

Dental line



 **Candioli**
FARMACEUTICI

Oral hygiene: just wishful thinking?

- Oral cavity pathologies are some of the most frequently encountered clinical findings in cats and dogs over 3 years of age.
- Sound and continuous oral hygiene procedures are the only really efficient methods to prevent occurrence of stomatitis and parodontopathy.
- Preventive oral hygiene procedures must be administered to pets already at 6 months of age, i.e. since the appearance of final dentition.
- Good oral hygiene procedures include, besides the use of specific products, daily tooth and gingival brushing using toothbrushes which are appropriate in shape, size and bristle stiffness.



Foto per gentile concessione del dott. Paolo Squarizoni

The only complete range of oral hygiene products for dogs and cats

DENTALMAX is a highly adhesive and persistent gel for stomatology that can be brushed. It is the absolute novelty in veterinary odontostomatology as the chlorhexidine antibacterial efficacy is enhanced by the plaque-preventing action of zinc citrate.

DENTALPET is a specific zinc citrate and triclosan-based plaque-preventing toothpaste, effective against bad breath.

DENTALPET SPRAY is a triple action mouthwash: it prevents plaque formation and bad breath, and strengthens tooth enamel.

DENTALPET KIT is a single-package, complete set of items for appropriate oral hygiene.

DENTALPET CHEWS bovine skin clippings with a triple enzyme action for small and big dogs.

DENTALPET toothbrush: a two-headed toothbrush for daily oral hygiene.



Parodontopathy

An opportunity not to be missed!

Regrettably, only a few pet owners realize how important and essential it is to start preventive oral hygiene procedures since the first months of the animal's life.

In the majority of cases, only the presence of dental pathology (stomatitis, calculus, parodontopathy, etc) draws attention to the need of appropriate preventive oral hygiene.

A dental intervention is the occasion to sensitize pet owners to the need of local treatment immediately following a dental intervention; it is indeed common practice for the treating veterinarian to prescribe an antibacterial gel for local application following dental tartar removal, tooth extraction or surgical procedures.

This kind of apprenticeship must be applied to train pet owners in oral hygiene treatments by using specific and technologically advanced products which permit a gradual change from simple local application to mechanical toothbrush cleaning.

By means of a single product which is at the same time a topical gel and specific innovative formulation brushing toothpaste, such as DENTALMAX, it is possible to start local applications through direct massage. After acquiring the necessary manual dexterity, this will be followed by using a latex fingerbrush to finally arrive to systematic toothbrush use.

Both pet owner and animal become thus used to regular teeth and gum brushing. After the oral cavity infection has been controlled, the treatment

could be followed by DENTALPET use according to procedure and timing as advised by the treating veterinarian.

DentalMax

- Chlorhexidine digluconate^{2,8,12,15,23,32,38,47} at 0.12% concentration is an effective contact-acting antibacterial agent against gram+ and gram- germs. It acts synergistically with zinc citrate⁴¹ in controlling dental plaque formation, thus reducing bad breath.
- Zinc citrate^{6,9,21,27,35,37,46} strengthens the chlorhexidine plaque-controlling action and inhibits plaque mineralization and crystallization^{19,24}. It exerts direct bacteriostatic action^{26,29,33,37} and stops formation of halitosis-causing sulphur derivatives.^{31,32,43}
- Sodium monofluorophosphate^{7,12,17,18,21,25,38,44,45} becomes incorporated into surface enamel to strengthen it. In synergy with zinc citrate it also reduces plaque mineralization.
- The 18-β-glycirretic acid keeps gum inflammation under control. It reduces gum reddening and swelling which appear during the initial parodontopathy stages.



