



Breaking the vicious cycle: food sensitivities, inflammation, and candida overgrowth

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Overview

- What is Candida
- The vicious candida cycle
- Types of candida
- Candida prevalence and risk factors
- Biofilms and die off

Candidiasis Programme

- Phase 1: Supporting Elimination Channels
- Phase 2: Intestinal Cleanse
- Phase 3: Overcoming Candidiasis
- Phase 4: Gut Healing

Variants

- Children's programme
- Considerations for various types of thrush

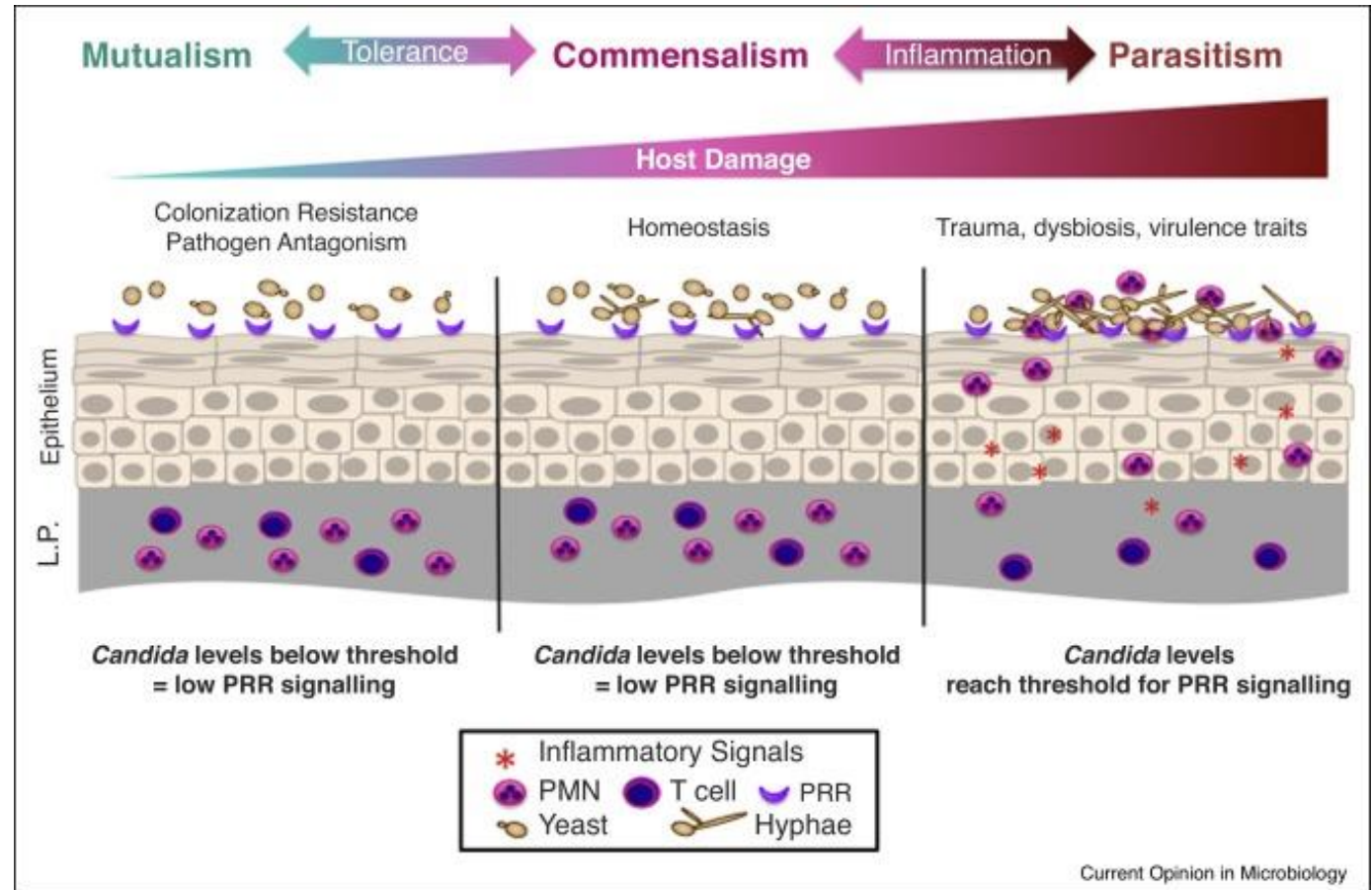
What is Candida?



