The Fungal Acne Treatment Bible (2020): Cure Malassezia With Science!

by f. c. | Last updated Jul 14, 2020 | 2,422 comments

Attention all skin warriors:

If you want exclusive updates about our upcoming skincare brand, Malezia — **follow us on instagram.**

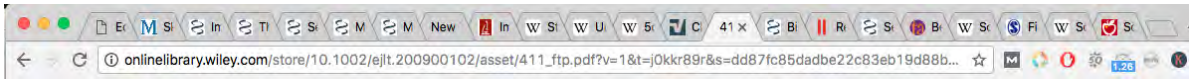
Greetings earthling! This blogpost has now helped THOUSANDS of people since it was written almost two years ago, gets updated regularly, and contains hundreds of helpful responses in the comment section below. I say this for two reasons:

1. Everything you need to possibly know about how to cure fungal acne / malassezia can be found on this page. **And I mean EVERYTHING**.
2. Pretty please read the whole dang thing before leaving a comment! I know it's overwhelming, I know it's long, but trust me — your question has probably already been answered. Thank you for being considerate, skin warrior! ☺

Now back to our originally scheduled programming…. 😉

First and foremost, my sincerest apologies for taking so long to finally publish this. I assure you I've read everyone's messages, and I'm so sorry if I haven't gotten back to you.

This article took an *unbelievable amount of research.* A lot more than I expected. For reference, check out what my browser looked like on any given day I was writing this.



It's no secret that treating pityrosporum folliculitis is complicated business. I mean seriously, a recent medical paper in 2014 was literally titled "Malassezia infections: A medical conundrum," because of how problematic and complex these diseases are becoming.

BUT…. today you will be learning absolutely everything you need to know about how to DESTROY this thing once and for all.

This blogpost is ~13,000 words long, or about 50 pages if this were a book, and references north of 180 studies. Take your time with it. You will learn a lot, and I've tried to answer every possible question you might have.

With that said, here's a list of everything we will be talking about today.

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What is Pityrosporum Folliculitis?

A f*cking a**hole that's what! Alright, but seriously…..

Pityrosporum Folliculitis a.k.a malassezia folliculitis is an acne-like breakout often accompanied by itchiness that flares most in areas with a lot of sebaceous activity. (1) This includes the t-zone area of face (especially forehead), shoulders, chest, and back.

If you need a visual here's a google search.

It's frequently misdiagnosed as "normal" acne, which is extremely frustrating because this often leads to unnecessary and prolonged treatment with medications like antibiotics that only further exacerbate the condition. (2, 3, 172)

Like a pair of researchers put it,

> "Malassezia (Pityrosporum) folliculitis is a fungal acneiform condition commonly misdiagnosed as acne vulgaris. Although often associated with common acne, this condition may persist for years without complete resolution with typical acne medications." (4)

And by typical acne medications, they're even referring to Accutane a.k.a. the most powerful prescription drug available today. Yup, can you believe that? This damn thing is so stubborn that there have been several cases of relapse after courses of accutane. (5)

It distinguishes itself from traditional acne in that it's ***fungus not bacteria*** causing the breakouts.

Particularly, a little son a b*tch called malassezia. This is a genus of fungi that is an ordinary part of the skin's microbiome (i.e. the healthy bacteria and yeast that live on skin), and is found in an estimated 92% of all people, but for poorly understood reasons becomes pathogenic for select individuals. (6, 7, 8)

It's a polymorphic, lipophilic microorganism meaning it thrives on the lipid composition of sebum. (9) Or more simply put, it grows in the presence of human skin oil.

> "Human sebum is the lipid source these yeasts thrive on because it is a complex mixture of lipids. It contains triglycerides, fatty acids, wax esters, sterol esters, cholesterol, cholesterol esters, and squalene. Sebum is utilized by breaking down triglycerides and esters, into diglycerides, monoglycerides, and free fatty acids." (10)

This fungi starts causing skin problems when it transitions from the yeast to mycelial phase. If you have no idea what that means, here's a quick refresher:

Fungi like malassezia have something called a hypha (hyphae for plural), which is collectively known as the mycelium. This is the part of the organism that allows it to growth via asexual reproduction. It does this by absorbing nutrients from its environment. In the case of malassezia, that's facilitated by the fatty acids in your skin's oil (sebum).

If you're confused, here are those terms again.

- Hyphae = part of fungus that allows it to grow by eating stuff.
- Mycelium = a group of hyphae.

Got it? Cool. We will use these terms later so keep them in mind.

Different Species of Malassezia

Within this family of fungi, there are 14 main lipophilic species that have been isolated from human and animal skin. They are….

- *M. caprae*
- *M. cuniculi*
- *M. dermatis*
- *M. equina*
- *M. furfur* (combination of *P. ovale* and *P. orbiculare*)
- *M. globosa*
- *M. japonica*
- *M. nana*
- *M. obtusa*
- *M. pachydermatis*
- *M. restricta*
- *M. slooffiae*
- *M. sympodialis*

Different species can cause different skin problems, which leads to our next section….

Skin Conditions Associated With Malassezia.

Unfortunately, pathogenic malassezia isn't limited to just pityrosporum folliculitis. (10, 11) Research has shown that this fungus may play a role in all the following skin conditions:

- Acne. [69, 70, 177, 178, 179, 180, 181, 189, 190]
- Atopic dermatitis a.ka. eczema (associated with *M. globosa*, *M. furfur*, *M. sympodialis*, and *M. restricta*). [12, 13, 14, 15, 16, 191]
- Dandruff (associated with *M. globosa, M. restricta*). [17, 192]
- Psoriasis (associated with *M. furfur, M. restricta*, and *M. globosa*). [18, 19, 20]
- Seborrheic dermatitis (most commonly caused by *M. furfur*, *M. globosa*, *M. restricta,* though *M. sympodialis, M. obtuse, M. slooffiae,* and *M. yamatoensis* have been implicated. Recent research has shown staphylococcus aureus also plays a role and is the most common *bacterial agent* on the skin of SD patients). [21, 22, 23]
- Tinea versicolor a.k.a. pityriasis versicolor (caused by *M. globosa, M. sympodialis,* and *M. furfur*). [24, 25]

And of course…..

- Malassezia folliculitis (most commonly caused by *M. globosa* and *M. furfur*). [26, 27, 28, 29]

Because there is a lot of overlap between all these skin conditions, the treatment guidelines I will list in this blog post for ***pityrosporum folliculitis*** can be applied to treat many of the other diseases with success.

Fun fact #1: *M. furfur* is a combination of pityrosporum orbiculare and pityrosporum ovale.

Perhaps you noticed that *M. globosa* and *M. furfur* are found in all of the skin conditions above. You'll want to remember these asswads. For **many of us**, eradicating these suckers will do the trick and cure us of our skin woes.

NOTE: I say "many of us" because that's not always true. The pathology of malassezia is very complicated, and varies tremendously according to geographical location and ethnicity. (30)

For example, Iranians with seborrheic dermatitis have very high levels of *M. globosa* and almost no *M. restricta,* and *M. sympodialis*, whereas South Koreans with seborrheic dermatitis show the opposite — predominantly high levels of *M. restricta,* and *M. sympodialis*, and a lot less *M. globosa.*

The differences in what species causes the problem probably has to do with climate. (31) We will discuss this more later.

Causes of Pityrosporum Folliculitis.

Like I mentioned above, pityrosporum folliculitis is poorly understood but there are a few predisposing factors that may cause it to flair. Let's go over them.

• Internal Factors.

There are higher incidences of malassezia folliculitis among patients with diabetes, HIV, Hodgkin's disease, organ or bone marrow transplant recipients, or those with nutritional disorders, neurotransmitter abnormalities, and immunologic deficiencies. (32, 33, 34)

Another fairly common way pathogenic malassezia is brought about is through antibiotics! (35) Indeed, prolonged use of broad-spectrum antibiotics (e.g. tetracyclines) can alter the gut microbiota and skin flora causing malassezia to proliferate. (35)

This is something that is especially frustrating because:

1. As we mentioned earlier, malassezia folliculitis is often misdiagnosed as acne.
2. Doctors are quick to prescribe antibiotics in the cases of acne despite their subpar success rate and potential side effects like fungal superinfection, gastrointestinal intolerance, and oxidative stress. (36, 37)

All the more reason you should inoculate yourself with high quality probiotics following your antibiotic use.

And lastly, there have been reported cases of malassezia folliculitis because of obesity, pregnancy, after steroid use, birth control pills, and stress/fatigue. (38, 39, 40, 41)

- External Factors.

We will discuss this in more detail in the "things to avoid" section, but in short many skincare products, high humidity, hot weather, sweat, and excessive occlusion can cause malassezia skin conditions to get worse.

Fun fact #2: pityrosporum folliculitis coexists in 56% of acne patients in the Philippines, which is probably has to do with the hot and humid environment over there. (42)

The Philippines is also number 2, in terms of region that searches the word "acne" the most on google. :'(Stay strong my Filipino brothers and sisters!

Pityrosporum Folliculitis Symptoms. How to Tell if You Have it.

Have you tried many acne medications with no success? Are you an adult wondering why the hell you still have acne? Do most skincare products cause you to breakout? DO YOU EVEN REMEMBER WHAT IT FEELS LIKE TO BE PIMPLE-FREE?

(I feel like I'm doing an awful infomercial here….)

If you answered yes to any of these questions CALL 1-800-555 — okay, I'm kidding. :p But seriously, those are all a couple of warning signs. Let's break them down.

Firstly, if you're an adult with acne this should give you food for thought. I mean, one of the first papers ever published on this subject (1985) was literally called, "pityrosporum folliculitis: a common disease of the young and **middle-aged**." As in teen-young and **adults**.

More recent papers have confirmed this is quite common among young adults (20s and 30s), (43) and one study found that 30 year olds had significantly more species of malassezia than any other age group over 40. (44)

The more obvious signs that you have it include acne-like bumps on the face (especially t-zone), back, chest, and shoulders which are sometimes accompanied by itching.

These "pimples" are incredibly stubborn and don't respond to typical acne medications. They're usually in the form of papules and pustules (i.e. no cystic acne), and when extracted the material is white/yellow.

If you need a visual here's a google search.

Another tale-tell sign is if you breakout out from literally EVERYTHING. Creams, moisturizers, toners — it doesn't matter they're all the same: **a oneway trip down breakout boulevard**. And don't even get me started on sunscreens….

And that's really it. Besides a couple warning signs and looking at photos on google and comparing things visually, there's only so much you can do at home unfortunately. :/

The best way to know for sure is by getting a proper diagnoses. This is usually done through a shave biopsy in one of the areas where it flares most (i.e. upper back, chest, shoulders, scalp, or t-zone area of the face). (45)

However, even this has limitations and might come out negative because it reveals what yeast are on the surface of skin (i.e. stratum corneum) rather than within the follicle where it's most present. If you can, tell your doctor

to extract a pustule with a comedone extractor and examine its contents under a microscope.

UPDATE 7/15/19: another easy way to self-diagnose is by using a blacklight, and examining your skin up closely. DE in the comment section below said it best:

> "If the bumps light up coral-orange-red color, it's bacterial acne, if they are blue-white-yellow it's yeast. You can even extract a papule to see the content under the light. Doctors have a lamp which is called Wood's lamp and its the same as a blacklight bulb or device (don't go DIY)."

More information about wood lamp examinations here.

What to Avoid if You have Malassezia Folliculitis.

And this is where things get depressing because there's a lot we need to steer clear of…. Let's discuss. -_-

- ### Fatty acids and Oils.

Unfortunately malassezia feeds on fatty acids with carbon chain lengths 11-24. (46, 47, 48)

Source*:* Wilde, P. F., and P. S. Stewart. 1968. "A study of the fatty acid metabolism of the yeast *Pityrosporum ovale*." Biochem. J. 108**:** 225–231.

This means that most skincare products available today (I'd say over 95% of them) are problematic because they almost always contain a variation of a fatty acid that will feed malassezia.

Keep in mind that ***oils also contain fatty acids***, usually in the from of triglycerides. Unfortunately, malassezia is quite the practical fella and has enzymes (lipases and phospholipases) that can hydrolyze triglycerides into free fatty acids. (49) In other words, it can break down the fatty acids in oils and use them to grow as well. This has been demonstrated in many studies.

Let me say that again because it bares repeating: if you have pityrosporum folliculitis you must ***avoid most oils and fatty acids***. I say "most oils" because there are 3 that we can use (more about this in the next section).

To have it handy, here's a list of the main 11-24 fatty acids you need to steer clear of.

- Undecylenic Acid (C11)
- Lauric / Dodecanoic (C12)
- Tridecylic (C13)

- Myristic / Tetradecanoic (C14)
- Pentadecanoic (C15)
- Palmitic / Hexadecanoic (C16)
- Palmitoleic / Hexadecenoic (C16:1)
- Margaric (C17)
- Stearic / Octadecanoic (C18)
- Oleic / Octadecenoic (C18:1)
- Linoleic (C18:2)
- α-Linolenic (C18:3)
- Nonadecylic (C19)
- Arachidic / Eicosanoic (C20)
- Heneicosylic (C21)
- Behenic / Docosanoic (C22)
- Tricosylic (C23)
- Lignoceric / Tetracosanoic (C24)

Source: M. Nazzaro Porro, S. Passi, F. Caprilli, P. Nazzaro, G. Morpurgo. 1975. "Growth Requirements And Lipid Metabolism Of *Pityrosporum Orbiculare*." Institute of Dermatology, St. Gallicano, Rome, Italy.

And for reference, here a list of fatty acids 4 through 38. **Remember**: it's just the 11-24 that you need to avoid.

The ones that appear most in skincare products are even numbered. Particularly lauric, myristic, palmitic, stearic, oleic, and linoleic acid. ***You can find these by looking at the ingredient list on the back of your skincare products***.

Be especially cautious of palmitic and oleic acid. These are actually used to induce the mycelial phase in vitro because they cause *M. furfur* to grow the fastest. (50)

Additional Notes.

Feel free to skip ahead, but for those interested, I'm gonna go into more detail about fatty acids here because not all fatty acids are treated equal.