When and how to use Candioli products for oral hygiene

Daily oral hygiene,
dental prophylaxis

Pup and kitten from six months of age

Adult animals
in good oral health conditions

As a maintenance treatment
following tartar removal and
other pathologies

DentalPet

- Triclosan and zinc citrate^{1,5,10,11,13,26,27,36,39,40}, when applied together, markedly inhibit production and mineralization of the bacterial plaque^{19,24} and the eventual development of parodontopathy. They also keep bacterial growth under control without negatively influencing the oral microbial flora natural composition^{6,21} or inducing bacterial resistance. They also effectively reduce halitosis^{31,43}.
- Sodium monofluorophosphate^{7,12,17,18,25,38,44,45} becomes incorporated into surface enamel to strengthen it. In synergy with zinc citrate it also reduces plaque mineralization.
- Gingko biloba glycol extract^{3,4,30} strengthens and enhances the oral cavity natural defence mechanisms. It improves peripheral blood circulation and exerts protective action on the gums.
- Mallow glycol extract exerts soothing and emollient action on the gums and on the oral cavity mucosa.





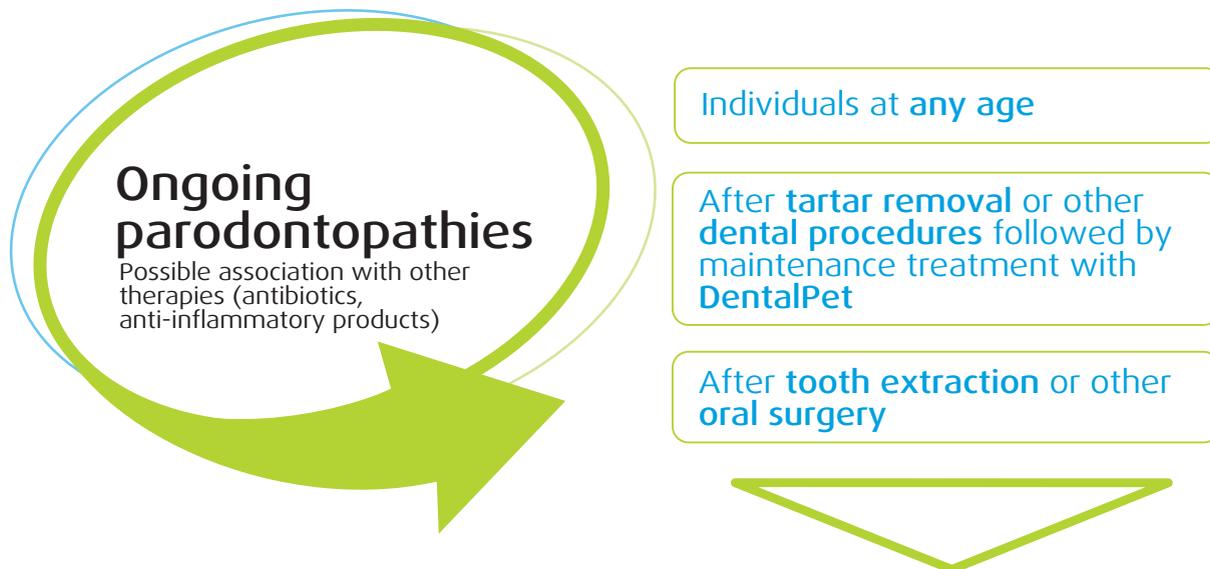
DentalPet Chews

- The regular use of these enzyme-saturated bovine skin clippings helps dogs to have clean teeth and fresh breath. The clippings represent a valid alternative to toothpaste and toothbrush use especially for those pets which are not very cooperative.
- Clippings exert a strong enzyme action against plaque formation.
- They stimulate chewing and strengthen teeth and gums.
- Through their abrasive action they contribute to eliminate plaques and food residues.
- Fully natural and perfectly digestible.

DentalPet Kit

- All items needed for good oral hygiene in a single and practical package.
- 1 DentalPet, 1 DentalPet spray and a practical fingerbrush to facilitate applications.