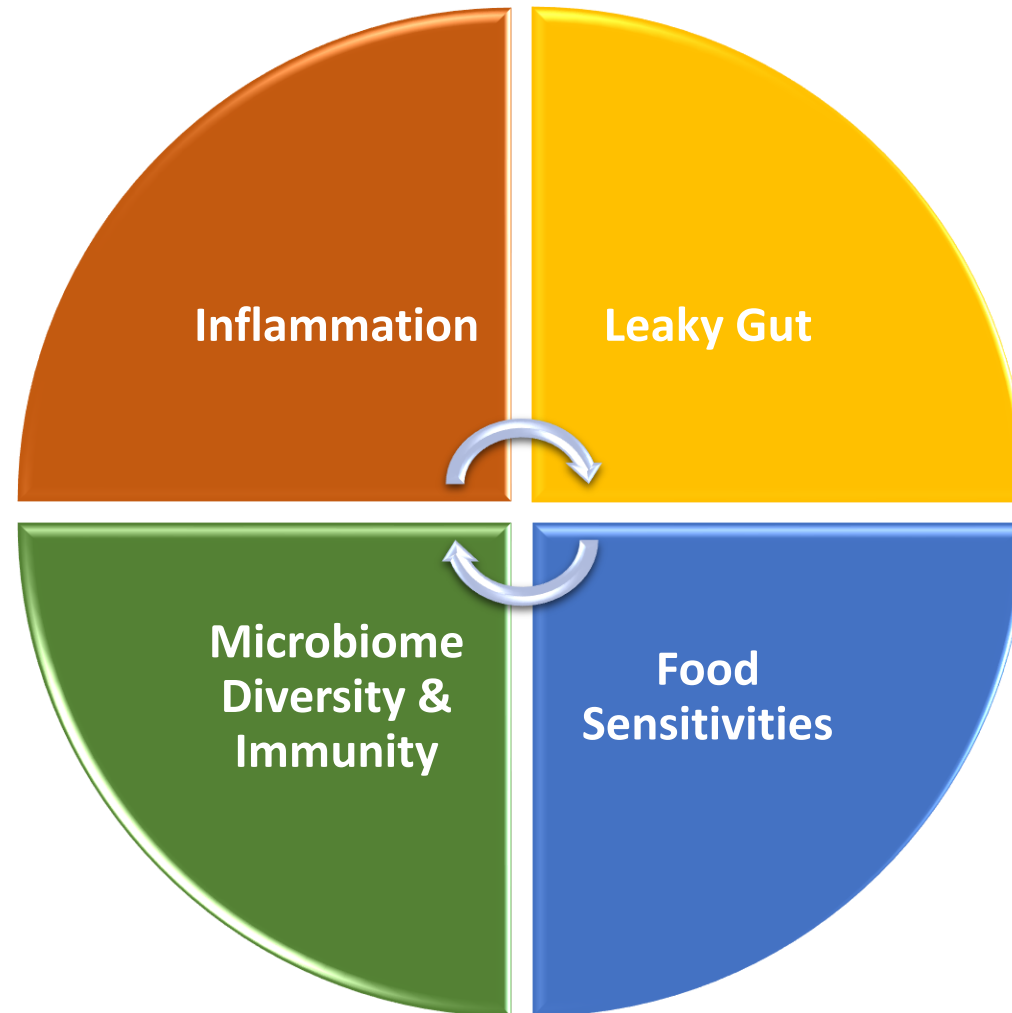
- Candida is a fungus that aids with nutrient absorption and digestion when in proper levels in the body.
- Natural levels of Candida are present in mucous membranes (ears, eyes, gastrointestinal tract, mouth, nose, reproductive organs, sinuses, skin, stool and vagina). The term candidiasis is applied to excessive proliferation of Candida in any of these areas or systemically
- Mucous membranes therefore can be important barriers to prevent candida proliferation
- Candida albicans is one of 70 different species of Candida yeast
- Candida spp are opportunistic and can cause systemic candidiasis which involves the over-proliferation of Candida throughout the body; escaping into the circulatory system
- Candida albicans can act as both a commensal and potent pathogens, causing frequent and an extensive range of infections

Candidiasis in the GI tract

- As candida overproduces it creates web of branched hyphae that can take root in tissues and colonise.
- Candida creates microscopic holes into the gut – causing leaky gut
- Colonisation in the gut releases toxins into the bloodstream.



The Vicious Candida Cycle



Food Sensitivities and Candidiasis



- Food sensitivity antibodies IgG and IgA are an immunological reaction to food and drinks (elevated up to 72 hours after)
- Food sensitivities result from the production of IgG against various food antigens which form immune complexes, activating complement and generating inflammation
- IgA serves as the first line of defense in protecting the epithelium, from toxins or potential pathogenic microorganism overgrowth
- Once leaky gut has been generated Candida albicans proteins get through the pores which generates an IgG and IgA antibody response against Candida
- This immune response causes inflammation which encourages Candida to thrive
- Candida can also cause food sensitives, breaking down the gut wall, allowing food particles into the blood stream which the immune system then reacts to
- Candida growth can lead to a vicious cycle; causing food sensitivities and intolerances, which in turn drives inflammation and further Candida growth.

