

Dermatophytes - Cutaneous Mycoses

	Growth	Macroscopic	Macroconidia	Microconidia	Hyphae	Infection
Microsporum audouinii	slow - poor growth on sterile polished rice grains	matted to velvety, light tan - salmon reverse	rare irregular - thick, rough walls w/2-9 cells	rare club-shaped - single celled	racquet hyphae, nodular bodies; terminal pointed vesicles - resemble chlamydoconidia	Tinea corporis - children's epidemics of tinea capitis
Microsporum canis	moderate - 1 week	wooly w/buff to brown center & yellow periphery - bright yellow to yellow-orange reverse	numerous - rough, thick walled, spindle shaped, 6-15 cells	few, single, club shaped	racquet hyphae, nodular bodies & chlamydoconidia	dermatophytosis of body & scalp - infected hairs fluoresce; source - cats & dogs
Microsporum gypseum	moderate - 1 week	powdery, buff to cinnamon w/tan reverse	numerous - rough, thin walled, elliptical, 4-6 cells	few, single, club shaped		inflammatory tinea corporis & tinea capitis; contact w/ contaminated soil
Epidermophyton floccosum	moderate - 10 days	velvety, khaki-yellow w/tan reverse	numerous - club shaped, smooth, thin walled, singly or in clusters, 2-4 cells	NONE	racquet hyphae, spiral hyphae, nodular bodies & chlamydoconidia	epidemic dermatophytosis - tinea pedis (athlete's foot); dermatophytosis of nails & groin

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Trichophyton mentagrophytes	moderate - 7-10 days	fluffy white w/colorless to yellow reverse OR granular, buff to rose-tan w/brown, red or yellow reverse	fluffy forms - rare; granular forms - numerous, smooth, thin walled, pencil shaped, 5-8 cells	few to numerous - round in grape like clusters		dermatophytosis of foot, body, nails, beard & scalp; Tinea pedis - most common cause of athlete's foot; ectothrix	T. rubrum - no red pigment on PDA or corn meal, urea + in 2-4 days, perforates autoclaved hair in vitro
Trichophyton rubrum	slow - 2 weeks	granular or fluffy white w/pink periphery & deep red reverse	few to numerous - smooth walled, pencil shaped, 3-8 cells	numerous - club shaped, singly along hyphae	chlamydoconidia, racquet hyphae, nodular bodies	dermatophytosis of body, foot, groin & nails; ectothrix	mentagrophytes - deep red pigment on PDA or CMA, urea - in 7 days, does not perforate autoclaved hair
Trichophyton verrucosum	slow - 2 weeks; require thiamine & sometimes inositol	enriched agar @ 37C - heaped, waxy, white to bright yellow; yellow or nonpigmented reverse	in thiamine-enriched media - rare, 3-5 cells w/ret tail end	in thiamine-enriched media - moderate, club shaped, borne on hyphae	SABHI- only chlamydoconidia in chains	ectothrix, dermatophytosis of scalp, beard & body; contact w/cattle	
Trichophyton schoenleinii	slow - 2-3 weeks	waxy, heaped, buff to yellow, colorless to yellow reverse	rare	on rice grains	favic chandeliers, chlamydoconidia & hyphal swellings	endothrix, favus - severe tinea capitis	
Trichophyton tonsurans	1-2 weeks	gray-white suede w/mahogany reverse; granular white front w/colorless reverse; bright yellow, granular to suede, rugose w/yellow reverse	rare - smooth walled, club shaped or aborted	numerous - variable size & shape	chlamydoconidia & racquet hyphae	over 90% of cases of tinea capitis in US, epidemic in black school-aged children, black dot tinea capitis - hair broken at shaft; endothrix	from T. mentagrophytes - urea + after 4 days, no in vitro hair perforation, grows better in presence of thiamine

Trichophyton violaceum	2-3 weeks	waxy or suede, violet, heaped w/lavender reverse	NONE		chlamydoconidia in chains & hyphal swelling (requires thiamine)	endothrix, dermatophytosis of scalp & body, rarely foot, nails & deep infections	
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