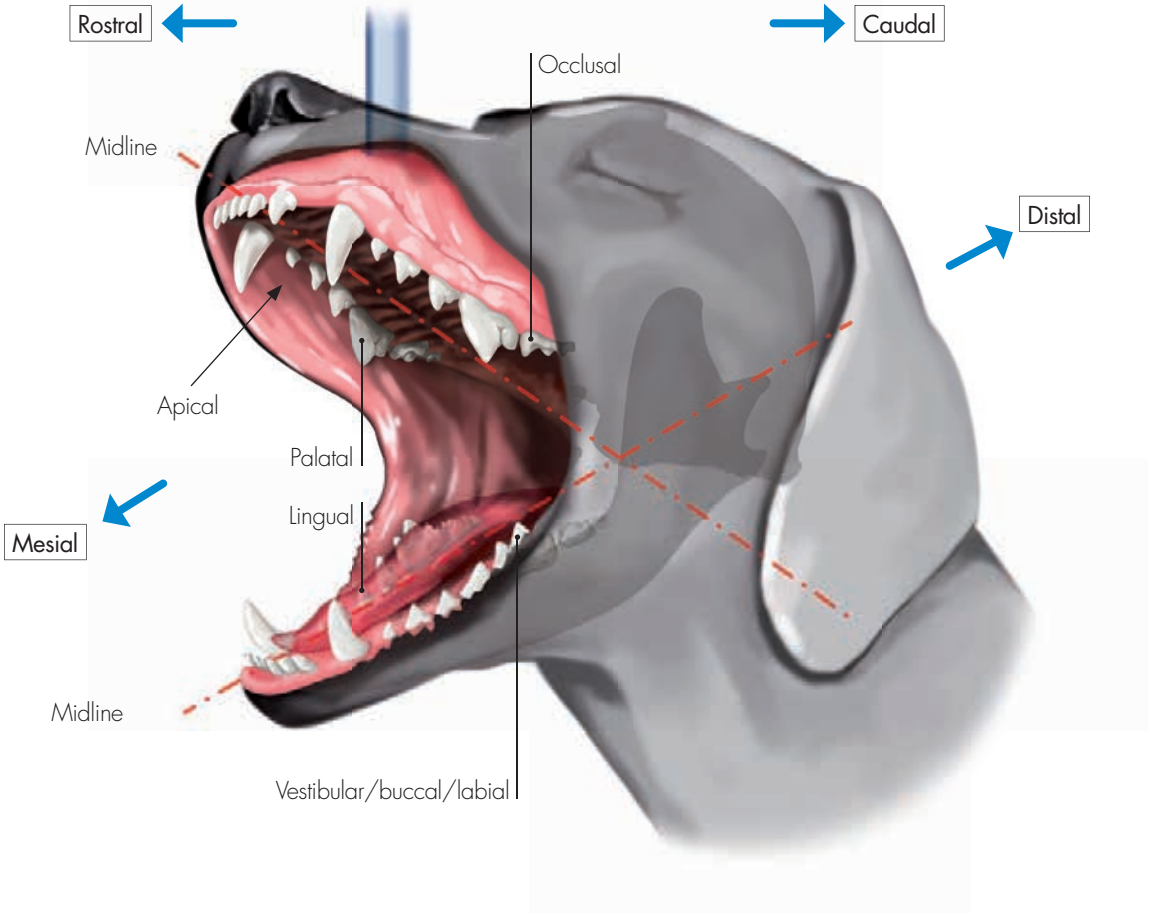


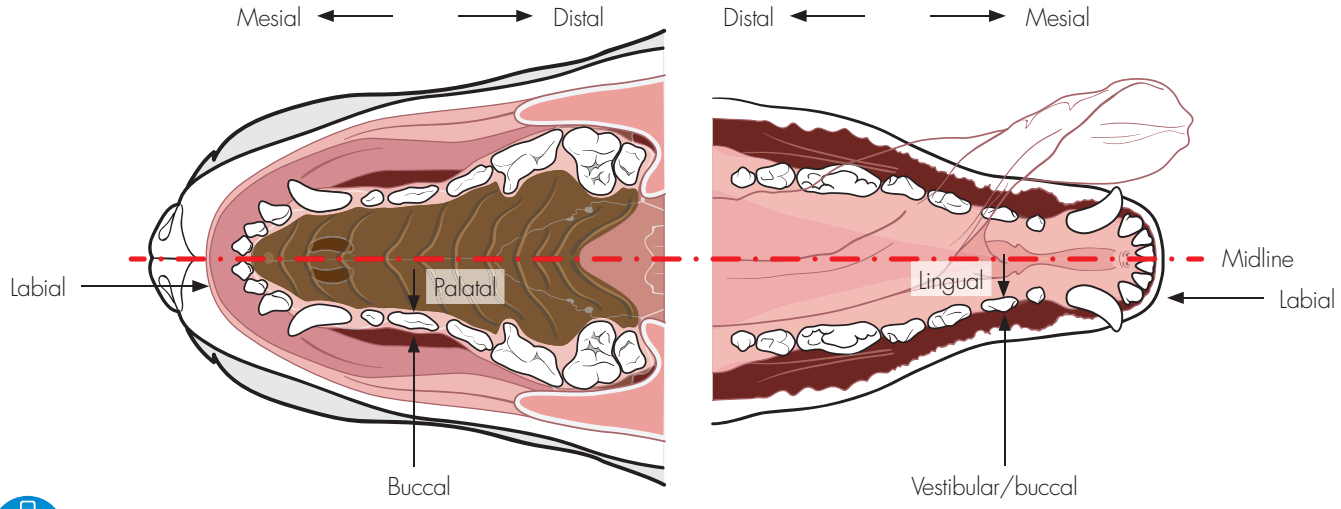
05 COMMON ORAL PROCEDURES AND DENTAL EMERGENCIES

38 Local anesthesia: Blocks 51
39 Dental extractions 52
40 Advanced periodontal treatment 53
41 Gingivectomy 54
42 Alternatives to extraction: Endodontics 55
43 Vital pulp therapy 56
44 Orthodontic solutions 57
45 Maxillofacial trauma 58
46 Custom-made adhesive tape muzzles 59

1 Location terminology

Knowing location terminology is useful in dentistry because teeth are numerous and it is imperative to accurately define the location of any lesion or process. It is especially useful if the case is to be referred.



