

# Oral healthcare at home: the evidence

OPINIONS on the subject of oral healthcare and toothbrushing at home differ greatly.

A delegate at a recent dental CPD course made the observation that her dentistry since graduation had been "too passive". To me, this sums up the worries of many practitioners regarding dentistry.

What's important is practitioners know what to do with their dental patients on a daily basis. Abnormalities of the teeth and oral cavity may be seen, but their significance and the courses of action available to deal with them remain a mystery to many practitioners.

## NORMAN JOHNSTON

BVM&S, DiplAVDC, DiplEVDC, MRCVS

encourages vets to be more proactive in dentistry and believes a rethink is needed on all aspects of advice from diet to toy choice

The fact the patient appears untroubled by the problems, and the owner is unaware of them, adds to this veterinary quandary. We call this "the conspiracy of inaction" on our courses. If the vet does nothing because he or she is unsure what to do, the client will usually go along with it – the only loser is the animal.

Humans seek dental atten-

tion rapidly when oral trouble comes calling. We can't function with toothache and struggle with mouth ulcers. Dogs and cats often appear undisturbed by horrendous lesions, but why is this? Apart from their culture of not appearing weak among their peers, pets generally don't go to work, use computers, drive cars, read or watch TV. It is easier for pain to go unnoticed if your life consists of eating and sleeping.

Trauma to teeth affects between 10 and 14 per cent of the pet population. For animals with fractured teeth and visible

pulp exposure, I would like to think vets know what to do. There are two choices: remove the tooth or remove the pulp and root fill the tooth.

### Sporting injury

So, what about the pink, purple, grey or brown tooth? Is it alive or dead? What happened to it? What should you do?

These teeth have bled internally, usually as a result of trauma – catching a frisbee, or a similar object, can damage the tooth enough for the pulp to bleed. It is also possible the tooth has moved laterally within the socket (subluxation) or been forced downwards (intrusion). Both these scenarios are likely to damage the blood supply through the root apex to the pulp.

Until 2001 most veterinary dentists would monitor these teeth conservatively – mainly because the patient provided little feedback. A study published that year<sup>1</sup> proved that 92.2 per cent of these teeth showed gross signs of partial or total pulp necrosis.

In a nutshell, these teeth are just as deserving of the same treatment as those with pulp exposure. There is no justifica-



Non-vital upper left canine tooth following play with frisbee. .

Below: Transillumination of the same tooth. Dark core adds to suspicion pulp is necrotic following internal haemorrhage

tion to wait and see what happens.

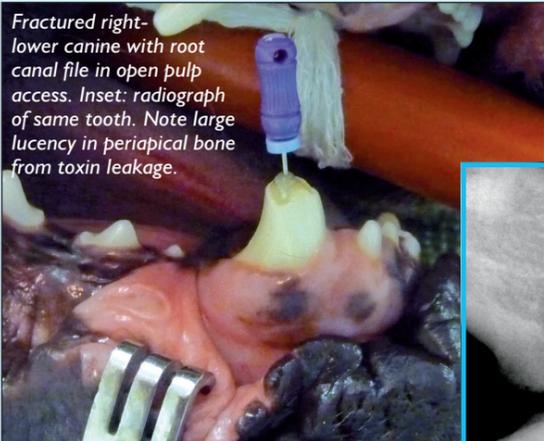
### Daily care?

If we truly understand what our feline and canine patients need to keep their teeth and oral tissues comfortable and healthy, we should check the mouth at every opportunity. We also need to act on what we find. I do not subscribe to the mantra that all dogs need their teeth brushed every day. I do, however, try to identify the population that needs daily homecare and construct a suitable plan that benefits the animal while ensuring enough motivation for the owner to carry it through.