Leaky gut & Candida albicans

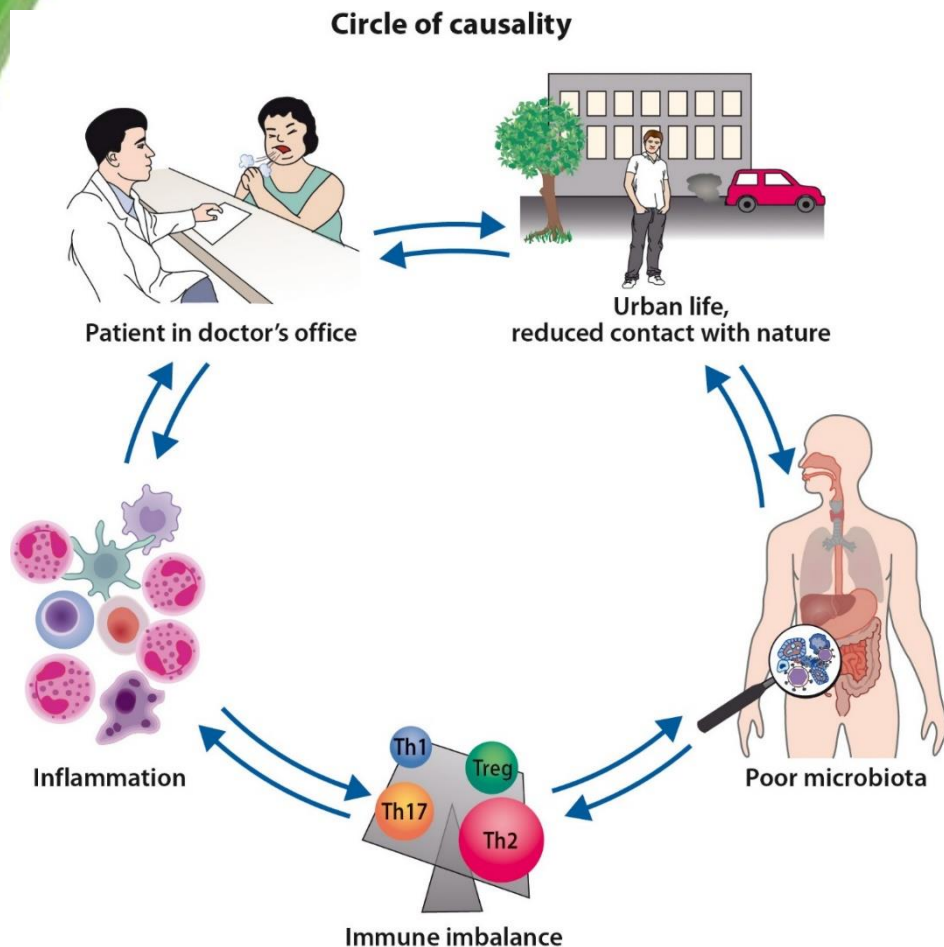


- Leaky gut results in candida antigens and partially digested food antigens crossing the gut mucosa and entering the lymph nodes (GALT-Gut-Associated Lymphoid System) and generating IgG and IgA antibodies that are measured on the FIT Test.
- The IgG binds to candida albican antigens or food antigens and form immune complexes which activate complement (IC-C3d) causing inflammation.
- This inflammatory process is accompanied by the presence of high levels of the protein Zonulin or anti-Zonulin antibodies in the blood which is a direct indication that leaky gut has occurred

Intestinal Barrier Panel: Measuring Zonulin, Occludin and Candida *albicans* IgG, C3d and IgA

Markers	IgG ₁₋₄ +C3d	IgA ₁ + IgA ₂
Zonulin	+	+
Occludin	+	+
<i>Candida albicans</i>	+	+

Biodiversity of the Microbiome



- A direct link has been established between the importance of the gut microbiota, the generation of leaky gut, immune regulation, and the corresponding effect on food sensitivities.
- Gut health is connected with a healthy microbiome which emerges as a central factor in preventing dysregulation and illness. We must consider gut function in the context of many diseases especially food sensitivities and candida.

Microbiome and Candida



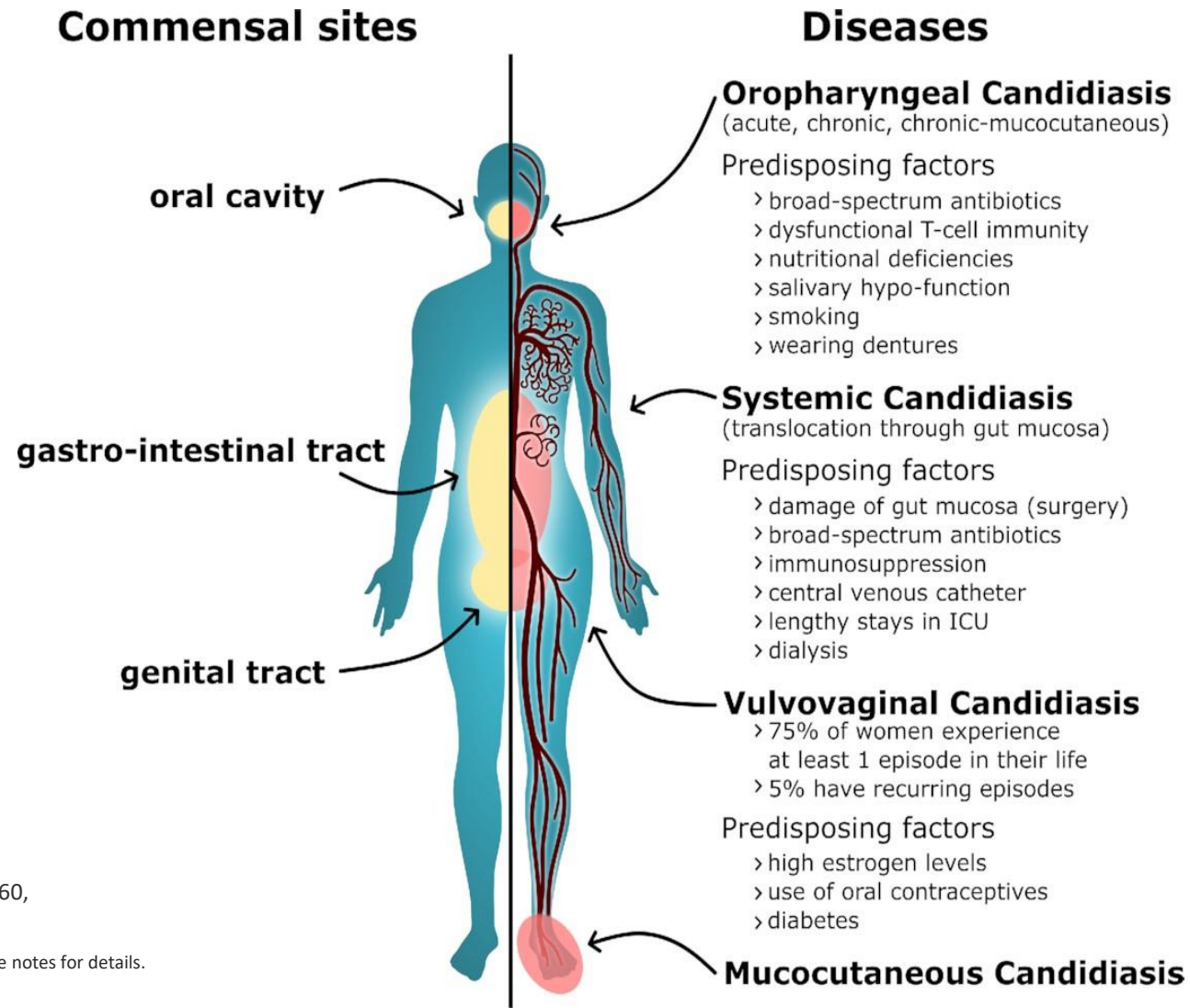
- Commensal organisms, such as *Candida albicans*, induce antigen-specific immune responses that maintain immune homeostasis.
- IgA regulates the colonization of commensal microbiota as well as fungi, and consequently, microbiota-mediated diseases and intestinal diseases.
- IgA can bind to and suppress *Candida albicans*, which can be potentially harmful to intestinal homeostasis
- IgG is the predominant antibody formed from secondary exposure to antigen, and reflects a past or ongoing infection. It activates complement, and assists the phagocytic system to eliminate antigens.

