Introduction

Candida Albicans is a dimorphic fungus (i.e. it can take two forms). Most of the time it exists as oval, single yeast cells, which reproduce by budding.

Most yeasts do not produce mycelia (a mass of branching, threadlike hyphal filaments), but Candida has a trick up its sleeve. Normal room temperatures favour the yeast form of the organism, but under physiological conditions (body temperature, pH, and the presence of serum) it may develop into a hyphal form. Pseudohyphae, composed of chains of cells, are also common.

There are many species of the genus candida which cause the disease known as Candidiasis or ‘thrush’. Candida is a commensal (denoting an association between two organisms) organism found in 40 to 80% of normal humans, and it is present in the mouth, gut, and vagina.

However, problems can start when a person experiences some alteration in:
- cellular immunity: e.g. immunosuppression or AIDS
- normal body flora: e.g. loss of normal bacterial flora due to antibiotic or steroid therapy
- normal physiology: e.g. cardiac surgery or indwelling catheters

(Picture right - Candida Albicans (hyphal form))

Further, Candidiasis can occur as the result of:

- a debilitating illness
- immunosuppressive therapy
- cytotoxic drug therapy
- disturbed intestinal flora
- pregnancy

Moreover, oral infection may be the result of:

- poor hygiene
- carious teeth
- badly fitting dentures

Although candida most frequently infects the skin and mucosal surfaces, it can cause systemic infections manifesting as pneumonia, sepsis or endocarditis in severely immunocompromised individuals.

There does not appear to be significant difference in pathogenic potential of different candida strains, therefore establishment of infection appears to be determined by host factors and not the organism itself. However, the ability to assume various forms may be related to the pathogenicity of the organism.

(Picture right - Candida of Vaginal Epithelium)

What is Candidiasis?

Candidiasis is a condition that results when the friendly bacteria in the intestinal tract have been destroyed or overcome. Yeast organisms (which are always present in the body, but are kept under control by good bacteria) get out of balance and grow unchecked. Candidiasis is also known as a 'Yeast Infection' or 'Candida Albicans'. Most people experience simple yeast infections at one time or another. Early manifestations may be a vaginal yeast infection, a rash (like nappy rash), athletes’ foot, or oral thrush (yeast rash inside the mouth). However, if these 'minor' infections are not treated and recurrences prevented, the yeast may invade the bloodstream and spread throughout the entire body.

(Picture right – Candidiasis in an infant)

At this point it becomes ‘Systemic Candidiasis’ because it may invade and weaken every system of the body (digestive system from mouth to rectum, circulatory system including blood pressure and the heart, respiratory system, endocrine and reproductive system, nervous system including the brain, and the complete immune system).
The only purpose scientists have found for the presence of yeast in the human body is to assist in the decomposition of the body after death. Consequently, Candidiasis, in reality, is yeast decaying the body while the individual is still living in it.

What does Systemic Candidiasis lead to?

Systemic Candidiasis may lead to a wide variety of severe symptoms which mimic many other disorders, thus evading accurate diagnosis and treatment. Consequently, many doctors have begun mislabelling individuals who manifest this ‘same roster of symptoms’ as having Epstein Barr Virus (EBV), Chronic Fatigue Syndrome (CFS), Chronic Mononucleosis (Mono), Yuppie Disease, Neuasthenia, or Myalgic Encephalomyelitis, etc. Consequently the real problem goes undetected and untreated.

What can destroy the good bacteria and lead to Candidiasis?

Yeast may overgrow when antibiotics, allopathic medications, drugs, birth control pills, hormone pills, steroids, and Cortisone are taken. These medications tend to kill the good bacteria in addition to the bad bacteria that caused the current illness. Consequently, the yeast begins to reign freely until the immune system restores balance.

Unfortunately, our typical modern diet seriously exacerbates the problem. Refined sugars and high starch/carbohydrate foods give the yeast exactly what it needs to flourish. This is why so many people crave sweets and breads, just as badly as an alcoholic craves alcohol - the yeast is demanding fuel to keep it ever growing.

Another factor that promotes yeast overgrowth is stress, which depresses or even shuts down the Immune System. It is noted that following a great stress (personal or work related) am individual is more than likely to become seriously ill within the next twelve months, as a result of that stress on the body.