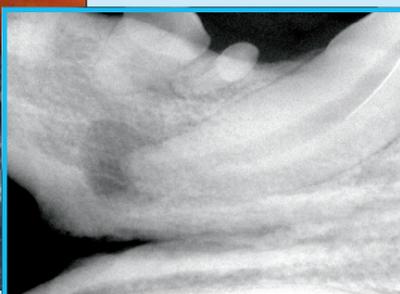
After all, the aim is simply

mechanical removal of the invisible biofilm (plaque) on the teeth before it becomes a problem. If the diet or toys do this – fine. The problem with diet, chews and toys, however, is distribution and control; not all teeth are used in play or eating. Teeth that are not used will not be cleaned. Equally, if there is an area of pain, such as an ulcer in the buccal mucosa, the adjacent teeth will not be used.

These days, clinicians are urged to follow the principles of evidence-based medicine (EBM) when constructing treatment



Fractured right-lower canine with root canal file in open pulp access. Inset: radiograph of same tooth. Note large lucency in periapical bone from toxin leakage.



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**Buccal slab fracture, upper-left carnassial. Traumatic damage from chewing bone.**



**The same tooth. Slab is displaced to show accumulated debris and open pulp access.**

plans. It involves integrating the best research evidence with clinical expertise and experience with patient values.

At the highest level it involves clinically relevant and statistically valid research from patient-centred studies. At the lowest level it may include anecdote, advertising and sales literature without clinically relevant back-up.

The first attempt to use EBM in the sphere of dental homecare was published in 2005 by Roudebush et al<sup>2</sup>. EBM evaluations generally work on the pyramid model with the evidence of greatest value at the apex. In this paper, EBM with the most evidence for use was titled grade one and evidence with the least value as grade four. The authors considered both grade one and two to be the most reliable predictors of good results in clinical practice. This paper makes interesting reading and

covers the usual suspects in dental homecare. It should be noted, however, that the information is now five years old.

It described certain dental treats (grade two), chew aids (grade one and two short-term), chew toys (grade four), chlorhexidine (grade two) and dental foods (grade one). Toothbrushing was given grade two with a raft of studies cited by Roudebush et al proving effectiveness. However, the studies do not agree on the frequency that is necessary for prevention of disease. Daily brushing is preferred, but three times weekly would be considered the minimum. Treatment of established diseases requires more diligent frequency. All studies recognise the problems in keeping owners motivated beyond six months.

Oral rinses, sprays and water and food additives are sold frequently in the veterinary market.

The study recognised the lack of good-quality evidence for most of these products and gave them a grade of four.

In the study, raw meaty bones (RMB) were given the lowest score of grade four due to the lack of any controlled clinical studies, coupled with the potential of health problems such as tooth fracture, exposure to bacterial or parasitic pathogens and nutritional imbalances. The risks, therefore, outweigh the potential benefits.

When considering RMB control, we must be aware of the dog's mouth shape and the likely prey it would eat in nature. Most dogs have long, thin muzzles; their natural prey would be rabbits, squirrels and birds. Their carnassial teeth are designed to cut, not crush, their food into swallowable chunks for rapid consumption. If you give a border collie a cow femur, it

will probably break its carnassial teeth. Have a look at a hyena skull and note the difference in the carnassial area.

**Duty of care**

Clearly, some products will struggle to ever provide scientific evidence of a reasonable level. After all, many of these products are not medicines in the accepted sense. The Veterinary Oral Health Council ([www.vohc.org](http://www.vohc.org)) is a not-for-profit organisation that evaluates the claims made by a manufacturer. A panel of senior academics and specialists evaluate the claims made by manufacturers and award a seal of approval if the claims are found to be valid. A list of approved products is available on the website. If a manufacturer is serious about its product, why not submit it for independent evaluation?

When considering what to stock and recommend in your practice, think carefully about the duty of care we have to our clients and their pets. Products available from a veterinary practice will inevitably carry more weight with clients than those from a pet shop or the internet.

Manufacturers know this and target practices with their products. Before you stock any such products you would be advised to read the available data and question whether the studies (if any) look valid and were made

in the target species they were intended for. Will they deal with the pathogens that are likely to be found in these species? In my opinion, in-vitro data or extrapolation from human studies is not strong enough evidence on its own.