Saying malassezia feeds on 11-24 carbon chain length fatty acids is catch all phrase used for safe measures. It's technically a lot more complicated than that. One of the more recent studies in 2012 revealed that malassezia has different metabolic needs depending on what species within the group we're referring to.

Pair that with the fact that malassezia varies tremendously depending on geographical location and…. well, it's no wonder people say YMMV (your mileage may vary).

Moreover, the quantity of fatty acid is also important. Sometimes a fatty acid in small amounts causes malassezia to grow, whereas the same fatty acid in higher concentrations is actually toxic. Just take a look at this bar graph.

SOURCE.

As you can see, the growth of this fungus is all over the damn place! It varies depending on the species, what fatty acids were used, and the concentration of those fatty acids. For example, when *M. globosa* is given 0.01% linoleic acid it grows, but in the presence of 0.1% linoleic acid it starts to die!

And lastly, some species grow slower than others. (51) The slow growth species are M. globosa, M. restricta and M. dermatis (these take about a week in vitro), and the fast growth species are M. sympodialis and M. furfur (grow within two days).

That's why it's important that you patch test your skincare products for at least a couple weeks! The last thing you wanna do is use a cream for 3 days and think, "Welp, I don't see any problems, let me slater this puppy all over my face," then a month later be like…. "**WHAT THE HELL HAPPENED?!?!?**"

- Esters.

Ah, esters…. I've been asked a lot about whether these will feed malassezia. It's a bit complicated, but ***the answer is yes***. However, it depends on what esters, alcohol moiety, and species of malassezia we're talking about.

Seriously, as if this sh*t wasn't complicated enough already…..

Let me try my best to simplify and explain this.

For those that don't know, esters in skincare are a combination of a fatty acid with an alcohol or glycerol. This is called a fatty acid ester. For example, you can combine palmitic fatty acid with isopropyl alcohol (i.e. rubbing alcohol) and you get isopropyl palmitate — a common ingredient in many moisturizers like the popular Aveeno Daily Moisturizing Lotion.

You can use different types of alcohols for this process. For example, combining ethanol and linoleic acid gives you ethyl linoleate, whereas combining decyl alcohol and oleic acid gives you decyl oleate.

When a fatty acid is paired with glycerin (a.k.a. glycerol) **instead of an alcohol** you get a glyceride. For example, glycerin plus stearic acid gives you glyceryl stearate.

You can find esters in your skincare products easily because they end in -**ATE**, like isopropyl palmit**ate**, decyl ole**ate**, glyceryl stear**ate** etc.

NOTE: this is not a hard and fast rule! There are exceptions, but it's a good rule of thumb.

Hopefully, I haven't lost you. Here's all that info again.

- alcohol + fatty acid = ester
- glycerin + fatty acid = glyceride, also known as a glycerol ester.
- Esters in your skincare products end in **-ATE**.

Make sense? Cool. Now to put it into context.

Turns out that malassezia species can grow with esters, but it depends on what fatty acids and alcohols are present in those esters.

For example, 96 hour culture testing revealed that *M. sympodialis* grew in the presence of ethyl esters (specifically ethyl linoleate and ethyl oleate), whereas *M. furfur* (a species that causes pityrosporum folliculitis) only grew with ethyl linoleate. (52)

Moreover, some alcohols are worse than others. To quote a paper:

> "Depending on the inoculum, yeast-dependent hydrolysis [by *M. furfur*] occurred immediately and was best effected in ethyl esters, followed by isopropyl esters, whereas hydrolysis of decyl oleate was only limited." (53)

English = esters made with ethanol are the most problematic, followed by isopropyl alcohol esters, and decyl alcohol esters.

BUT, and **this is a BIG BUTT**.

The growth of malassezia with esters mostly depends on what fatty acid it yields after hydrolysis.

WOW. This is starting to sound way too complicated. I know what you're probably thinking, "what the hell f.c., I thought this was SIMPLE skincare science?" You're right. Let me back up for a second and reexplain.

Remember how we said malassezia feeds on fatty acids with carbon chain lengths 11-24? Well, when malassezia is exposed to an ester it breaks down the corresponding glycerol or alcohol component of that ester to utilize the fatty acid.

You know what? This would probably be easier explained over video, so uh…. here's a video I made.

Hi there. Alright, we're back….

p.s. if you want me to make more videos or start a youtube channel, THEN SUBSCRIBE TO DAT SH*T! :p

Here's the take away from the video: ***esters are bad if they contain fatty acids that are within the C11-C24 range***. And what do you know, this has actually been demonstrated in a recent study. Check out this graph to see what I mean.

SOURCE.

What you're staring at is the hydrolysis of ethyl octanoate (i.e. an ester of ethanol and octanoate acid). In the photo above it begins as an ester, but turns into free octanoate acid after being exposed to *M. sympodialis*.

However, recall how octanoate acid has a carbon chain length of 8 meaning malassezia cannot metabolize it. Had it been another fatty acid within the 11-24 range, *M. sympodialis* would have used it as a food source to grow.

Here's a quote from the research paper:

> "Ethyl esters of medium chain fatty acids esp. ethyl octanoate [carbon chain length 8] can reverse the growth promoting effects [of malassezia] by generating a selective activation of antimicrobial activity esp. in areas well populated with Malassezia yeast ('targeting')…. Based on these data, fatty acid monoesters may represent a new therapeutic concept in M.-associated diseases." (54)

English = malassezia works to separate the fatty acid from ethanol so it can use it as a food source. Only problem is that once it does this, octanoate acid is like, "BAM B*TCH! POISON. I got that CARBON 8 chain length!" Then malassezia starves to death. ☺

Other esters that in vitro studies have shown malassezia can metabolize:

- PEG-7 Glyceryl Cocoate (a polyethylene glycol ester made from glycerin and coconut fatty acids)
- PEG-Glyceryl Stearate (PEG ester that breaks down into stearic acid)
- Polyethylene Glycol Stearates (mixture of mono and distearates with corresponding free glycols)

Note: polyethylene glycol monostearate was not metabolized by M. obtusa, M. globosa, M. restrica but was by M. furfur, M. sympodialis, M. slooffiae.

Interestingly enough, only *M. furfur* was able to metabolize PEG-35 castor oil. (55) And while we're on the subject of hydrogenated oils, let me quickly insert a quote on that subject matter:

> "After hydrogenation the fatty acid fraction proved to be at least as active in promoting growth as the original scalp-surface lipid. This indicated that the requirement for fatty acids was not confined to those with preformed double bonds." (56)

In other words, hydrogenated oils are bad too. Avoid them.

Ester Takeaway.

So what the hell does all this mean for us? That ***it's probably best to just avoid all esters***, unless they're made from capric or caprylic acid.

For whatever it's worth, I can use esters in my skincare routine ONLY WHEN I combine them with active ingredients or chemical exfoliants. Otherwise, they give me problems.

If you want to play it extra safe and avoid anything potentially food grade for malassezia, then remove them from your routine.

If you're wondering whether the small amount of esters in your skincare products can really cause problems — yes, yes they can. Just remember that studies have shown malassezia can metabolize fatty acids in quantities as small as 0.01%! (57) I'm telling you, this thing a nightmare.

UPDATE 11/4/19: a more recent study confirmed what I said above. Here's a quote:

> "Most commercially available antifungal products contain esters or medium / long chain free fatty acids. They enable the fungus to get nutrition and maintain cellular integrity while reducing the efficacy of the formulation. In contrast, monoglyceride esters of short chain fatty acids [e.g. glyceryl caprylate] inhibit the fungal growth in a dose-dependent manner. In combination with known antifungal agents, within 8 hours, all concentrations showed at least 1.5 log better reductions in growth in comparison to anti-fungal agent alone."

• Polysorbates

I'm gonna keep this short and sweet. *M. furfur* and *M. sympodialis* were able to utilize tweens as lipid sources. (58, 59, 60)

Your "tweens" are polysorbates. These are esters. Specifically, ethoxylated sorbitan esters. The number you see at the end of them, for example polysorbate **20**, corresponds to what fatty acid was used as the base during esterification.

- Polysorbate 20 = sorbitan monolaurate (lauric acid, C12)
- Polysorbate 40 =sorbitan monopalmitate (palmitic acid, C14)
- Polysorbate 60 =sorbitan monostearate (stearic acid, C18)
- Polysorbate 80 =sorbitan monooleate (oleic acid, C18:1)

The four polysorbates listed above all fed malassezia in vitro.

If you're confused by all we've discussed so far — don't worry! I've spend A LOT of time searching far and wide for skincare products that have no esters, fatty alcohols, polysorbates, oils, and fatty acids. These are listed in the "best products" section below.

UPDATE 6/18/19: there is now a comprehensive list of over 1,500 safe skincare items that this community has helped compile over the last 3 years ☺

• Fatty Alcohols

THESE DO NOT FEED MALASSEZIA! Can I get a woohoo? 😀 Here's a quote directly from a research paper.

> Fatty alcohols (Lanette E/N) and fatty acids in ether bond (Brij 721, Cremophor A 25) were not assimilated by any of the test strains. Therefore, these emulsifiers are suitable for topicals to be used in the treatment of seborrheic areas and when promoted growth of Malassezia yeasts is not desired. (61)

Exciting stuff, right? Here are the INCI names for the various emulsifiers/fatty alcohols listed above.

- Lanette E = Sodium Cetearyl Sulfate
- Lanette N = Cetearyl Alcohol (and) Sodium Cetearyl Sulfate
- Brij 721 = Steareth-21 (i.e. polyethylene glycol polymer and stearyl alcohol)
- Cremophor A 25 = Ceteareth-25

Note: Cetearyl Alcohol is a combination of cetyl and stearyl alcohols, so these should be fine too.

This was pretty mind-blowing news to me because I have long thought fatty alcohols were bad news, not realizing that it was actually **ESTERS** that were giving me problems.

And for whatever it's worth, I recently had a conversation with a biochemist about whether he thought fatty alcohols would feed malassezia. We were discussing cetyl alcohol specifically, which is made from the reduction of palmitic fatty acid. Here's what he had to say:

> "Palmitic acid is a carboxylic acid so there's a double-bonded oxygen on the same carbon as the alcohol; the lack of that oxygen is the structural difference between the two molecules [i.e. cetyl alcohol vs. palmitic acid]. A carboxylic acid structure will be more polar and that changes its solubility and other related properties.
> The solubility properties of cetyl alcohol and palmitic acid are fairly different, so while I am not by any means certain because skin chemistry is complicated — there are a lot of factors involved, like buffers and enzymes on top of the more simple, straight organic chemistry stuff we're covering here — I'd hazard a guess that cetyl alcohol would not be a feasible substitute [for malassezia]."

NOW GO SLATHER DEM FATTY ALCOHOLS ON YOUR FACE!

UPDATE 7/2019: due to the nature of this beast… never mind it's complicated! Turns out newer research has now brought into question the safety of fatty alcohols. Dobler et al found that cetearyl alcohol (specifically) was problematic.

To quote the paper itself:

> "Unexpectedly, the growth of some Malassezia spp., especially M. furfur, was observed in the presence of a primary fatty alcohol, cetylstearyl alcohol…. Until now, the results of the metabolism of fatty alcohols by Malassezia were not known. Mayser et al. observed no growth of

> Malassezia spp. on Lanette N and postulated that fatty alcohols cannot be used by this species as nutrition. Lanette N is a mix of ionic surfactant sodium stearyl sulfate and cetylstearyl alcohol. It is possible that the ionic surfactant negatively influences the growth of this species, and therefore no growth was observed. The toxicity of ionic surfactants has been previously reported. Our data suggests that in some cases the metabolism of fatty alcohols by Malassezia may be possible."

In other words, fatty alcohols **may or may not be safe** depending on which ones we're talking about. Unless a fatty alcohol is strictly safe for use (e.g. octyldodecanol), I recommend avoiding them altogether if you're still struggling with malassezia.

• Yeast Ferments

Specifically, galactomyces. I went into a lot of detail about this in my CORSX Galactomyces review, but the quick and dirty version is that malassezia increases the activity of the aryl hydrocarbon receptor (AhR), which has been linked to various skin diseases. (62)

People with Malassezia-associated diseases have a 10 to 1000-fold higher AhR-activating capacity compared to healthy controls. The takeaway = ***excess AhR activity is bad***.

Guess what increases AhR? Galactomyces.

"In the present study, we found that GFF [galactomyces filtrate ferment] is a potent activator of AhR, as it induced the nuclear translocation of AhR and subsequent CYP1A1 upregulation." (63)

I have found no evidence that the same applies to saccharomyces, a different but similar genus of fungi. However, that does not mean it won't cause problems. TREAD LIGHTLY (as Walter White would say), should you try and experiment.

And report back here if you do because I'm too scared to do it on myself! :p

Lactobacillus, bifidobacterium, lactococcus and various other lactic-acid producing bacteria should be completely fine and won't affect malassezia. (64, 65)

• Cholesterol

It turns out that *some* (**not all**) culture testing has shown cholesterol can induce the growth of mycelia in certain subspecies of ***M. furfur*** by about 20%. (66)

However, I don't think cholesterol (a skin-repairing ingredient) is worth avoiding because I didn't find this study all that convincing. Let me explain.

Firstly, cholesterol was only ever able to induce mycelium when combined with other esters that would yield problematic fatty acids. For example, combining cholesterol and cholesteryl stearate would yield stearic acid (carbon chain length 18) after hydrolysis. In this study, malassezia *did* metabolize that combination, but ***DID NOT*** metabolize cholesterol by itself.

Moreover, a more recent and vigorous study found that cholesterol and a few of its derivatives couldn't induce mycelium at all. (67)

I've use products with cholesterol in the past with no problems.

• Squalene

Squalene is another ordinary part of human sebum and has minor effects on mycelium induction. (68) Malassezia can also induce squalene peroxidation in vitro, meaning it could theoretically contribute to the development of "normal" bacterial acne. (69, 70)

SQUAL**A**NE however (i.e. what's found in most skincare products), is totally fine. I will discuss this in more detail in the "Oils That Won't Aggravate Malassezia" section.

