

Bonded Sealants A Brief Summary

Bonded sealants are most useful for uncomplicated crown fractures, which are very common, especially in large-breed dogs. An uncomplicated crown fracture means there is damage to the crown but without exposure of the pulp cavity.

The enamel is missing at the site which exposes the dentin. Dentin is live tissue with tubules that reach all the way to the pulp cavity. Exposure of the dentin means sensitivity and pain are present and bacteria can course through the tubules to the pulp cavity and ultimately lead to abscess. The other source of abscess is the blood supply and those typically begin right at the tip of the root.

Over an extended period of time, the tooth will produce an overlying layer of dentin called tertiary dentin that is brownish in color. At that point, sealants may not be as useful. Sealant can be applied over a complicated crown fracture with pulp cavity exposure to help with the pain, but ideally, unless those are very chronic with tertiary dentin, extraction or root canal are better choices as infection always remains a risk.

Sealant can also be used on areas of abnormal or defective enamel to protect the dentin.

The composite bonded sealants serve multiple purposes:

- Reduce or eliminate pain by sealing dentin
- Decrease the risk of infection by blocking the pathway
- Decrease plaque by creating a smooth surface to reduce periodontal disease
- Decrease risk of further damage at the same site

Following the application of bonded sealants, it is important to determine what the pet has been chewing on that likely caused the crown damage and remove those items. Typical items included antlers, cow hooves, and plastic toys like Nyla bones.

Applying bonded sealants is a multi-step process treating each crown fracture individually. It involves smoothing the surface and a three-step application of products to create the seal. It may be refreshed as needed at each dental cleaning. The offending chew items should be removed to enhance the lifespan of the sealant.

Damaged teeth should be rechecked and cleaned every 9-12 months (with full mouth dental x-rays).