When a history of multiple medications/drugs is combined with poor diet and high stress, the stage may be set for Systemic Candidiasis.

What symptoms may be manifested by Candida?

First Stage

(Picture right – Candidiasis of lips and gums)

In the first stage of Candida, the mucous membrane areas of the body may be infected - this includes:

- the mouth
- the vagina
- the nose
- the respiratory system

Other manifested conditions include:

- vaginal infections
- severe pre-menstrual syndrome (PMS)
- urinary tract infections
- body rashes
- acne
- oral thrush
- allergies to foods, dust, moulds, fungus, yeast, inhalants, and chemicals
Additionally, repeated bouts of bronchitis, sinusitis, tonsillitis, and strep or staph infections may be
typical. Mononucleosis and pneumonia may also be noted.

It is easy to perceive that each of these successive illnesses requires more and more antibiotics,
which may contribute to further and escalating Candida overgrowth.

**Second Stage**

The second stage of Candida may involve more generalised reactions such as:

- pain
- headaches (including migraine)
- extreme fatigue
- psoriasis (skin disease marked by red, itchy, scaly patches)
- infections of the nails
- muscle aches
- joint pains
- arthritis

Again, the individual typically takes drug after drug in the hope of alleviating these conditions.
However, in most cases, the symptoms alone are being treated, while the cause (Candida
overgrowth) is being promoted at the same time.

**Third Stage**

The third stage of Candida may involve mental and behavioural responses, including:

- inability to concentrate
- not being able to read
- not being able to follow a television program or movie
- not being able to carry on a hobby
- serious forgetfulness
- memory loss
- mental confusion
- not being able to think of the words to say something
- switching around of words and letters when trying to speak and/or write something
- loss of previous skills (such as how-to-type or how-to-play-the-piano, play chess, etc.)

These frightening problems may often lead to:

- hopeless crying spells
- severe depression
- sleep disorders including:
  - insomnia
  - confusion dreams
  - nightmares
  - apnea (temporary cessation of breathing)
  - and not feeling rested or restored after sleep
- irrational thoughts
- unusual fears
- phobias
- panic/anxiety attacks
- muscle twitching
- irritability
- violence
aggressive behaviour
possible epileptic seizures
thoughts of death or suicide

Sometimes people with these symptoms are labelled ‘mentally ill’, and are thought to be suffering from manic-depressive psychosis or schizophrenia. Unfortunately, these desperately sick individuals are sometimes turned over to the care of a psychiatrist or hospitalised in a mental institution. They may be given antidepressants, tranquilizers, lithium, etc. to lighten the mental symptoms. However, the real cause may be overlooked and the individual is not correctly helped.

Fourth Stage

A person in the fourth stage of Candida may experience the virtual shutdown of various organ systems of the body. For example:

- the adrenal glands may stop functioning when the endocrine system fails, or the digestive system may stop functioning and thus produce vomiting or severe constipation.
- extreme fatigue may escalate into total muscle weakness, such as the neck muscles no longer being able to hold up the head.
- body rashes may escalate into hives or boils.
- the circulatory system may be swamped with so much yeast that the capillaries are clogged, causing high blood pressure, numbness of extremities, and easy bruising.
- the individual may run a low-grade fever, but the hands and feet will often be very cold.
- the heart may develop tachycardia (palpitations, irregular beats, mitral valve problems, or heart murmur).
- in the respiratory system, the alveoli (air sacs) of the lungs may be packed with yeast so that the person cannot get adequate breath for speaking, singing, or exercise, and there may be a feeling of suffocation, which may lead to hyperventilation and panic.
- the complete failure of the immune system leaves the body defenceless against all enemy bacteria, viruses, and disease conditions—including cancer.

Fifth Stage

The fifth stage of Candida seems inevitable at this point - rampant systemic Candidiasis is 100% fatal unless it is diagnosed early enough and the yeast overgrowth is killed and the immune system regenerated.

How can an individual with Candida/Candidiasis be helped?

