

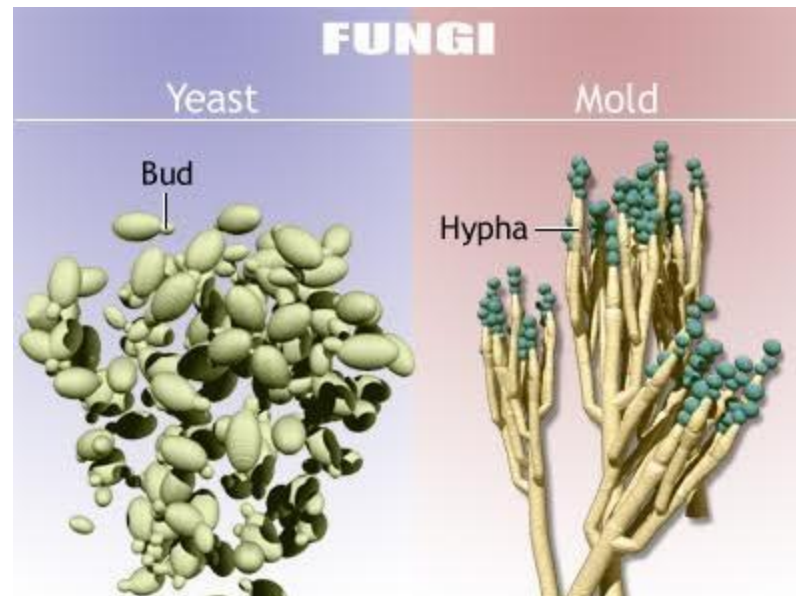
# ANTI-FUNGAL AGENTS

A detailed microscopic image of a fungal structure, likely a hypha, showing a dense array of small, spherical spores or conidia. The spores are arranged in a regular, repeating pattern along the length of the hypha. The overall color palette is a mix of light blue, teal, and purple, giving it a scientific and somewhat ethereal appearance.

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# FUNGI

- Fungi are neither plants nor animals, and are classified as their own kingdom.
- Fungi grow either as yeasts (single round cells) or as molds (many cells forming long, thin threads called hyphae).



# FUNGAL DISEASES

- Fungal infections are often caused by fungi present in the environment. Most fungi are not dangerous, but some of them can be harmful.
- Fungal spores are present in the air or in soil, thus fungal infections begin mostly in the lungs or on the skin.
- These infections progress slowly and are not serious, unless they weaken the immune system.
- Disease caused by any fungus is known as mycosis.

# SUPERFICIAL FUNGAL INFECTIONS

Superficial fungal infections affect your nails, skin and mucous membranes (like your mouth, throat or vagina). Examples of superficial fungal infections include:

- **Ringworm (dermatophytosis):** A group of fungi that live off of skin, hair and nail cells (dermatophytes) cause ringworm. They can infect your feet (tinea pedis/athlete's foot), your groin and inner thighs (tinea cruris/jock itch), your scalp (tinea capitis), your hands (tinea manuum), your facial hair and skin around it (tinea barbae) and other parts of your body (tinea corporis).
- **Candidiasis:** *Candida* causes skin and mucous membrane (mucocutaneous) infections called candidiasis. These include oral thrush, some types of diaper rash, vaginal yeast infections (vulvovaginitis), esophageal candidiasis and candidal intertrigo.

# SUBCUTANEOUS FUNGAL INFECTIONS

Fungal infection under the surface of your skin (subcutaneous) if fungus gets into a cut or wound, usually through injury while working with plants (like a scratch from a thorn). They cause rashes, ulcers and other symptoms on your skin.

- **Chromoblastomycosis:** Many different fungi can cause chromoblastomycosis. It can cause a long-lasting (chronic) skin infections. Rarely, it spreads to other parts of your body.
- **Sporotrichosis (rose gardener's disease):** *Sporothrix* fungus causes sporotrichosis. You can also get sporotrichosis in your lungs or other parts of your body.

# DEEP FUNGAL INFECTIONS

Deep fungal infections are found in places in your body other than your skin, like your lungs, blood, urinary tract or brain.

