Candida Overgrowth

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Overview

- Fungi (Yeasts and Moulds)
- What is Candidiasis?
- Clinical Presentation
- Prevalence, Risk Factors, Aetiology
- Signs and Symptoms
- Candida albicans transmission, forms and biofilms
- Mould/ Candidiasis Connection
- Hormonal/Candidiasis Connection
- Testing
- Candidiasis Die off Symptoms

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

Fungi (Mould and Yeast)

- Estimated 1.5M known species of fungi
- Survive in heterogeneous environments.
- Fungi disperse by releasing spores and can cause allergies
- Some Fungi can adapt to the environmental changes and survive through modification of their behaviour, known as **diamorphism** (two forms)
- Those two forms are commonly known as **Mould** and **Yeast**.
- **Mould** exists and grows in environments outside the body, they germinate spores and survive in temperatures at around 25 degree Celsius
- **Yeast** is unicellular and grows in colonies inside the human body (or at 37 degree Celsius)
- The human microbiome also contains commensal fungi (400 species) – found in the digestive tract of 70% healthy adults
- Species that interact with the human microbiome: Candida spp., S. cerevisiae, Phialemonium, Galactomyces, Cladosporium, and Malassezia spp. BALANCING IS KEY.

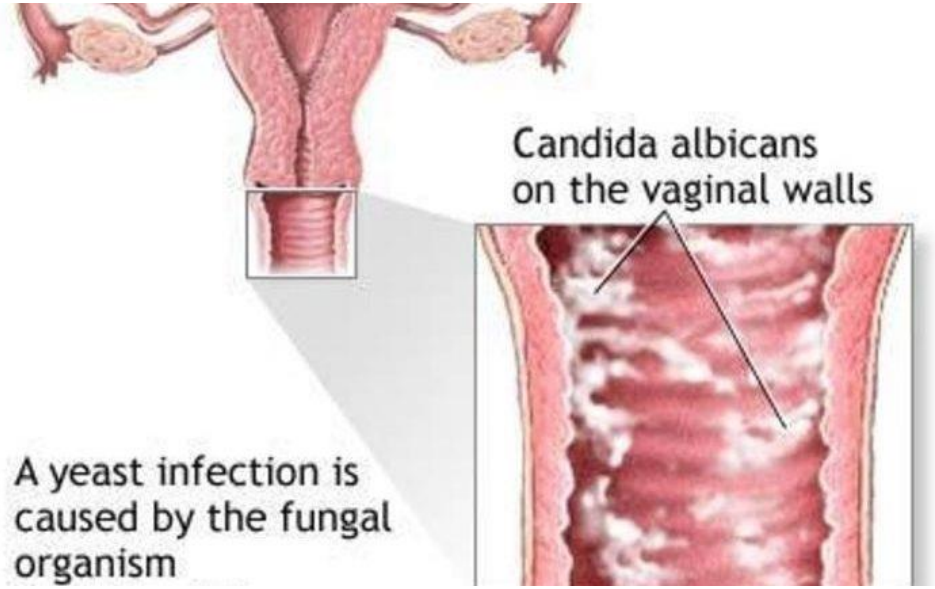
What is Candidiasis?

- Candidiasis is a broad term that refers to cutaneous, mucosal and deep-seated organ infections caused by fungi of the *Candida* genus.
- Candida spp are opportunistic pathogens
- Natural levels of Candida are present in mucus membranes such as your ears, eyes, gastrointestinal tract, mouth, nose, reproductive organs, sinuses, skin, stool and vagina
- Normally harmless as a single-celled fungus
- 20 human pathogenic species of yeast cause candidiasis
- Approx. 95% of identifiable Candida infections are C. albicans, C. glabrata, C. parapsilosis, C. tropicalis, and C. krusei.
- C. auris was first diagnosed in the UK 8 years ago
    - First human pathogenic fungus to be subject to international health alerts due to its propensity to colonize skin, ability to thrive in hospitals and result in severe disease

Clinical Presentations

Vulvovaginal candidiasis (Vaginal yeast infection) usually presents with pain, vaginal discharge, painful/difficult urination (dysuria), and painful intercourse. Most common form of candidiasis that can develop in those without known risk factors.

- Some women are more susceptible to candida than others, causing frequent infections that can even occur before the start of every period cycle.
- Men are at risk… If such women have intercourse with a male partner, they may develop **candida balanitis**. Candida balanitis presents as a penile whitish rash that is painful and also associated with dysuria.



Cutaneous (skin) candidiasis

It can present as a generalized disease. Developing as a skin rash in areas like skin folds, genitals, buttocks (new-borns as a diaper rash), under the breasts, armpits, and other moist areas of skin.

It can develop as a wide-spread skin eruption over the abdomen, chest and upper and lower extremities.

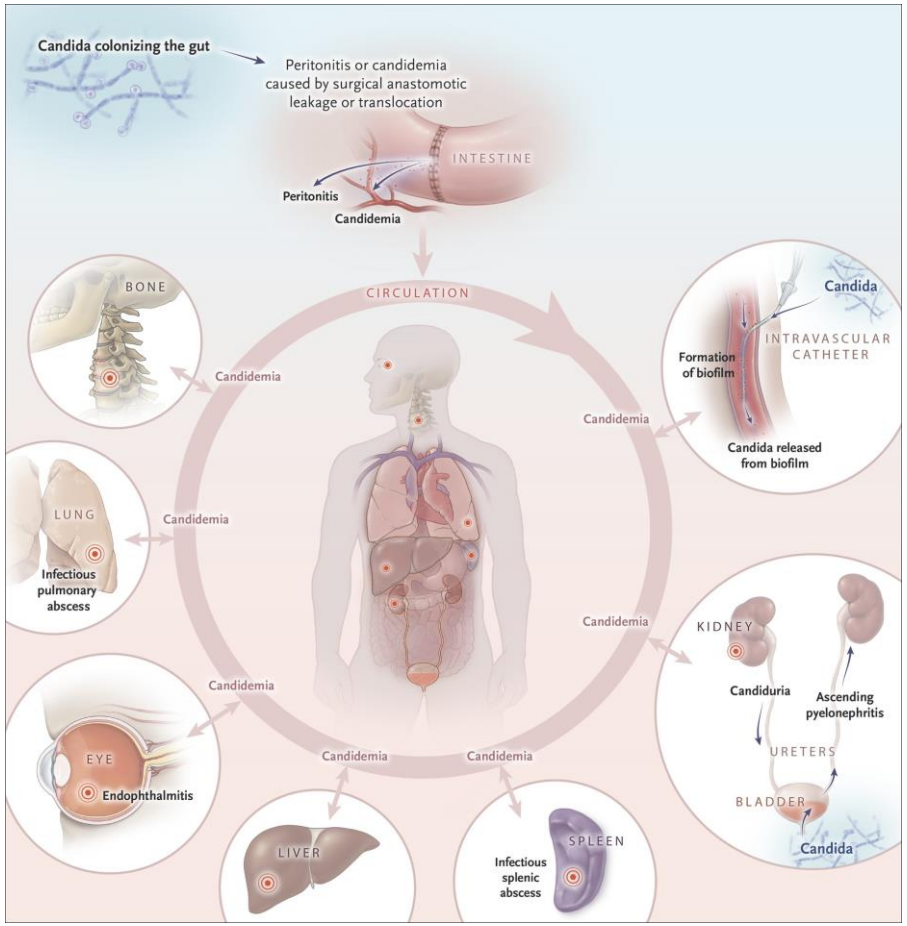
- **Intertrigo** is defined as a localized skin infection in skin fold. Eventually, a white rim may develop over the rash due to the proliferation of candida.
- **Maximum pruritus** - usually in the genital folds. More common in those who are immunocompromised
- **Candida folliculitis** - localized infection of a hair follicle and are usually less immunocompromised
- **Onychomycosis** a fungal nail infection.
  - Nail thickening, pain, and redness under the nail, and a tense nail bed that is warm and inflamed.
  - Those with Diabetes mellitus are associated with an increased risk
  - Infections can become chronic in those with hypoparathyroidism, diabetes, autoimmune disorders, and thymomas.

