

Diagnosing dermatophytosis in dogs and cats

Dermatophytosis is a disease caused by a superficial fungal infection in keratinised skin. The fungi most commonly isolated from infected dogs and cats are *Microsporum canis*, *Microsporum gypseum*, and *Trichophyton mentagrophytes* var *mentagrophytes*.

Table: Dermatophytes isolated from in dogs and cats in New Zealand

	<i>M canis</i>	<i>M gypseum</i>	<i>T mentagrophytes</i> var <i>mentagrophytes</i>
Dog	73.5%	16%	10.5%
Cat	96.5%	0.7%	2.8%

From: Dermatophytes of mammals in New Zealand. Surveillance 24(3):18-9, 1997

Diagnostic testing

There is no gold standard test for diagnosing a fungal skin infection. Rather, diagnosis is based on a combination of parameters including clinical findings, Woods lamp, microscopic examination of hair plucks and skin scrapes, culture of brush samples and PCR.

Woods Lamp

Various studies have shown that Woods lamp examination is positive in many cases of dermatophytosis. However, both false positive and false negative results may occur and are usually a result of insufficient sampling, inadequate equipment and/or poor technique.

Direct examination of hair and skin scrapings

The combination of hair pluck and skin scraping of alopecic, scaly areas using mineral oil is more sensitive than either technique alone, and is positive in over 80% of cases. The use of KOH does not improve visualisation of fungal elements when compared to mineral oil. Note that spores can be difficult to find on darkly coloured hairs.

PCR

Positive identification by PCR doesn't necessarily indicate infection because dead organisms following treatment and non-infected fomite carriers can produce positive results. Negative results can occur if the sample size is inadequate.

Currently SVS Laboratories has PCR only for *Microsporum canis*

Culture

Culture can produce both false positive and false negative results. Insufficient sample size or inadequate infected material can produce false negative results with this being relatively common in hair pluck samples. False positive results can occur in uninfected animals carrying spores on their coat.

Reference: Diagnosis and treatment of dermatophytosis in dogs and cats: clinical consensus guidelines of the world association for veterinary dermatology. KA Moriello, K Coyner, S Paterson, B Mignon. Veterinary Dermatology 28:3;266-8, 2017. Access to the full article: doi.org/10.1111/vde.12440