



Candid about Candida: Myth or Menace?

the syndrome many people refer to as chronic candida or candidiasis is a reality, but the restrictions of focus these terms impose – limiting the discussion to a single organism and its eradication, rather than a disrupted gut ecology and its restoration – lead to therapeutic approaches which will not address the foundational imbalances at work, and may cause harm.

a few sample protocols

a common "natural" protocol might look something like this:

- "antifungal" herbs: black walnut, pau d'arco, olive leaf, neem, goldenseal
- internal use of oregano or tea tree essential oils
- colloidal silver, GSE, or other such agents
- Diflucan, Nystatin or other antifungal pharmaceuticals as "last resort"
- dietary restriction of "foods high in yeast or mold"
- instruction to expect a Herxheimer (die-off) reaction, and take it as evidence of efficacy

a commercial supplement company's "purification" protocol:

- "purification": "detox" supplement (n-acetyl cysteine, milk thistle, schizandra, turmeric, dandelion, greens powders) + "cleansing" powder (multi-vitamin/mineral, enzymes, nettle, dandelion, burdock, milk thistle, pea protein) + "antifungal" capsule (C, B1, zinc, caprylic acid, olive leaf, Oregon grape, oregano oil, garlic); dietary restriction; 7 days

a common commercial "natural antifungal" product:

- ingredients: caprylic acid 800mg, calcium caprylate 40mg, goldthread (10% alkaloids) 100mg, pau d'arco (3% naphthoquinones) 60mg
- dose: 2 capsules, 2x/day

let's be clear: sometimes these things "work". maybe you've been told your problems stemmed from candida, and you used a protocol like this and it worked. that doesn't mean it was the best possible solution, or that its success means the theory behind it was right, or that it would work again next time. Katja can tell you about when she & Amber had thrush, and she finally took oregano oil in capsules – the thrush went away, but... on the other hand, Ryn once gave himself chemical burns applying oregano & tea tree oils to a fungal skin infection.


to be fair, most protocols also include elements likely to help, though whether they help for the reasons stated for their inclusion or for another reason entirely is up for debate. for example, many anti-candida diets will restrict cheese on the basis of the molds involved in its production; this elimination may be extremely helpful to a client who has a dairy allergy, even though the cheese molds are not themselves problematic for him.

problems with these approaches

first, we have factual problems with a few details of the "candidiasis" story. then, we have problems with the underlying theory at work here.

systemic candidiasis

true "systemic candidiasis", or candidemia, occurs only in severely immunocompromised individuals and is fatal in at least 30% of the cases. a white coating on the tongue, chronic



sinus infections, asthma, GI disturbances, skin problems . . . none of these symptoms *always* indicates yeast overgrowth. all can have non-yeast causes. at least one study comparing candida symptom questionnaire scores and stool analysis showed completely random distribution of symptoms relative to fecal candida prevalence. regarding the herx reaction, we can compare the symptom list to a list of side effects for Diflucan or other high-powered antibiotics; there's much overlap.

"eating yeast feeds yeast" and other dietary dogmas

"candida control diets" are a mixed bag, often with little coherent explanation and much contradiction between different proponents. raw food diets, food-combining regimens, rotation diets, juice fasts, and other plans are put forth as a final solution.

some protocols ask people to restrict yeast, mushrooms, kombucha, etc. but medicinal mushrooms are among our best immune-stimulating herbs! and fundamentally, it's foolish to reject an entire taxon of organisms because one member is opportunistically infectious. it would be like saying that acidophilus supplements contribute to H. pylori overgrowth, because they're both bacteria.

one commercial product is a combination of "enzymes to digest fungal cell walls" (cellulase, hemicellulase, invertase, glucoamylase, etc), and claims to have "no impact on healthy probiotics" – but what if some of those friends are themselves fungal? at least one *Saccharomyces* species has been put to use as a probiotic supplement itself!

avoidance of fermented foods (both alcohols and lacto-fermented vegetables, e.g. sauerkraut) is a particularly recurrent recommendation. the argument is that these fermented foods contain high levels of yeasts in addition to their other microorganisms, and is often paired with an exhortation to eat raw food for its "enzymes". this is uninformed thinking, because a properly made ferment will have lactobacillus species crowding out all other organisms, and is likely to in fact have fewer yeasts present than is a raw vegetable!