The following steps are recommended:

1) Firstly, it is necessary to kill off the excess Candida. This is achieved by starving them of their favourite nutrients - refined sugar and carbohydrates. Unfortunately, the fructose in fruit and the lactose in milk are also used by Candida as a food source, so these should also be avoided. Further, a strict diet free of any refined cereals or any form of sugar is also required. Other banned foods include yeast in any form (including bread, etc); vinegar; alcohol; cheese, dairy products, and mushrooms. However, such a strict diet is not healthy in the long-term, and as the Candida is eradicated, the individual should gradually return to a more varied diet.

Thus, the individual kills off the yeast by a special diet (no starches, no sugars, no yeast, and no dairy products) for a period of at least four weeks. Yeast-killing medicinal herbs and/or drugs may be taken as well, but they are optional, short-term, emergency treatment only. The ultimate goal is to restore the body's own ability to control its own yeast. This can never be
accomplished as long as drugs or medicinal herbs are being used as a substitute for the body's proper and natural function.

In the early stages of this treatment, antifungal agents may be used to ensure eradication of the Candida. Caprylic acid, a fatty acid that occurs naturally in breast milk and coconut oil, is one of the most useful. The herb calendula is also an effective antifungal agent. Garlic supplementation (Garlic Caps (High Strength) 350mg) will also suppress Candida Albicans. Other useful herbs for more difficult cases include barberry bark and thuja. As some of these may also inhibit growth of some of the friendly bacteria, they should be discontinued after six to eight weeks.

At this point, the individual may experience an apparent worsening of symptoms – the so-called ‘die-off’ phase. This is caused by a temporary increase in toxins freed by the Candida as they are destroyed. Although this is an encouraging sign, it can be demoralising if things seems to be getting worse. However, perseverance is the key, and things will soon improve.

As the Candida is gradually destroyed, the last part of the treatment becomes increasingly important - reseeding the gut with friendly bacteria using ‘probiotics’.

The term ‘probiotic’ literally means ‘for life’, in contrast to the term ‘anti-biotic’, which means ‘against life’. Thus, ‘probiotic’ refers to beneficial bacterial micro-organisms that are an essential part of the gastrointestinal tract - even at birth. Once established and fed by the nutrients found in mother's milk, these beneficial bacterial microorganisms are the 'friendly' and 'essential' bacteria.

A combination of Lactobacillus acidophilus and Bifidobacteria bifidum seems to be the most effective, preferably in a milk-free base to avoid lactose. Live yoghurt contains other helpful bacteria, and so may also be added to the individual’s diet, provided there is no milk allergy.

2) Throughout the process, flush out dead yeast with pure water/herbal cleansing teas - drink plenty.

3) Eat only raw, whole, unprocessed foods so that the body gets the level of nutrition required to 1) heal itself (regenerate tissues damaged by yeast), and 2) keep its own yeast under control from this point onwards.

Additional Treatment Information

Always take multiple culture Lactobacillus ACIDOPHILUS (2 gr/day between meals as a supplement) or as in PIMA yoghurt, following:

- The use of broad spectrum antibiotics, for a period of at least 6 weeks
- Radiation therapy or chemotherapy - during which Candida proliferates very considerably
- Any gastrointestinal enteritis or diarrhoea

Candida Diet and Recommendations

Recommendations to starve the Candida:

- Eat absolutely fresh foods
- Avoid refined carbohydrates
- Restrict unrefined carbohydrates
- Aim for a diet as low as possible in yeast
- Avoid or cut down on foods which contain antibiotics or steroids (esp. red meat, etc.)
Avoid overripe fruit, limp vegetables, and especially bread that has been around for a few days - all these harbour mould spores. Consequently, if possible, shop for smaller quantities from shops which have a good turnover of produce.

Take extra care over the storage of food - wash out the bread bin regularly, or store bread in the fridge. If you are using only very small quantities, slice a loaf as soon as you buy it and freeze it. You can take your ration out daily; it will defrost quickly or it can be toasted from frozen.

