

# HVDOS Tooth Talk

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## How To Treat Fractured Teeth

### Broken teeth break my heart!

Broken teeth are a common finding in veterinary practice. Aggressive or inappropriate chewing habits and trauma are the typical causes. Fractures are termed either *Complicated* or *Uncomplicated*. If the pulp canal of the tooth is exposed, the fracture is complicated. If only the enamel and/or dentin is fractured, it's considered an

changes in temperature, moisture/desiccation, and physical contact – all of which register as pain. Amazingly, most pets often keep going as if nothing happened (even if their teeth are bleeding). But that doesn't mean it doesn't hurt. Exposed dental pulp in humans is reported to be excruciatingly painful.

***There are 3 Options for Treating a Broken Tooth - Vital Pulp Therapy, a Root Canal, or Extraction. "Wait And See" Is Not An Option***

uncomplicated crown fracture. However, uncomplicated is a bit of a relative term. For every *square millimeter* of missing enamel, there are 5,000 exposed nerve endings in the dentinal tubules! With a complicated crown fracture, the pulp tissue is directly exposed to the oral environment. This means that the blood vessels and nerve endings are being irritated by

There are **3 options** for treatment of a broken tooth: ***Vital Pulp Therapy*** (fractured <48 hrs.), ***Root Canal Therapy*** (unknown length of pulp exposure) or **extraction**. 'Just watching' a broken tooth is never an option – clients need to know these teeth are painful and need treatment now.

## About the Author



A native of New York, Dr. Kristin Scott received her Biology degree from Cornell University and her Veterinary degree from the University of Minnesota. Dr. Scott spent the next 13 years at Red Bank Veterinary Hospital, a premier, multi-specialty referral hospital in New Jersey. She completed her residency in Veterinary Dentistry through the University of Pennsylvania while still working at Red Bank, and in 2015 became a Diplomate of the American Veterinary Dental College.

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## Which Treatment Option Is Best?

Treatment Option	When to Recommend	Pros	Cons
<b>Root Canal (RC) Therapy</b>	<ul style="list-style-type: none"> <li>Any non-vital mature tooth with no periodontal disease</li> <li>Fractured teeth that lead to jaw instability</li> <li>Fractured teeth in working or service dogs</li> <li>Ankylosed teeth</li> <li>Animals where blood loss or risk of intra-op bleeding is high</li> </ul>	<ul style="list-style-type: none"> <li>Preserves the tooth - function, jaw strength and esthetics are maintained.</li> <li>Less traumatic than an extraction.</li> <li>A metal crown can be placed to further protect this tooth</li> <li>Generally, success rate is &gt; 93% for the remainder of an animal's life</li> </ul>	<ul style="list-style-type: none"> <li>Requires postop x-rays at 6 months and yearly thereafter</li> <li>Teeth with thin walls, root fractures, root resorption, periodontal disease or malformations are not good candidates for root canal therapy</li> </ul>
<b>Vital Pulp Therapy</b>	<ul style="list-style-type: none"> <li>Freshly fractured teeth (&lt; 48hrs).</li> <li>Fracture of immature teeth with open apices or thin dentinal walls (seen on dental radiograph)</li> <li>Malocclusion with mandibular canine teeth striking the hard palate or causing trauma to other soft tissues.</li> </ul>	<ul style="list-style-type: none"> <li>Less time under anesthesia for the pet</li> <li>May keep the tooth vital for the rest of the pet's life</li> <li>May keep the tooth alive long enough to fully develop the root tip and allow for root canal therapy.</li> <li>Immediate relief for patients with malocclusion</li> </ul>	<ul style="list-style-type: none"> <li>Must be performed within 48 hours of fracture</li> <li>A root canal may be required in the long term (if the tooth eventually dies)</li> <li>Requires post-op x-rays 6 months later and then yearly to confirm vitality</li> </ul>
<b>Extraction</b>	<ul style="list-style-type: none"> <li>Any tooth with a vertical root fracture (a root canal cannot be performed)</li> <li>A luxated, traumatized, discolored tooth in any age animal that the owners do not want to save.</li> <li>Teeth affected with end stage periodontal disease that are mobile</li> </ul>	<ul style="list-style-type: none"> <li>Complication rate is generally low - however, excessive blood loss, extended periods of healing, and post-op pain can all occur.</li> <li>Generally less follow-up is required</li> </ul>	<ul style="list-style-type: none"> <li>Possible complications include: oronasal fistulas, jaw fractures, ocular trauma, retained or misplaced root tips</li> <li>Loss of the function of extracted tooth</li> <li>Inappropriate contact of the lips with remaining teeth</li> <li>Loss of jaw integrity in small breeds</li> <li>May require bone grafting</li> </ul>