Fun fact #3: the skin surface lipids of people with seborrheic dermatitis are deficient in squalene and fatty acids, but rich in cholesterol and triglycerides compared to healthy controls. (71)

• Phytosphingosine

An in vitro study showed that phytosphingosine has observable growth on *M. furfur*. (72)

The findings of this study were a bit odd because phytosphingosine was able to ***inhibit malassezia in high concentrations***, but for some odd reason leads to observable growth in small quantities.

I'll let you decide whether this otherwise excellent repairing skincare ingredient is worth avoiding.

• Additional Notes (Other)

Amino Acids, Vitamins.

Not sure how pertinent this info is, but for whatever it's worth — when asparagine (an amino acid), glycine, (another amino acid) thiamine (vitamin B1), and pyridoxine (vitamin B6) are in the presence of lipids they enhance the growth of malassezia. (74, 165)

Kinda makes me wonder if other B-complex vitamins like niacinamide pose the same threat…. Hmmm.

UPDATE 5/29/2017: I've been doing more research on amino acids, and I found another study that says these are bad in presence of other lipids (fats, fatty acids, oils, esters etc.) Here are a couple relevant quotes from a research paper:

> "An amino nitrogen and a lipid source were sufficient to induce growth of *M. furfur*…. of the 21 amino acids tested, only cysteine supported no

> significant growth…. with some variations among the species tested, a broad spectrum of other amino acids can therefore induce hyphae." (166)

Given that we naturally have fats and oils in our skin, one should take caution with amino acids and test them in a controlled, cautious setting.

One of the most common amino acids you'll see in skincare products is **arginine**. For example, it can be found in the Benton Soothing Gel, Benton Snail Bee Essence, COSRX Snail Mucin Essence, COSRX BHA etc.

Ceramides

Ceramides are the main component of the stratum corneum and epidermis, which are the two outer most layers of skin. They play an important role in the health and barrier function of skin. There's a link between specific ceramide deficiencies and skin disease.

For example, psoriasis has decreased levels of ceramide 1, 3, and 6, whereas eczema and acneic skin is deficient in ceramides 1 through 6.

However, it gets a little tricky because not all ceramides are treated equal. One study found that dandruff, which is worsened by malassezia colonization, has decreased levels of ceramide 1 but increased levels of ceramide 6i and 6ii. (75)

Something else that causes me to raise an eyebrow about ceramides is their structure. They are composed of sphingosine and a fatty acid. Recall from the information above how *M. furfur* shows slight growth in the presence of other sphingoid bases like phytosphingosine.

I also tried to find information about what fatty acids are attached to the sphingosine component of ceramides. One study examined pig skin and found they were mostly C24 and C26 fatty acids. (76) How relevant this is to human skin, I don't know.

More alarmingly however, is this patent about ceramides in skincare that states they can be manufactured with C16-C32 fatty acids! Not to mention,

we have enzymes on the skin called ceramidases that break down ceramides into its respective parts (free sphingosines and fatty acids), which can then be utilized by malassezia.

There's also additional research that shows glucosyl-ceramide can feed other yeasts like candida.

> "More precisely, they identified glycolipid and glucosylceramide as the first small molecules synthesized by C. albicans that are specifically required for virulence." (168)

Just some food for thought and a friendly reminder to patch test if you try products with ceramides! I've gotten messages from both people who say ceramides did and did not break them out. YMMV (your mileage may vary) as they say!

Coconut Oil.

I've seen a few people throw around the idea of using coconut oil because it is an "anti-fungal." DO NOT DO THIS. The reason people say that is because coconut oil contains octanoic acid which is anti-fungal in nature.

However, this only makes up 7.1% of its fatty acid composition. Lauric acid, which has a carbon chain length of 12, makes up 47% of coconut oil! This is a prime fatty acid for malassezia.

Glycerin.

I don't have access to the full paper because it's from China, but the abstract states, "glycerin can promote the growth of the Malassezia furfur. Therefore, glycerin cannot be used as the additive for the drug susceptibility testing of Malassezia." (167)

Not sure what to think of this, and good luck finding a product without glycerin. -_-

UPDATE 7/14/2020: I have since read the whole paper thanks to one of our readers (Hailey) who sent it via email. As suspected, it confirmed that glycerin DOES NOT feed malassezia unless a lipid is mixed in the agar. Therefore, it is the lipid not glycerin that is problematic.

UPDATE 5/2017: found another study that says glycerin does not produce growth except in very high concentrations. (166) I don't think it's something you need to worry about unless you're skin is EXTREMELY sensitive/reactive.

Additionally, one study found that using a high glycerol-containing leave-on scalp treatment helps dandruff, and a recent comprehensive overview on the treatment of seborrheic dermatitis stated the following:

> "In a research letter, Benaim-Pinto described the disappearance of SD after using pure glycerin (1,2,3-propanetriol) to cleanse the external auditory canal. Similar results were obtained in other areas such as the paranasal folds, and the author reported no tolerance and no rebound effect. However, he did mention that glycerin is not curative, for in order to be effective, it needs to be applied at least every four days after the initial healing. Pure glycerin may help heal SD through its emollient, dehydrating, and slightly irritating effects." (source)

Lastly, researchers in a 2019 study incorporated glycerin into an emulsion that was used as a control, and found it led to no observable growth in conjunction with the following ingredients: Water, Pentylene glycol, Magnesium sulfate, Sodium lactate, Hydroxyethyl acrylate/sodium acryloyl-dimethyl taurate copolymer, Cetyl PEG/PPG-10/1 dimethicone, Acrylates/C10-30 alkyl acrylate, Octyldodecanol, Caprylic/capric triglyceride. (176)

Neem Oil.

I'm not sure how I feel about this one. I've seen a few fungal acne sufferers say it worked for them, but it's fatty acid composition looks questionable. (77)

- Palmitic (C16) = 16-34%.
- Stearic (C18) = 6-24%.
- Oleic (C18:1) = 25-58%.
- Linoleic (C18:2) = 6-17%.

Not only that, one study found neem extract wasn't very effective against malassezia.

> "Neem extract had the least of stabilities and inhibitory action among the natural remedies experimented." (78)

The other natural remedies tested were rice water extract, lemon juice extract, and my personal favorite…. cow's urine. ☺

Note: all of these natural remedies except for cow's urine worked marginally at best, and I can't in good conscious recommend that you go put cow pee on your face. There are more effective and better "natural" alternatives you can try. I will list these in the "natural treatment" section below.

Sugars.

Contrary to popular belief malassezia cannot grow in the presence of sugars or carbohydrates, with the exception of *M. padhydermatis*, which can synthesize mannitol and sorbitol. (79)

However, *M. padhydermatis* is only present in 2% of all humans, and has rarely been found in diseased human skin. All other malassezia species cannot ferment sugars. (80)

White Petroleum.

UPDATE 7/25/2019: there is one study out there showing that purified white petroleum led to observable growth of *M. furfur*. (175) However, I'm not sure what conclusions to draw from this.

Compared to the GYEP agar plate consisting of 2% glucose, 1% peptone, 0.3% yeast extract (which was used as a control), purified white petrolatum showed the least observable growth compared to other ingredients. It didn't even form any white precipitate like other ingredients known to promote malassezia growth (e.g. olive oil).

Besides that, it was only one of the two strains of M. furfur tested that had any observable change with purified white petroleum. My only guess is that the petroleum used had trace amounts of other food grade material.

Vaseline, for example, goes through a triple purification process involving distillation, deaeration, and filtration, which leaves it biologically inert. Perhaps the white petroleum used didn't undergo the same rigorous standards?

The researchers also hypothesized the following:

> It may be attributed to the difference of the thickness of vehicles layered on Malassezia cells. As an example of the concentration-dependent growth of Malassezia, Guillot et al. reported that high concentration of Tween 20 inhibited the growth of M. sympodialis despite low concentration of that promoted the growth.

In other words, the dose makes the poison. I think if we exercise caution and use petroleum products sparingly, and from reliably purified sources, we should be fine.

A recent study more or less confirmed this notion, illustrating that some petroleum based ingredients like mineral oil lead to observable growth of *M. furfur* albeit very slowly! (176)

When I was using vaseline more frequently, I wouldn't put it on more than a couple times per week — MAX. If you want to be SUPER cautious, remove it altogether. There are plenty of good products out there without petrolatum.

Warm Weather and Sweating.

Malassezia grows optimally at 32 to 37 degrees Celcius (89.6-98.6 Fahrenheit). (81, 82) So basically…. go freeze your face off to kill malassezia. **Moves to Antarctica**

Malassezia probably grows in warmer climate because you're more likely to sweat when it's hot outside, and sweat is made of stuff like salt and lactic acid, which in the presence of lipids can cause malassezia to proliferate. (83)

If this information is helping you rationalize being a couch potato for fear of sweating — don't let it. From one couch potato to another, yuh gotta EXERCISE!

pH.

Malassezia likes pH 5.5 to 7.5, which is at the higher end of the acid mantle, (84) or the normal pH of healthy human skin which is around 4.7.

One study found that *M. sympodialis* allergens are released at significantly higher rates at pH 6. (85) The same study also found that those with eczema tend to have higher skin pH compared to healthy controls.

No growth in vitro was observed when the pH was outside of 4.5 -8.0. This means that a highly alkaline or acidic environment probably kills malassezia. However, I recommend you stick to lower pH things like chemical exfoliants because alkaline substances (e.g. baking soda) are bad for skin health.

Keep in mind that, "sensitization to malassezia is most likely a combination of a dysfunctional skin barrier, genetic background, and environmental factors," (86) as a pair of researchers put it, so practicing proper skincare with pH appropriate products is still in your best interest.

Summary.

So…. just stop using everything and you'll cure yourself. That's it. End of blog post. Have a nice day.

Just kidding! XD But seriously, it's kinda ridiculous how many things could theoretically promote the growth of malassezia. I think this table summarizes most of it.

SOURCE.

In other words, if you have pathogenic malassezia avoid anything that has fatty acids with problematic carbon chain lengths (11-24). This includes ***FATTY ACIDS*** themselves, ***OILS***, ***ESTERS***, and ***POLYSORBATES***.

Some fatty alcohols are okay to use. Others will not feed the satan yeast.

Squalene might give you problems. As might cholesterol and phospholipids, but that's debatable. The same applies to ceramides.

Not seen in the chart above, but equally important: ***avoid fermented products, specifically GALACTOMYCES***. Given the current research

available, I don't know whether the same applies to saccharomyces. Lactic-acid producing bacteria like lactobacillus is fine.

That's a lot to avoid, but fear not because there's still awesome stuff you can use.

For example, silicones are a godsend! Use them generously. I love me some dimethicone. It makes your skin feel all smooth and protected. ☺

If all this has been confusing / I've lost you, and you have no idea what the hell any of this stuff means, see the "best products for malassezia" section below. ***I have made a ton of product recommendations that are okay to use including cleansers, moisturizers, sunscreens, serums, exfoliants, toners, emulsions etc***.

UPDATE 6/18/19: there is now a comprehensive list of over 1,500 safe skincare items that this community has helped compile over the last 3 years ☺

Oils That Won't Aggravate Malassezia.

There are only three oils that are compatible with malassezia! They are:

1. MCT Oil.

A.k.a. caprylic/capric triglycerides, either in combination with each other or used separately. This is essentially coconut oil without the lauric fatty acid component, which allows it to remain liquid at room temperature.

The reason MCT oil won't cause any problems for malassezia is because it's made up of caprylic (octanoic) and capric (decanoic) acid (C8 and C10 respectively), which are two fatty acids that are outside the problematic C11-24 range we mentioned earlier.

I get a lot of questions about whether I oil cleanse. Yes. Yes, I do. And I use ***pure caprylic acid oil (see on Amazon)*** or ***MCT oil*** because culture testing has shown it's the fatty acid that inhibits the growth of malassezia the most. More about this in the "pityrosporum folliculitis natural treatment" section.

UPDATE 10/18/18: if you are going to use MCT oil, make sure it only contains caprylic / capric triglycerides and NO lauric acid! Viva labs (the

photo above) has been reformulated, and I now use this one.

2. Mineral Oil.

A.k.a. baby oil without fragrance. Mineral oil is an inert substance that has no fatty acids, (87) meaning there's nothing for the skin to hydrolyze, so it technically shouldn't "feed" malassezia.

However, in practice it might give problems from potential impurities (see white petroleum section) and because it's fairly occlusive. Recall from the information above that excessively occluding the skin is bad when you have malassezia sensitivities.

I would classify mineral oil as "mostly safe" if you are going to use it as an oil cleanser and wash it off. If I had to choose between this and MCT, I'd pick MCT any day.

3. Squalane Oil.

This is something I just discovered and will try in the future!

Similar to crude oils (e.g. mineral oil), squal**a**ne is a hydrocarbon derived by the hydrogenation of squal**e**ne. (88) This eliminates the double bonds which

make it less susceptible to oxidation (i.e. has a longer shelf life than pure squal**e**ne).

Why am I excited about this?

For one, squalane is non-irritating up to 100% concentration and is a natural part of human skin! (89) Secondly, the skin surface lipids of people with seborrheic dermatitis are deficient in squal**e**ne vs. healthy controls. (90) Recall how seborrheic dermatitis is often caused by malassezia.

Furthermore, it's generally a good idea to treat skin conditions by replenishing what they lack. (91)

And last but not least, squalene protects against UV radiation-induced oxidative stress (i.e. sun damage), is an anti-carcinogen, may have antibacterial and anti-fungal properties, and is just a damn good moisturizer! (92, 93)

I know I mentioned earlier that squal**e**ne can cause malassezia to proliferate, but ***this is not*** the case for the skincare derived version (squal**a**ne). If you try it, let me know about your experiences!

UPDATE 5/2917: someone shared their experience so far, and said it helped get rid of the bumps that didn't budge with AHAs, BHAs, tretinoin cream, and azelaic acid gel.

UPDATE 6/10/17: More evidence that squalane is totally fine — it has a carbon chain length of 30!

u/svvaffles also recently shared her before and after photos on r/skincareaddiction, and regularly uses squalane in her routine!

