

## Oral Fungal Infections

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Oral candidiasis manifestation is raised or bumps, creamy white, sore patches in your cheeks, tongue and floor of mouth as well, sometimes involve lips too. Oral candidiasis also known as oral thrush, the main causative agent is *Candida albicans* and appeared like growth of fungus. It affect oral mucosa whenever a yeast infection starts, you can also name it like oropharyngeal candidiasis, oral thrush, and candidiasis.

Research shows that oral thrush frequently found in newborn, infants, including toddlers. Its appearance on the cheek and tongue surface is, as a white or yellowish bumps. This infection is most of the time is mild but sometimes it may cause serious illness, the serious conditions observed in immune compromised patients and may leave damaging complications in the body. Our body is hub of microbes and fungi especially oral cavity and Gastrointestinal tract, *Candida albicans* is one of them active member. Its favorite site to live is oral cavity, Intestine, and human skin. As we mention earlier that all microbes and fungi always present in our body with in a certain normal level, within the normal level they will not create problem, but when due to some under lying causative agent or initiators, the number of *albicans* exceed from the normal level, produce infection. Researchers found that this is the most common fungus infection in the human body. Healthy body have tendency to keep all microbes including *Candida* level under control. Most of scientist believe that the fungus (especially white) infection frequently occurs in high sugar level patents, those who are taking high doses of steroids, immunocompromised patients and now a days one more life-threatening virus known as COVID-19. These condition leads to over production of *Candida*.

### White fungus (aspergillosis)

Symptoms are mild to moderate cough, high or low fever, stomach upset or diarrhea, occasionally dark spots on lungs, difficulty in breathing due to reduced oxygen level, Grey or white patches in oral mucosa, skin manifestation in the form of lesions. The white fungus usually spread inside the body anywhere but mainly found in surfaces of the tongue, skin, genitals, brain, digestive tract and kidneys.

There are also some more factors which play a part of over growth of causative agent like, high doses of Antibiotics, taking high sugar and carbohydrates, large quantity of Alcohol intake, oral contraceptive pills, stress, tiredness and fatigue, nutritional deficiencies, reoccurring UTI and genital infections, bad personal hygiene, patients having bone disease (sometimes *Candida* infection enters into the blood-stream and travels through your body, and creative joints and bone illness like arthritis). Some panel of doctors also believe that white fungus is not affect to the COVID-19 patients but this disease can grab lake of immunity patients especially aged people, the patient having already cancer and who are under chemotherapy treatment, HIV +ve Patients and also high sugar level patients.

Different location of White fungus manifest different type of symptoms, here we are going to mentioned symptoms only, the physician must figure out the affected organ, those are difficulty in eating and swallowing food, headache and nausea, white patches on skin, white

tongue surface, diarrhea, hypoxia (low oxygen saturation levels in the body) even after recovery from COVID-19, doctors found these symptoms. As a precautionary measure in COVID-19 patients we must think about needless use of steroids, secondly one should take strict action to control high sugar level, follow all preventive measures including use of mask hand, sanitizing, social distancing, and all medicine prescribed by your doctor.

### **Black fungus or (Mucor mycosis)**

Black fungus (Mucor mycosis) is a life-threatening illness, frequently seen in COVID-19 patients and those who recovered recently. The causative agent is mucoromycetes one of fungi family found in the environment. Mode of action of this fungus is blood vessels, it surrounds the blood vessels and damage them which result as a necrosis of tissue (once blood supply is disturbed, the body parts will be unable to receive adequate amount of oxygen which results death of body tissue) and some cases end up with patient's death.

There are some specific symptoms of Black fungus like, Difficulty is breathing due to nasal blockage, Bleeding from anywhere of the body, Runny nose (discharge), Mayo-Facial pain, Inflammation (Swelling), Some parts of the body may not receive order from the CNS system due to numbness, Impaired or blurred of vision, Teary eyes, or discharge of water from eyes.

### **Protection?**

If the patient is in the hospital must maintain good personal and oral hygiene and the environment must be healthy and clean. Continuous use of mouthwash, better use provide iodine. Be careful while using of humidification equipment, use only sterile water, while administering oxygen, the leakage from the humidifier will create problem so be careful again. Avoid steroids usage or minimal or if possible, taper the dose, blood glucose control should be monitored carefully because high sugar will work as an initiator. Avoid unnecessary use of broad- spectrum antibiotics or antifungals because doctors found more growth of unwanted bacteria or organisms in the body which may be again difficult to control.