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**Diet One - A Moderate Approach**

**Avoid or cut down on:**

- sugar, white or brown
- treacle, golden syrup
- molasses, sucrose, glucose dextrose, marmalade, jam
- white flour and all products made from white flour: cakes, buns, teacakes, biscuits
- all processed grains including some prepared breakfast cereals
- yeasty foods: hard cheese, blue cheese, marmite/vegemite, brewer's yeast or any supplements containing yeast, vinegar and all fermented products
- alcohol, fizzy drinks, fruit squashes
- dried fruit
- tinned fruit in syrup

**Eat:**

- whole grains: wholegrain bread, pasta, brown rice, any other unrefined grains
- puffed wheat, puffed rice, shredded wheat - all sugar-free, also sugar-free muesli or homemade muesli
- meat, poultry, eggs, dairy produce: milk, cream, butter, cottage cheese, soft cheeses, fromage frais, yoghurt - preferably plain or diet
- fish - fresh or tinned
- legumes: lentils, peas, beans, chickpeas
- nuts and seeds
- spices
- fresh or dried herbs
- large quantities of vegetables raw or cooked
- useful thickeners for soups and stews: arrowroot; grated potatoes; additive-free vegetable stock: marigold, available from health-food stores
- fresh fruit
- olive oil, any other vegetable oil, margarine or butter
- low-sugar jam
- diet drinks (in moderation)
- fructose (fruit sugar), honey (in moderation)
- dry white wine or spirit with low-sugar mixer or water (in moderation)

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**Diet Two - A Strict Approach**

This diet could be used for three weeks to get a good start, or before starting anti-fungal drugs/substances. Consequently, this approach would minimize the die-off symptoms.

**Banned**

- sugar, white or brown; treacle, golden syrup, molasses, sucrose, glucose dextrose, any product containing sugar
- white flour and all products made from white flour: cakes, buns, teacakes, biscuits
- pasta, white rice
• all prepared breakfast cereals
• cured products: bacon, kippers, smoked salmon
• all fermented products, vinegar, pickles, chutney, sauerkraut, tofu, soy sauce
• alcohol
• tea, coffee, cocoa, Ovaltine, Horlicks
• any malted product;
• all dairy produce: milk, cheese, cottage cheese (possible exception of live plain yoghurt)
• mushrooms, truffles
• dried fruit
• fresh fruit for first three weeks
• spices, dried herbs
• tinned foods
• artificial sweeteners, diet drinks
• nuts
• citric acid
• cream of tartar

Allowed

• restricted whole grains: up to 80 gms per day (one small slice of wholegrain bread = 30 gms)
• brown rice, Ryvita, rye bread, rice cakes, oat cakes, whole oats, millet, buckwheat, barley
• whole-wheat pasta, whole-wheat noodles, buckwheat pasta
• free-range chicken, eggs, turkey, duck, rabbit, lamb, venison, fresh fish, shellfish
• legumes: peas, beans, lentils, chickpeas, etc.
• seeds: sunflower, sesame, linseed, pumpkin, etc
• all vegetables (eat mountains of them) raw or cooked
• sea vegetables
• well-washed, peeled fruit

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Why are some foods banned?

All the foods on the 'banned' list either feed Candida, or contain additives which chronic sufferers could have intolerances to. The bloom of fruit is mould, and nuts and spices often harbour mould.

Some nutritionists ban artificial sweeteners because some of them are made from sugar (Nutrasweet and saccharin are not) and they believe that their inclusion in the diet perpetuates a craving for sugar.

Note. Some tea and coffee drinkers can abstain without any problems. Others can have what is known as the 'Caffeine Storm'. This is when all the caffeine in the body is mobilized and before it is eliminated it can cause severe headaches, nausea, and miscellaneous aches and pains. A cup of tea or coffee usually eases the symptoms within 30 minutes. If this happens, gradually phase out tea and coffee.

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Sugar Note

You do not need sugar for energy. On the contrary, it can drain your energy away. It is not only empty calories, it is the food of choice for the Candida and it prevents the absorption of essential minerals and vitamins. It also plays havoc with your blood-sugar levels and disrupts the function of your pancreas causing a multitude of unpleasant symptoms including panic attacks. The importance of keeping blood-sugar levels stable has been fully explained in Coping Successfully with Panic Attacks by the same author and publisher.