Alrighty, now let's go over the rest of the stuff you ***can*** use if you have malassezia problems.

Best Products for Pityrosporum Folliculitis.

UPDATE 6/18/2019: For a comprehensive list of over 1,500 skincare items that are safe, go here. You can also make recommendations for me over at that page. As of today I will no longer be approving comments ***on this blog post*** asking me to vet products.

None of the products listed below contain fatty acids or oils. However, some of them do have fatty alcohols or esters. I have marked the products below using the following.

> One asterisk (*) = has fatty alcohols. These may or may not feed malassezia.
> Two asterisks (**) = has esters or polysorbates. ***These DO feed malassezia***.
> Three asterisks (***) = has both esters and fatty alcohols.
> Four asterisks (****) = contains a concoction of unsafe ingredients.

If a product has no asterisk, that means its free of everything — oils, fatty acids, esters, and fatty alcohols, or essentially ANYTHING that could theoretically cause malassezia to grow or clog pores. I recommend choosing things that **DO NOT** have any asterisks when first starting off. After you have cleared your skin you may begin experimenting.

Cleansers

Let's be real, these aren't that important because the ingredients aren't left on skin. Don't sweat this step, unless your cleanser leaves a noticeable film after rinsing. Use something gentle within appropriate pH range ~5.5. I use and love the Vanicream Gentle Facial Cleanser.

It's cheap, gentle, cleanses well, doesn't dry my skin, and uses a fatty alcohol surfactant.

5 Elements Cleanser
Almond Clear Face & Body Wash (contains mandelic acid)
*Aquanil Cleanser (**Note**: contains only 8 ingredients)
Avene Cleansing Foam
*Avene Gentle Cleanser Lotion
*Avene Tolerance Extreme Cleansing Lotion (**Note:** ingredients listed on amazon are incorrect. Rest assured this is 100% safe and only has 7 ingredients!)
Bioderma Sensibio Micellar Water (fantastic and gentle makeup remover. Two other safe micellar waters are Simple and CeraVe, the latter includes ceramides)
*Cetaphil Gentle Skin Cleanser (**Note:** contains SLS which can irritate very sensitive skin. Can also be used as a body wash)
Eucerin DermatoClean Refreshing Cleansing
Dr Eddie's Happy Cappy Medicated Shampoo (contains 0.95% zinc pyrithione. This stuff is awesome and rather gentle)
**La Roche Posay Toleriane Hydrating Gentle Facial Cleanser (contains niacinamide, ceramide-3)

**Neutrogena Ultra Gentle Hydrating Cleanser

Body Washes

Aveeno Baby Cleansing Therapy Moisturizing Wash
**CeraVe SA Body Wash (contains salicylic acid and corn oil)
Neutrogena Body Clear Wash (**Note**: contains 2% salicylic acid)
Summer's Eve Cleansing Wash (**Note**: this may be a lady parts wash, but it has a great low pH, is SUPER cheap, would work equally well on the body because it's just a cleanser, and all the ingredients check out! I have no shame, and have bought this several times lmao)
Vanicream Gentle Body Wash (**Note:** there are differing ingredient lists online. The one that contains Cetyl Palmitate and Glyceryl Stearate is NOT safe)

Oils and Oil Cleansers

100% Caprylic Acid Oil (what I use)
Albolene (contains mineral oil, use cautiously)
MCT Oil (combination of capric and caprylic acid. **Note**: this is ***NOT*** the same as fractionated coconut oil! Make sure it contains no lauric acid! I've used MCT oil for over a year and it works great.)
Mineral Oil (this is the most commonly used oil for OCM on r/skincareaddiction, and is generally well tolerated but use it cautiously)
Squalane Oil

Fun fact #4: to make your own oil cleanser simply mix 85-90% of your chosen oil with 10-15% cromollient SCE. Shake it and viola!

Chemical Exfoliants / Active Ingredients

A-Ret Gel 0.1% Tretinoin (**Note**: generic version of tretinoin 0.1% gel manufactured in India. Be warned this stuff is STRONG!)
Acne.org Treatment (2.5% benzoyl peroxide. Tips on how to reduce BP irritation here)
Alpha Skincare Intensive Rejuvinating Serum (14% glycolic acid, green tea extract)
Azclear Action Medicated Lotion (contains 20% azelaic acid, completely safe)
De La Cruz Sulfur Ointment (10% sulfur)
Humane BHA Pore Minimizer Clarifying Toner Salicylic Acid 2% (**Note:** only contains 6 ingredients, and no longer has cocamidopropyl betaine. Very similar to the BHA I formulate)
Paula's Choice 8% AHA Gel. (Full Review Here)
Retino A Gel 0.04% (Note:** Indian version of Retin-A micro just cheaper. Manufactured by Johnson and Johnson, the same company that makes Retin-A)
**Retino A Gel 0.1% (same as above just stronger)

**Supatret Gel 0.04% (Indian generic for Retin-A Micro)
**Supatret Gel 0.1% (Indian generic for Retin-A Micro)
Stridex Pads (BHA). (Full Review Here)

Toners, Emulsions, Essences.

Avène Thermal Spring Water
Benton Honest TT Mist (contains tea tree)
Benton Snail Bee High Content Essence. (Full Review Here. **UPDATE 7/7/2017:** this has now been reformulated and contains polysorbate 20, so not safe. -__-)
COSRX Advanced Snail 96 Mucin Power Essence
COSRX Hyaluronic Acid Hydra Power Essence
COSRX Propolis Light Ampule
Hada Labo Hyaluronic Acid Lotion. (Full Review Here)
Hada Labo Gokujyun Premium Lotion
Klairs Supple Preparation Toner Version II (re-released without oils. Contains SAP, pH 5)
Thayer's Alcohol-Free Witch Hazel Toner

Serums

Almond Clear Body Clearing Serum (contains mandelic acid, clean minimal formula. Use code SIMPLESKINCARESCIENCE to get 15% off!)
Almond Clear Face & Body Clearing Serum (contains mandelic acid, clean minimal formula. Use code SIMPLESKINCARESCIENCE to get 15% off!)
Bioderma Hydrabio Serum
Dr. Brenner's Vitamin C Serum (20% ascorbic acid, a dupe for skinceuticals C E ferulic serum)
L'Oréal Revitalift 10% Pure Vitamin C Serum (10% ascorbic acid)
Mad Hippie Vitamin C Serum. (Full Review Here)
Now Hyaluronic Acid Serum
Nufountain C20 + Ferulic
Olay Regenerist Micro-Sculpting Serum (contains niacinamide, panthenol, fragrance)

Olay Regenerist Regenerating Serum (contains niacinamide, panthenol, allantoin)
Skinceuticals C E Ferulic
Skinceuticals Retexturing Activator Replenishing Serum (contains 20% hydroxyethyl urea)
Tiam Vitamin B3 Source (contains 10% niacinamide, 2% arbutin, and allantoin)
Timeless Hyaluronic Acid

Moisturizers.

*Avène Tolérance Extrême Emulsion (**Note**: contains squalane. Probably the safest moisturizer on this entire list)
*Aveeno Clear Complexion Daily Moisturizer (**Note:** contains fragrance and 0.5% salicylic acid)
*Aveeno Ultra-Calming Nourishing Night Cream
Benton Aloe Propolis Soothing Gel (**Note**: has propolis which inhibits malassezia)
Bioderma Hydrabio Gel Cream
*CeraVe Baby Cream (the same as CeraVe Cream but without parabens, and lacks the MVE technology of the adult version, which makes it a better option for clog-prone skin since it won't penetrate into the skin as deeply)
*CeraVe Cream
**Clean and Clear Morning Burst Hydrating Gel Moisturizer
Clinique Moisture Surge Extended Thirst Relief (**Note:** I recommend patch testing first since it contains saccharomyces extract, everything else is fine)
Curel Intensive Moisture Care Cream
*Eucerin Original Healing Rich Creme (**Note**: contains petroleum and lanolin alcohol, which is technically a fatty alcohol, but also has piroctone olamine, which is an anti-fungal)
*Fuyunhon Super Efficacy 10% Urea Cream (contains 10% urea, glycerin, petrolatum, mineral oil)
Hada Labo Skin Plumping Gel Cream (**Note**: contains squalane, ceramides, and my favorite ingredient Urea. This the ONLY urea moisturizer I've seen without esters, fatty acids, or problematic oils.)

*Hamilton Skin Active Urederm Cream (contains 10% urea)
La Roche Posay Toleriane Fluide Oil Free Moisturizer (contains niacinamide, and only 9 ingredients)
***Moisturel Therapeutic Lotion** (**Note:** a barebones moisturizer with a rich, creamy feel. 100% safe for malassezia, and a holy grail of 30+ years for many people)
Neutralyze Renewal Complex (contains 2% salicylic acid, 1% mandelic acid. Minimal ingredient list)
Sebamed Clear Face Gel (Full review here)

Sunscreens

Most sunscreens will contain esters that act as UV filters for photoprotection (e.g ethylhexyl methoxycinnamate). ***These esters are outside the problematic C11-C24 range***, meaning they are completely fine to use and will not exacerbate malassezia.

****Biore UV Perfect Bright Milk SPF50 + PA ++++ (**pink bottle** = for face. Tinted slightly pink, which creates light-reflecting properties that make skin appear brighter. As far as I'm concerned, this sh*t is the fountain of youth. Check out what this 65 year old woman looks like. This is her sunscreen of choice)
****Biore UV Perfect Face Milk SPF 50 + PA ++++ (**white bottle** = for face. Similar formula as the above without the pink tint stuff.)
****Biore UV Perfect Milk SPF 50+ PA++++ (**blue bottle** = for face and body. Many people consider this the more economical version of the two above because it comes in a bigger tube and has a similar formula)

UPDATE 3/29/19: all three of the Biore sunscreens above have been ***reformulated as of February 2019***, and contain isopropyl palmitate and stearic acid. I know…. tragic. If you recall they were the water and sweat-resistant sunscreens that were the second place finishers in this AWESOME sunscreen experiment! The first place sunscreen has stearic fatty acid which we can't use. -___-

Colorescience Sunforgettable Mineral SPF 30

Colorescience Sunforgettable Mineral SPF 50
Colorescience Sunforgettable Total Protection SPF 50 Face Shield (**Note:** contains 12% zinc oxide, niacinamide, allantoin and is tinted)
Cotz Face Natural Skin Tone SPF 40 (out of all the American sunscreens I've tried on here, this is my favorite. Can be a bit drying, so I layer it over my urea moisturizer. Would formally do it with CeraVe Baby Cream which worked out pretty well for me)
Cotz Face Lighter Skin Tone SPF 40 (same as above with no tint)
**Cotz Sensitive SPF 40 (20% zinc oxide, minimal cast)
DRMTLGY Broad Spectrum SPF 45 (**Note:** cheaper alternative for EltaMD UV Clear, contains niacinamide, and has a perfect cosdna profile)
EltaMD UV Clear SPF 46 (**Note**: the tinted version contains esters, the original one does not.) (Full review here)
Hada Labo UV White Gel SPF 50+ PA++++ (**Note:** formally Hada Labo Perfect UV Gel SPF50+ PA++++, and Hada Labo UV Creamy Gel)
Nivea Sun Protect Super Water Gel SPF 50
**La Roche Posay Anthelios 50 Mineral Ultra Light Sunscreen Fluid
La Roche Posay Anthelios AOX SPF 50 (**Note**: contains diethylhexyl syringylidenemalonate, which an ester that acts as an antioxidant and is outside the C11-C24 range)
*Olay Complete Daily Defense All Day Moisturizer SPF 30 Sensitive Skin (contains niacinamide)
Shiseido Senka Aging Care UV Sunscreen SPF50+ PA++++
Skin Aqua UV Moisture Gel SPF 50 PA++++ (contains Tinsorb S)
Skin Aqua UV Super Moisture Milk SPF50+ PA++++ (doesn't contain alcohol)
Supergoop CC Cream Daily Correct Broad Spectrum SPF 35 (contains 20% zinc oxide)

Occlusives

Take caution with all the following and use them sparingly, if at all.

*Aquaphor Healing Ointment (**Note**: contains lanolin alcohol, which is funky ingredient. It's technically a fatty alcohol, but pure lanolin has sterol esters)

CeraVe Healing Ointment (**Note**: has ceramides).
EltaMD Intense Moisturizer
Vaseline

Makeup

For a comprehensive lists of primers, base makeup, blush, highlighter, shading / contour, finishing powders, shadows, pigments, eyebrow, eyeliner, lip, and setting sprays go to this link! ☺

Shampoo / Conditioner / Hair Products

Curl Keeper Total Control (**Note:** I use this with MCT oil to get my curls on point 💁‍♀️)
Dr Eddie's Happy Cappy Medicated Shampoo (**Note**: this is the only 100% safe zinc pyrithione shampoo I've come across, shout out to MrRed77 for the heads up!)
Free and Clear Conditioner
Head & Shoulders Classic Clean Dandruff Shampoo (Note:** contain anti-fungal zinc pyrithione)
Kinky Curly Come Clean Natural Moisturizing Shampoo
*Kinky-Curly Knot Today Leave In Conditioner/Detangler
Kinky Curly Original Curling Custard (styling gel)
*Magick Botanicals Conditioner (contains ceramides, fragrance free)
*Pantene Daily Moisture Renewal Conditioner (what I use)
Selsun Blue Dandruff Shampoo, Normal to Oily (contains 1% Selenium Sulfide)

Pityrosporum Folliculitis Treatment.

Now that we've gone over what to avoid with malassezia, let's discuss how to **TREAT** it. Using products that are compatible with fungal acne will stop it from getting worse / slowly heal active lesions, but this process can be sped up if you come in with professional hitmen. These are your ***ANTI-FUNGALS***.

Tom Busby over at the rosacea forums said it best,

> "It's easiest to understand the problem as a skin allergy and a fungal overload. Use an anti-fungal product to control the fungal overload and use an oil [or skincare products] that cannot be metabolized by malassezia [to keep it from flaring]."