DentalMax

- DentalMax is a specific stomatology gel for dogs and cats whose formula represents an absolute novelty in veterinary medicine.
- Strongly adhesive on teeth surface and on gums, it allows much longer contact duration of the active principles as compared to the traditional products. It can be brushed like toothpaste.
- Its strong efficacy makes it usable in gingivitis, stomatitis and parodontopathies in general.
- Can also be used after tooth extraction procedures or other oral cavity surgery.



DentalPet Spray

- DentalPet Spray is a specific mouthwash for dogs and cats. It exerts various beneficial effects on the oral cavity as it inhibits bacterial plaque development, stops halitosis and strengthens tooth enamel.
- Its use is particularly easy in pets, particularly cats that are otherwise difficult to handle when using toothpaste and toothbrush.
- Chlorhexidine digluconate^{2,8,12,15,23,32,38,47} is a contact-acting antibacterial agent. It stops bacterial growth thus inhibiting plaque formation and bad breath.
- Mint essential oil³¹ contributes to eliminate bad odours from breath.
- Mallow extract exerts soothing and emollient action on inflamed gums and oral cavity mucosa.
- Ginkgo biloba extract^{3,4,30} strengthens and enhances natural mouth defence mechanisms.
- Trihydroxyethylrutine improves microcirculation in the gums.
- Sodium fluoride^{7,12,17,18,25,38,44,45} strengthens tooth enamel.



Technical sheets

DentalMax

Composition: chlorhexidine digluconate 0.12%, zinc citrate, sodium monofluorophosphate, 18- β glycirretic acid

Indications: strongly adhesive gel for stomatology, it can be used in direct application or through brushing like a normal toothpaste. It exerts a strong antibacterial and plaque-control action, and reduces bad breath. It can be used either alone or in association with other specific therapies in the treatment of gingivitis, stomatitis and parodontopathies in general. It decreases formation and maturation of bacterial plaques and strengthens tooth enamel. It soothes the discomfort which accompanies gum mucosa inflammatory conditions. It is indicated for use in deep mouth hygiene treatments following tooth extraction or other oral cavity surgery.

Instructions for use: apply DentalMax on the pet's teeth and gums. For best results use a toothbrush to gently massage teeth and gums. Repeat the application daily for 3 weeks every two months. The product is very well tolerated even if swallowed so that mouth rinsing is not needed. To avoid possible formation of abnormal colouring in the teeth due to prolonged use of chlorhexidine, it is advisable not to extend the application cycles over 21 days; the cycles can be repeated several times with brief break periods in between. Possible abnormal tooth colouring is spontaneously reversible.

Packaging: 50 ml tube and latex fingerbrush

Prescription: not required

DentalPet

Composition: zinc citrate, ginkgo biloba extract, malva sylvestris extract, sodium monofluorophosphate, triclosan

Indications: strongly adhesive toothpaste specifically suitable for dogs and cats. Its active principles (zinc citrate, triclosan, ginkgo biloba extract, malva sylvestris extract and sodium monofluorophosphate) make it an ideal product for the daily oral hygiene of small animals. DentalPet exerts a soothing and emollient action on gums, it strengthens tooth enamel and enhances the oral cavity natural defence mechanisms. The continuous use of this product is an effective instrument to prevent bacterial plaque and tartar formation. Infectious and inflammatory events are, therefore, also prevented. Halitosis is reduced as well.

Instructions for use: apply DentalPet on the pet's teeth and gums, and massage them gently for about one minute using a toothbrush or fingerbrush to obtain the best results. Alternatively, just using a finger would be good enough as well. Repeat the application daily. The product is very well tolerated even if swallowed so that mouth rinsing is not needed.

Packaging: 50 ml tube and latex fingerbrush

Prescription: not required

DentalPet Spray

Composition: chlorhexidine digluconate 0.12%, mallow glycol extract, ginkgo biloba glycol extract, mint essential oil, sodium fluoride, trihydroxyethylrutine

Indications: a mouthwash based on chlorhexidine and natural extracts, indicated for daily applications in stomatitis, parodontopathy and tartar formation. It inhibits plaque bacterial growth, it strengthens tooth enamel and contributes to reduce halitosis occurring in oral cavity inflammatory conditions.