Candidiasis and inflammation



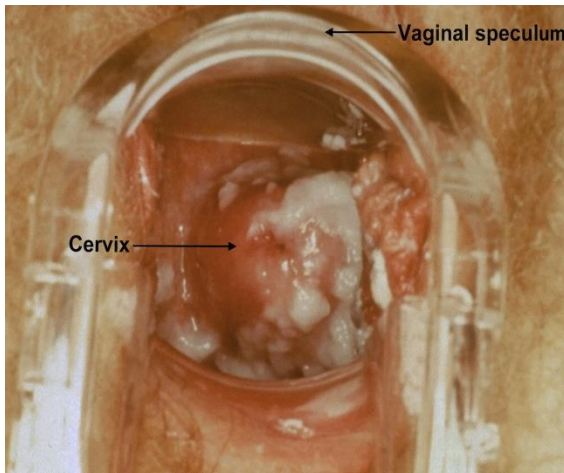
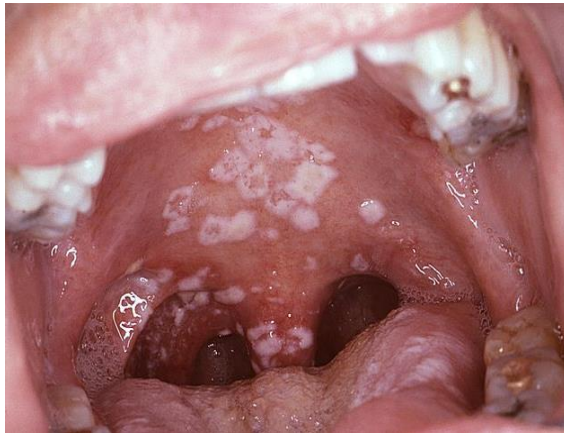
- Inflammation modifies bacterial colonization, lowering immunity and creating conditions that support Candida colonization and progression.
- High levels of Candida colonization is associated with several inflammatory diseases of the GI tract including IBD, UC, gastric ulcers...
- Candida colonization also delays healing of inflammatory lesions and that inflammation promotes further colonization
- Creating a vicious cycle in which low-level inflammation promotes fungal colonization and fungal colonization promotes further inflammation.