### **If someone have active COVID-19**

Always be sure that your surroundings are clean and free from dust and dampness and any unnecessary stuff which cannot clean easily, or it absorb, or store dust should be removed or need to maintain it. Be careful about your oral hygiene, and do not forget to maintain nasal hygiene as well. Avoid unnecessary going outside, keep yourself fresh by doing regular exercise, intake plenty of water and fresh juices. Be away from under construction places, dusty area, and grounds with too much garbage. For fresh oxygen keep water plant in your room rather than soil plant to avoid fungus growth. For extra care use gloves, masks to keep yourself and other safe, clean all room surfaces with antimicrobial solutions twice a day. Change your cloth at least daily. Follow doctor's instruction strictly.

### **Prevention by food or home remedy**

Aloe vera in the form of raw gel reduce growth of *Candida*, it has been observed that it is more effective in the oral cavity infection.

Garlic contains an antifungal substance called allicin, which has been shown to act as an antifungal action.

Coconut oil it contains high quantity of lauric acid, and it is good resistor of fungal growth. Curcumin sometimes it works as a killer of *Candida*, in some mild cases it inhibits fungal growth that makes weak candida's to stay and survive for long time.

Probiotics more effective is *Lactobacillus* against fungal growth.

**Oral thrush (most common)**

Oral manifestation is in the form of white, sometimes yellow raised patches on the inner surfaces of cheeks, gums, lips, tongue, tonsils, bleeding while any scrap or eating food, there will be soreness or burning and itching in the affected area, patients always complain that having cotton in the mouth, less production of saliva which leads dry mouth or Xerostomia, if there is dry mouth definitely it produce difficulty in swallowing and mastication process, patients feel always some secretion in the mouth which smells bad.

**Diagnosis**

Physician or Dentist will diagnose oral thrush when he examines your oral cavity. In some sever cases, Dentist may take a biopsy for lab investigation for diagnosis purpose. Other investigation methods are cotton swab and endoscopy.

**Treatment for oral thrush**

Anti-fungal oral medicine known as Fluconazole (Diflucan). Clotrimazole (Mycelex Troche) coming in the form of lozenges. Antifungal mouth wash known as Nystatin (Nystop).

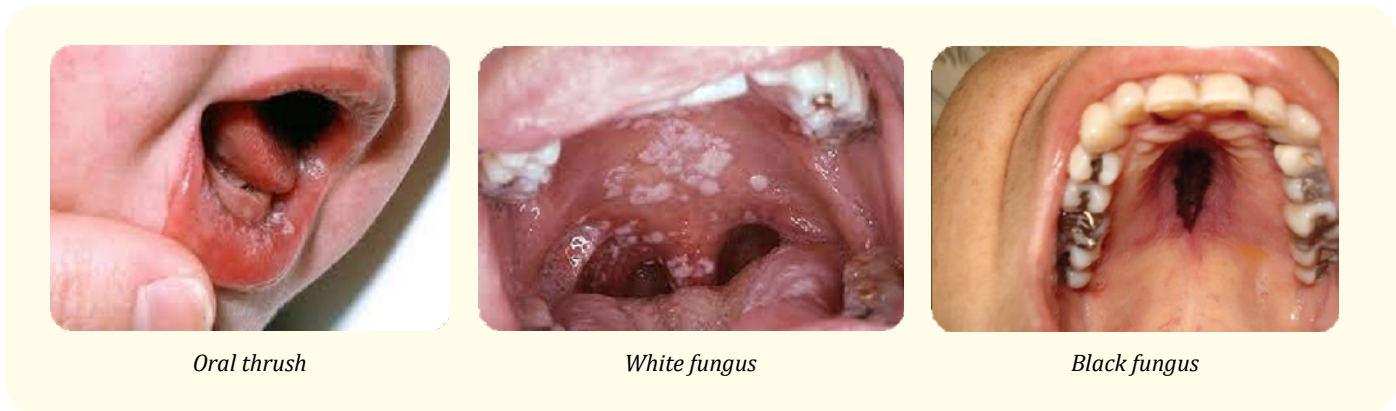
For more sever and complicated cases like HIV patients Itraconazole (Sporanox), an oral antifungal medication.

In the profoundly serious and sever cases Amphotericin B (Ambisome, Fungizone) is remarkably effective.

After treatment usually infection vanished. But there is always recurrency chances also.

**Conclusion**

Oral thrush appears when a yeast infection develops or oral candidiasis occurs, Oral thrush mostly seen in infants and toddlers in the form of white or yellowish bumps on the inner cheeks it may involve tongue too. Infection usually disappears with antifungal medicine most of the time but in some cases with low immune systems, may be spread to remote parts of the body and leads serious complications, which needs to be taken seriously.



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