- **Histoplasmosis:** *Histoplasma*, the fungus that causes histoplasmosis, can infect your lungs, brain or other parts of your body.
- **Coccidioidomycosis (Valley fever):** Caused by the fungus *Coccidioides*, coccidioidomycosis can infect your lungs and, rarely, move to other parts of your body.
- **Blastomycosis:** *Blastomyces*, the fungus that causes blastomycosis, commonly infects your bones, skin and lungs. Rarely, it can also infect brain and spinal cord.
- **Aspergillosis:** *Aspergillus*, the mold that causes aspergillosis, can cause several types of lung infections, including allergic bronchopulmonary aspergillosis (ABPA) and chronic pulmonary aspergillosis. It can also infect other parts of your body or form a fungus ball (aspergilloma).

# CLASSIFICATION

## Antibiotics

- Amphotericin B
- Griseofulvin

## Antimetabolites

- Flucytosine

## Azoles

- Miconazole
- Fluconazole
- Itraconazole

## Allylamine

- Terbinafine
- Butenafine

## Other topical agents

- Naftifine
- Tolnaftate

DRUGS	USES	STORAGE CONDITION	PHARMACEUTICAL FORMULATIONS	BRAND NAMES
<p><b>Amphotericin B</b> Polyene antibiotic</p>	<ul style="list-style-type: none"> <li>•Broad spectrum antifungal activity.</li> <li>•Effective against severe systemic mycotic infections including candidiasis, blastomycosis, aspergillosis, phycomycosis, sporotrichosis, etc.</li> <li>•Treatment of mucocutaneous leishmaniasis and candidiasis.</li> </ul>	<p>Store in tightly closed, light-resistant containers at a temperature of 2 to 10°C</p>	<ul style="list-style-type: none"> <li>•Cream</li> <li>•Lotion</li> <li>•Lozenges</li> <li>•Ointment</li> <li>•Mixture</li> <li>•Powder for injection</li> </ul>	<ul style="list-style-type: none"> <li>•Ambisome</li> <li>•Amphotec</li> <li>•Fungizone</li> </ul>



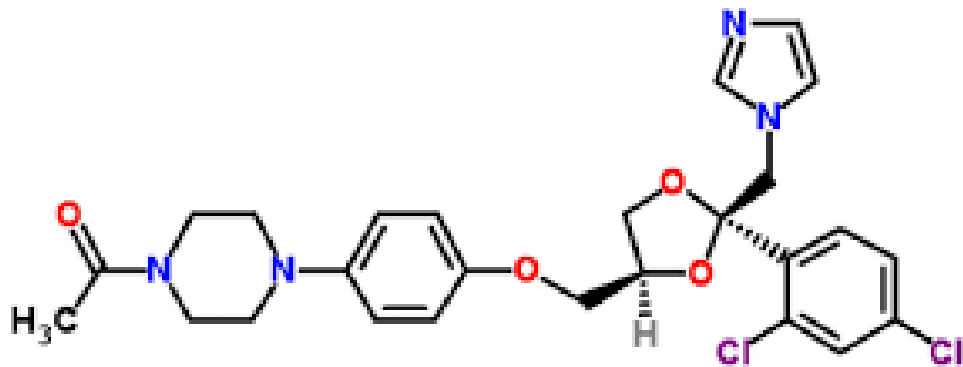
DRUGS	USES	STORAGE CONDITION	PHARMACEUTICAL FORMULATIONS	BRAND NAMES
<p><b>Griseofulvin</b> Heterocyclic antibiotic</p>	<ul style="list-style-type: none"> <li>•Act against a wide range of dermatophytoses.</li> <li>•Treating ringworm infections of hair, skin and nails.</li> <li>•Treat infections caused by ringworms, trichophyton spp. and microsporum spp.</li> </ul>	<p>Store in tightly closed containers.</p>	<ul style="list-style-type: none"> <li>•Tablet</li> <li>•Capsule</li> <li>•Suspension</li> </ul>	<ul style="list-style-type: none"> <li>•Grifulvin V</li> <li>•Griseofulcin</li> <li>•Grisovin</li> </ul>

