DERMATOPHYTE PCR PANEL

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Dermatophyte infections are caused by various fungi that can infect the skin, hair, and nails.

There are several factors that can increase the risk of developing a dermatophyte infection, including:

1. Contact with infected skin or hair: dermatophytes can be transmitted from person to person or from animals to humans through direct contact with infected skin or hair.
2. Contact with contaminated objects: fungi can survive for long periods on objects like towels, clothing, and shoes.
3. Spending time in warm and humid environments such as locker rooms, swimming pools and communal showers.
4. A weakened immune system: people with weakened immune systems, such as those with HIV/AIDS, cancer, or diabetes, are more susceptible.
5. Extremities of age: children and the elderly are more likely to develop dermatophyte infections due to their weaker immune systems and increased susceptibility to skin damage.
6. Pre-existing skin conditions such as eczema, psoriasis, or acne.
7. Genetics: certain genetic factors may increase a person's susceptibility.

These infections are often difficult to diagnose as the clinical presentation is variable and is not always consistent with the type of dermatophyte causing the infection. Confirmation of the diagnosis is useful as the treatment duration is lengthy, and treatment options vary depending on the type and site of infection. Fungal culture, however, can take weeks to yield a result.

Molecular testing using polymerase chain reaction (PCR) has several advantages over culture for the identification of dermatophytes:

1. **Increased sensitivity:** PCR testing can detect even small amounts of fungal DNA in a sample, which means it can be more sensitive than fungal culture. This is particularly important for cases where the fungal infection is in its early stages or is difficult to detect.
2. **Faster results:** PCR testing can provide results within a day, whereas traditional methods may take several days or even weeks. This means that patients can receive a diagnosis and start treatment more quickly.
3. **Improved specificity:** PCR testing is highly specific, meaning it can distinguish between different types of fungi and accurately identify the causative agent of the infection. This is important because different types of dermatomycoses may require different treatments.
4. **Non-invasive:** PCR testing only requires a small sample of skin or nail tissue, making it a less invasive and more patient-friendly option compared to traditional methods that may require larger samples or even skin biopsies.
5. **Reduced risk of contamination:** PCR testing is less susceptible to contamination compared to fungal cultures, which can be affected by environmental factors such as temperature, humidity, and other microorganisms. This reduces the risk of false-positive results.

Overall, PCR testing is a valuable tool for the diagnosis of dermatomycoses, offering increased sensitivity, accuracy, speed, and patient comfort compared to traditional methods.

The **Dermatophyte PCR Panel** offered by Lancet Laboratories detects the following fungi:

- *Candida albicans*
- *Trichophyton mentagrophytes*
- *Trichophyton interdigitale*
- *Trichophyton rubrum/soudanense*
- *Trichophyton tonsurans*
- *Trichophyton violaceum*
- *Microsporum canis*
- *Microsporum audouinii*
- *Epidermophyton floccosum*
- *Trichophyton benhamiae*
- *Trichophyton verrucosum*

Sample types: nail clippings, skin scrapings, hair, tissue biopsy
Turnaround time: batched weekly

References

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