As a final thought, you may want to consider – if the findings sound reasonable – whether you should ditch your own toothbrush in favour of ground-up yak dung sprinkled on your corn

flakes? No? I thought not. If in doubt ask your own dentist if he or she would recommend such a product for you.

We are frequently asked which toys are "safe" for dogs as badly worn teeth are a common problem. Safe toys will not damage the teeth and gums. Sometimes the problem can be so severe, the teeth are worn to the gum line. As long ago as 1998<sup>3</sup> a study showed it took

*continued on page 32*



**Top: fractured upper-right canine with chronic pulp exposure.**



**Bottom: buccal slab fracture, upper-left carnassial. Root canal file in open pulp access.**

# “I can see a real difference, I believe every dog I have put on Trocoxil<sup>®</sup> has delighted owners”



**“Bunny had a front leg amputated in a car accident as a puppy. As a result she developed arthritis in both hocks. After trying other NSAIDs without success we were considering euthanasia. We switched to Trocoxil and a weight loss diet in January, following the experience I had with my own dog. By the second dose the difference was clear - Bunny was more active than she had been since she was a puppy. I believe every dog I have put on Trocoxil has delighted owners.”**

Trish Dennison, BVetMed, CertVD, MRCVS  
Eastgate Vet Group, Bury St Edmunds



**“Bunny was obviously depressed and looking really sad and we thought we had reached the end of the road for her. It wasn't just old age slowing her down, it was the painful arthritis. We noticed the difference with Trocoxil within three weeks. Now she chases everything again.”**

Mrs Mason and Bunny  
Little Saxham, Bury St Edmunds



\*Initial therapy uses a 'Jump-Start' dosing regime where the second dose is administered 14 days after the first dose and thereafter, monthly. This thereby provides continuous pain relief within the treatment cycle (7 consecutive doses).

For further information please contact Pfizer Animal Health, Walton Oaks, Tadworth, Surrey KT20 7NS [POM-V] Pfizer Animal Health, 9 Riverwalk, National Digital Park, Citywest Business Campus, Dublin 24 [POM] Trocoxil contains mavacoxib. Use medicines responsibly ([www.noah.co.uk/responsible](http://www.noah.co.uk/responsible)).

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# DO WE HAVE A HANDLE ON TRUTH?

HANDS up those who remember the 1992 film *A Few Good Men*?

It was, what the critics like to call, a "gritty" courtroom drama. The film revolved around the trial of two US marines charged with the murder of a colleague and the tribulations of their lawyer as he prepared a case to defend his clients. Anyway, that's what *Wikipedia* says and so, as we all know, it must be right.

What's truly memorable about the film, apart from strong performances by Tom Cruise, Demi Moore and Jack Nicholson, is the iconic exchange of lines:

Cruise: "I want the truth."

Nicholson: "You can't handle the truth!"

Sterling stuff and one of the most powerful exchanges in cinema history. Yet one finds oneself wondering if these two lines might play out just as powerfully in the microcosm of our veterinary world.

## Media frenzy

There can be few practitioners who have not seen the *Panorama* veterinary exposé, read the increasingly frantic coverage in the *Daily Mail* or listened to *The Jeremy Vine Show* on BBC Radio 2 at the end of July. Many may have a familiar sense of having narrowly averted a disaster, while others may feel it didn't touch on their version of veterinary practice, and so represented little more than an uncomfortable moment for those featured. However, to believe that would be to miss the point entirely.

This is a great and proud profession that has enjoyed the affection and respect of members of the public for many years, regardless of whether they are pet owners. However,



there will be viewers who have had a disappointing experience and will associate it, at least in part, with what they saw. The programme's producers seemed to quite deliberately leave the topic dangling, so that all corporate practice was damned by association.