Instructions for use: spray the product daily on the pet's teeth and gums. The product is very well tolerated even if swallowed so that mouth rinsing is not needed. It does not cause abnormal hair colouring.

Packaging: 125 ml bottle with atomizer

Prescription: not required

DentalPet Kit

Packaging: The blister contains one 50 ml DentalPet tube, one 50 ml DentalPet Spray bottle and one fingerbrush

Prescription: not required

DentalPet Chews

It is made up of: selected bovine skin clippings which have been treated and saturated with lysozyme, lactoferrine and glucose-oxidase.

Packaging: for small size dogs: 170 g – for large size dogs: 170 g

Prescription: not required



Bibliography

1. Adams SE, Lloyd AM, Naeeni MA, Cooper YL, Holt JS. *The effect of a toothpaste containing 2% zinc citrate/0,3% Triclosan on the glycolysis of plaque bacteria ex vivo after food intake.* Int Dent J. 2003 Dec; 53(6 suppl 1):391-7
2. Addy M, Jenkins S, Newcombe R. *Studies on the effect of toothpaste rinses on plaque regrowth. Influence of surfactants on chlorhexidine efficacy.* J Clin Periodontol. 1989 Jul; 16(6):380-4
3. Biber A. *Pharmacokinetics of Ginkgo biloba extracts.* Pharmacopsychiatry. 2003 Jun; 36 Suppl 1:532-7
4. Boonkaew T, Camper ND. *Biological activities of Ginkgo extracts.* Phytomedicine. 2005 Apr; 12(4):318-23
5. Brading MG, Cromwell VJ, Jones NM, Baldeck JD, Marquis RE. *Anti-microbial efficacy and mode of action studies on a new zinc/Triclosan formulation.* Int Dent J. 2003 Dec; 53(6 suppl1):363-70
6. Bradshaw DJ, Marsh PD, Watson GK, Cummins D. *The effects of triclosan and zinc citrate, alone and in combination, on a community of oral bacteria grown in vitro.* J Dent Res. 1993 Jan; 72(1):25-30
7. Campus G, Lallai MR, Carboni R, Spano G, Luglie P, Garcia-Godoy F. *In vivo enamel fluoride uptake after use of fluoride products.* Am J Dent. 2004 Oct; 17(5):351-3
8. Charbonneau DL, Snider AG. *Reduced chlorhexidine tooth stain coverage by sequential administration of monoperoxyphthalic acid in the beagle dog.* J Dent Res. 1997 Sep; 76(9):1596-601
9. Clarke DE. *Clinical and microbiological effects of oral zinc ascorbate gel.* J Vet Dent. 2001 Dec; 18(4):177-83
10. Cummins D. *Zinc citrate/Triclosan: a new anti-plaque system for the control of plaque and the prevention of gingivitis: short-term clinical and mode of action studies.* J Clin Periodontol. 1991 Jul; 18(6):455-61
11. Finney M, Walker JT, Marsh PD, Brading MG. *Antimicrobial effects of a novel Triclosan/zinc citrate dentifrice against mixed culture oral biofilm.* Int Dent J. 2003 Dec; 53(6 suppl 1):371-8
12. Gorrel C. *Periodontal disease and diet in domestic pets.* J Nutr. 128:2712S-2714S. 1998
13. Hall PJ, Green AK, Horay CP, de Bradander S, Beasley TJ, Cromwell VJ, Holt JS, Savage DJ. *Plaque antibacterial levels following controlled food intake and use of a toothpaste containing 2% zinc citrate and 0,3% Triclosan.* Int Dent J. 2003 Dec; 53(6 suppl 1):379-84
14. Hennes P. *Review of studies assessing plaque accumulation and gingival inflammation in dogs.* J Vet Dent. 1999 Mar; 16(1):23-9