drawbacks to using strong anti-fungal herbs

primarily, the issues here are with causing constitutional derangement. why take a cure that can cause a new problem?

energetics:

- a cold herb is useful if there's an inflamed expression of infection.
- a hot herb is useful if there's deficiency or impaired function.
- a dry herb is useful if there's a moist/oozing tissue or mucous membrane.
- a moist herb is useful if there's atrophy or dehydration in a tissue.

degrees of action:

- 1st degree: has a mild effect, can correct imbalance but won't cause problems.
- 2nd degree: more strongly adjusts imbalances, but usually not injurious, even with long-term use.
- 3rd degree: very strong – use in too high a dose or for too long can cross the boundary and become injurious.
- 4th degree: either outright toxic, or can cause tissue destruction in a fairly short time.

energetics & degrees of some common anti-fungal herbs:

garlic	hot 4 dry 3
cayenne	hot 3 dry 3



myrrh	hot 3 dry 3
clove	hot 3 dry 3
oregano	hot 2 dry 2
neem	hot dry
thuja	hot dry
olive leaf	cold dry
pau d'arco	cold dry
barberry	cold 2 dry 2
wormwood	cold 2/3 dry 2
goldthread	cold 3 dry 3
black walnut	cold 3 dry 3
goldenseal	cold 3 dry 3/4

often an anti-fungal herb blend will combine potent hot, dry, and cold remedies – it **isn't targeted to tissue status, but to microscopic action**. these herbs can further inflame or damage an already irritated gut wall.

such herbs also have effects on other commensals – they are not candida-specific. oregano, for instance, has a broad-spectrum action and kills off bacteria, fungi, parasites, and virally-infected cells. pau d'arco has constituents which kill *H. pylori*. in high doses, these and other "antifungal" / antimicrobial herbs may kill off your "friendly" gut microbes as well, or – just as problematic – make the terrain of the intestines unfriendly to them (as goldenseal, an extraordinarily powerful astringent, can do, by drying out the gastric & intestinal walls).

kill everything, and let your guts sort 'em out?

even if this approach was effective – if you *could* kill off all of the candida in your system using herbs & natural supplements – that wouldn't be the end of the story. thinking so implies the belief that candida arrived from somewhere, took hold of your system, and made you sick – for no other reason than exposure. but pathogenic colonization by yeasts requires that the innate human host defense has been compromised in some way.


antibiotic use is recognized as a contributing factor in candidiasis cases both supposed and verified. say you took an antibiotic and killed off everything, and then candida overgrew. in this case, you made a vacancy and candida filled it – the antibiotic disrupted the normal balance of flora, compromising host defense.

the best possible outcome when taking a powerful antimicrobial formula would be to *completely* kill off *only* those organisms you don't like. this is unlikely, though, as these agents are not so specifically targeted, and the doses involved would cause the constitutional/energetic imbalances discussed a moment ago – not to mention more directly hepatotoxic and otherwise damaging effects of high doses of concentrated extracts (e.g. oregano essential oil).

more likely, you would *partially* eliminate *several* varieties of commensal gut flora – some of them harmful, some helpful. so unless your treatment was continuous, "candida" would always be able to regrow and fill in the vacancy again.

most importantly, you wouldn't have addressed the underlying imbalance that "candida" took advantage of last time you made a vacancy.

dysbiosis



this is the more accurate name for the broader condition people are experiencing when they get the symptoms they refer to as "candidiasis". it can be due to the overgrowth of a normal commensal (candida, H. pylori, etc), or the introduction of an unusual agent (C. difficile).

first, let's emphasize that the gut has *at least* 500 species of bacteria alone, plus fungi, protozoa, archaea, viruses, . . . and then there's the mouth, vaginal canal, ears, etc; counts vary, but certainly more than 10,000 species all told. many different dysbiotic states are possible. restricting ourselves to fungi & yeasts, herbalist/researcher Steven Horne indicates there are ~5000 species of fungi commensal with the human (including Saccharomyces and Penicillium species), and 200 of those may be involved in "yeast infections".