We may not like it, but social networks have been alive with comments exchanged between users of Facebook, Bebo, Twitter and the like, while some have joined up with people who share similar values and interests. We fool ourselves if we believe a steady succession of uncomplimentary media interest will have no effect on public opinion, and for every loyal client who rallied round his or her practice there will have been others exclaiming "I told you so!"

## Facing the truth

Isn't it time that, as a profession, we faced the truth? The real truth is that damage has been done by a few who have sullied the reputation of the many. How extensive that damage may be, we don't know, but is it healthy for our profession to just "keep calm and carry on"?

This isn't a fight for survival – yet – but it could be if more damaging material is brought forward by the media. Apart from the damaging allegations suggested in the programme, which we know

the RCVS is already investigating, what else may be out there, as yet undiscovered?

We can either fervently hope this will be the end of the open season on the profession or we can do something about it.

It was uncomfortable to note the RCVS feels it has no power

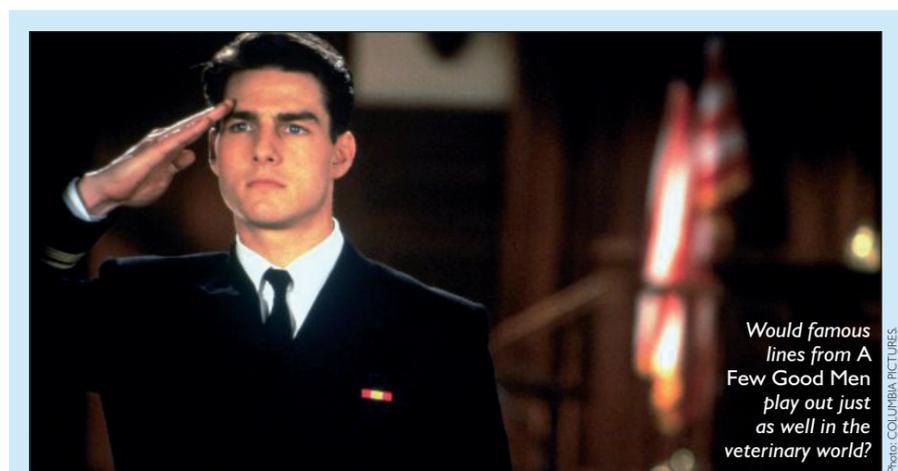
**"To assume that one company can be the scapegoat for the profession would be dangerous."**

to control groups of practices that are run by individuals who are not vets, but this is not a new problem.

In 1999, when corporate practices were allowed to trade without a veterinarian at

the helm, a working party was brought together with the aim of finding a solution to the problem of having no veterinarian with overall responsibility, or subject to the normal controls exercised by the RCVS. No workable solution was found then, and none appears to exist now – other than for the RCVS to look for a responsible vet within the practice and for us to hope the management of corporate practices will continue to trade with the same care and sense of professional responsibility in evidence today.

Of course some things go wrong and while the practices featured in the programme were a veterinary partnership and not a corporate practice, it would be even more difficult for the RCVS to control a situation where a corporate practice was involved.



Would famous lines from *A Few Good Men* play out just as well in the veterinary world?

Photo: COLUMBIA PICTURES

However, these were not criticisms that could only be levelled at corporate practice, and to assume that one company can be the scapegoat for the profession would be dangerous.

## Expectations

One imagines there are other practices in the UK where young graduates and veterinary nurses are not properly supervised. Pressures of time and expediency make many of us cut a corner here or there and, just like speeding, mostly we get away with it.

A subversive culture of disrespect and a heightened sense of one's own importance exists throughout Britain, so to see it manifested in a veterinary environment was both shocking and disappointing.

However, were the incidents in the programme isolated? The answer is we hope not, but we don't truly know.

We do know that deliberately charging for something the recipient of the bill never received is fraud. We can be fairly certain that everyone knows the difference between right and wrong, but when choices are not black and white, we have to

fall back on individual judgement, and there's a lot of space under a normal distribution curve for a range of different opinions.

