

Trichophyton mentagrophytes Fact Sheet

Trichophyton mentagrophytes is a species of fungus that is a communicable pathogen; it affects both animals and humans alike. *T. mentagrophytes* are found in a variety of environments, and infections can take several forms.

General Information

Mycology

Trichophyton is known as a dermatophyte; part of a group of three genera of fungi that cause skin disease in people and animals. In many parts of the world *Trichophyton mentagrophytes* is isolated most frequently. *T. mentagrophytes* is typically found in moist, carbon-rich environments. It is characterized by flat suede-like colonies with a white to cream color and distinctive odor. The color on the underside of the colonies is usually a yellow to reddish brown color. The granular colony form typically has a powdery appearance due to the large amount of microconidia (spores) formed. The macroconidia are smooth, cigar shaped and thin walled with 4-5 cells separated by parallel cross-walls. In comparison to other fungi *T. mentagrophytes* grows fairly rapidly.

Epidemiology of transmission

Although ecological and host factors are poorly known, known risk factors include foot dampness and abrasion combined with exposure to high fungal inoculums in communal aquatic facilities, such as swimming pools and showers. Exchange of clothing, towels, and linen, either directly or via substandard communal laundering, is another recognized risk which may lead to outbreaks.

T. mentagrophytes is zoonotic, it can be spread from animals to humans through direct contact and is typically seen with ring worm infections.

Clinical manifestations

T. mentagrophytes can cause a series of infections that affect the feet, face and body. The most well known infection is tinea pedis more commonly known as 'athlete's foot'. Infection typically affects areas of the body where one area of skin meets another area, for example between toes and the underarms. The appearance of infected areas will have peeling, maceration (wrinkling of the skin due to excess moisture) and breaking of the skin. Another manifestation, 'moccasin foot' is characterized by silvery scales that cover the soles, heels and sides of the foot. *T. mentagrophytes* is also the most frequent cause of an acute inflammatory condition distinguished by pustule, blister and vesicle formation. In animals, *T. mentagrophytes* infection can manifest as ringworm; an inflamed ring with flakey or crusting skin with or without hair loss.

Basic Prevention

Various measures can be followed to minimize or eliminate fungal growth indoors. Once a fungal problem has been identified it should be remedied as soon as possible. The following are steps to prevent fungal growth:

- Reduce excess moisture in the air by using a dehumidifier, installing fans, confining indoor plants to one area or moving them outdoors
- Improve ventilation by opening windows where possible
- Vapour barriers and good insulation of walls, windows and doorways can prevent the accumulation of excess moisture
- Prompt clean up after flooding or large spills
- Porous materials (e.g. paper, cardboard and drywall) that are water damaged or contaminated with fungi should be treated or disposed of where possible



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Infection Prevention and Control Measures

Healthcare Prevention Measures

Routine / Standard Precautions are sufficient preventative measures to follow when providing care to patients or animals who are suspected or confirmed to have *T. mentagrophytes* infection.

- Use PPE barriers (such as gloves) when anticipating contact with infected skin
- Immediately wash hands and other skin surfaces after contact
- Gloves should be worn when handling potentially infectious specimens, cultures or tissues; laboratory coats, gowns or suitable protective clothing should be worn

Environmental control measures

Hospital-grade cleaning and disinfecting agents with fungicidal claims are sufficient for environmental cleaning. All horizontal and frequently touched surfaces should be cleaned daily and when soiled by wiping with a damp cloth to avoid dispersal of dust. The healthcare organization's terminal cleaning protocol for cleaning of patient rooms following discharge or transfer should be followed. Patient care areas closest to construction zones may need to increase the frequency of cleaning to prevent dust accumulation. All patient care equipment should be cleaned and disinfected as per Routine / Standard Practices before reuse with another patient or a single use device should be used and discarded in a waste receptacle after use. For animals, clean and disinfect all bedding and toys with an effective fungicidal disinfectant. Dispose of any items that cannot be disinfected and vacuum frequently to rid the environment of infected hair and skin cells.

References:

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