Sites of *C. albicans* commensalism and disease

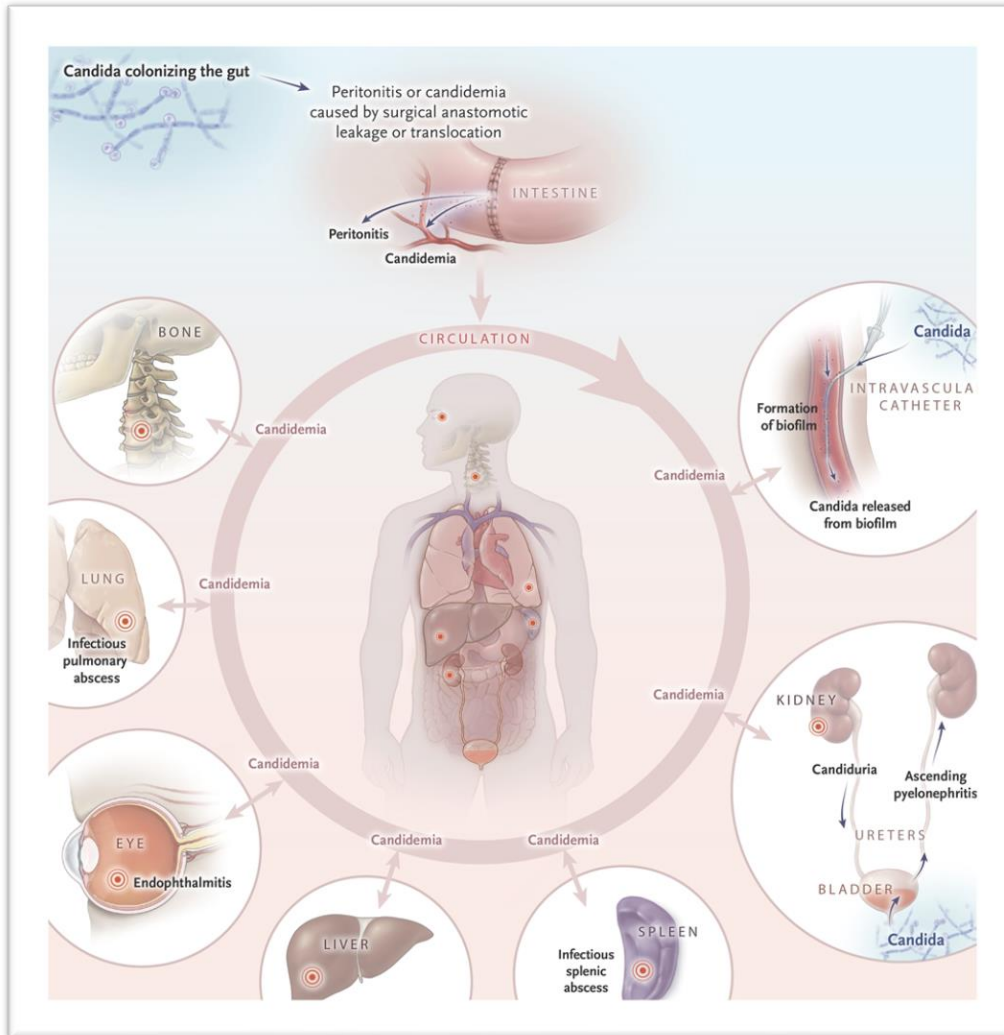


Candidiasis

- **Cutaneous (skin)** - it can develop as a widespread skin eruption over the abdomen, chest and upper and lower extremities.
- **Intertrigo** - localized infection in skin folds.
- **Fungal acne** - localized infection of a hair follicles
- **Genital** - penile whitish rash
- **Fungal nail infection** - includes nail thickening, pain, and redness under the nail
- **Vulvovaginal** - painful/difficult urination
- **Mouth and throat** - characterized by white, bumpy patches on the tongue, cheeks, gums, tonsils, or throat.



Invasive Systemic Candidiasis



- Gut colonisation can cause localized, deep-seated infection and eventually can infect the bloodstream; potentially reaching the heart, brain, eyes, bones, and other organs.
- Mortality among patients with invasive candidiasis is as high as 40%, even when patients receive antifungal therapy
- Symptoms include high fever and chills, localized pain, hypotension, overall fatigue, and even multiple organ failure.

Pathogenesis of Invasive Candidiasis.

<https://www.nejm.org/doi/full/10.1056/NEJMra1315399>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3163673/>



Prevalence of Candida Overgrowth⁽¹⁹⁻²¹⁾

Over a million people die each year from an invasive fungal infection. With mortality rates of 50% for those with systemic fungal infections.

Oral candidiasis is extremely common in those with a defective immunity i.e. premature infants and the elderly

75% of women suffer at least one episode of vulvovaginal candidiasis during their lifetime and reoccurring, chronic infections is 5–10%.

Risk Factors Candidiasis

- Prolonged use of medications
- Dysbiosis, leaky gut, endocrine dysfunction, immune dysfunction, lowered digestive function
- Chronic stress, lack of sleep, lowered immunity.
- Pregnancy (hormonal fluctuations).
- Infancy (low birth weight/ passed from mother during delivery/ hygiene).
- Poor hygiene and tight clothing.
- Dentures and those who develop frequent ulcers/sore mouth have thrush in about 90% of cases).
- Heavy toxic exposure
- Poor diet
- Chlorine and fluoride in water.
- Sexual transmission.
- Chemotherapy, radiotherapy, surgical procedures, IV drip, blood transfusion.

Biofilms

- Biofilm-producing microorganisms are now estimated to be involved with 80% of all GI infections in humans (1).
- When candida albicans colonise a biofilm (protective barrier) begins to form around it, allowing the growth and dispersion of the fungus.
- Mostly found in the digestive and respiratory tract.
- This makes it more difficult to detect and clear.

Symptoms that indicate a biofilm might be present

- Those who have been sick for more than one year.
- Those with no digestive labs findings but with many symptoms

Candidiasis Die off Symptoms

- Candida omits 70+ different toxins into the blood stream and body when it's alive and even more when biofilms are dying off.
- The therapeutic consideration needs to be on increasing antioxidant status and supporting the liver.

Two of the major toxic substances are:

Acetaldehyde a metabolic by-product, which can lead to oxidative stress and inflammation, DNA damage and increased risk of cancer development^(1,2,3).

Gliotoxin

- Suppresses the immune system and induces Reactive Oxygen Species (ROS) accumulation for epithelial cells death.
- It kills off liver cells, impairing the livers ability to deactivate toxins⁽⁴⁾ A weak liver reduces immune activity and possibly increases the development of autoimmunity.



Candidiasis Programme Goals



- ✓ Elimination of Inflammatory foods identified on the FIT
- ✓ Open elimination channels and get them draining properly.
- ✓ Cleanse the intestinal tract of accumulated yeast, toxins and other waste products.
- ✓ Eliminate candida overgrowth.
- ✓ Regenerate, balance and strengthen intestinal flora.
- ✓ Repair and restore gut health.