Much like when treating acne, you got A LOT of options to choose from. We will be going over each so you can make the most informed decision possible. Let's start.

Types of Anti-Fungals.

There are 6 types of anti-fungals. (94) They are:

Allylamines (terbinafine) = this has anti-fungal activity against dermatophytes, molds, dimorphic fungi, and many types of yeasts. It stops fungus from accumulating squalene by disrupting fungal sterol biosynthesis. When taken orally, it's delivered into the stratum corneum, nails, and hair through sebum.
Azoles (bifonazole, itraconazole, and ketoconazole) = the largest group of anti-fungals. They work by disrupting the cell membrane of fungus (i.e. dissolve the fungal cell wall), which compromises its ability to grow and function properly. They have anti-inflammatory properties, are well tolerated, and have high efficacy rates especially when taken orally.
Benzylamines (butenafine) = when applied topically residual fungicidal concentrations remain on the skin for up to 72 hours. It has anti-inflammatory properties, and reduces UVB-induced erythema, or the redness/red marks caused by the sun.
Hydroxypyridones (ciclopirox) = synthetic anti-fungals that also possesses antibacterial and anti-nflammatory properties.
Immunomodulators (pimecrolimus, tacrolimus) = work by weakening the activity of the immune system.
Other = for example zinc pyrithione, which has keratolytic properties and helps shed fungus from the skin.

long-term negative effect on hair growth

Ketoconazole

Study after study reveals that ketoconazole inhibits every species of malassezia. (95, 96, 97, 98, 99, 100, 101) This is why it's the first stop for many people. Compared to other antifungals ketoconazole stacks up pretty well.

For example, it has a lower minimum inhibitory concentration (MIC) against malassezia than zinc pyrithione, selenium sulfide, clotrimazole, and bifonazole. (102, 103)

Let's go over a few studies.

> 62 patients with pityrosporum folliculitis were given either ketoconazole (oral and topical; 200 mg and 2% shampoo daily), ketoconazole (oral only; 200 mg daily), econazole nitrate 1%, or miconazole nitrate 2% cream. There was 100% cure rate among the patients that used ***oral and topical*** ketoconazole. The ones who only used oral ketoconazole had 75%

success rate. Topical econazolc and miconazole had a 90% failure rate. (103)

12 patients with pityrosporum folliculitis took 200 mg of ***oral ketoconazole*** once daily for 28 days. 10 out of 12 had a complete clearing, and the other two saw significant improvements. However, 2 months after stopping treatment all of them had relapsed. (104)

44 patients (35 men, 9 women) were asked to apply 2% ketoconazole cream twice daily or take 100 mg oral itraconazole. The 37 patients who used ketoconzole cream saw improvement on average after 27 to 43 days. The 7 patients who used oral itraconazole saw improvement after 14 to 18 days. There was no followup done. (105)

26 patients either used topical ketoconazole, oral ketoconazole, or both. Cure rates were 12%, 75% and 75% respectively. However, many relapsed after 3-4 months of stopping treatment. (106)

A case report assessment in China found that malassezia folliculitis is diagnosed in 1.5% of all dermatological patients and treated most effectively with a ***sulfur-cleansing solution*** and ***topical ketoconazole***. For more severe cases 200-400 mg of oral itraconazole is used for a week. (107)

Treatment with 200 mg of oral itraconazole daily for 3 weeks resulted in clinical improvement in 93% of patients, whereas 84% responded to treatment with itraconazole 200 mg daily for one week. In other words, using azoles like ketoconazole for a bit longer leads to be better treatment outcomes. (108)

40 patients were either treated with 200 mg of ketoconazole and 2% ketoconazole shampoo daily, or 200 mg a day by itself. Everyone in the combination group had 100% clearing, whereas the systemic only group had 75% clearance (15 of 20 people). (109)

looks like itraconazole is more effective than ketoconazole

So on and so forth…. If you're anything like me, reading these studies might be a little frustrating because there are a decent number of relapses. The only time complete cure rates occurred was when oral anti-fungals were used in conjunction with topical ketoconazole.

This is because maintenance regimens are typically needed to keep malassezia in check unless you completely wipe out the little boogers from

??

your system. A maintenance regimen usually means using topical ketoconazole once a week after you have completely cleared your skin.

However, this isn't always necessary. In fact, a leading team of microbiologists and dermatologists concluded that malassezia folliculitis can be controlled with keratolytic agents after initial clearing with antifungals. (110)

This is what I recommend doing. That is, use an anti-fungal until your lesions are completely gone then follow it up with a keratolytic agent till the end of time. ☺ That you way you won't have to worry about anti-fungal resistance.

In my opinion, the most effective keratolytics for malassezia are sulfur, urea, and benzoyl peroxide. I like these more than salicylic acid (with the exception of stridex pads). More about this in the "natural treatment" section. Retinoids like tretinoin or adapalene (differin) are other options to consider.

Side note: if you want to take an oral antifungal be aware that there was a recent FDA report of death risk with off-label oral ketoconzaole. (111) For this reason, I recommend talking to your healthcare provider about using itraconazole or fluconazole instead. These are generally safer and have fewer rates of relapse. (112, 113)

How to Use Ketoconzaole.

You may have noticed that a few of the studies above had patients use 2% ketoconazole shampoo to cleanse the affected areas of skin. This is currently the standard treatment protocol.

The usual recommended frequency with ketoconazole 2% shampoo is twice weekly over the span of 4 weeks. After the lesions have cleared, intermittent use of ketoconazole 2% shampoo (once weekly) has been shown to be effective in preventing relapse.

Also, make sure to leave the solution on your skin for about 3-5 minutes. Studies have shown that 5 minute contact therapy is more effective than simply applying and rinsing soon thereafter. (114)

Products with Ketoconazole.

**Nizoral A-D Anti-Dandruff Shampoo (1% Ketoconazole)
Pet MD Chlorhexidine Wipes (1% Ketoconazole). **Note: these may be doggy pads but they're alcohol-free and would work just as well on human skin! Consider this the new stridex…. "**STRIDEX IN A DOG BOX!**"

Note: there are other azoles like clotrimazole and bifonazole you can try, but these have lower antifungal activity against malassezia, which is why I recommend trying ketoconazole first.

Climbazole

Climbazole and ketoconazole have almost identical in vitro activity against *M. furfur*. (115) Off of this study alone it's hard to say which is better. For all and intents and purposes, it seems they'll get the same job done on *M. furfur*. As far as I'm aware the other malassezia isolates have yet to be tested.

There was a more recent study in 2015 that showed 2% climbazole shampoo was very effective at reducing malassezia population sizes on the skin of infected doggies. Here's a quote from that paper:

> "2% climbazole shampoo application showed a significant and rapid reduction of Malassezia population sizes. One hour after the first climbazole shampoo application, Malassezia reduction was already statistically significant and 15 days after the second climbazole shampoo, Malassezia population sizes were still significantly decreased." (116)

Products with Climbazole.

***Hegor Shampoo** (1.5% Climbazole)
****Douxo Chlorhexidine PS Shampoo** (0.5% Climbazole). Another doggy product. ¯_(ツ)_/¯
*****Sogeval Douxo Chlorhexidine 30 Count Pads** (0.5% Climbazole). A.k.a. doggy stridex pads number 2!

Tom Busby from the Rosacea Forums has made a very comprehensive guide about how to compound your own climbazole lotion at home, which can be found here.

Zinc Pyrithione

An anti-fungal and keratolytic agent. (117) Studies show that it's generally less effective than ketoconazole at inhibiting malassezia. (118, 119, 120)

Interestingly enough, zinc pyrithione increases the levels of triglycerides, cholesterol, and ceramides ($P<0.05$) in the shampoo-treated scalp of dandruff patients. (121) In other words, it improves the skin's natural barrier function.

I swear I once found a study that said zinc pyrithione works synergistically with ketoconazole, but I cannot locate the source anymore, :/ so take that with a grain of salt.

There is no risk of anti-fungal resistance with zinc pyrithione.

Products with Zinc Pyrithione.

Dr Eddie's Happy Cappy Medicated Shampoo (**Note**: this is the only 100% safe zinc pyrithione shampoo I've come across, shout out to MrRed77 for the heads up!) **UPDATE 2/25/19:** I love this stuff, and it's gentle enough to be used as a face wash ☺
**Free and Clear Medicated Anti-Dandruff Shampoo (2% Zinc Pyrithione).

****Noble Formula Bar Soap (2% ZnP)
**Head and Shoulders Anti-Dandruff Shampoo (1% ZnP)

Ciclopirox Olamine

Ciclopirox Olamine is a broad-spectrum antifungal with antibacterial and anti-inflammatory properties. (122) Testing has demonstrated it inhibits all the following species of fungi:

Trichophyton
Microsporum and Epidermophyton
Candida
Cryptococcus Neoformans
Sacchromyces Cerevisiae
Aspergillus and Penicillium

And of course…

Malassezia, including all it's main isolates (*M. furfur, M. padydermatis, M. sympodialis, M. globosa, M. obtusa, M. restricta,* and *M. slooffiae*. It has an MIC range of 0.003-4 microg/mL. (123) For reference, ketoconazole has an MIC of 0.03-0.125 microg/mL.

In other words, it takes less ciclopirox olamine to inhibit malassezia compared to ketoconzaole. It also distinguishes itself other topical antifungals because it has broader spectrum and uniform activity against many microorganisms. (124, 125) It's basically like an atomic bomb for all things microbes.

As for the studies….

A 4-week, twice daily application has been used in the treatment of tinea pedis, tinea corporis, and scalp seborrheic dermatitis. (126)
A case study of a 55 year old immunosuppressed liver transplant patient who completely eradicated *M. furfur* with ciclopirox olamine after 8

months. **Note**: he had *M. furfur* in his toe nails, which is far more difficult to eliminate than the skin on face/body. (127)
An in vitro study that showed ciclopirox olamine used alone and in combination with zinc pyrithione was more effective than ketoconazole against *M. globosa* and *M. restricta.*(128) Moreover, 1.5% ciclopirox olamine inhibited both these strains by 99% after only 30 minutes!
A case study of a woman who cleared her fungal acne by slathering a thick layer of ciclodan cream (0.77% ciclopirox olamine) every night. She said her skin cleared in about 3 weeks, and has incredible before and afters up on her blog. It's been several years since she wrote this article and has yet to relapse. Link here.

Something else that is especially appealing about ciclopirox olamine, is that it doesn't appear to create fungal or bacterial resistance. One study found that a 6 month incubation period of candida produced no resistance, which wasn't the case for fluconazole. (129)

As a pair of researchers put it:

> "A significant feature of CPO is that no single case of fungal resistance has been reported so far, even though it was introduced into clinical therapy more than three decades ago…. The steep dose–response curve noted for ciclopirox may aid in producing a fungicidal effect rather than a fungistatic effect, and may therefore limit development of resistance. Lack of resistance may also result from irreversible binding of ciclopirox to intracellular structures – noted by Sakurai – that prevents ciclopirox from being used as a substrate for the drug resistance pumps. The lack of effect of drug resistance pumps may allow ciclopirox to be used long-term without significant reductions in antifungal/ antibacterial efficacy. " (130, 131)

It's also very well tolerated.

Products with Ciclopirox Olamine.

Unfortunately, this a prescription only drug. ***Loprox (0.77% Ciclopirox Olamine), polish name Hascofungin, can sometimes be found on the bay of E…. but I never said this, nor am I responsible for whatever decisions you make with the information I am simply relaying here. Full disclaimer policy can be found here.

Butenafine Hydrochloride

We only have one in vivo study on this antifungal but it looks very promising. Here's how it went down….

10 Caucasian women with seborrheic dermatitis, oily skin, and post-adolescent acne were told to apply 1% butenafine HCl cream twice daily. By week one *M. furfur* was almost completely suppressed. By week two, *M. furfur* was essentially absent in every subject. And by week 3, six of the ten

subjects had cleared their SD and the remaining four exhibited moderate improvement. (132)

There's also this case study of a person who cleared their dandruff in a day when ketoconazole didn't work. I've used butenafine hydrochloride in the past with much success.

Products with Butenafine Hydrochloride.

****Lotrimin Ultra cream (1% Butenafine Hydrochloride). **Note**: this *is not* the same as Lotrimin AF, which has 1% clotrimazole.

Selenium Sulfide

This is one of the only antifungals I have not tried, but it's another option. An in vitro study showed it inhibited pityrosporum ovale and pityrosporum pachydermatis, but less effectively than ketoconazole. (133) There's also concern about toxicity with prolonged use, or treatment on large areas. (134)

In terms of in vivo studies, I was only able to find one that involved 24 patients who were asked to apply selenium sulfide shampoo and leave it on for 30 minutes. They did this for 3 consecutive days, with subsequent treatment once a week. 22 of them were cured after 8 weeks. However, relapse occurred if treatment wasn't continued intermittently. (135) The remaining two made improvements, but were ultimately cured with 200 mg of ketoconazole once daily for a month.

And lastly, there was a case study of a 21 year old female with malassezia folliculitis who cured herself after 10 days of applying 2.5% selenium sulfide cream for 10 minutes. She hadn't relapsed during a 3 month followup. (136)

Products with Selenium Sulfide.

**Head and Shoulders Dandruff and Seborrheic Dermatitis Shampoo (1% Selenium Sulfide)
Selsun Blue Medicated Dandruff Shampoo (1% Selenium Sulfide)

Pityrosporum Folliculitis Natural Treatment Options.

Because I know not everyone is comfortable with longterm use of anti-fungals, I will be going over all your "natural" treatment options. In my humble opinion, some of these work just as well if not better than anti-fungals.

Azelaic Acid

Fun fact: azelaic acid is actually a byproduct of malassezia. (137) But don't worry, this doesn't mean it's a bad thing.

There has been no vigorous research examining the effects of azelaic acid against malassezia. The only study I was able to find showed that 1% azelaic acid was able to suppress the growth of P. ovale in vitro. (138)

Recall how that's one of the two subspecies of yeast that make up *M. furfur*. And mind you, azelaic acid creams generally come in 10-20%, so I'd expect its inhibitory powers only go up with concentration.