15. Hennes P. *Effectiveness of a dental gel to reduce plaque in beagle dogs.* J Vet Dent. 2002 Mar; 19(1):11-4
16. Howell TH, Fiorellini JP, Blackburn P, Projan SJ, de la Harpe J, Williams RC. *The effect of a mouthrinse based on nisin, a bacteriocin, on developing plaque and gingivitis in beagle dogs.* J Clin Periodontol. 1993 May; 20(5):335-9
17. Hughes JA, West NX, Addy M. *The protective effect of fluoride treatments against enamel erosion in vitro.* J Oral Rehabil. 2004 Apr; 31(4):357-63
18. Ingram GS, Agalany EA, Higham SM. *Caries and fluoride processes.* J Dent. 2005 Mar; 33(3):187-91
19. Ingram GS, Horay CP, Stead WJ. *Interaction of zinc with dental mineral.* Caries Res. 1992; 26(4):248-53
20. Jenkins S, Addy M, Newcombe R. *Studies on the effect of toothpaste rinses on plaque regrowth. Triclosan with and without zinc citrate formulations.* J Clin Periodontol. 1989 Jul; 16(6):385-7
21. Jones CL, Ritchie JA, Marsh PD, Van der Ouderaa F. *The effect of long-term use of a dentifrice containing zinc citrate and non-ionic agent on the oral flora.* J Dent Res. 1988 Jan; 67(1):46-50
22. Kjaerheim V, Skaare A, Barkvoll P, Rolla G. *Anti-plaque, antibacterial, and anti-inflammatory properties of triclosan mouthrinses in combination with zinc citrate or polyvinylmethylether maleic acid (PVM-MA) copolymer.* Eur J Oral Sci. 1996 Oct-Dec; 104(5-6):529-34
23. Kozlovsky A, Sintov A, Zubery Y, Tal H. *Inhibition of plaque formation and gingivitis in beagle dogs by topical use of a degradable controlled-release system containing chlorhexidine.* J Dent Res. 1992 Sep; 71(9):1577-81
24. Lang NP, Sander L, Barlow A, Brennan K, White DJ, Bacca L, Bartizek LD, McClanahan SF. *Experimental gingivitis studies: effects of triclosan and triclosan-containing dentifrices on dental plaque and gingivitis in three randomized controlled clinical trials.* J Clin Dent. 2002; 13(4):158-66
25. Lynch RJ, Navada R, Walia R. *Low-levels of fluoride in plaque and saliva and their effects on the demineralisation and remineralisation of enamel; role of fluoride toothpastes.* Int Dent J. 2004; 54(5 suppl 1):304-9
26. Marsh PD. *Dentifrices containing new agents for the control of plaque and gingivitis: microbiological aspects.* J Clin Periodontol. 1991 Jul; 18(6):462-7
27. Marsh PD, Bradshaw DJ. *Microbiological effects of new agents in dentifrices for plaque control.* Int Dent J. 1993 Aug; 43(4 suppl 1):399-406
28. McClanahan SF, Bartizek RD. *Effects of triclosan/copolymer dentifrice on dental plaque and gingivitis in a 3-month randomized controlled clinical trial: influence of baseline gingivitis on observed efficacy.* J Clin Dent. 2002; 13(4):167-78
29. Moran J, Addy M, Corry D, Newcombe RG, Haywood J. *A study to assess the plaque inhibitory action of a new zinc citrate toothpaste formulation.* J Clin Periodontol. 2001 Feb; 28(2):157-61
30. Nishida S, Satoh H. *Comparative vasodilating actions among terpenoids and flavonoids contained in Ginkgo biloba extract.* Clin Chim Acta. 2004 Jan; 339(1-2):129-133
31. Olshan AM, Kohut BE, Vincent JW, Borden LC, Delgado N, Qaqish J, Sharma NC, McGuire JA. *Clinical effectiveness of essential oil-containing dentifrices in controlling oral malodor.* Am J Dent. 2000 Sep; 13(spec n°):18C-22C