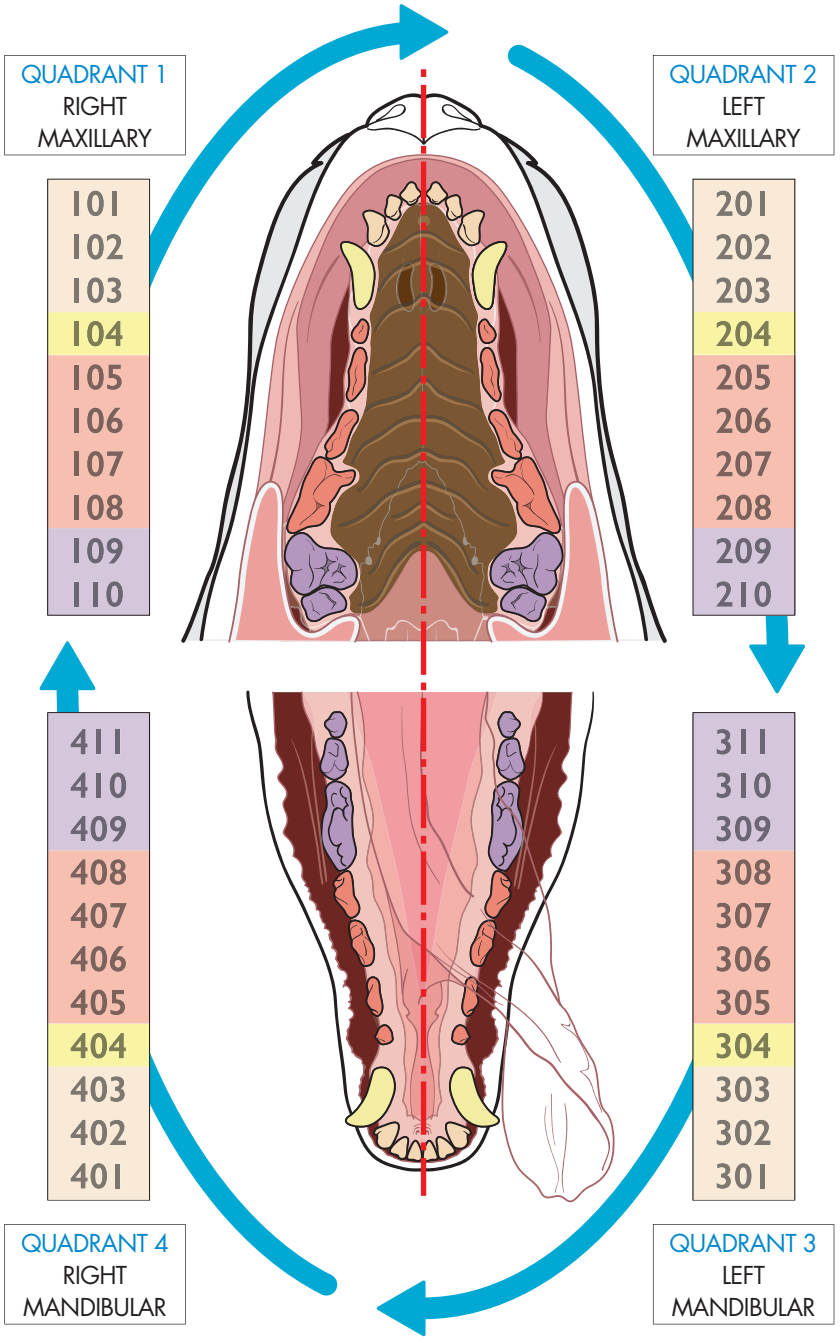


The terms to describe direction are equivalent in cats and dogs.

2 How many teeth do dogs have?

Download a sample odontogram for your use

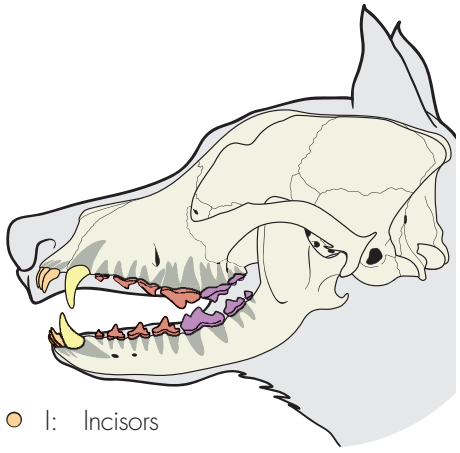
Teeth are part of the digestive system and perform numerous functions. Cats and dogs are carnivores and their teeth are adapted to killing and cutting prey into pieces that can be swallowed. In addition, the mouth plays an important role to pets as a means of contact and communication with their owners. Dental formulas are used to determine the type and total number of teeth present per quadrant. The upper numbers indicate the maxillary teeth up to the midline, while the lower numbers indicate the same for the mandibular teeth. The set is multiplied by two to obtain the total number of teeth.



Dental formula

$$2\times(I\ \frac{3}{3}\ C\ \frac{1}{1}\ P\ \frac{4}{4}\ M\ \frac{2}{3}) = 42 \text{ teeth}$$

Number of roots	Maxillary teeth	Mandibular teeth
1	I, C, P1	I, C, P1, M3
2	P2, P3	P2, P3, P4, M1, M2
3	P4, M1, M2	—



- I: Incisors
- C: Canines
- P: Premolars
- M: Molars

Features

- **Heterodont** teeth: different shape and function.
- **Brachydont** teeth: short crown and relatively longer root.
- **Anelodont** teeth: they reach their developmental potential and do not grow any more.
- **Diphyodont**: animal with two types of dentition, deciduous and permanent.