Besides that weak evidence, I have my own theories as to why it would work. Let's go over them!

Reason number one, it's no secret I'm a big of azeliac acid. I've used it in the past with a lot of success against both acne and pityrosporum folliculitis. I know my anecdotal experience isn't the most convincing scientific argument but uh…. azelaic acid is pretty cool ladies and gents.

Shout out to my reader Ian, who agrees! 😀 He's used it for seborrheic dermatitis and acne. Here's a quote directly from him:

> "Discovering azelaic acid was a breakthrough for me…. In my experience, azelaic acid treats inflammatory acne better than non-inflammatory acne (whiteheads and blackheads). I was still getting a few stubborn whiteheads, so I added adapalene into my routine. My line of reasoning was that adapalene's strengths are the inverse, in that it's known to treat whiteheads and blackheads better than inflammatory acne.
> Also, while Differin, like retinoids in general, is pretty lackluster as a monotherapy, it enhances the effectiveness of an ingredient used in combination with it. So basically I mix my own variation of Epiduo tailored for adult skin, replacing the BP with azelaic acid… The azelaic acid/adapalene combination works so well that I'm surprised that there isn't a pre-mixed product available with it already."

Reason number two, azeliac acid has been shown to work on both anaerobic and aerobic microorganisms. Recall from the info above that malassezia is *aerobic*, meaning it requires oxygen to grow.

P. acne on the other hand, (the bacteria that causes acne) is *anaerobic*, i.e. doesn't require oxygen.

Aerobic, anaerobic — who f*cking cares! Azeliac acid kills em' both. Heh heh. 😀

Reason number three, and what I find convincing: azelaic acid reduces the overall fatty acid content of skin.

The composition of human sebum that has been exposed to pathogenic malassezia is abnormally high in free fatty acids.

Source: The Role of Sebaceous Gland Activity and Scalp Microfloral Metabolism in the Etiology of Seborrheic Dermatitis and Dandruff. (139)

One of the mechanisms by which antifungals work against malassezia folliculitis, is by regulating the free fatty acid content of skin. Azelaic acid has been shown to do exactly that. In fact, one study found that the level of free fatty acids was reduced from 15.9 to 10.5% after 1 month of using azelaic acid. (140)

UPDATE 1/7/2020: Fourthly, azelaic acid reduces the expression of TLR-2 receptors. (182) Why does this matter? Because TLR-2 plays a crucial role in initiating the inflammatory response that eventually leads to acne. (183, 184, 185, 186)

What's more, is people with acne have overactive TLR-2 receptors versus healthy controls. (182, 187) Interestingly enough, one of the ways Accutane actually works is by inhibiting the activation of TLR-2! (187)

> "Treatment with oral isotretinoin not only decreased TLR-2 expression beginning as early as 1 week after therapy, but also blunted the rise in TLR-2 expression when monocytes were exposed to P. acnes. Most

> interestingly, the suppression of TLR-2 expression persisted at least 6 months following completion of therapy, suggesting that this may play a role in the long-term remission of acne following isotretinoin."

The fact that both azelaic acid and tretinoin decrease TLR-2 activation is probably one of the reasons this randomized study comparing the two found they were similarly effective against acne.

> "In summary, the present study showed that the combination of topical 20% AA cream and oral minocycline was a highly effective treatment in severe forms of acne. Although the combination was somewhat less efficacious than oral isotretinoin [against comedonal acne], it is better tolerated and associated with fewer risks. Thus, the AA/Mino combination can be regarded as valuable therapeutic alternative in patients for whom isotretinoin is not indicated, who do not wish to use or cannot tolerate tretinoin therapy. Particularly, the lack of teratogenicity makes therapy with 20% AA cream plus oral minocycline an optimal alternative to isotretioin therapy in women of childbearing potential."

How bout' them apples! Pretty impressive stuff, amirite? Now go get your glow on pregnant ladies!

So how does this all relate back to malassezia? You guessed it! Malassezia upregulates TLR-2! (188) To summarize:

1. Malassezia increases TLR-2 activation.
2. TLR-2 activates the inflammatory cascade that leads to acne.
3. Azelaic acid reduces TLR-2 expression.

Products with Azelaic Acid.

****Ecological Formulas Melazepam Cream (20% Azelaic Acid)
****GIGI Bioplasma Cream (15% Azelaic Acid)

****Skinoren / Finacea gel (20% Azelaic Acid). **Note**: this can sometimes be found on ebay.

Unfortunately, many products with Azelaic Acid contain problematic ingredients like esters and polysorbates. The high amount of azelaic acid might render these inconsequential. Ian described it best by saying, "in the best case scenario, it's two steps forward, one step back."

Benzoyl peroxide.

Not natural per se, but **really effective** for all kinds of things including folliculitis, ingrown hairs, acne, seborrheic dermatitis etc.

If you're suffering from "fungal acne" I suggest using benzoyl peroxide as a contact therapy (i.e. rinsing it off completely after 5 to 10 minutes), or applying a fingertip's worth OVER moisturizer. You can find more information about that in my article ***The Benefits of Benzoyl Peroxide and How to Reduce Its Irritation***.

I think the main reason people have trouble with benzoyl peroxide is because it may cause dehydration, and malassezia is exacerbated by a dysfunctional skin barrier. That's why it is super important to follow the tips above (contact therapy or applying over moisturizer)!

I still use benzoyl peroxide from time to time because I find it really helps with the blackheads on my nose that salicylic acid can't address. Just make sure you're using a malassezia-approved benzoyl peroxide gel or lotion. A great option is the Acne.org Treatment Step.

Alternatively, you can try a benzoyl peroxide wash!

> "Benzoyl peroxide is deemed one of the first-line treatments for acne due to its antibacterial and comedolytic properties. Benzoyl peroxide washes also are helpful in seborrhea control of the trunk and face. ***Bonnetblanc et***

al. reported efficacy of 2.5% benzoyl peroxide wash for SD on the face. The main results included reduction of the scaling and erythema. Irritant dermatitis was very mild in some patients. Treatment regimens include application of benzoyl peroxide wash (i.e. 2.5%, 5%, and 10%) on face or body for 5 to 10 minutes, followed by rinsing." (source)

Caprylic Acid Oil

Like I mentioned above, MCT oil won't cause malassezia flare-ups because it's made from C8 and C10 fatty acids.

Recall how malassezia feeds on 11-24 carbon chain fatty acids. Caprylic and capric acid are both outside this problematic range.

> Caprylic / Octanoic acid = carbon chain length 8.
> Capric / Decanoic acid = carbon chain length 10.

And it turns out that caprylic acid specifically has the strongest antifungal properties. Here's a quote from a research paper:

> "We could confirm antimicrobial activity against the Malassezia and Candida spp. tested for the medium chain fatty acids capric acid C10, caprylic acid C8, and caproic acid C6. Caprylic/octanoic acid was most effective under the conditions given… Effectiveness can be graded as C 8 > C 6 > C 10. Especially with octanoic acid the Malassezia spp. *M. globosa, M. sympodialis* and *M. padhydermatis* seemed to be most sensitive… Less sensitive were the *M. furfur*, the *C. parapsilosis* and the *C. krusei* strains." (141)

You can use pure caprylic acid oil to oil cleanse (what I do), or add a few drops of it into your moisturizer of choice. This is the one I use.

Cinnamic Acid

Cinnamic acid has antifungal activity against Malassezia species. (142) It's obtained from cinnamon oil, balsams such as storax, or shea butter.

Cow's Urine

Just kidding… but not really. (143)

You can actually buy cow's urine on Amazon. SAY WHAT?!

Green Tea Extract

Using 5% green tea extract in a bath 3 times weekly for 30 minutes kills *M. sympodialis* and heals eczema after 4 weeks. Here's a photo from that study.

SOURCE.

Products With Green Tea Extract.

Honey and Propolis Extract.

It's no secret that honey has powerful antimicrobial effects against pathogens that cause skin disorders. Studies have shown that some variations of honey like manuka, scottish heather, and tualang inhibit the growth of staphylococcus aureus, pseudomonas aeruginosa, and escherichia

coli. (144) This could be especially useful for those with eczema because S. aureus plays role in its pathology.

It's effects on malassezia has been less studied, but I did find some research that showed honey is beneficial for seborrheic dermatitis and dandruff; recall how there is overlap with these and pityrosporum folliculitis. (145)

In one study, thirty patients with chronic seborrheic dermatitis were asked to apply a mixture of 90% raw honey and 10% water on affected areas for 3 hours every other day. After 4 weeks of this, all patients made improvements, with some completely healing their lesions. However, to prevent possible relapse it's best to follow up with a weekly honey application for several months.

UPDATE 10/6/17: someone from reddit came across this blog post and took inspiration after the study above. She cured her seborrheic dermatitis in four weeks using honey masks! Her incredible before and afters can be found here.

If you don't like the idea of putting raw honey on your face, you can always try using products with honey extract or propolis.

And while we're on the subject of propolis, interestingly enough two recent studies (in vitro and in vivo) showed that propolis extract exhibits antimicrobial activity against *M. pachydermatis*, staphylococcus, and candida (among other strains and species). (146, 147)

Note: the in vivo study was on doggies.

Bonus note: the composition of propolis varies depending on geographical location, what plant it came from, and the species of bees that made it. (148)

Products With Honey and/or Propolis.

100% Raw Manuka Honey
Benton Aloe Propolis Soothing Gel (contains propolis)

COSRX Propolis Light Ampule
Scinic Honey All in One Ampoule (contains honey extract and propolis). **Note**: has PEG-60 hydrogenated castor oil, which feeds *M. furfur*.
SkinFood Royal Honey Propolis Essence (**Note:** contains lactobacillus and saccharomyces ferment, which may or may not be safe)

Probiotics

UPDATE 9/26/18: 3 studies have shown that supplementation of Lactobacillus Paracasei ST11 reduces malassezia. (169, 170, 171)

For more information about probiotics — what they are, their benefits on skin, which to take etc. check out this blog post: **the importance of probiotics and how to use them for clearer skin.**

Propylene Glycol

NOT recommended

Not "nature" per se, but 3 studies have shown propylene glycol has inhibitory effects against malassezia. (173, 174, 175)

Salicylic Acid (BHA)

I've written an entire blog post about this awesome ingredient, which can be found here. To quickly summarize, salicylic acid is a keratolytic and has anti-inflammatory, anti-bacterial, and anti-fungal properties.

It's an oil-soluble hydroxy acid meaning it does a great job of dissolving all the gunk inside of clogged pores. Unlike glycolic acid, it does not cause sun sensitivity.

However, the problem with most salicylic acid products is that they use polysorbate 20 as a stabilizer (polysorbates feeds malassezia). A safe salicylic

acid treatment can do wonders though. For example, check out these crazy before and afters pictures of someone who used stridex for only a week!

Sulfur

This stuff is the bee's kneeeeees! And what I used personally to treat my fungal acne with the great success.

I haven't found any specific research on inhibitory powers of sulfur on malassezia, but I'm 100% sure it works especially because many people have reported success with it online.

For example, this really awesome case study of someone who won their 14 year battle with tinea versicolor (caused by *M. globosa*) by taking sulfur baths a few times a week. And check out these incredible acne before and afters after using sulfur for just one month! Links here and here. I'm pretty sure the second link was pityrosporum folliculitis.

Anyway…. here's what we do know:

Sulfur is a keratolytic (sloughs off dead skin), which promotes the shedding of fungus from the stratum corneum. (149) Secondly, when applied to skin, sulfur produces pentathionic acid which is toxic to fungi. (150) And it may also directly inhibit Malassezia.

It's had widespread use in dermatology for acne, rosacea, **seborrheic dermatitis**, **dandruff**, **pityriasis versicolor**, **psoriasis**, **eczema**, folliculitis, scabies, and warts. (151, 152, 153)

So….. pretty much EVERYTHING. Notice the conditions I bolded. These are all pathologically similar, i.e. caused by *Mr. Malassezia.*

And then there's the fact that sulfur has been used since Hippocrates' day to cure all kinds of skin diseases. I once heard Plato had glowly skin. :p I'm telling you, those ancient greeks just knew something we didn't.

In my opinion, sulfur is another one of those ingredients like urea that does not get nearly enough of the love it deserves. The only con of sulfur is that it smells like rotten eggs. Literally. But that'll make for some interesting late nights and sleepovers with your significant other. 😉

Fun fact #5: my sister cured her hormonal adult acne with sulfur. I had my suspicions it was fungal related, but she never believed me.

Products with Sulfur.

Durvet Nu-Stock Ointment (has 71% sulfur). This was the stuff the person used in their bath to eliminate tinea versicolor. Remember to **DILUTE** this!

De La Cruz Sulfur Ointment (10% Sulfur). What I used in the past with MUCH success. This should only be left on skin for 10 to 30 minutes! Start with less.

Kala Health MSM Gel (I will write an entire post on MSM soon. That stuff is wonderful and a bioavailable form of sulfur without the stench. Shout out to Magnolia for letting me know about this! :D)

Sun Exposure

Like I always say on this blog — yes, sunscreen is important….. BUT SO IS VITAMIN D. Modest amounts of sun exposure is good for your health! What's modest sun exposure? About 15 minutes a day when the UV index is 3 or greater.

Interestingly enough, sun exposure improves rosacea, eczema, acne, and seborrheic dermatitis. (154)

Furthermore, two studies have shown that UV light / sun exposure inhibits the growth of malassezia. (155, 156)

Products With Sunshine.

The Outdoors
Hiking
Picnics

:p

Tea tree oil.

A few in vitro and in vivo studies have shown that Melaleuca alternifolia (tea tree oil) has strong antimicrobial properties against malassezia including *M. furfur.* (156, 157, 158, 159, 160)

Depending on the species of malassezia, it's inhibitory concentration ranges from from 0.12%-1.0%. (161) Here's a table with that data for everyone.

SOURCE.

If you plan on using tea tree oil, ***make sure to dilute it at 1% concentration or less***. Tea tree oil can be very irritating on the skin, so play it safe.

Also, try and source the "Melaleuca alternifolia," variety of tea tree oil. This is the one used in studies.