Sugar in tea or coffee should be stopped immediately. You will get used to it eventually and if it makes you cut down on tea and coffee, so much the better. Try not to turn to regular use of artificial sweeteners; this just prolongs the desire for sweet drinks. Occasional use of sweeteners or a diet soft
drink can be regarded as a treat. Withdrawal or sugar craving causes some people to abandon the
diet. If you feel in danger of doing this use very small amounts of fructose, fruit sugar (this looks like
sugar and is available from pharmacies and health-food stores), or honey. These do not disturb the
pancreas and are less likely to trigger yeast growth. Look for honey from bees which have not been
fed sugar. Organic honey is best but there may be brands which are less expensive.

Steevia

Steevia is a natural sweetener and may be used.

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Supplements and Minerals, etc., to combat Candida

Biochemic Tissue Salts

Day 1:
- Silica - 4 x tabs, 3 to 4 x daily

Day 2 to day 15
- Kali Mur - 4 x tabs, 3 x daily
- Nat Sulph - 4 x tabs, 3 x daily
- Mag Phos - 4 x tabs, 3 x daily
- (some authorities) Silica - 4 x tabs, 3 x daily

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Some authorities recommend:
- Kali Mur - 4 x tabs, 3 x daily
- Nat Sulph - 4 x tabs, 3 x daily
- Mag Phos - 4 x tabs, 3 x daily
- Silica - 4 x tabs, 3 x daily

Continue until the condition is resolved.

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Supplements

Vitamin A - as beta carotene, 25,000 iu or 15mg in good quality supplements - this is the equivalent
amount.

B complex 100 mg - single B vitamins should always be taken with the complex to ensure balance.

Vitamin B 5 - 500mg is important for combating stress.

Biotin 800 mcg - prevents the yeast from becoming invasive, often comes with folic acid.

Vitamin C 3,000 mg - 5,000 mg - as a timed release formula, or in small divided doses, anti-viral and
immune boosting.

Vitamin E - 250 mg daily
Gamma Linoleic Acid and Evening Primrose Oil 1,000 - 4,000 mg daily, essential to produce balanced hormones, prostaglandins; one function is to keep yeast cells at bay, and to stimulate the, the thymus (immunity gland), to produce essential T Cells.

Garlic - (3,000 - 10,000 mg daily - this is the equivalent of one to three cloves of garlic per day) highly anti-fungal and promotes the growth of probiotic organisms.

Echinacea - stimulates production of white blood cells.

Zinc 15-50 mg - elemental form, for immune function.

Selenium 200 mcg - Inhibits free radical damage.

Kelp 2 - 6 tabs daily - all essential trace minerals, excellent for balancing the thyroid gland, which often contributes to a low immune system.

Magnesium 200 mg - taken in the morning, helps muscle ache and fatigue.

Caprylic acid

Since caprylic acid is so quickly absorbed through the intestines and delivered into the bloodstream, it is best to take a timed-release or an enteric-coated form of the supplement which allows the active ingredient to be released gradually, so it can be effective throughout the entire length of the intestinal tract.

A three-to-four month course of caprylic acid is typical; and the usual dosage is 1,000 to 2,000 mg 3 x daily with meals.

However, you can start with a smaller dose (e.g. 500 mg 1 x, or 2 x daily) and then slowly increase the dose by adding one capsule every two to three days until the full recommended dose is achieved. This prevents symptoms of "yeast die-off," which is a harmless but uncomfortable flulike sensation that can occur when large amounts of Candida are eliminated in a short space of time.

Caprylic acid supplements can be safely used with other natural or prescription antifungal medicines.

Acidophilus

Dosages of acidophilus are expressed in billions of organisms, and a typical daily dose should supply about 3-5 billion live organisms.

Thus, a typical adult recommendation would be to take 1-3 caps of 1-2 billion CFU (Colony Forming Unit) daily.

Digestive Enzymes

Digestive Enzymes - 1 - 2 tabs with each meal, or as needed. Incompletely digested food causes many problems, there are now a variety of vegetarian formulations, these are often preferred to the animal type, and some are produced in vegetable gelatin.

Anti-parasite
Anti-parasite - grapefruit seed concentrated extract. Many Candida sufferers are found to have parasites.

Other Combinations - Artemesia, Barberry, Pulsatilla and Zingiber with grapefruit extract, are antibiotic, anti-fungal and anti-parasite.