3 How many teeth do puppies have?

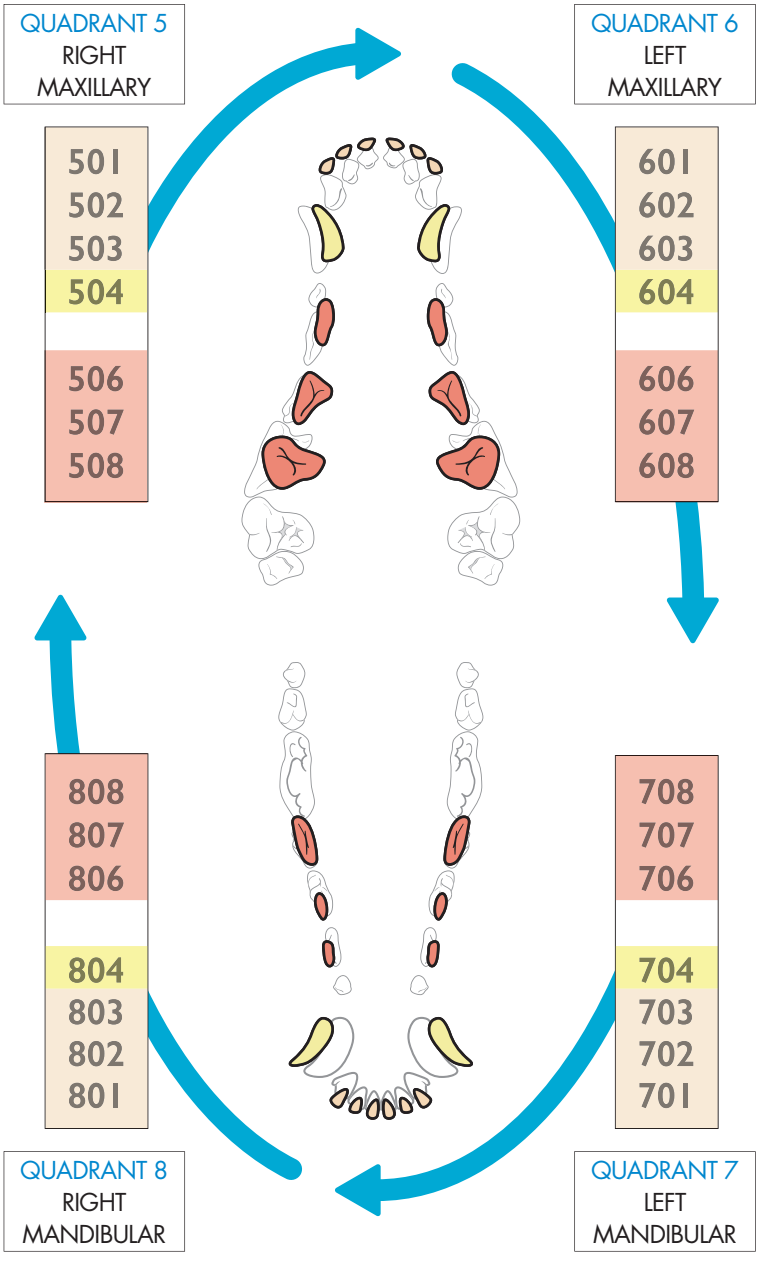
Download a sample odontogram for your use

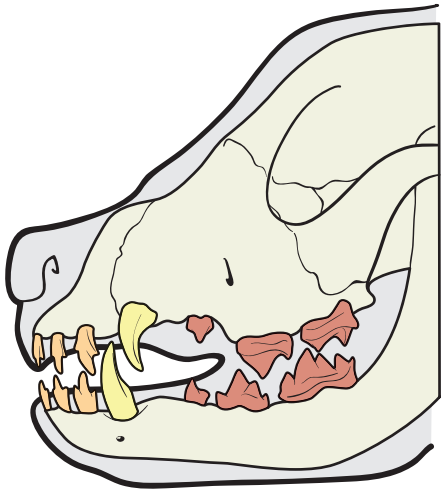
Cats and dogs have deciduous (milk) teeth that are later replaced with permanent dentition. Milk teeth have their own nomenclature and characteristics, with a different dental formula from that of adults. Nonetheless, it is important to care for the health of the teeth of cats and dogs from the time they are kittens and puppies.