Products with Tea Tree Oil.

Majestic Pure Therapeutic Melaleuca Alternifolia Tea Tree Oil

Urea

This is a naturally occurring substance in urine, which is probably why some people swear by urine therapy. Yes, that's actually a thing. But don't try it! Just a damn urea cream instead.

Urea is a cool lad because it's both a keratolytic and hydrating agent. Keratolytic meaning it exfoliates hardened dead skin. But unlike salicylic acid, which can dry the living daylights out of skin, urea is actually HYDRATING. That's actually what it's primary uses in dermatology are for (i.e. to deeply moisturize).

In addition to that we also have evidence that urea treats ichthyosis, xerosis, **atopic dermatitis/eczema**, contact dermatitis, radiation induced dermatitis, **psoriasis**, **seborrheic dermatitis**, **onychomycosis (i.e. nail fungus)**, tinea pedis, keratosis, and pruritus. (162)

Again, conditions in bold are caused by Malasseszia.

Fun fact #6: urea has been used to treat various skin diseases for over a century.

In my opinion, urea is the most underrated skincare ingredient available today. For the heck of it, here's a sweet quote from Dr. Albert Kligman a.k.a. the dude and dermatologist who co-invented Retin-A!

> "It sometimes happens in the enthusiastic search for new therapeutic agents that some old stand-by has been overlooked, whose luster has worn off, but which none the less may have some useful application in moments when the miracle drugs falter. In the world of topical therapy, urea is such a drug." (163)

Wasn't that beautiful? It's all poetic and english major-like. And that was from 1957! Seriously, urea has flown under the radar for far too long. GO PUT SOME ON YUH FACES!

As far as studies go, there have been two in vitro studies that showed urea directly inhibits malassezia. (164, 165)

Products With Urea.

**Eucerin 5% Urea Facial Cream
Hada Labo Skin Plumping Gel Cream (contains urea, squalane, and ceramides)
**Sebamed Urea Cream
****U-Lactin Dry Skin Lotion

Note: all of these ***except Hada Labo Skin Plumping Gel Cream*** contain esters which feed malassezia. Again, this is like taking two steps forward and one step back. It's why I've been formulating my own urea moisturizer.

Diet and Malassezia.

I can write a whole post about this too, but honestly I'm kinda exhausted from all the researching and writing this article took. Sorry. Just try to make healthier food choices and avoid prolonged use of broad spectrum antibiotics ***if they aren't necessary***. I'll refer you to two of my guides that will help you get started on the nutrition side of things.

1. **The importance of probiotics and how to use them for clearer skin.**
2. **Clearing acne with diet.**

Final Words.

And we've made it! Phew. If you're still with me, thanks for reading! I hope you've learned something new, and I wish you the best of luck on your skincare journey with malassezia. I'll see you on the other side!

Very warmly,

—f.c

EDIT 5/29/2017: Please read the comments before asking a question. It's probably been answered already! Thank you for being considerate.

UPDATE 6/18/2019: As of today I will no longer be approving comments ***on this blog post*** asking me to vet products. For a comprehensive list of over 1,000 skincare items that are safe, go here. You can still make recommendations for me over at that page!

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Protected: Niacinamide

C 3 years ago

Thank you so much for this extremely important contribution!!! As with so many of your other posts, it is so well-researched, thorough and helpful! There is just so much amazing information that I have read it at least 10 times!

It seems that many people, like myself, are still struggling with reading the ingredient list of products, especially when it comes to esters that comes in so many forms. Maybe this is just a drop in the bucket, but I decided to go through all the comments and pulled out all the problematic ingredients mentioned and put them in alphabetical order. If I made any mistakes, please correct me! Hope this helps! ☺

arginine
ascorbyl palmitate
decyl oleate
ethylhexyl Palmitate
glycerides citrate
glyceryl laurate
glyceryl monostearate
glyceryl oleate
glyceryl stearate

glycol distearate
hexyl laurate
hydrogenated coco-glycerides
hydrogenated castor oil
hydrogenated palm glycerides
isopropyl palmitate
isopropyl Myristate
lecithin
methyl glucose sesquistearate
monostearate
PEG-7 Glyceryl Cocoate
PEG-8 Laurate
PEG-10 isostearate
PEG-20 Glyceryl Triisostearate
PEG-30 Dipolyhydroxystearate
PEG-35 castor oil
PEG-40 stearate
PEG-40 castor Oil
PEG-90 glyceryl isostearate
PEG-100 stearate
PEG-Glyceryl Stearate
polyethylene glycol
polyglyceryl isostearate
polyglyceryl-3 diisostearate
retinyl palmitate
sodium cocoyl isethionate
sodium methyl cocoyl taurate
sorbitan laurate
sucrose cocoate
trihydroxystearin
tocopheryl acetate

Thanks again!! ☺

234 Reply View Replies (6)

Sara 2 years ago

I can't thank you enough for all the research you have done on this. Me and my mother both now have crystal clear skin because of you. I had been battling this crap for 7 years. Before, I never had skin issues. Not even in

high school (I am 35 now.) Then it happened. I got a vicious case of Sebhorric Dermatitis behind both of my ears (my mother too. AT THE SAME TIME). I used alot of coconut oil in my extra long hair at the time and danced for exercise, so I guess I made a buffet for these tiny a@$hats. That kicked off years of many doctors ignoring me when I asked if the face problem could be related to the dermatitis. I even had a case of occular dermatitis during this time which was a jam. They would just throw acne cream at me. Alot of money was spent on products that just wouldn't work. It then started aggravating a new set of problems of hormonal acne on my chin. (Introduce the birth control pill) I was put on a strong antibiotic for 6 months. Did the trick, but destroyed my stomach whilst taking it, and after a couple months off of it, the millions of teeny bumps came back with a vengeance. Thus, the cycle continued. I gave up. Perfect skin was the past. Then my mom starting having the same issues start up on her face (we both had pretty much gotten rid of the scalp seb derm by now). I started researching Malassezia, and your page was one of the first search results. Seeing that fungal acne and sebhorric dermatits were related, I went out and bought items compiled on your list, and after 6 months, my face is the clearest it has ever been. Even don't wear makeup somedays because I don't have to. My mom has done the same and we have both bookmarked this page to completely memorize! You have saved our skin!!!! THANK YOU THANK YOU THANK YOU THANK YOU THANK YOU!!!!!!

69 Reply View Replies (5)

Arts 3 years ago

Oh my God ☺ you are amazing ☺
So much passion ! I thoroughly enjoyed this F.C.
I'll be reading it multiple times to enjoy the full knowledge of this super duper post ☺
LONG LIVE ☺

44 Reply View Replies (1)

Igor 1 year ago

Hey f.c.!

Is the updated products post coming any time soon?

Waiting for it like Christmas! 😀

42 Reply View Replies (2)

Christine C 2 years ago

I have been obsessed with this post for the past week. Obsessed. Thank you for all of your hard work.
I've gone through one wash of the Nizoral and already half of the spots on my chin have dried up. I'm thinking I may be on to something here…

What's your opinion whether the CeraVe Ultra-Light Moisturizing Lotion is safe for fungal acne?

https://www.target.com/p/cerave-ultra-light-moisturizing-face-lotion-with-sunscreen-spf-30-1-7oz/-/A-52723364

Active ingredient
Avobenzone (3%), Homosalate (10%), Octisalate (5%), Octocrylene (2.7%).
Inactive ingredients
Water,C12-15 Alkyl Benzoate,Glyceryl Stearate SE,Methyl Methacrylate Crosspolymer,Glycerin,Pentylene Glycol,Ceramide NP (Ceramide 3),Ceramide AP (Ceramide 6-II),Ceramide EOP (Ceramide 1),Phytosphingosine,Sodium Acryloyldimethyltaurate/VP Crosspolymer,Sodium Lauroyl Lactylate,Cholesterol,Xanthan Gum,Carbomer,Hydroxyacetophenone,Disodium EDTA,Citric Acid,Sodium Hyaluronate.

33 View Replies (13)

Laura 2 years ago

I've been referring to this blog for the past year and a half. Everything on here has kept my fungal acne at bay but nothing helped keep it from coming back. The sulfur treatment and not wearing makeup and a fungal diet worked wonders. But it always came back. I recently did an ALCAT test. It tests for food intolerances, chemicals, medicine, herbs, preservative intolerances. It breaks it down into sever, moderate and mild. I had 2 things under sever- chlorine and fluoride. 2 things most water systems are treated with. I was drinking bottled water knowing my tap wasn't the best. But not knowing my bottled water had chlorine in it. We got a filter system for our tap water and for the shower. My acne is gone and all my scalp problems are gone.

30 Reply View Replies (3)

Kristen 3 years ago

In regards to foundation, I've seen a couple of gripes here about people being forced to blend shades or suffer through less cosmetically elegant formulas. I thought I'd chip in with a couple of brands that might help with that issue.

First, if anyone is peeping the new Fenty Beauty line by Rihanna, I've reviewed the ingredients on the Pro Filt'r Soft Matte Longwear Foundation (which comes in 40 diverse, nuanced shades) and they all seem safe. There are a couple of fatty acids/derivatives (Sodium Dehydroacetate, Benzoic Acid, Dehydroacetic Acid, Potassium Sorbate, Sorbic Acid) but they're all outside the trouble spectrum.

Additionally, I've been using Lancome's Teint Idole Ultra 24 H, which also comes in a ton of shades and fits the criteria of the yeast-challenged. It's nearly $50, though, which I know is ridiculous. Rihanna's comes in at $34, so it's a bit of a bargain. These aren't drugstore prices, I get it, but I am not a drugstore girl. Even if I have fungal sensitivities, that shouldn't impede my makeup addition, dammit!

Ingredients on both:

FENTY BEAUTY BY RIHANNA – Pro Filt'r Soft Matte Longwear Foundation
Water, Dimethicone, Talc, Peg-10 Dimethicone, Trimethylsiloxysilicate, Polypropylene, Isododecane, Cetyl Peg/Ppg-10/1 Dimethicone, Nylon-12, Hdi/Trimethylol Hexyllactone Crosspolymer, Phenoxyethanol, Sodium Chloride, Hydrogen Dimethicone, Glycerin, Magnesium Sulfate, Sodium Dehydroacetate, Disteardimonium Hectorite, Aluminum Hydroxide, Methicone, Benzoic Acid, Dehydroacetic Acid, Propylene Carbonate, Ethylhexylglycerin, Parfum/Fragrance, Silica, Biosaccharide Gum-4, Ananas Sativus (Pineapple) Fruit Extract, Carica Papaya (Papaya) Fruit Extract, Paullinia Cupana Seed Extract, Potassium Sorbate, Sorbic Acid. May Contain (+/-): Titanium Dioxide (CI 77891), Iron Oxides (CI 77491, CI 77492, CI77499).

LANCÔME – Teint Idole Ultra Long Wear Foundation
Water, Cyclopentasiloxane, Polypropysilsequioxane, Isododecane,

Dimethicone, C30-45 Alkyldimethylsilyl, Polypropylsilsequioxane Silica, Glycerin, Peg-10 Dimethicone, Dimethicone/Polyglycerinej-3 Crosspolymer, Sodium Chloride, Nylon-12, Paraffin, Cyclomethione, Aluminum Hydroxide, Disodium Edta, Disodium Stearoyl Glutamate, Dipropylene Glycol, Disteardimonium Hectorite, Acrylates Copolymer, Phenoxyethanol Chlorphenesin, Ethylparaben, [+/- May Contain CI 77007 / Ultramarines, CI 77491, CI 77492, CI 77499 / Iron Oxides, CI 77891 / Titanium Dioxide].

Also, please note that the Fenty Beauty Match Stix Matte Skinstick is NOT safe as the ingredients include Coconut Oil and Ascorbyl Palmitate.

Hope this helps!

24 Reply View Replies (2)

Mac 3 years ago

Is there any way to tell if the ingredient ending in ATE is an ester? For example my shampoo has (glycol distearate- zinc carbonate – sodium xylenesulfonate- magnesium sulfate- sodium benzoate) if it says sodium at the front does it make it non-ester? Sorry, this has me so confused because when I google some ingredients with “ate” at the end, it doesn’t clearly say if it is an ester or not.

19 Reply View Replies (1)

Paula 3 years ago

This is the most informative article on malassezia folliculitis I’ve seen thus far. I read the entire post about three times just to absorb all of the information, you did such a phenomenal job. I’m hoping maybe someone can guide me in the right direction. My face flared about a week after having strep throat and taking antibiotics. It was very inflamed and terribly itchy for the first 2-3 weeks. Now I am going on a month and a week of having the rash. The bumps are not as inflamed and a lot of the itchiness has subsided. It feels like small grains of sand underneath my skin predominantly on the forehead and nose, while my cheeks appear to be more comedonal (may not be related- but the rash is absolutely pityrosporum). My face has not responded to ANY bacterial topicals over the last eight months, and I am constantly “arguing” with my dermatologist (who won’t do a skin scrape) that it is NOT bacterial. I am changing dermatologists this week so hopefully

they will be more helpful. Before I developed pityrosporum folliculitis I had hypersensitive skin and have been prone to eczema my entire life. Many of the treatments reccommended for pityrosporum are far too harsh for my skin. I have tried Nizoral (VERY BAD), Noble soap- pyrithione zinc (flared up my bumps), Extina (topical ketonazole- irritated), 20% mandelic acid serum (caused more bumps), diluted tea tree oil (dried out my skin and irrated it), Elidel (pimcrolimus- used to work on my skin but stopped working), diluted apple cider vinegar (flared it a little- but not the worst of things I've tried), aloe Vera plant (not sure it did much of anything), raw honey (stung my face and slightly irritated it more), protopic (no change at all), and that's all I can think of right now. I am currently using Vanicream face wash and clotrimazole cream USP 1% and I've been following this regimen for three days now. Is there a purging period with malassazeia? Do things get worse before they get better (redness, bump size, etc)? I know it's terrible to switch skincare products frequently, but it feels like nothing works on my skin and I'm starting to question everything I use. If I knew something was just "purging" or things had to get bad before they got better, then I would be patient, but I feel like I'm playing Russian roulette every time I apply anything on my skin. Some days it looks better, and other days it flares up terribly. I just want my old skin back, and I'm sure many people on here can relate to how self conscious and terrible this can make you feel. I know looks are not everything, but it's nice to feel good in your own skin. So if anyone can enlighten me with any advice, tips, or knowledge I would be forever grateful. I have spent thousands of hours researching the subject and I just can't seem to find a cure that works for me. However, finding this article sooner would have been a lifesaver. This is incredibly informative and I'm so appreciative you took the time to help spread the information on a subject that's often misdiagnosed and unacknowledged.