Candidiasis Programme



Phase 1: Supporting Elimination Channels (2-4 weeks)

Phase 2: Intestinal Cleanse (3 weeks)

Phase 3: Eliminating Candidiasis (6 weeks)

Phase 4: Gut Healing (16 weeks)



Phase 1: Supporting Elimination Channels

- a) REMOVE: Food elimination based on FIT
- b) OPTIMIZE: the eliminations channels



Remove

- Based on the FIT results eliminate as many of the positive foods as possible 4+ and 3+ for a minimum 8-12 weeks during the anti-candida programme
- Specific attention to foods that can cross-react to candida
 - Fermented foods, Citric Acid (produced by fermentation), Baker's Yeast, Brewer's Yeast, Morel mushrooms, Puffball mushrooms, Nutritional Yeast, Truffle (type of fungus)
- Remove other inflammatory triggers which may or may not appear on FIT ie. Gluten, refined sugar, inflammatory foods, chemical additives allergic foods etc.
- The idea is not to starve things out but to bring things back into balance.

Optimise diet

- Small amounts of quinoa and root vegetables such as beets, sweet potatoes and squash from time to time.
- Plenty of **healthy fats and clean proteins** can be beneficial.
- **Cruciferous vegetables** contain isothiocyanates. These sulphur- and nitrogen-containing compounds inhibit the growth of Candida. Their antibacterial properties also support a healthy balance of bacteria.

Natures Antifungals

- **Coconut oil** contains caprylic acid and lauric acid promoting gut health and anti-fungal activity (gradually increase to 4-6 full tablespoons of coconut oil daily).
- **Apple cider vinegar (ACV)** research shows ACV can damage the Candida cell walls and protein structures.
- Include plenty of **fresh ginger, garlic, cloves, cinnamon, lemons.**



Optimise liver & gallbladder¹⁾



- The liver performs about 200 vital functions including detoxification of the blood, protein synthesis, excretion of bilirubin, hormones, cholesterol, drugs, and production of bile.
- A sluggish liver may result in digestive problems, hormonal imbalances, blood sugar imbalances...
- Clients often have poor bile flow or sludge, which can impair liver performance, digestion, elimination, and detoxification.
- By unblocking the liver and gall bladder, the 60-100 trillion cells will be able to “breathe” more oxygen, receive more nutrients, eliminate their metabolic waste products more efficiently, and maintain effective communication links with the nervous system, endocrine system and all other parts of the body.
- Helpful in preventing herxheimer reaction and lessen Candida die-off.

d) Support lungs, lymphatic system & skin

- Breathing exercises
- Encourage sweating
- Daily movement
- Lymphatic massage
- Use of saunas
- Hot cold therapy
- Dry skin brushing
- Teas that encourage sweating

Candidiasis Programme



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Phase 2: Intestinal Cleanse

Duration: 3 weeks



Phase 1 Cleanse & Detoxification

Sweeps the intestine clean from parasites and toxic residue

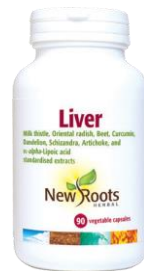
Multi-strain pre and probiotic effective at restoring the microbiome and eliminating candidiasis



OR



Biofilm disruptor & Liver support
Support liver detoxification whilst breaking down biofilms



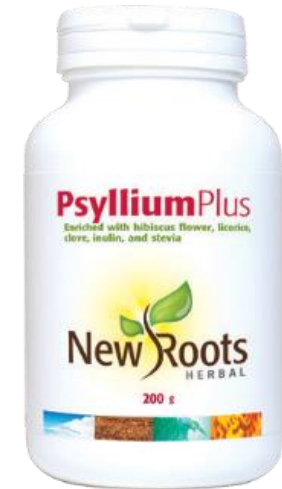
Phase 2: Psyllium Plus / Ultra Purifiant Cleanse



Cleansing Ingredients: Psyllium Plantago, Hibiscus, Clove, Licorice and Inulin

- Psyllium swells in the intestine, sticks to the walls, stimulating peristalsis, sweeping away toxic residue.
- Relieves inflammation, soothes and has laxative properties.
- Helps to prevent diarrhoea and reduce digestive muscle spasms.

Dosage: mix 2 tsps. (5g) 1x daily with 500ml water



Cleansing and detoxifying:

Psyllium, Yellow Dock, Bentonite, Plantain, Blessed Thistle, Red Clover, Butternut.

Anti-microbials

Black Walnut, Caprylic Acid, Garlic, Grapefruit Seed Extract, Clove, Bentonite.

Immune Support:

Echinacea Angustifolia, Yellow Dock.

Dosage: 3-5 caps 2x daily for 3 wks.



Biofilm breakdown and liver support



Dietary treatment

- Include anti-biofilms agents in your diet; spices and herbs; curcumin, oregano, rosemary, garlic, coconut oil...

How to know a treatment is working or not working

- Very strong die-off may indicate a progressed biofilm issue is present.
- Scale back slightly if symptoms are strong (Achy joints, flu-like symptoms, fatigue, irritability)



Biofilm disruptor. 5 drops
3 to 5 times daily for 3-6
weeks if required



Probiotics can disrupt the
growth, adhesion, and activity
of biofilms



Liver Support
8 ingredients that help the liver, spleen,
gall bladder, pancreas and kidneys