Dental formula

$$2\times(i\ \frac{3}{3}\ c\ \frac{1}{1}\ p\ \frac{3}{3}) = 28 \text{ teeth}$$

Lowercase letters are used for deciduous dentition



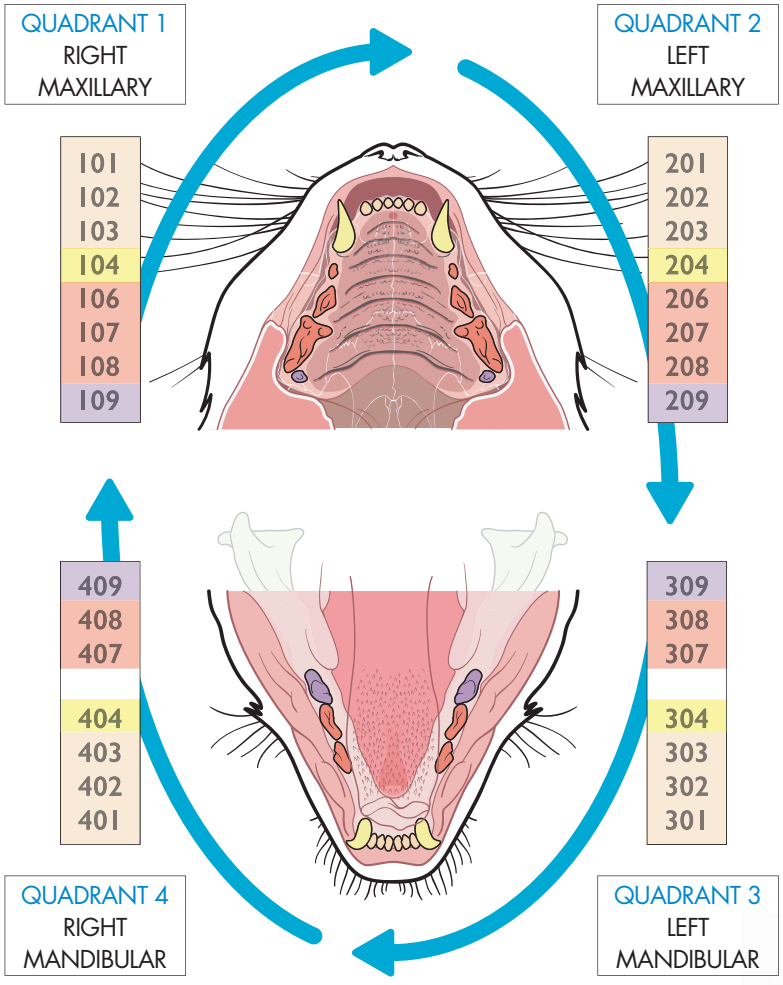


- i: Incisors
- c: Canines
- p: Premolars

4 How many teeth do cats have?

Download a sample odontogram for your use

Cats are strict carnivores and so their teeth differ from those of dogs.
However, the soft tissues shown on the sheet are equivalent to those of dogs.



Total dental formula

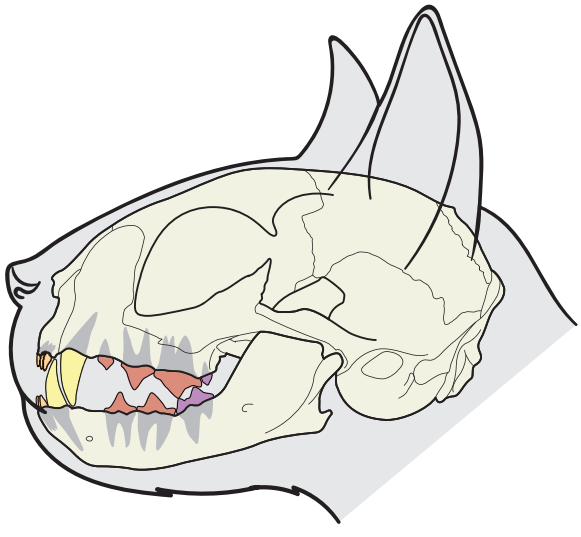
Kitten

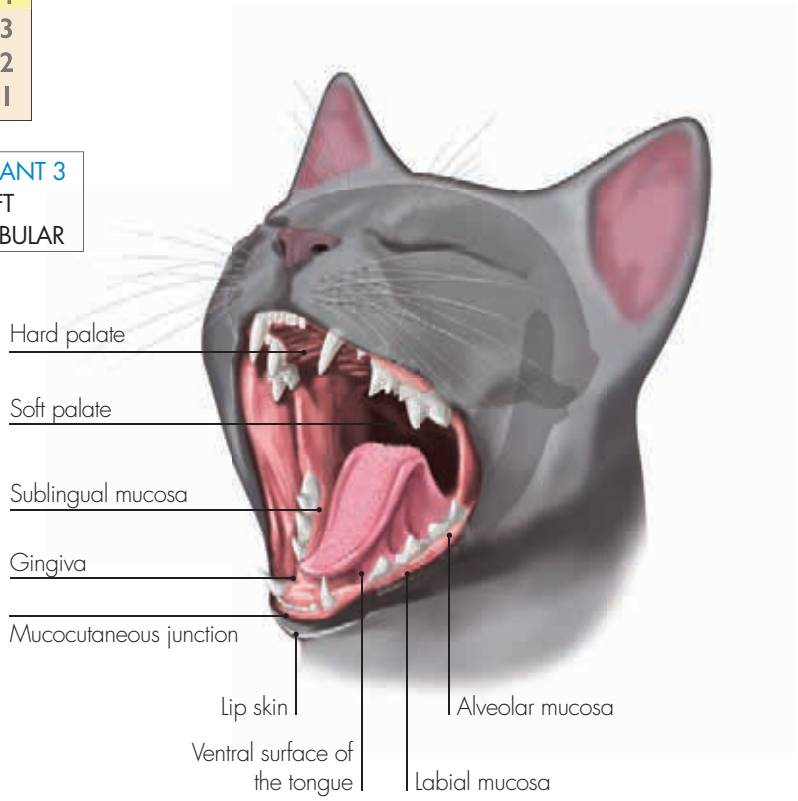
$$2\times(i\ \frac{3}{3}\ c\ \frac{1}{1}\ p\ \frac{3}{2}) = 26 \text{ teeth}$$

