
Dealing With Die-Off

How to manage the temporary discomfort of re-balancing microbes

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What Is Die-Off?

A “die-off” reaction is one possible result of the body’s microbiome adjusting to changes we impose.

The microbiome is our inner microbial ecosystem. We are made more of microbes than we are of human cells, and these microbes (bacteria, viruses, etc.) play an important role in our susceptibility to disease. When the right microbes exist in the right numbers, in the right places, in the right environment, all is well. When the wrong microbes exist, when microbes exist in imbalanced numbers, when they are living in the wrong places, disease occurs. While the gastrointestinal tract is the densest source of these microbes interacting with our humanness, we actually have microbes on all of our inner and outer surfaces.

A fair amount of chronic disease in a modern America can be attributed, at least in part, to imbalances in this microbial ecosystem. So, in a Functional Medicine practice, identifying and making adjustments to these imbalances is often a necessary part of the healing process.

When we “starve out” microbes through nutritional changes, some microbes die. When we actively kill microbes with antivirals, anti-fungals or herbal formulas, some microbes die. This kill-off process often, but not always, results in discomfort felt in the body either in the intestinal tract or systemically as a result of temporary inflammatory and immunological changes. If this effect occurs in your body, it will begin within the first few days of dosing the medication/treatment or during the first couple of days that you increase the dose during a titration schedule that is prescribed by your doctor. This process of “titrating” will be discussed with you at length during your appointment.

Most Common Symptoms of Die-Off

Die-off reactions are always temporary. They can last a variable length of time - from a few hours to multiple days. Occasionally, they can last even a week before the body adjusts and recovers from the clean-up process happening internally. Symptoms are most often local - felt along the digestive tract, but they can also be systemic. More often than not, the systemic symptoms are symptoms the person already was experiencing to some degree before they had a die-off reaction. In other words, a person who already had brain fog may experience a worsening of brain fog before the symptom lets up. Below is a list of the most common symptoms we see in practice that are associated with die-off:

- Bloating, gassiness & indigestion
- Abdominal discomfort
- Diarrhea or constipation
- General fatigue or malaise
- Body aches, joint stiffness or joint pain
- Headaches
- Brain fog
- Skin rashes or itching
- Abnormal vaginal discharge (if dysbiosis is fungal in origin)
- Heart palpitations (if palpitations were already a symptom)
- Aggravation of mood symptoms (anxiety, irritability, depression, if these were already symptoms)

How to Address Die-Off

You don't *need* to do anything. Die-off management is simply an option if the Die-off is rather intense or lasting a bit too long. It is a way of reducing the uncomfortable symptoms naturally and more quickly than they would on their own. Your doctor will already attempt to mitigate die-off by placing you on a medication/herbal titration schedule where you start with a low dose and increase slowly. This strategy of titrating the dose allows your body to start the kill-off less aggressively, resulting in fewer or less intense symptoms for the duration of the kill-off process. Despite this effective strategy, some people can still experience significant die-off reactions. If that's the case, here are a few options for addressing die-off, should you experience intense symptoms:

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- Drink plenty of water. This facilitates the body's ability to flush out any irritating debris from the intestinal tract.
 - Take 1-2 capsules of Activated Charcoal with a glass of water 90 or more minutes after taking doses of your anti-microbial medication/supplement. Be sure to take Charcoal away from *all* medications and supplements as it will prevent their absorption. This means at least 45 minutes before as well as 90 minutes after a med/supplement. Charcoal will naturally turn the stool black during use, so don't be alarmed by this.
 - Take 500mg of Quercetin 3-4x daily for the first week or two of treatment.