DRUGS	USES	STORAGE CONDITION	PHARMACEUTICAL FORMULATIONS	BRAND NAMES
<p><b>Miconazole</b> Imidazole derivative Topical agent</p>	<ul style="list-style-type: none"> <li>•Treatment of tinea pedis (athlete's foot), tinea cruris and tinea corporis.</li> <li>•Treatment of cutaneous candidiasis.</li> </ul>	<p>Store protected from light and moisture.</p>	<ul style="list-style-type: none"> <li>•Tincture</li> <li>•Spray</li> <li>•Cream</li> <li>•Gel</li> <li>•Ointment</li> <li>•Pessaries</li> <li>•Dusting powder</li> </ul>	<ul style="list-style-type: none"> <li>•Micatin</li> <li>•Mitrazol</li> <li>•Zole</li> </ul>
<p><b>Ketoconazole</b> Imidazole derivative</p>	<p>Treatment of various systemic fungal infections like candidiasis, oral thrush, blastomycosis, coccidioidomycosis, histoplasmosis, chromomycosis, etc.</p>	<p>Store in well closed container, protected from light.</p>	<ul style="list-style-type: none"> <li>•Tablet</li> <li>•Cream</li> <li>•Shampoo</li> <li>•Ointment</li> <li>•Lotion</li> <li>•Gel</li> <li>•Foam</li> </ul>	<ul style="list-style-type: none"> <li>•Ketovate</li> <li>•Nizral</li> </ul>

DRUGS	USES	STORAGE CONDITION	PHARMACEUTICAL FORMULATIONS	BRAND NAMES
<p><b>Itraconazole</b> Triazole derivative Systemic agent</p>	<p>Treatment of various systemic fungal infections like candidiasis, blastomycosis, histoplasmosis in immunocompromised and non-immunocompromised patients.</p>	<p>Store in well closed container, protected from light and moisture.</p>	<ul style="list-style-type: none"> <li>•Capsule</li> <li>•Solution</li> <li>•Injection</li> </ul>	<ul style="list-style-type: none"> <li>•Sporanox</li> <li>•Itaspor</li> </ul>
<p><b>Fluconazole</b> Triazole derivative Systemic agent</p>	<p>Treatment and prophylaxis of deep organ candidiasis. As eye drop in fungal keratitis.</p>	<p>Store in well closed container.</p>	<ul style="list-style-type: none"> <li>•Capsule</li> <li>•Oral suspension</li> <li>•Tablet</li> <li>•Eye drop</li> </ul>	<ul style="list-style-type: none"> <li>•Fluzon</li> <li>•Fluconeo</li> <li>•Fluconazole omega</li> </ul>

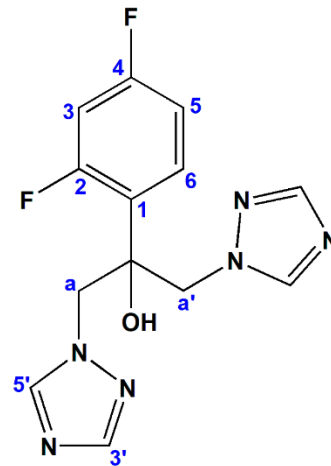
DRUGS	USES	STORAGE CONDITIONS	PHARMACEUTICAL FORMULATIONS	BRAND NAMES
<b>Naftifine</b> Topical antifungal agent	Topical treatment of tinea pedis (athlete's foot), tinea cruris and tinea corporis.	Store in well closed container.	<ul style="list-style-type: none"> <li>•Cream</li> <li>•Gel</li> </ul>	<ul style="list-style-type: none"> <li>•Naftifine and Naftin</li> <li>•Tinadern</li> </ul>

### KETOCONAZOLE



1-[4-(4-{{[(2-(2,4-Dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy}phenyl)-1-piperazinyl]ethanone

### FLUCONAZOLE



2-(2,4-Difluorophenyl)-1,3-bis(1H-1,2,4-triazol-1-yl)propan-2-ol

THANK YOU!