We also know the public has developed a stereotypical sense of what it expects from our profession. It might be irksome to find everyone thinks all vets still wear tweed, live above the practice and drive Range Rovers. Of course some do, but not all, and neither are all vets filthy rich – another stereotypical assumption made by much of the public.

However, at the other end there are widespread assumptions that one's chosen vet will be knowledgeable, honest, hard-working, empathetic and skilful. That assumption applies just as much to new graduates as it does to older, more experienced hands and we jeopardise our own hard-won reputation if we don't properly supervise the inexperienced and those who may be less confident.

Similarly, we will sacrifice our reputation on the altar of cold, hard cash if we do not each set a rigid example of scrupulous honesty and demand that everyone in our business follows to the letter.

This is what most of our

clients still believe to be the cornerstone of our professional existence and we have, in the RCVS, our own department for quality control. How foolish would we be if we allowed the removal of the gift of policing our own behaviour, because we failed to rally round and support the RCVS in its attempts to maintain the highest standards?

How much could we come to regret allowing other channels of commerce to walk off with what should remain veterinary activities, so long as we can safeguard our ability to deliver against public expectation?

Some of the *Panorama* images were chilling in their potential to undo so much good within the profession.

What will remain worrying, long after the furore dies down, is how willing we will be to stand alongside the RCVS. If the college isn't properly equipped to maintain standards with our absolute support now, it should be assisted to become so by a profession that takes collective responsibility for defending what we know to be right against a mindless, creeping slip-slide of standards that threatens to undo us all. ■

## ORAL HEALTHCARE AT HOME: THE EVIDENCE – from page 31



Above: damage, similar to the slab fracture on page 31, caused by a hard nylon chew toy.

Left: acute fracture of lower-left canine with bleeding pulp caused by the dog catching a stone thrown by the owner.

as little as 90kg of force (kgF) to produce a buccal slab fracture of the upper carnassial tooth and expose the pulp. The distal cusp of the same tooth will fracture at 180kgF and the whole tooth will be fractured at 350kgF.

Modern texture analysis methods indicate that some

dog chews and toys (such as knotted rawhide and hard plastic chew toys) can yield extremely high peak forces in excess of those figures when penetrated by a texture probe. With some products on the market, the steel probe will break before the product is penetrated.

Clearly these findings require us to rethink what can be considered safe and what would constitute a risk. Given that many waiting-room displays are stocked with rawhide and nylon chews, it might be worth considering how you would deal with a client whose dog has fractured a tooth on a toy you

sold them? The practice must demonstrate a duty of care in this regard.

As a side note, the humble tennis ball is probably the most common cause of dental abrasion seen in this country. Tennis balls are loaded with grit; if a dog rolls a tennis ball around its mouth during two walks a day, it can wear the teeth to the gumline in a few months. Although dental abrasion is slower and less catastrophic than a single incident fracture, you can find multiple teeth with exposed pulps in many dogs.

In summary, my advice is to consider your practice's approach and advice to clients regarding homecare and dental chews very carefully.

No one wants to wrap dogs in cotton wool and deprive them of the sensory enrichment they get from chewing and oral play.

Alternatively, don't sell something to clients you know will be too hard for the teeth to stand. When it comes to oral homecare, you know what will work. Toothbrushing is cheap and very effective; use an inexpensive soft-bristle brush of the appropriate size from the supermarket and change it every two months. Finally, forget the ground-up yak dung. You know it makes sense.

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**NORMAN JOHNSTON** is an RCVS specialist in veterinary dentistry and a diplomate of both the American and European veterinary dental colleges. Working at Dental Vets in North Berwick, near Edinburgh, he is also a fellow of the Academy of Veterinary Dentistry. He is the only UK veterinary surgeon to hold these qualifications. His CV includes honorary fellowships at two UK veterinary schools. He is a charter member and past president (1991-1995) of the British Veterinary Dental Association and immediate past-president of the European Veterinary Dental College. He was awarded the Simon Award from the BSAVA in 1997.