Candidiasis in the mouth and throat

Candidiasis in the mouth and throat, characterized by white, bumpy patches on the tongue, cheeks, gums, tonsils, or throat. Patches can be itchy, painful, red, sore, and even bleed if scratched.

- **Esophagitis -** generally as a result of thrush complications, when the areas affected include the mouth, throat, and the oesophagus
- **Oropharyngeal candidiasis -** diabetics and those who receive broad-spectrum antibiotics are at risk. Includes sore mouth, burning tongue and white patches over the oral mucosa.
- **Oesophageal candidiasis** those who are severely immunocompromised or undergoing chemotherapy are at risk. Problems with swallowing, painful swallowing, chest pain, and nausea and vomiting. Those with oesophageal candidiasis also have oropharyngeal candidiasis.

Invasive Systemic Candidiasis



- Candida species that colonize the gut invade through chromosomal abnormalities or surgery and can cause either localized, deep-seated infection or candidemia; 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.
- Those with neutropenia (low neutrophil count in the blood) and malignancy are at increased risk

Pathogenesis of Invasive Candidiasis. https://www.nejm.org/doi/full/10.1056/NEJMra1315399

Prevalence of Candida Overgrowth

- Approx. 400,000 life-threatening systemic infections world-wide annually in immunocompromised patients
- Oral candidiasis (OC) is common in those with a defective immunity i.e. premature infants and the elderly
- 75% of women of childbearing age suffer from vulvovaginal candidiasis (VVC); 45% have a least one recurrent infection.

Risk Factors Candidiasis

Candida is a normal part of our microbial environment. When the conditions become compromised/ imbalanced candida can grow and overpopulate the microbiome.

- Prolonged use of medication, including antibiotics, antacids, corticosteroids, HRT and contraceptive pill.
- Dysbiosis (overgrowth of yeast, parasites and bacteria), leaky gut, endocrine dysfunction, immune dysfunction, lowered digestive enzymes and HCL as we age.
- 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 (adheres to acrylic resin and those who develop stomatitis (ulcers/sore mouth) have thrush in about 90% of cases).
- Heavy toxic exposure; mercury fillings, smoking (lowered oxygen levels).
- Poor diet: sucrose, fructose, processed foods, refined carbohydrates, alcohol consumption.
- Chlorine and fluoride in water.
- Sexual transmission.
- Chemotherapy, radiotherapy, surgical procedures, IV drip, blood transfusion.

Risk Factors for Invasive Candidiasis

Table 1. Risk Factors for Invasive Candidiasis.*
Critical illness, with particular risk among patients with long-term ICU stay
Abdominal surgery, with particular risk among patients who have anastomotic leakage or have had repeat laparotomies
Acute necrotizing pancreatitis
Hematologic malignant disease
Solid-organ transplantation
Solid-organ tumors
Neonates, particularly those with low birth weight, and preterm infants
Use of broad-spectrum antibiotics
Presence of central vascular catheter, total parenteral nutrition
Hemodialysis
Glucocorticoid use or chemotherapy for cancer
Candida colonization, particularly if multifocal (colonization index >0.5 or corrected colonization index >0.4)

* ICU denotes intensive care unit. For further information see Cleveland et al.,[2] Arendrup et al.,[6] and Lortholary et al.[7]

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

Aetiology of Systemic Candidiasis

- For systemic candidiasis to happen, the patient's natural barrier and immunologic responses need to be impaired. Wounds, burns, catheters and surgical interventions break the mucocutaneous barriers that prevent candida from entering the bloodstream

Those at risk include:

- Any person with liver cirrhosis, systemic collagen disorders, diabetes, genetic immunosuppression, cancer, rheumatoid arthritis, AIDS, HIV, breast implants, mercury amalgams
- Those receiving chemotherapy, radiotherapy or undergone recent bone marrow transplantation, solid organ transplantation, intensive care unit patients

Signs and Symptoms

- Seasonal Allergies or itchy ears and skin.
- Low Energy, Fatigue & Malaise, exhaustion.
- Digestive Problems such as bloating, constipation or diarrhoea.
- Auto-Immune diseases like Rheumatoid arthritis, Hashimoto's thyroiditis, Lupus, Psoriasis, Ulcerative Colitis, Crohn's Disease, Multiple Sclerosis or Scleroderma.
- Skin and nail fungal infections (such as athlete's foot or toenail fungus), tinea, athletes foot.
- Skin problems such as psoriasis, eczema, hives and/or rashes.
- Mood swings, anxiety, depression and irritability.
- Vaginal infections, UTI's, rectal or vaginal itching.
- Brain fog, ADHD, concentration problems or poor memory.
- Strong sugar and refined carbohydrate cravings.
- White coating on the tongue, bad breathe, cracked tongue, cracked sides of the mouth.
- Headaches and migraines.
- Insomnia.
- Dizziness.
- Aches.
- Constant colds, asthma, nasal drip, nasal irritation.

Candida albicans

- C.albicans is commonly found in GIT, oral cavity and genital area as harmless commensal.
- Virtually entire oro-gastrointestinal tract (mouth to anus, with exception of stomach), is colonised by Candida spp
- Normal resident in intestinal tract and mucous membranes and skin.
- Mucous membranes can also be important barriers
- There are over 20 species of Candida yeasts that can cause infection in human—in mouth, throat or oesophagus mainly. Most common is C.albicans.

