



## DIFFERENTIAL DIAGNOSIS TO DERMATOPHYTIC INFECTIONS

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Dermatophytes are a group of fungus of Arthrodermataceae that causes skin diseases in animals and humans. These anamorphic mold genera are Microsporum, Epidermophyton and Trichophyton. There are about 40 species in these genera<sup>[1]</sup>.

Dermatophytes are homogenous clade of keratinophilic filamentous fungi that are present on stratum corneum of the skin, hair and nails.

Dermatophytosis is the term refers to the infection caused by dermatophytes<sup>[2]</sup>.

### TYPES OF DERMATOPHYTOSIS WITH THEIR DIFFERENTIAL DIAGNOSIS

DERMATOPHYTOSIS	DIFFERENTIAL DIAGNOSIS
<p><b>Tinea capitis</b> also known as “Tinea favosa” or “Herpes tonsurans”.</p> <p><i>Site of infection</i> Head, scalp, eyebrows and eyelashes</p> <p><i>Causative agent</i> T. tonsurans<sup>[3]</sup>.</p>	<p><b>Seborrhic dermatitis</b></p> <p>Red scaly rash classically affects the scalp. Patchy scaling to widespread, thick, adherent crusts. <i>Branny or greasy</i> scaling over red inflamed skin<sup>[5]</sup>.</p> <p><i>Investigation</i> – biopsy</p> <p><b>Alopecia areata</b> The differentiating feature between alopecia and tinea capitis is in alopecia areata, the <i>exclamation mark</i> is seen in trichoscopy and hairs remain in centre in patches<sup>[5]</sup>.</p>
<p><b>Tinea corporis</b> also known as “Tinea circinata” and “Tinea glabrosa”.</p> <p><i>Site of infection</i> Glabrous skin</p> <p><i>Causative agent</i> T. rubrum, T. tonsurans<sup>[3]</sup>.</p> <p>It causes superficial fungal infection on</p>	<p><b>Pityriasis rosea</b></p> <p><i>Herald patch</i> followed by rash, plaques are oval or round in shape with trailing scale eruption lines on the skin folds giving a “fir tree” like appearance.</p>

<p>glabrous skin of the body such as arms, legs, abdomen and back. There is slow extension of a mild barely inflamed rash<sup>[4]</sup>.</p>	<p><i>Investigation</i> is done on the basis of visual examination<sup>[5]</sup>. <b>Tinea versicolor</b> Hyper or hypo pigmented scaly patches on the trunk. <i>Investigation</i> – On KOH preparation “<i>spaghetti and meatballs</i>” are seen. Histologic findings include Hyphae and budding yeast in stratum corneum<sup>[5]</sup>. <b>Nummulae eczema disc</b> also known as Discoid eczema Edge of lesion is border, more vesicular and more vivid in color. Coin shaped lesions. <i>Investigation</i> is done on the basis of visual exam and skin biopsy<sup>[5]</sup>. <b>Necrobiotic papulosis or Granuloma annulare</b> It is a non contagious skin infection which causes raised rash in a ring pattern. Diagnosis is done by history taking of: Recent injury on skin, medications, vaccination, have diagnosed with any disease such as diabetes. <i>Investigation</i> – Skin biopsy<sup>[6]</sup>.</p>
<p><b>Tinea cruris</b> also known as “Jock itch”. <i>Site of infection</i> Groin and perenium <i>Causative agent</i> T. rubrum, E. floccosum<sup>[3]</sup>. The infection results in itching, red with flaking skin<sup>[4]</sup>.</p>	<p><b>Psoriasis</b> Lesions are sharply demarcated with erythematous <i>silvery thick plaques and scales</i>. <i>Investigation</i> – Punch biopsy<sup>[5]</sup>. <b>Intertrigo</b> Rash between the skin folds due to heat and lack of air circulation. Red or reddish-brown rash; Raw, itchy or oozing skin; Foul order; Cracked or crusty skin. <i>Investigation</i> is done on the basis of visual examination<sup>[7]</sup>.</p>
<p><b>Tinea faciei</b> <i>Site of infection</i> Face <i>Causative agent</i> T. rubrum, T. tonsurans<sup>[3]</sup>. It results with a red rash on the face, followed by patches of small red protuberance<sup>[4]</sup>.</p>	<p><b>Erythema</b> Skin patches are uniformly brown with no active edge. On fluoresce it gives a <i>coral red color</i>. <i>Investigation</i> – Patch test grading<sup>[5]</sup>. <b>Candidiasis</b> Inflamed papules and plaques with <i>satellite pustules</i>. <i>Investigation</i> – Skin biopsy Pseudohyphae is seen on KOH preparation<sup>[5]</sup>. <b>Discoid lupus erythematosus (DLE)</b> Red inflamed patch with a scaling and crusty appearance favoring the face, ears, and scalp. <i>Investigation</i> – is done by skin biopsy<sup>[8]</sup>.</p>
<p><b>Tinea barbae</b> also known as “Barber’s itch”. <i>Site of infection</i> Beard <i>Causative agent</i> T. rubrum, M. canis<sup>[3]</sup>. The transmission of tinea barbae is more often</p>	<p><b>Pseudofolliculitis barbae</b> It is also known as Sycosis barbae is characterized by papules, pustules and post-inflammatory hyperpigmentation<sup>[9]</sup>.</p>