18 Reply View Replies (11)

Olivia 3 years ago

Hey so you got any opinions on The Ordinary products? They have a 10% azaliec acid suspension and a Niacinamide/Zinc topical treatment I'm curious about. Also why about using women's vaginal yeast infection creams?

17 Reply View Replies (3)

Lyan 2 years ago

Hi. Just want to ask if you've heard of the Aztec Indian Clay mask? do you think it is safe for fungal acne? Cause i've been reading a lot of good reviews that it helps with acne but I dont know if it works for fungal acne.

Thanks!

16 Reply View Replies (4)

Mikaela 3 years ago

Do the fatty acid salts like zinc stearate and magnesium stearate feed malassezia?

14 Reply View Replies (2)

Taylor 2 years ago

Hello!
I just recently discovered this post, and have been studying it for a week! I have just ordered all new products and am very excited to try them ☺
Thank you so much for your time and effort! I'm not sure if you are still responding, but I have a question that was not mentioned… does laundry detergent affect this particular skin condition?

11 Reply

Ian 3 years ago

…..…..…..…..…..wow. That was quite thorough.

(Some good ol' British understatement for you.)

I'm sure I'll have plenty of comments further down the line as I continue to absorb this, but I have to say it's quite revelatory, even for someone like me who has done his reading regarding Malassezia-induced conditions. Excellent work.

Ultimately, one of the most useful sections to this post is the list of product recommendations that shouldn't exacerbate these conditions. As you know, finding safe moisturisers is akin to finding a needle in a haystack, so keeping it updated with as many options as you find would be incredibly helpful to a lot of people. With that in mind, I have one to suggest: the Hada Labo Gokujyun Premium Lotion, which is basically a beefed up version of the

regular Hada Labo Gokujyun Lotion, in the sense that it contains 5 types of hyaluronic acid instead of just 3, AND more excitingly, contains urea as the 5th ingredient! It's mainly because of this that I've added it to my "buy and try" list.

Here are the ingredients for your inspection, although it appears safe to my eyes:
Water, butylene glycol, glycerin, PPG-10 methyl glucose ether, hydroxyethyl urea, sodium acetylated hyaluronate (super hyaluronic acid), sodium hyaluronate, hydrolyzed hyaluronic acid (nano hyaluronic acid), hydroxypropyltrimonium hyaluronate (skin absorbent type hyaluronic acid), sodium hyaluronate crosspolymer (3D hyaluronic acid), aphanothece sacrum polysaccharide (sacrum), hydrogenated starch hydrolysate, glycosyl trehalose, diglycerin, sorbitol, pentylene glycol, triethyl citrate, carbomer, polyquaternium-51, PEG-32, PEG-75, ammonium acrylates crosspolymer, disodium EDTA, potassium hydroxide, diethoxyethyl succinate, disodium succinate, succinic acid, phenoxyethanol, methylparaben

It really seems to me that those who suffer from these conditions and are dismayed by the lack of suitable moisturisers might benefit by taking a closer look at Asian skincare lines, considering their focus on simplistic, lightweight, hydrating products, because products of this nature are less likely to contain oils, esters, etc.

I'm also glad you mentioned squalane. I discovered it a few months ago and mentioned it to Tom Busby as a possible alternative, or supplement, to MCT oil, that might have more benefits to skin health considering it's a skin-identical ingredient. I have a small bottle of it that I've tried mixing with my moisturiser (just a few drops at a time), but I can't completely ascertain whether or not it pore-clogging in my case — until I come to any conclusion on that, I've been using it as a lip balm, because surprisingly it works exceedingly well as one.

By the way, your DIY urea moisturiser looks excellent. Please keep us updated on your experiences with it, because if they continue to be positive, I might bug you to sell me a sample, ha.

10 Reply View Replies (14)

DE 2 years ago

It's very easy to self-diagnose quickly whether you have bacterial or yeast acne. Buy a blacklight UV bulb (you can find cheap ones, under 10$, on internet) and see your skin from close. If the bumps light in coral-orange-red color, its bacterial acne, if they are blue-white-yellow its yeast. You can even extract a papule to see the content under the light.
Doctors have a lamp which is called Wood's lamp and its the same to a blacklight bulb or device (don't go DIY).
Wish I knew that from the beginning.

10 Reply View Replies (2)

K.A 1 year ago

Hi F.C. First off, thank you for this website because if it weren't for all this information, I probably would be stuck with horrible skin. However, that being said, I still have so many unanswered questions and curiosities that I am dying to know. Just recently, within the past two weeks (not even two weeks yet!) I figured out that I am probably dealing with Malassezia Folliculitis. For years I have dealt with those stupid skin-colored bumps allllll over my face (and most notably on my forehead) and no dermatologist could even figure out why they weren't going away. Like many others, I tried everything. I was and still am frustrated by this. However, I first came across a video of someone talking about Mal. Folliculitis and they mentioned Nizoral Dandruff Shampoo for the face. I instantly bought it, however, I realized that maybe I should also check my skincare/makeup products. That is when I found your website and learned EVERYTHING. For the past ten days, I have been using the Nizoral Shampoo on my face (15 mins then rinse, twice a day for about two weeks) and I literally had to completely change my entire skincare routine and some makeup products, too. I chose products that you recommended from the post about Mal. Folliculitis (which I will mention later), and as of right now, those bumps have definitely reduced! They are not completely gone, but I am happy that my skin is on the road to becoming smoother. That being said, I am trying to figure out what is the most beneficial for me (since ya know I started this whole switch 10 DAYS AGO!). Here is my routine right now. *PLEASE LET ME KNOW IF ANYTHING IS IN THE WRONG ORDER! AM Routine 1. Cleanser — Avene Tolerance Extreme Cleansing Lotion (no rinse, I only use cotton pad to remove lotion) 2. Anti-fungal Product — Nizoral Dandruff Shampoo (15 mins then rinse) *Today, Saturday, marks the 10th day using Nizoral 3. Spray — Avene Thermal Spring Water 4. Moisturizing Toner (?) — Hada Labo Hyaluronic Lotion *HAS NOT YET ARRIVED SO HAVE NOT BEEN

USING 5. Moisturizer + Squalane Oil — Avene Tolerance Extreme Emulsion + a few Squalane drops 6. Sunscreen — Elta MD SPF 46 Sunscreen PM Routine 1. Makeup Remover (if I wore makeup that day) — BioDerma Micellar Water (no rinse) 2. Cleanser — Avene Tolerance Extreme Cleansing Lotion (no rinse, I only use cotton pad to remove lotion) 3. Anti-fungal Product — Nizoral Dandruff Shampoo (15 mins then rinse) *Today, Saturday, marks the 10th day using Nizoral 4. Exfoliant — Paula's Choice 8% AHA Gel (only have used it about once or twice so far as contact therapy for 10 mins then rinse) 5. Moisturizing Toner (?) — Hada Labo Hyaluronic Lotion *HAS NOT YET ARRIVED SO HAVE NOT BEEN USING 6. Spray — Avene Thermal Spring Water 7. Moisturizer + Squalane — Avene Tolerance Extreme Emulsion + a few Squalane drops 8. Mask — Hada Labo 3D Perfecting Mask *I assume goes here, just haven't used it yet (probably use 1 or 2 times a week?) These products, per your recommendation, are malassezia safe which is good, but I really want to figure out how to really get rid of everything (haha) basically. QUESTION #1: Should I add any steps in? I was thinking of adding in: – Low ph serum (Vitamin C, right?) – De La Cruz Sulfur mask /or Acne.org Benzoyl Peroxide (as contact therapy treatments to get rid of tiny sand grain bumps or other skin colored bumps?) – Acid toner? I am getting confused because I thought the Hada Labo one I bought counts as that, but I guess not… – Serums for after the Hada Labo Toner and before moisturizer (open to recommendations) QUESTION #1.1: I said above that I am using Nizoral for two weeks straight, 15 mins, twice a day. After that is over, should I still incorporate it once a week? or should I keep using it after the 14 days if my skin hasn't cleared up fully yet? QUESTION #2: I think my skin is DEHYDRATED and my skin looks pretty dull, in my opinion. Should I be adding an occlusive or will that clog my pores? Or any other moisturizing products for that matter? *I know you love Squalane and I use it right now in my routine, but I have been reading comments saying that Squalane clogs pores and now I am getting scared because my pores are already bad. QUESTION #3: Speaking of pores, they are the WORST for me. I have large pores on my cheeks and forehead predominantly that are so noticeable. I especially notice them after getting my derma-planing done at the dermatologist office. They just look dark, big, and horrible. I want them to go away!! What are your thoughts on this? Also, other note — I have blackheads on my cheek, nose, and forehead area. QUESTION #4: I want to try Micro-needling at my dermatologist office. Will that do my skin any good in regards to any of my concerns? I do microdermabrasion, but haven't noticed any drastic results. For MAKEUP, I went to Bare Minerals Original Powder, which is great (leaves a natural and

not cakey finish), but I do get oily in the T-zone area (nose, center of the cheeks, forehead, chin). I did switch to other safeR products as well, BUT another question. QUESTION #5: If my bronzer and blush (the products that go on top of primer/foundation) are not necessarily malessezia safe, do they have a smaller effect of irritating my skin since it is not directly on my bare skin or do you really recommend that I switch? As of right now, I don't know how it is affecting my skin since I just switched a lot of products (skincare and makeup). These are all the questions that really stuck in my mind, but hopefully I can get your thoughts… Read more »

9 Reply View Replies (1)

Tara Mattingly 1 year ago

Thank you so so so much. 15 years thinking I had hormonal acne that would clear after a month but never all the way. Tried Nizoral last night and bought some of the simple products. I can't already see a huge improvement. I could cry, I've spent so much money over years on amazing products and wondered why everybody raves about them and yet they never worked! Come to find out my mom had to put Nizoral in my bath water when I was little bc of skin issues. Thank you, this was SO helpful and I will continue to use it as reference.

9 Reply

Janette 3 years ago

Hey! I just wanted to update and say my skin is improving DRASTICALLY and very quickly. I started out with a fairly complicated regimen of rinsing with water, wiping with ACV, wiping with green tea MSM mixture, followed by letting msm mixture dry on my face, then putting on an anti fungal. I saw huge improvement in the first two weeks but I have to say my new regimen is just amazing. I also did a glycolic peel last week and that helped IMMENSELY!! But this is my current routine:

Morning: rinse with water, wipe with ACV, raw honey mask for as many hours as I can manage to keep it on, stridex pad, followed by loprox (which has been amazing, I got it from Thailand) and a teeny bit of oil (like literally 3 drops if I need it)
Evening: wash face with mild natural soap, wipe with ACV, stridex pad, loprox, oil if needed.

This has been going great!!!

My hope is to cut out some of the steps once I clear completely but always keep the honey, ACV and stridex pads. I'll also be doing more glycolic acid peels, every few weeks to once a month.

Sorry for the long post but I wanted to bring up OZONATED oils. I know they're oil but have you heard of them? Studies have shown that it wipes out bacteria and fungi and never creates a resistance. I use it n my babies yeast diaper rashes and they clear in a few hours. The stuff is amazing. Im starting to add it after the loprox on just the healing areas. You might want to do some investigating. I'll update on whether or not it breaks me out.

8 Reply View Replies (2)

Brittany W 2 years ago

Hi ! I'm looking through the ingredient lists on potential products and had questions about the compound Coco Glucoside. So I assume "coco" before or in anything means it's a derivative of coconut oil and from my google search, this specific compound is C8-C16 fatty alcohols from coconut and glucose. I'll link those websites. My first question is if coconut derivative compounds such as this one or Cocamidopropyl betaine or anything with "coco" in it is still safe to use? Does the derivative still carry the lauric acid? My second question is what is the C8 – C16 fatty alcohols? I know I need to avoid the C11-C24 so are these the same thing or because it says fatty alcohols, is it a different carbon chain?

Thank you (:

The other website is : https://www.makeyourown.buzz/coco-glucoside/

8 Reply

penny 2 years ago

First – I have to join the choir of people who thank you for this amazing blog and all the studying and hard work you've put into it f.c. – Thank you!
I've always had 'problem'-skin, acne, redness, oilyness + flakyness in face – all in one confusing combination. It started in my teens, now I'm in my late 30s, and it hasn't changed but I've learned to get by – until… couple of years ago I started getting bumps/'acne' on my chest, last year it has spread to my whole

back. A month ago I was diagnosed with pityrosporum folliculitis :-/ The dermatologist has given me Nizoral 2% shampoo to wash with 2 times/week and Benzoyl Peroxide 5% wash to use 2 times/week (not at the same time). The dermatologist also said 'good luck – this is really hard to get rid of'… ☹ It's been fantastic to read your blog for more info and advice+product recommendations. But – I'm now 4 weeks into treatment and my back/torso-skin is getting really really dry and itchy (and it still has the folliculitis – not much changed). I am assuming the dryness/itchiness is a side-effect to the ketoconazole and benzoyl peroxide (I've never been itchy or dry on my back before).

So now my question to you (or any clever blog-follower): Do you have a 'safe' bodylotion that you can recommend for use in the fight against Malassezia and in combination with ketoconazole/benzoyl peroxide? You list of recommended creams/lotions are facial as I understand it – and they would get used pretty fast slathering them on my back… Or would you just recommend using an oil (I've found squalane – but only in small bottles/containers). I am in Europe, but can easily order on amazon or the like if need be.

I would greatly appreciate any advice!

8 Reply