Adult

$$2\times(I\ \frac{3}{3}\ C\ \frac{1}{1}\ P\ \frac{3}{2}\ M\ \frac{1}{1}) = 30 \text{ teeth}$$

Number of roots	Maxillary teeth	Mandibular teeth
1	I, C, P2	I, C
2	P3, M1	P3, P4, M1
3	P4	—







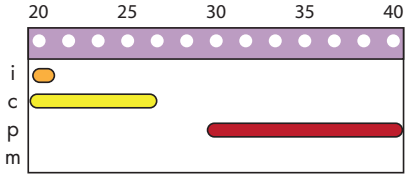
5 Dental eruption

Teeth begin to form during embryonic development, continue to develop after birth, and begin to erupt across the gum surface within a few weeks of birth. Throughout this process, animals present a mixed dentition in which both deciduous and permanent teeth can be seen.

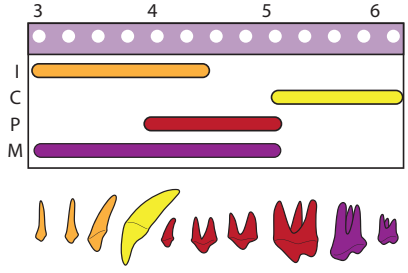
After 6 months of age, any milk teeth that have not yet fallen out should be extracted (see Sheet 22).

Dogs

Eruption of deciduous teeth (days)

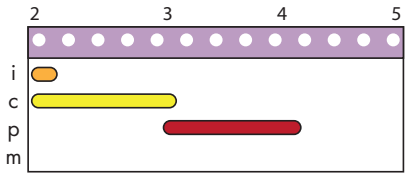


Eruption of permanent teeth (months)

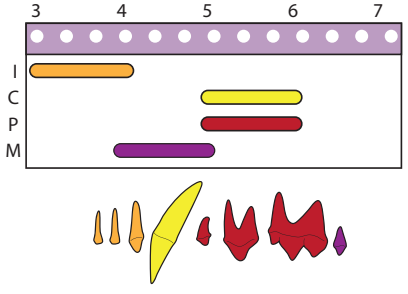


Cats

Eruption of deciduous teeth (weeks)



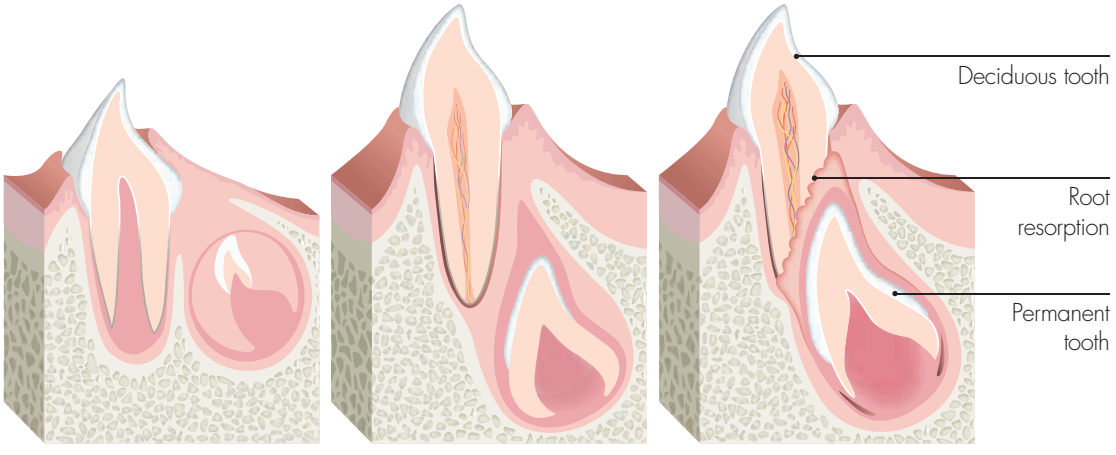
Eruption of permanent teeth (months)



The first teeth to erupt are the central incisors.

Neither dogs nor cats have deciduous molars.

Tooth eruption



Deciduous tooth eruption

Full development of the deciduous tooth in the bony alveolus

Progressive development of the permanent tooth