<p>from animal-to-human than human-to-human<sup>[4]</sup>.</p>	
<p><b>Tinea manuum</b> also known as “Tinea manus”.  <i>Site of infection</i> Hands  <i>Causative agent</i> T. rubrum, T. mentagrophytes<sup>[3]</sup>.  The observed symptoms in tinea manuum are itching, burning, cracking and scaling<sup>[4]</sup>.</p>	<p><b>Irritant contact dermatitis</b> Contact dermatitis is an allergic or irritant reaction that causes a painful or itchy skin rash. It is represented as red, swollen, burning, itchy, flaky and painful<sup>[10]</sup>.  <b>Dyshidrotic eczema</b> Itchy blisters develop on the palm.  <i>Investigation</i> – Skin biopsy<sup>[11]</sup>.</p>
<p><b>Tinea unguium</b> also known as <b>Onychomycosis</b>  <i>Site of infection</i> Nails  <i>Causative agent</i> T. rubrum, T. verrucosum, T. mentagrophytes<sup>[3]</sup>.  Typical signs of onychomycosis include white or yellow nail discolouration, thickening of the nail and separation of the nail from the nail bed<sup>[4]</sup>.</p>	<p><b>Pachyonychia congenital</b> It is a rare genetic skin disorder. It is caused by mutation in one of the five keratin gene KRT6A, KRT6B, KRT6C, KRT16 or KRT17.  It represent as thickened nails, painful calluses and blisters and deep itch<sup>[12]</sup>.  <b>Lichen planus</b> an autoimmune skin rash. Purplish-coloured lesions with flat tops. Itchy blisters which burst and become scabby. Thin white lines over the rash.  <i>Investigationis</i> done by visual examination and skin biopsy<sup>[13]</sup>.</p>
<p><b>Tinea pedis</b> also known as “Athlete’s foot”.  <i>Site of infection</i> Feet  <i>Causative agent</i> T. rubrum, T. mentagrophytes<sup>[3]</sup>.  It mainly affects the interdigital space between fourth and fifth digits<sup>[4]</sup>.</p>	<p><b>Pompholyx</b> also known as dyshidrotic eczema that develops blisters across toes soles and feet  <i>Investigation</i> – Skin biopsy<sup>[14]</sup>.  <b>Palmoplantar pustulosis (PPP)</b> rare recurrent inflammatory disorder with small to large sterile blisters filled with a yellow turbid liquid. Painful and burning pustules.  <i>Investigation</i> – Skin biopsy<sup>[15]</sup>.</p>

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