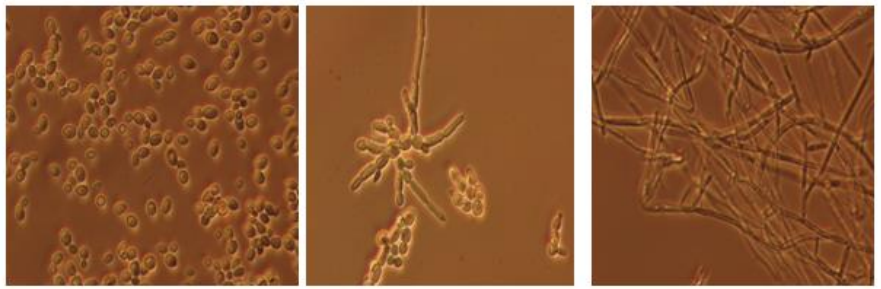
Candida albicans transmission

- Mother to infant through childbirth, breastfeeding…
- Transmission during sex; about 15 percent of men will experience symptoms of a penile yeast infection after sexual intercourse with an infected female partner.
- Candida albicans are transmitted during kissing (will only develop if the system is imbalanced).
- Foot spas, poor hygiene, nail clippers, nail polish bars.

C. albicans morphological forms

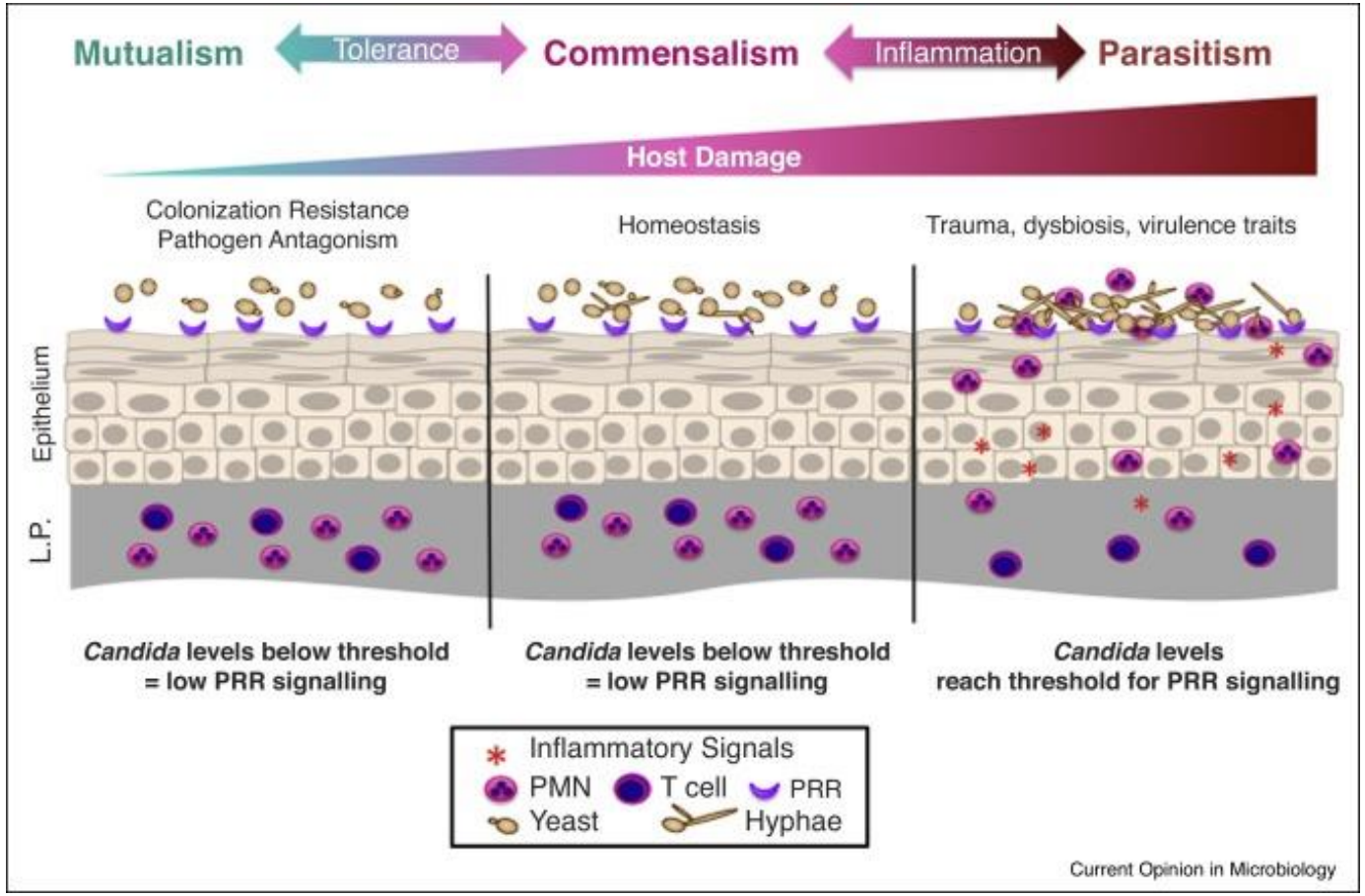
- Moulds are multicellular fungal bodies mostly made up of filaments called hyphae.
- Unicellular fungi (yeasts) cells stick together to form a short chain or pseudohyphae - Candida albicans being one of the most common.
- C. albicans considered the most serious cause of candidiasis, producing three morphologic forms: yeast cells, pseudohyphae, and true hyphae.
- Switching between these forms is controlled by a highly complex genetic network and is dependent on factors such as temperature, CO2 level and anaerobic condition.
- Hyphae are thought to be more virulent with the expression of toxins .

Pictures courtesy of Simon Vautier. British Society of Immunology



Candida in the GI tract

- Changes to a mycelial form (web of branched hyphae) it can take root in tissues and colonize.
- Colonization in the gut releases toxins into the bloodstream.
- They can burrow microscopic holes into the gut – causing leaky gut.