**Pau d'Arco tea** Boosts the immune system, and strongly anti-fungal.

Take as a tea, as per manufacturer's directions.

**Hydrogen Peroxide (H2O2) Oral Administration**

Dosage Schedule for Chronic Conditions Using 35% Food Grade Hydrogen Peroxide.

Add drops of 35% Food Grade Hydrogen Peroxide to 250 ml distilled water, spring water, milk, vegetable juice, or fruit juice and drink the full amount down immediately.

Day 1  3 drops, 3 x daily  
Day 2  4 drops, 3 x daily  
Day 3  5 drops, 3 x daily  
Day 4  6 drops, 3 x daily  
Day 5  7 drops, 3 x daily  
Day 6  8 drops, 3 x daily  
Day 7  9 drops, 3 x daily  
Day 8  10 drops, 3 x daily  
Day 9  12 drops, 3 x daily  
Day 10 14 drops, 3 x daily  
Day 11 16 drops, 3 x daily  
Day 12 18 drops, 3 x daily  
Day 13 20 drops, 3 x daily  
Day 14 22 drops, 3 x daily  
Day 15 24 drops, 3 x daily  
Day 16 25 drops, 3 x daily

For chronic conditions remain at 25 drops, 3 x daily for 1 to 3 weeks. Reduce dosage to 25 drops, 2 x daily until improvements are noted. This may take up to 6 months (or longer).

When the condition is resolved, the dosage is reduced to 25 drops 1 x daily for 1 x week; then 25 drops every other day for 1 x week; then 25 drops every third day for 1 x week; and then 25 drops every fourth day for 1 x week.

A good final maintenance level would be 5 to 20 drops a week - however confirm with a health professional.

**Alternate Hydrogen Peroxide (H2O2) Dosage Schedule**

Add drops of 35% Food Grade Hydrogen Peroxide to 250 ml distilled water, spring water, milk, vegetable juice, or fruit juice and drink the full amount down immediately.

8 drops, 3 x daily until the condition is resolved.
Vaporizer/Humidifier

Use 30 to 60 ml of 35% H2O2 per 3.8 litres of non-chlorinated water (distilled preferred) in a vaporizer/humidifier improves night-time breathing in lung disorders.

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Chinese Herbs

Chinese herbs like shizandra, acanthopanax and astragalus boost immunity.

End

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Appendix

The Yeast die-off or Herxheimer reaction

The Herxheimer reaction is also called the yeast die off reaction, and typically lasts for about 3 or 4 days after starting an anti-candida program. Consequently, the individual may feel a little worse during that time. Additionally, there may be symptoms of extreme tiredness and even elevated temperature.

It is believed that the Herxheimer reaction is in consequence of the abnormal release of abnormal organic acids during the yeast die off phase. The yeast molecules are like water balloons filled with toxins, and when treatment begins the balloons burst and the toxic contents are then absorbed into the body and are eventually excreted through the normal processes. Consequently, the concentrations of abnormal urine organic acids rises when the candida program is first started and then begin to drop as the yeast are killed.

The Herxheimer or yeast die off reaction lasts 3 to 4 days and sometimes as long as a week if the individual has a severe condition. Symptoms of the Herxheimer reaction include:

- lethargy
- fever
- increase in stereotypical behaviours
- bloating
- nausea
- vomiting
- eczema
- aching
- headache
- stuffiness
- heartburn
- children with autism or PDD may experience an intensification of symptoms including intense craving for sweets, more self-stimulation, more arm flapping, or more hyperactivity

Use nutritional approaches to cut down on yeast burden prior to using a candida treatment. Eliminate sugar containing foods from the diet for two weeks prior to treatment. Even this dietary change alone may cause a slight to moderate yeast die-off reaction. It is immaterial whether or not a sugar is natural or artificial - any simple sugar (glucose, fructose, sucrose, or galactose) will serve as yeast food. Sugared drinks and fruit juices may be saturated with sugars

During the yeast die-off period the individual may experience acidosis (heartburn, etc.). If this is the case take a suitable antacid (e.g. AlkaSeltzer Gold).

Always take a good B-Complex and Acidophilus during any candida treatment.

End

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