in our antibiotic-laced world, it's possible to go your entire life without ever having "normal" healthy gut flora. caesarean birth, postnatal antibiotics, vaccines, formula-feeding, hypersanitized environmental conditions, antibacterial soaps, and other common features of the contemporary lifestyle all contribute to dysbiosis from the get-go. further insults follow. this is an extremely common condition.

dysbiosis is normally understood to occur when *too many* of a particular organism are present in the system, but we also see problems when people have *too few* of a normal commensal. H. pylori, for instance, is problematic when overgrown, causing stomach ulcers to form – but as it plays a role in the regulation of satiety and hunger hormones, it's unhealthy to have it completely eliminated from the system. (could trace amounts of candida be similarly beneficial? there is at least one clinical trial showing a constituent of candida "yeast ghosts" to have a potent anti-inflammatory effect.)

causes of dysbiosis

what makes the vacancy? what makes the terrain appealing to candida & other unfriendly gut microbes? what makes the pond stagnant & attracts the mosquitoes?

- antibiotics
- other pharmaceuticals (PPIs & antacids cause hypochloridia; opiates inhibit intestinal motility; corticosteroids & birth control pills burden liver & disrupt immune function; sulfa drugs & chemo destroy healthy flora)
- stress
- malnutrition
- diet high in refined carbohydrates *
- hypochloridia (low stomach acid)
- metabolic dysregulations & blood sugar imbalances (disrupt endocrine & immune functions)
- constitutional imbalances

* or, potentially, too low: yeasts & fungi have mitochondria and can use ketones for fuel (bacteria don't & can't).

see also SIBO (small intestinal bacterial overgrowth) – which contributes to malabsorption, leaky gut, GERD, IBS, etc.

eubiosis protocol

or, finding the good life.



healing the terrain

- eliminate food allergens
- provide nutritive diet
- heal leaky gut: bone broth, gut-heal tea
- improve digestion: bitters (watch for dryness) and/or carminatives
- restore immune function (sleep, nourishment, herbs)
- mitigate stress
- vitamineral supplementation as needed (D3, magnesium, B vitamins)

repopulating healthy gut flora

the question is, what's inhibiting the competition? what's preventing friendly microbes from predominating? usually, it comes down to food supply. what can we do to shift conditions in favor of our friends?

- sugar restriction – this is challenged on a pathophysiological level and the idea that "all sugar feeds yeast" may be oversimplistic, but the efficacy is undisputed; remember also that the immunosuppressed are most at risk, and 2oz of sugar reduces white blood cell activity by 40% for 5 hours.
- soil and animal exposure – the "old friends" and "hygiene" hypotheses; children of the same descent raised in agrarian vs urban diets have wildly different rates of asthma, allergy, and autoimmune disease; even children with pets have lower rates of allergy than children without.
- probiotics: fermented foods*, supplements – there are some questions about the theory of "refilling the stockpile", but the endpoint efficacy is undisputed; ferments are preferable to supplements.
- prebiotics: fibrous vegetables**, inulin-rich herbs (elecampane, chicory, burdock, dandelion) by decoction – likely even more important than probiotics; microbiota metabolize them into SCFAs which are available as fuel to the gut lining cells, and stimulate closure of the tight junctions.
- fecal transplants, in extreme cases.

* humans have always taken probiotics every day – just not in capsule form. fermented foods like kimchi and sauerkraut contain probiotic bacteria, but perhaps more importantly, they also contain prebiotic fibers – the kinds of fibers most preferred by your beneficial gut microbes. when traditionally made, they're also wild, local, and broad-spectrum – rather than being isolated to a single strain or a few selected variants, as are most commercial probiotic supplements.

** we've bred even our fibrous vegetables to be softer, easier to chew. we don't develop the muscles required to chew raw burdock root. eating primarily cooked and processed foods results in lower loads to the muscles and bones of the jaw. this affects the modeling (bone formation) of the jaw during childhood, and can result in crowded teeth or atrophied muscles unable to stabilize the joints. the development of the muscles in the jaw and throat, vocal cords, Eustachian tubes, lymphatic channels, glands, etc are also impacted.

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