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

1. Mogosanu et al (2015). Prevention of microbial communities: novel approaches based natural products https://pubmed.ncbi.nlm.nih.gov/25594287/

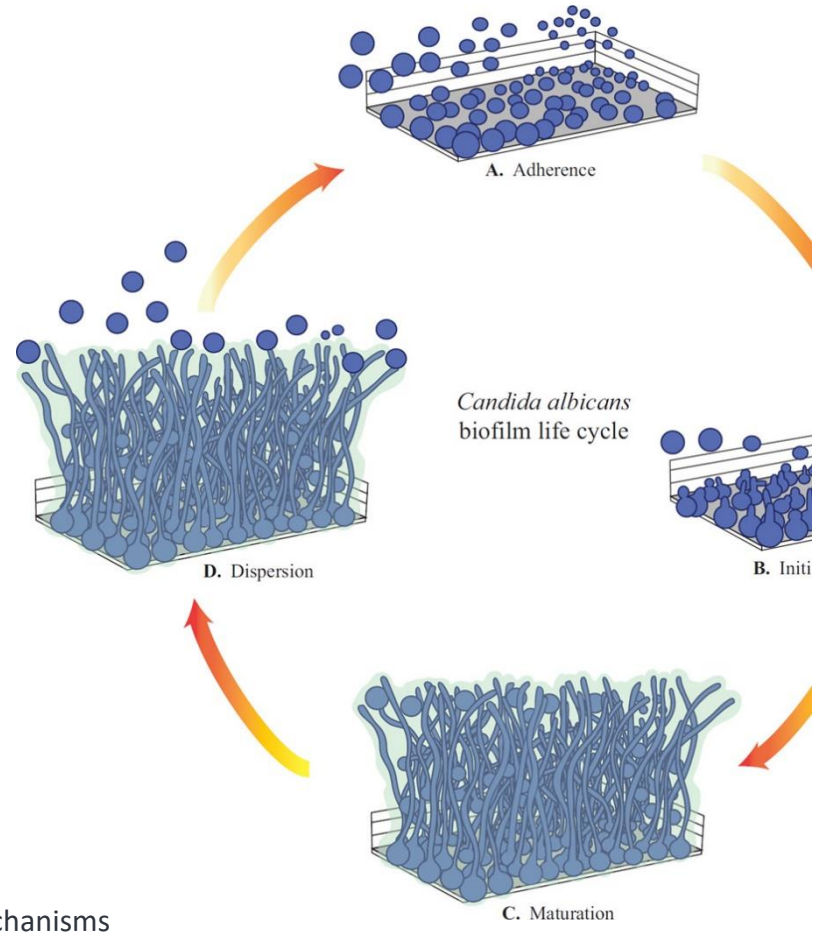
C. albicans biofilm life cycle

A. Adherence of round yeast cells to a surface.

B. Initiation of biofilm formation, where cells proliferate to form a basal layer of adhered cells.

C. Maturation of the biofilm, where complex layers of polymorphic cells develop and become encased in an extracellular matrix.

D. Dispersion, where round yeast cells leave the mature biofilm to seed new sites.



Source: Candida albicans biofilms: development, regulation, and molecular mechanisms

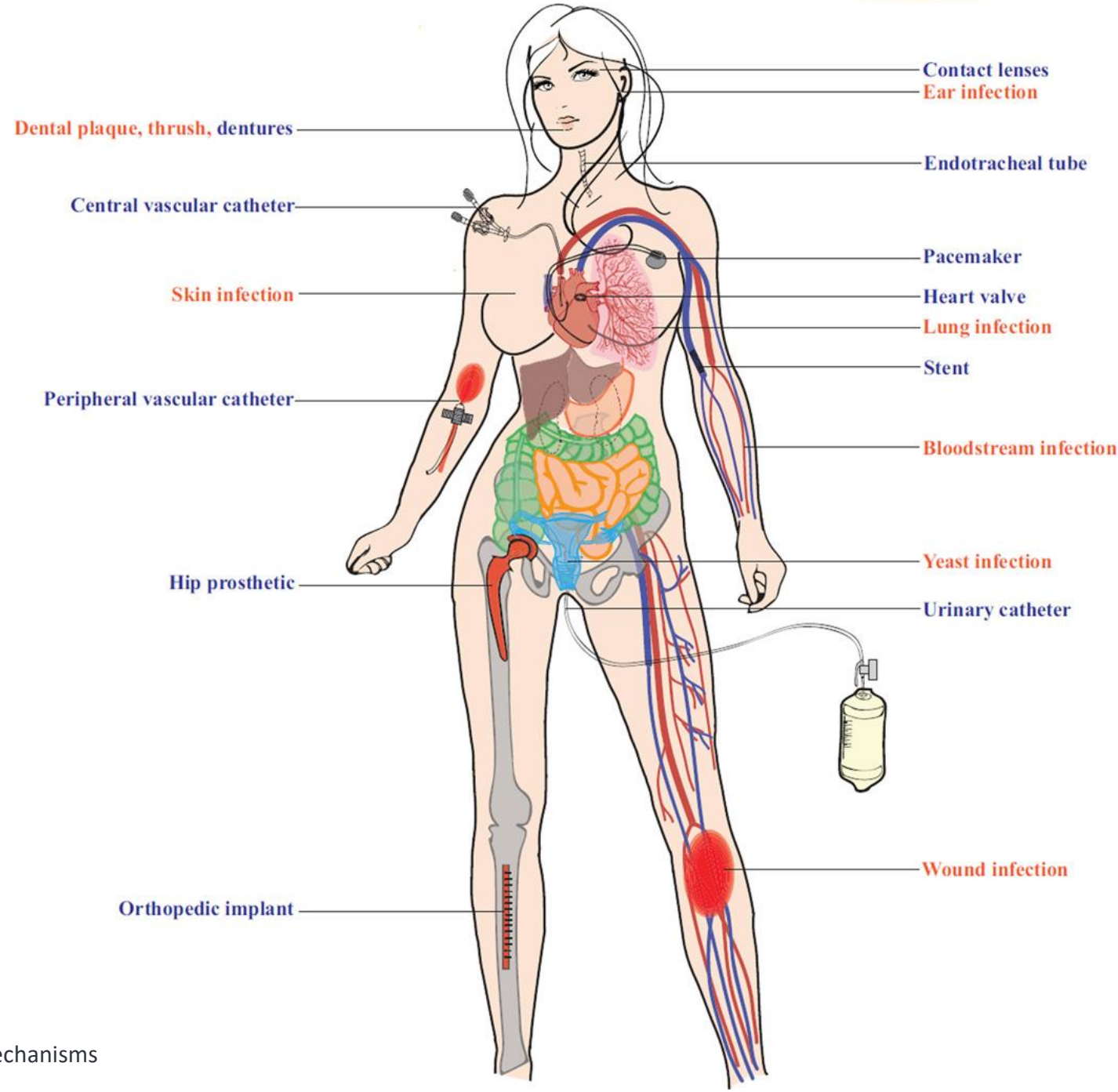
C. albicans biofilm-associated infections

In healthy people, biofilms colonize exterior epithelial and mucosal surfaces.