Probiotic Yeast on Intestinal Epithelia

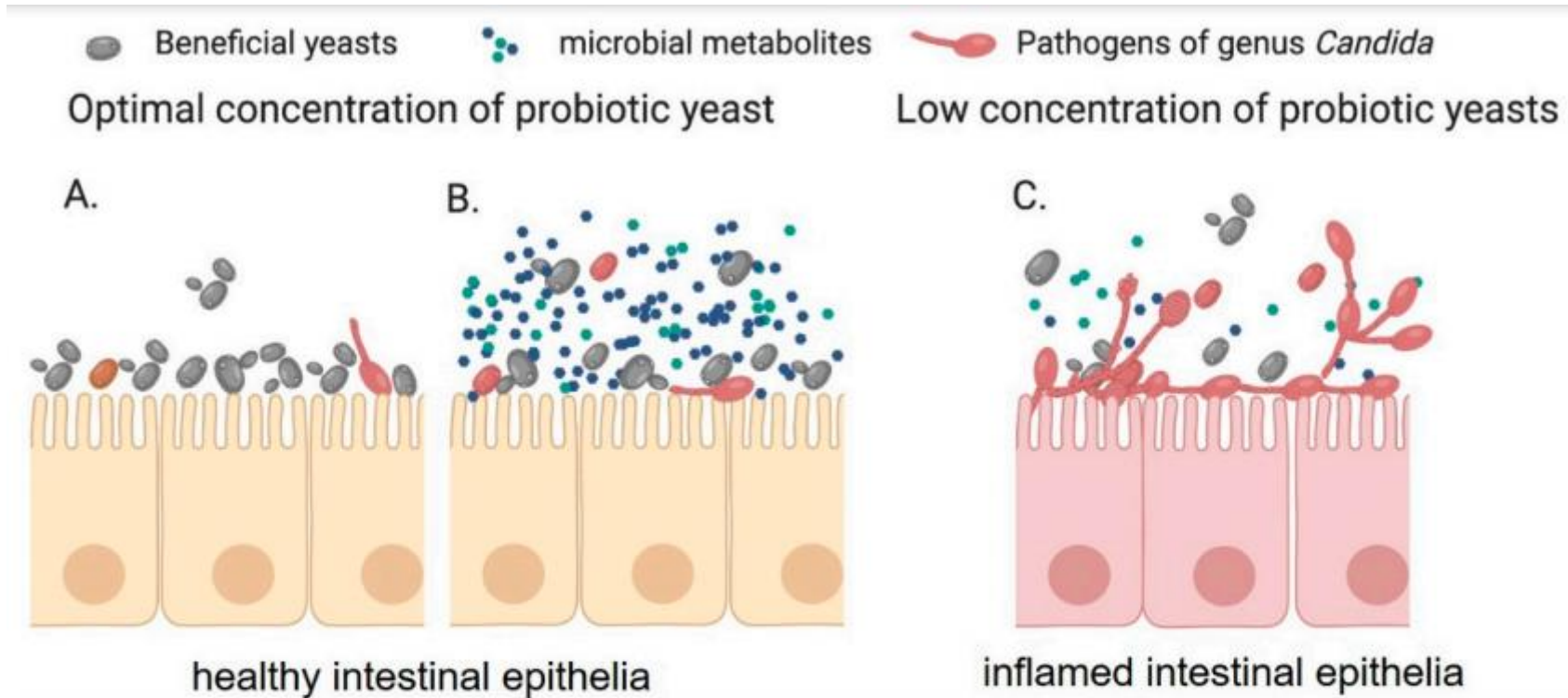


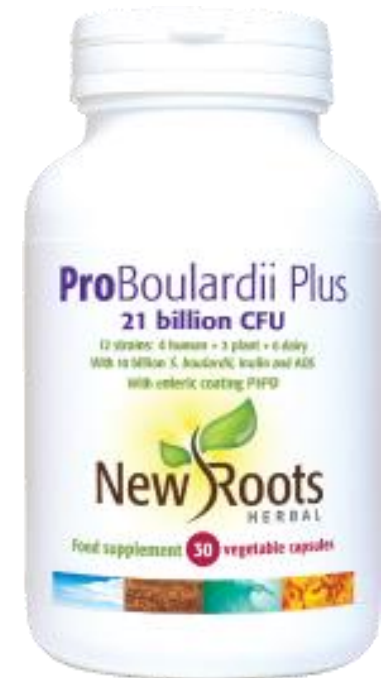
Figure 1. Probiotic yeast either form a physical barrier on epithelial surfaces (A) or secrete bioactive metabolite (B) to inhibit the adhesion and morphological transition of *Candida* species on epithelial cells. Further, suitable probiotic yeasts cell number is required for the effective inhibition of *Candida* virulence in the host GI tract (C).

Pro Boulardi Plus: Protecting and Restoring Beneficial Bacteria



During intestinal cleansing, beneficial bacteria is naturally eliminated; a **Multi-strain probiotic with S Boulardii** is required

- **11 beneficial strains with 21 billion live active, healthy cells** per enteric coated capsule.
- **10 billion CFU Saccharomyces boulardii**. capable of neutralizing the effects of pathogenic bacteria and intestinal candidiasis
- **L. rhamnosus R0011 (4.5 bill CFU) & Helveticus R0052 (3.4 bill CFU)**; regenerates vaginal flora reducing colonization by bacteria and yeast (148); reduces the pro-inflammatory response; protects the intestinal protective barrier and relieves symptoms of candidiasis
- **Bifidobacterium breve (338 million CFU)** suppresses the overgrowth of yeast Candida



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Phase 3: Eliminating Candidiasis

Duration: 6 weeks



Candida Elimination

OPTIONAL TO REPLENISH
ANTIOXIDANT RESERVES



2 CAPS 3x DAILY
FOR 6 WKS



1 CAP DAILY
FOR 12-WKS



1 CAP DAILY
FOR 6 WKS

Overcoming Candidiasis

Advanced formula



2 capsules 3x daily for 6 weeks

ADVANCED SOURCE OF CAPRYLIC ACID

Short-chain fatty acids from coconut, in the most advanced form for optimal absorption.⁵

