

# VETERINARY TECHNICAL DATASHEET

X-Linked Ectodermal Dysplasia, (XHED) or Anhidrotic Ectodermal Dysplasia



Mutation Found In :German Shepherd Dog

## Disorder Type

- Skin

## Disease Severity

- Moderate/severe

## Background

Though this condition has been diagnosed in several breeds, the mutation responsible for XHED in German Shepherds has been identified. Clinical signs are apparent soon after birth with symmetrical hair loss pattern. The condition is inherited in an X-linked manner, so the condition is most commonly seen in male dogs.

## Key Signs

- Hair loss
- Dental abnormalities
- Lack of sweat glands

## Clinical Description

Signs of XHED include symmetrical hairlessness, missing or misshaped teeth, and lack of sweat glands. Affected dogs lack secondary hair and have no hair on their forehead or pelvis, which is apparent soon after birth. Biopsies of affected areas reveal a complete absence of hair follicles and supportive tissue. Moreover, affected dogs suffer from dental abnormalities, such as missing or misshaped teeth. Other signs of XHED include decreased tear production, chronic discharge from the eyes and nose, and a somewhat compromised immune system. XHED may also predispose affected dogs to generalized Demodex infections due to a weakened immune system.

## Mode of Inheritance

- X-linked

## Gene Name

- EDA

## Next Steps

Therapy is limited to symptomatic treatments for resulting skin infections and general supportive care. There is no cure.

## References

Casal ML, Scheidt JL, Rhodes JL, Henthorn PS, Werner P. Mutation identification in a canine model of X-linked ectodermal dysplasia. *Mamm Genome* 16(7):524-531, 2005.

Lewis JR, Reiter AM, Mauldin EA, Casal ML. Dental abnormalities associated with X-linked hypohidrotic ectodermal dysplasia in dogs. *Orthod Craniofac Res* 13(1):40-47, 2010.