In immunocompromised people, Candida biofilms are capable of invading nearly every organ

Blue: C. albicans infection through the use of a medical device directly colonized by a biofilm

Orange: localized or disseminated infection originating from a biofilm



Source: Candida albicans biofilms: development, regulation, and molecular mechanisms

Mould/Candidiasis connection

Mycotoxins are naturally occurring toxins produced by certain moulds (fungi) present in food, humid indoor environments, including water-damaged buildings

Inhaling mould spores or eating mouldy food doesn't directly cause candida overgrowth, however it puts the body at greater risk of infection by:

- **Immune System Suppression:** black mould is toxic to our immune system and leads to suppression, making the body prone to infection – Candida is opportunistic.
- **Hypersensitivity:** in those susceptible, exposure can cause autoimmune reactions by molecular mimicry, acting as microbial superantigens or by enhancing the presentation of autoantigens.

Mycotoxins alter pathogenic and commensal microbes and plays a significant role in chronic mucosal disorders, gut dysfunction, dysbiosis, and peptic ulcers.

Moulds in foods

Common foods infected with moulds that are producing mycotoxins, and the impact on the human body.

	AFLATOXINS	AFLATOXIN M	OCHRATOXIN A	PATULIN	FUMONISIN	ZEARALENONE	T2 & HT2	DEOXYNIVALENOL
Mould producing organisms	**Aspergillus**		**Aspergillus Penicillium**	**Penicillium**	**Fusarium**	**Fusarium**	**Fusarium**	**Fusarium**
Target Organ	liver	liver	kidney				skin airways stomach	
Commodities affected	Almonds Peanuts Brazil Nuts Walnuts Corn Dried Fruit Soya Beans Rice Spices Animal Feed Tea Cocoa Coffee	Milk Yoghurt Cheese Baby Food Butter	Wheat Barley Oats Rye Wine Beer Coffee Dried Fruit Spices Chocolate Pig Kidney Cocoa Liquorice	Apples Apple Juice Cider	Maize Popcorn B'fast Cereals Baby Food	Wheat Barley Oats Rye Animal Feed	Wheat Barley Oats Rye Animal Feed	Maize Barley Popcorn B'fast Cereals Baby Food Pasta

Source: mycotoxinlaboratory.co.uk

Hormone/Candidiasis Connection

- Over use of **birth control pills** (acne/ hormonal issues)
- **Estrogen** helps candida grow - Pregnancy and birth control pills lead to a spike in the body's estrogen levels helping candida germinate and thrive
    - Increase in thrush infections (and issues like bloating and flatulence) during pregnancy.
    - Candida can bind to estrogen and prevent it from being taken up by estrogen receptors.
    - Candida produces a waste product that, in the human body, mimics oestrogen[1]
- Symptoms include PMS, Erratic periods, Irritability or mood swings, Anxiety and panic attacks, Fluid retention, Weight gain, Inability to lose weight and worse symptoms around menstrual time
- **UK-wide stress survey** in 2018 found that 81% of females in the UK have felt so stressed at some point over the last year they felt overwhelmed or unable to cope (compared to 67% of men)
    - Stress weakens immunity with Candida often being a roadblock to that balance.
    - Chronic exhaustion may point to thyroid troubles.
- **Thyroid:** approx. 20% of T4 to active T3 conversion takes place in the GI tract…
    - Candidiasis can lead to **dysbiosis, food sensitivities, leaky gut, malabsorption, deficiencies**, and **over-reactive immune system**. In some cases, an **over-activation of helper Th2 leads to Hashimoto's**
- **Oral or vaginal thrush** can also be a sign of GI Candidiasis
- **Type 2 Diabetics** are more prone to thrush due to blood sugar dysregulation
- **Important to treat both candida and hormonal imbalances at the same time.**

1. https://pubmed.ncbi.nlm.nih.gov/7582028/

Testing considerations

Stool tests

- Microscopy determining if abnormally high levels of yeast (> +1) are present.
- Fungal markers or yeast present in the sample
- microscopic examination and stool culture allows for better detection

Genova Organix Profile:

- Detects fungal metabolism in the urine, elevated levels maybe a sign that there is fungal overgrowth

Testing Considerations

Comprehensive Organic Acids Test by Great Plains Laboratory (more easily detectable in the urine)

- The OAT is a simple at home urine test that looks at key metabolites of bacterial, yeast, mitochondrial metabolism, cellular health, neurotransmitters, B vitamins**. Includes** 70 markers including 9 yeast and fungal markers
- **GI Ecologix 360 stool test** very comprehensive readings
- Candida can also be a possible cause of recurrent cystitis, when urine tests are negative for bacteria
- Consider liver readings and fatty liver being a hint at mould

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.

Two of the major toxic substances are:

Acetaldehyde a metabolic byproduct, 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.

Liver support and antioxidants are often beneficial to protect the cells from oxidative stress

1. https://pubmed.ncbi.nlm.nih.gov/19396661/ 2.https://pubmed.ncbi.nlm.nih.gov/21401890/
3. https://pubmed.ncbi.nlm.nih.gov/15327264/ 4. https://www.gastrojournal.org/article/S0016-5085(01)21186-X/abstract

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)

Aims of the Programme

- Open elimination channels and get them draining properly.
- Purify the body of accumulated toxins that can lead to permeability and candida proliferation.
- 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.

THINK DRAINAGE Before Detoxing

- Drainage enables the main detoxification organs to work efficiently to minimise the healing crisis/ die off reactions
- Cleanse all the organs of elimination: bowel and intestines, lymphatic system, kidneys, liver, gallbladder and skin
- Need to prevent autointoxication of the tissues and organs
- Supporting all the main elimination channels helps to remove the layers of toxicity.

Phase 1: Supporting Elimination Channels

Duration: 2-4 weeks

a) Clean Up the Diet

b) Manage Stress Levels

c) Cleanse the Liver and Gall Bladder

d) Optimise Digestion and Bowel Function

e) Support the Lungs, Lymphatic System and Skin

a) Clean Up the Diet

- Optimal hydration with filtered water/ hot drinks outside of meal times to helps the organs and every cell working more efficiently (think fresh lemon, lime, cayenne pepper, ginger, turmeric).

- 24-48 hrs fasting may help expediate the cleansing process.

- Exclude food sensitivities and intolerances, the most common being sugar, wheat, gluten and dairy – Food diary or Food Inflammation Test maybe helpful.

- Help clients to read food labels minimise toxins food foods and drinks (go organic, buy locally, minimally packaged and processed), personal care products (aluminium from deodorants, fluoride in toothpaste).

