

Candida (thrush)

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Candida (thrush) is a common fungus that is normally controlled by the immune system. However, if your immune system is weak, *Candida* can grow on mucous membranes (the linings of body passages) or elsewhere in your body, causing symptoms known as candidiasis (thrush).

HIV-negative people may experience candidiasis when their immune systems are temporarily depressed by factors such as stress or alcohol, or medical conditions such as diabetes. Candidiasis may also affect people taking antibiotics, because the antibiotic temporarily kills some of the harmless bacteria that inhabit the body, providing an opportunity for *Candida* to take their place.

Among people with HIV, mild candidiasis in the mouth is relatively common even while the CD4 cell count is between 200 and 400. On the gums, tongue, inner cheek and/or upper throat (oropharyngeal candidiasis), *Candida* grows in white clumps that can be scraped away, or causes red patches called erythema. Oesophageal candidiasis (in the gullet) is more serious, and is classed as an AIDS-defining illness. These forms of candidiasis can make it painful to eat.

Genital candidiasis may occur in the vagina in women, and under the foreskin in men, causing itching or slight pain. In people with advanced HIV infection, *Candida* may grow in other parts of the body, such as the lungs (pulmonary candidiasis).

It is easy to diagnose candidiasis in the mouth or oesophagus by inspecting the lesions. Doctors may take a tissue sample or smear to test for the fungus when other parts of the body are affected.

Treatment

Candidiasis can be treated with anti-fungal drugs. There are several tablet-form drugs available such as ketoconazole (*Nizoral*), itraconazole (*Sporanox*) and fluconazole (*Diflucan*). Some are available in other forms, such as a liquid solution for oral candidiasis, creams for skin or nail infections, and pessaries for vaginal candidiasis. You may also be offered anti-fungal lozenges such as clotrimazole, nystatin (*Nystan*) or amphotericin, but generally the tablets seem to be the most effective.

Anti-fungal tablets can cause side-effects such as nausea, vomiting and rashes. Itraconazole and ketoconazole also interact with a number of other drugs used by people with HIV, so your doctor or pharmacist should explain any potential interactions.

Some *Candida* strains become resistant to fluconazole, especially among people with low CD4 counts or who have taken it for a long time.

Prevention

If you develop candida before starting HIV treatment, you may well find that the problem disappears as your CD4 count rises and your immune system becomes better at fighting infections. However, if your candida persists, anti-fungal drugs are effective at preventing candidiasis among people with low CD4 counts. However, doctors differ in their recommendations. Some do not favour using anti-fungal drugs as preventive therapy (prophylaxis), arguing that it is easy to treat any attacks of candidiasis that do occur, and that prolonged exposure to the drugs is likely to encourage resistance.

Other doctors argue that anti-fungal prophylaxis is not more likely to cause resistance than treating intermittent episodes. They point out that prophylaxis may also help to prevent more serious fungal infections such as cryptococcal meningitis, although this is relatively rare in countries like the UK, thanks to HIV treatment.

Some complementary therapists recommend avoiding sweet food, white flour and starchy foods, with the idea that it will deprive the *Candida* organisms of food. This is unproven option, but if you are considering trying this then it's a good idea to consult your doctor or a dietician to ensure that you are getting enough calories in your diet.