32. Peak MR. *Dental prophylaxis: examination, cleaning and home care.* Vet Med 2003 Feb; 148-59
33. Phan TN, Buckner T, Sheng J, Baldeck JD, Marquis RE. *Physiologic actions of zinc related to inhibition of acid and alkali production by oral streptococci in suspension and biofilms.* Oral Microbiol Immunol. 2004 Feb; 19(1):31-8
34. Rawlings JM, Gorrel C, Markwell PJ. *Effect on canine oral health of adding chlorhexidine to a dental hygiene chew.* J Vet Dent. 1998 Sep; 15(3):129-34
35. Santos SL, Conforti N, Mankodi S, Kohut BE, Yu d, Wu MM, Parik R. *Anticalculus effect of two zinc citrate/essential oil-containing dentifrices.* Am J Dent. 2000 Sep; 13(Spec n°):11C-13C
36. Saxton CA, van der Ouderaa FJ. *The effect of a dentifrice containing zinc citrate and Triclosan on developing gingivitis.* J Periodontal Res. 1989 Jan; 24(1):75-80
37. Sowinski J, Petrone DM, Battista G, Simone AJ, Crawford R, Patel S, Petrone ME, DeVizio W, Volpe AR, Proskin HM. *Clinical efficacy of a dentifrice containing zinc citrate: a 12-week calculus clinical study in adults.* Compend Contin Educ Dent. 1998; 19(2 suppl):16-9
38. Squarzonni P. *Odontostomatologia del cane e del gatto.* 2003 Poletto Editore s.r.l.
39. Stephen KW, Saxton CA, Jones CL, Ritchie JA, Morrison T. *Control of gingivitis and calculus by a dentifrice containing a zinc salt and triclosan.* J Periodontol 1990 Nov; 61(11):674-9
40. Svaton B, Saxton CA, Rolla G. *Six-month study of the effect of a dentifrice containing zinc citrate and triclosan on plaque, gingival health and calculus.* Scand J Dent Res. 1990 Aug; 98(4):301-4
41. van der Hoeven JS, Cummins D, Schaecken MJ, van der Ouderaa FJ. *The effect of chlorhexidine and zinc/triclosan mouthrinses on production of acids in dental plaque.* Caries Res 1993;27(4):298-302
42. van Dijk LJ, Wright WH. *Effects of oral hygiene on the results of periodontal surgery in beagle dogs with artificially created defects.* J Periodontol. 193 May; 54(5):291-8
43. Waler SM. *The effect of some metal ions on volatile sulfur-containing compounds originating from the oral cavity.* Acta Odontol Scand. 1997 Aug; 55(4):261-4
44. Watson PS, Pontefract HA, Devine DA, Shore RC, Nattress BR, Kirkham J, Robinson C. *Penetration of fluoride into natural plaque biofilms.* J Dent Res. 2005 May; 84(5):451-5
45. Wiegand A, Attin T. *Influence of fluoride on the prevention of erosive lesions – a review.* Oral Health Prev Dent. 2003;1(4):245-53
46. Williams C, McBride S, Mostler K, Petrone DM, Simone AJ, Crawford R, Patel S, Petrone ME, Chaknis P, DeVizio W, Volpe AR, Proskin HM. *Efficacy of a dentifrice containing zinc citrate for the control of plaque and gingivitis: a 6-month clinical study in adults.* Compend Contin Educ Dent. 1998; 19(2 suppl):4-15
47. Yankell SL, Moreno OM, Saffir AJ, Lowary RL, Gold W. *Effects of chlorhexidine and four antimicrobial compounds on plaque, gingivitis and staining in beagle dogs.* J Dent Res. 1982 Sep; 61(9):1089-93

Istituto Farmaceutico Candioli S.p.A.

Via Manzoni, 2 - Beinasco (To) Tel. +39.011.34.90.232
Fax +39.011.34.90.526 info@candioli.it - www.candioli.it