Start on a Low FODMAP diet

- Misconception is to start on an extremely low-carb diet such as a remove complex carbohydrates—polysaccharides and disaccharides—from the diet. Disaccharides and polysaccharides are difficult to break down and they may potentially feed overgrowth
- Main problem with this approach is that it can become ketogenic.
- Some research suggests that Candida and other yeast can thrive on ketones.
    - Neutrophils (white blood cells) are less able to kill Candida when ketones are present
    - Antifungal drugs and botanicals tend to work better in a fed state than a fasted (ketosis) state
- The idea is not to starve things out but to bring things back into balance.
- FODMAPs are fermentable carbohydrates; oligosaccharides, disaccharides, monosaccharides, and polyols which are poorly broken down. They become food for the fungal/bacterial overgrowth. Some carbohydrates are permitted, including some starches

Anti-Candida Diet

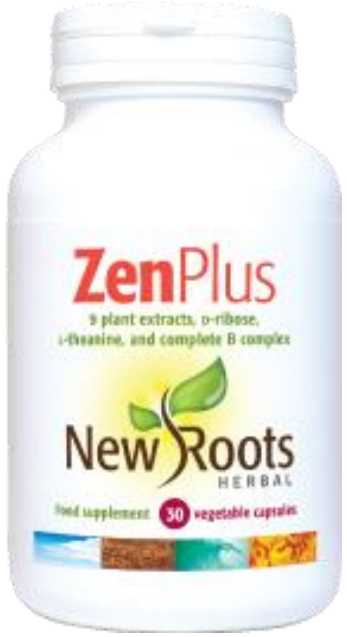
- **Start with Low FODMAP**
  - Small amounts of quinoa and root vegetables such as beets, sweet potatoes and squash from time to time.
  - Include lots of **healthy fats and clean proteins** can be beneficial.
  - **Cruciferous vegetables** contain isothiocyanates. These sulphur- and nitrogen-containing 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.**

- **After 30 days** consider introducing **small amounts fermented foods** (1-2 tbsps. daily) (some people with candida overgrowth are unable to tolerate fermented foods and have a heightened IgG inflammatory response to any yeast forms).

b) Manage Stress Levels

- Stress increases cortisol, which impairs immunity and causes elevated levels of blood sugar, allowing candida to thrive.
- Stress can also negatively effect our digestion.



3 in 1 formula

- ✓ 8 adaptogenic herbs
- ✓ B complex
- ✓ L-theanine

ZenPlus Nourishes the adrenals, calms the nervous system, increases energy and improves cognition

Use: 1-2 caps in the morning for 1-2 months

c) Cleanse the Liver and Gall Bladder and balance hormones

Body whispers of liver imbalances

- Headaches
- Bad breath
- Slight yellowing in whites of eyes
- Dark circles under the eyes
- Night sweats

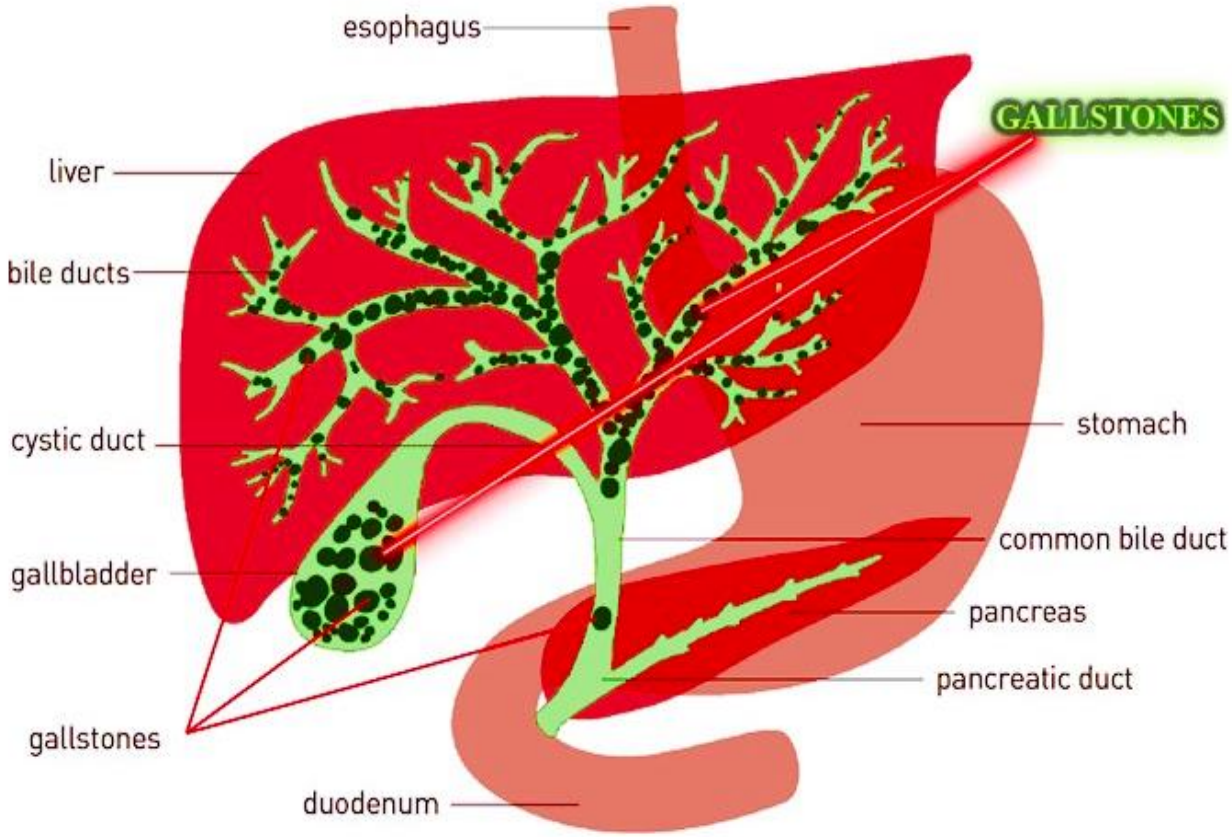
- Heat on the tongue
- Constipated
- Itchy skin
- Discomfort after fatty foods
- Poor bowel movement
- Floating stools

Liver Congestion and Stagnation

- 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…
- Bile is the first line of defence against any infection.
- 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.

Gallstones in the Liver

- Andreas Moritz among others believe most gallstones form in the liver and less in the gallbladder.
- Consisting of primarily cholesterol or calcium or bile pigments but can also incl. toxins, bacteria, mucous and dead parasites.
- Have you tried a liver flush?