Caprylic acid from magnesium

90 mg

Caprylic acid from calcium

90 mg

Caprylic acid from zinc

20 mg

Numerous studies support its efficacy for the treatment of candidiasis.¹

Odourless garlic

62,5 mg

Antiseptic, antifungal and antibacterial. It helps maintain natural immunity.³

Oregano extract

(30% carvacrol)

55 mg

Antimicrobial, antifungal, antioxidant and a stimulator of bile and enzymes, favouring digestion and preventing the proliferation of fungi in the intestinal tract.⁵

Grapefruit seed

extract 4:1

50 mg

Natural antimicrobial and antibiotic for combating intestinal parasites and Candidiasis.⁷

Pau d'arco Lapacho

(extract 4:1)

25 mg

Antiviral, antimycotic, antimicrobial, antiparasitic and immune reinforcing.⁴

Suma

(*Pfaffia paniculata*)

50 mg

Brazilian Ginseng. It contains high doses of Germanium, which oxygenates cells. It promotes and increases vitality. It helps the body achieve balance, increasing resistance to stress.⁸

Echinacea purpurea

(root, 4% polyphenols)

25 mg

Immunomodulator for fungi, viruses and bacteria, preventing many chronic-recurring symptoms.^{2,3}

Selenium

25 mcg

Important antioxidant that supports liver detoxification. It stimulates the response to infection.⁹

ANTIBACTERIAL / ANTIFUNGAL

Highly concentrated herbal extracts, effective against fungi, bacteria and parasites

IMMUNOSTIMULANT

It reinforces the defence system and prevents the overgrowth of fungi and harmful bacteria.

Antioxidant Protection

When fighting a candida infection, antioxidant reserves are often depleted.

- **UltraProtect** contains standardised plant extracts; green tea, curcumin, cayenne and black pepper, N-acetylcysteine, resveratrol and carotenoids; lycopene, astaxanthin and zeaxanthin.
- Stimulate the immune system to fight infection
- Supporting anti-inflammatory and detoxification pathways
- Protects the cells against free radicals
- Slowing down the aging process



1 capsule daily for 6 weeks

Candidiasis Programme

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Phase 4: Gut Healing (16 weeks)





Phase 4: Gut Healing

Duration: 16 weeks

Weeks 1&2

- L-Glutamine, 5g daily.

Weeks 3&4

- L-Glutamine, 2.5g daily.
- Lion's Mane, 1 capsule daily.

	week 1+2	week 3+4	week 5-12	week 12-16
L-Glutamine	5 g daily	2.5 g daily		
Lion's Mane		1 capsule daily	1 capsule daily	
ProBouladii Plus or Human Biota*			1 capsule daily (for 30 days)	
Seabuckthorn Oil with Goji				1 softgel daily

Weeks 5-12

- Continue with Lions Mane, 1 capsule daily.
- Pro Boulardii Plus* or Human Biota**
- 1 capsule daily for 30 days.

Weeks 12-16

- Seabuckthorn oil with Goji, 1 soft gel daily.

* use Pro Boulardii Plus if there is chronic or recurrent candidiasis for prevention.

** use Human-Biota if re-occurrent infection is less likely.



Candidiasis Programme Variants

- Children's programme
- Considerations for various types of thrush



Children's programme

For 6 weeks:

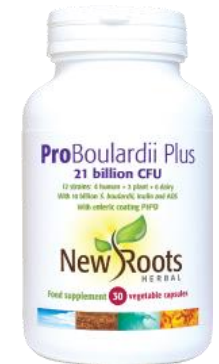
Grapefruit seed extract

- 2-5 years, 1 drop 3x daily. Increasing to a max dosage 2 drops 3x daily.
- 5-7 years: 3 drops 3x daily. Increasing to a max dosage of 6 drops 3x daily.
- 7-14 years: 4 drops 3x daily. Increasing to a max dosage of 8 drops 3x daily.



Children's Pro or ProBoulardii Plus

- Children's Pro (< 6 years) – 8 weeks (start 2wks prior to the antifungals).
- ProBoulardii Plus (from 6 years+) 8 weeks (start 2wks prior to the antifungals).



Considerations for various types of thrush

Follow the Candidiasis programme and for

Oral and oesophagus candidiasis: include a mouth wash

✓ 3 drops of oregano with a little water and swirl round the mouth for 1 minute 2-3x daily.

Vaginitis: switch the probiotic to:

✓ Femina Flora Oral (2 caps daily during the infection and 1 cap daily post infection as prevention).





Thank you for listening!



Competition and downloads

Register or Login to

<https://www.newrootsherbal.eu/en/breaking-the-vicious-cycle-registration>

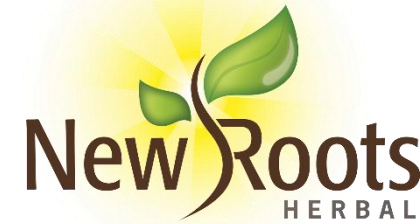
- ✓ Automatic entry to Win 2 Free Formulas – closes 11th May
- ✓ Programme downloads:
 - Leaky Gut
 - Candidiasis

New Roots Herbal Practitioner Support:

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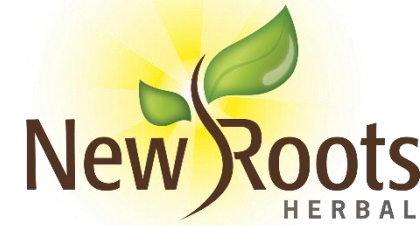


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