Gentle Liver Flush

5 Day Liver Flush recipe to soften stones

Ingredients:

- ✓ Juice of 1 lemon
- ✓ 8 fl oz water
- ✓ 1 clove garlic
- ✓ 1 tbsp organic olive oil
- ✓ 1 chunk of ginger root

- ✓ Evening meal should be lighter and no later than 6pm
- ✓ Take between 10-11pm immediately before going to bed
- ✓ Over the 5 days aim to increase to 4 tbsp of olive oil and 4 cloves of garlic (increase ginger if required)

Recipe from Gabi Forrester; Bridging the Gap

Balancing hormones

Stabilizing hormone levels may help to keep candida at bay

Dong quai, Vitex, Siberian Ginseng, Corn Silk, Cramp Bark, Black Cohosh, Red Clover, Dandelion

- Balancing oestrogen/progesterone.
- Anti-spasmodic to relieve cramping and lower back pain and relax the uterus.
- Relieves breast tenderness, headache, liquid retention.
- Beneficial for low adrenal function and thus emotional well-being.

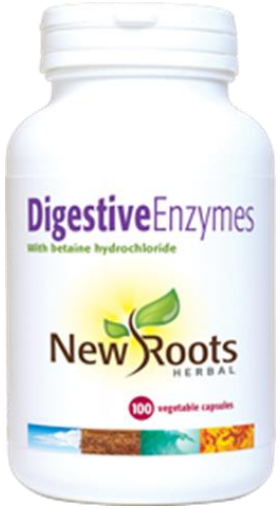
Dong quai, Vitex, Black Cohosh, Red Clover, Dandelion, Wild Yam

- Controlling excessive menstrual flow.
- Regulates the balance of oestrogen and progesterone… the addition of the wild yam stabilizes oestrogen levels.
- Relieving night sweats, hot flashes and vaginal dryness, palpitations and insomnia.
- Reduces irritability, mood swings and depression.

d) Optimise Digestion and Bowel Function

- Low stomach acid and poor bile flow promotes the growth of yeast, bacteria and pathogens.
- Poor bowels bowel movements leads to the recirculation of bad oestrogens and microbial endotoxins, increasing inflammation and impairing liver function.
- Observe bio-individuality in food mood poop diary.
- Oral Epsom Salt Enema: flushes out the entire digestive tract and colon and supports liver detoxification.
- Colonics or enemas...

- Enzyme deficiencies are a major contributor to maldigestion.
- The acidity of the stomach is a primary defence against infection.



- Betaine
- Bile extract
- Pancreatin
- Pepsin
- Papain (papaya plant)

Enemas

Colonic Enema

- 6x camomile tea bags, leave to cool, hold rectally for 7-15 mins.
- Water needs to reach the descending colon.
- 3 or more consecutive enemas 2x weekly.
- A full colon clear out may require more sessions over the month.
- Replenish fluids and electrolytes.

Oral enema

- For 3 weeks, mix 1 tsp. oral Epsom salt (magnesium sulfate) with 1 glass of warm water and drink first thing in the morning.
- Can be done 2-3 times per year.

New Roots HERBAL

e) Support Lungs, Lymphatic System & Skin

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

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Quality Assurance

Every supplement bottle is tested for

- ✓ Potency
- ✓ Oxidation
- ✓ Disintegration
- ✓ Purity
- ✓ Certificate of analysis

ISO 17025 L-A-B ACCREDITED

NON GMO

GOOD MANUFACTURING PRACTICE GMP

Phase 2: Intestinal Cleanse

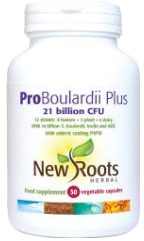
Duration: 3 weeks

Phase 1 Cleanse & Detoxification

Sweeps the intestine clean from parasites and toxic residue

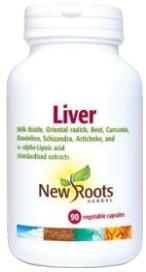
OR

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



Biofilm disruptor & Liver support

Support liver detoxification whilst breaking down biofilms

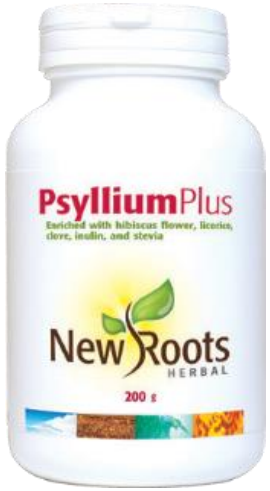


Phase 2: Psyllium Plus / Ultra Purifiant Cleanse

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.

Optimal Hydration

Drinking plenty of clean filtered water through out the day

- Warm lemon water first thing in the morning. Also add lime and cayenne pepper to flush the digestive tract and stimulate the kidneys.
- Beneficial teas; chamomile, cinnamon, ginger, sage, dandelion root, licorice root, fennel seed, pau d’arco.

Biofilm breakdown and liver support

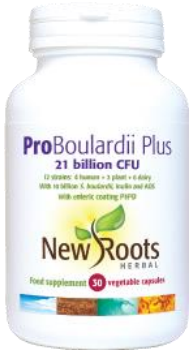
Dietary treatment

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

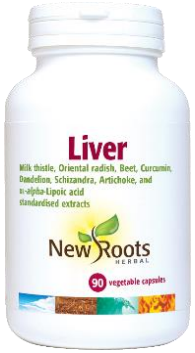
How to know a treatment is working or not working

- 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

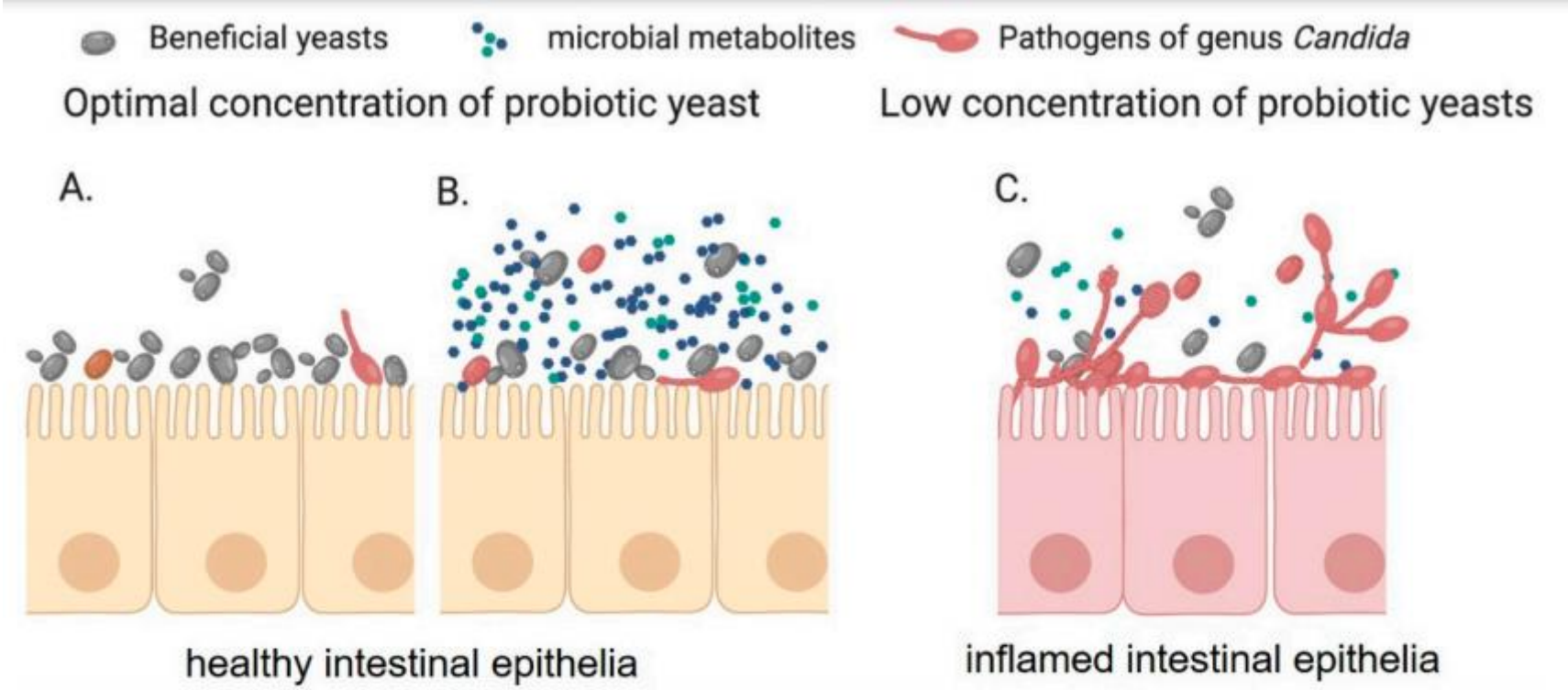
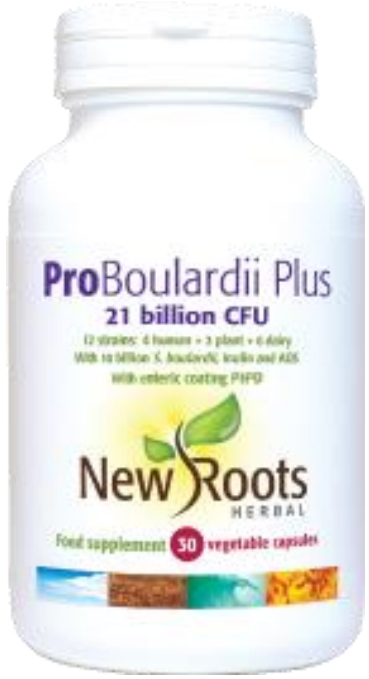


Figure 1. Probiotic yeast either form a physical barrier on epithelial surfaces (**A**) or secretes bioactive metabolite (**B**) to inhibit the adhesion and morphological transition of *Candida* species on epithelial cells. Further, suitable probiotic yeasts cell number is required for the effective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



Candidiasis Programme

Phase 1: Supporting Elimination Channels (2-4 weeks)
Phase 2: Intestinal Cleanse (3 weeks)
Phase 3: Overcoming Candidiasis (6 weeks)
Phase 4: Gut Healing (16 weeks)

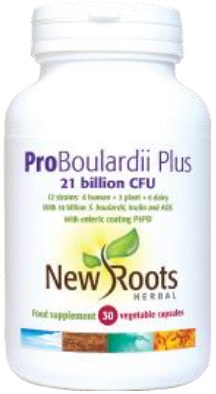
Phase 3: Eliminating Candidiasis

Duration: 6 weeks

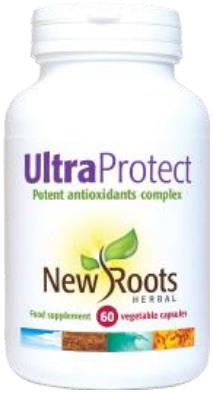
Candida Elimination

<u>OPTIONAL</u> TO REPLENISH ANTIOXIDANT RESREVES

2 CAPS 3x DAILY
FOR 6 WKS



1 CAP DAILY
FOR 12-WKS



1 CAP DAILY
FOR 6 WKS

ADVANCED SOURCE OF CAPRYLIC ACID
Short-chain fatty acids from coconut, in the most advanced form for optimal absorption.[5]

Caprylic acid from magnesium	Caprylic acid from calcium	Caprylic acid from zinc
90 mg	90 mg	20 mg

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

ANTIBACTERIAL / ANTIFUNGAL
Highly concentrated herbal extracts, effective against fungi, bacteria and parasites

Odourless garlic 62,5 mg	Antiseptic, antifungal and antibacterial. It helps maintain natural immunity.[5]
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]

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

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]

New Roots HERBAL

Overcoming Candidiasis

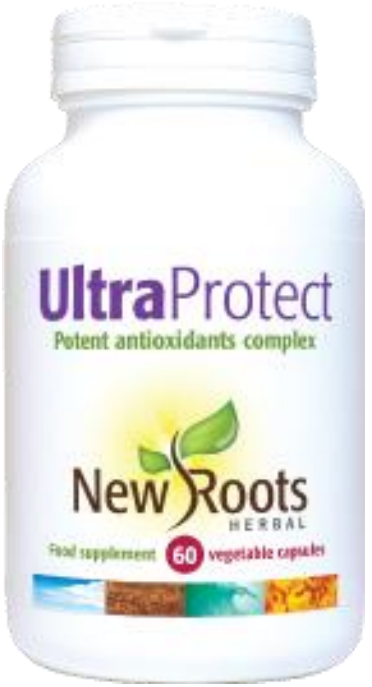
Advanced formula

2 capsules 3x daily for 6 weeks

Antioxidant Protection

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

- **Ultra**Protect 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

Phase 1: Supporting Elimination Channels (2-4 weeks)
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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 12-16

- Seabuckthorn oil with Goji, 1 soft gel daily.

Weeks 5-12

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

* use Pro Boulardii Plus if there is chronic or recurrent candidiasis for prevention.
** use Human-Biota if re-occurent infection is less likely.

Candidiasis Programme Variants

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

Children’s programme

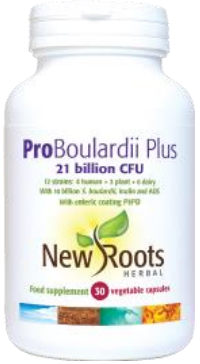
For 6 weeks:

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.

Vulvovaginal candidiasis: switch the probiotic to:

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

Downloads available

- Presentation slides and protocol
- Anti-candida meal plan

Link: https://www.newrootsherbal.eu/en/webinar-candidiasis

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