

LINKS

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4253991/>

<https://blumhealthmd.com/2017/07/05/arthritis-and-the-gut/>

<https://www.frontiersin.org/articles/10.3389/fimmu.2017.00598/full>

<https://scdlifestyle.com/2014/10/rheumatoid-arthritis-causes-and-turning-off/>

<https://academic.oup.com/biohorizons/article/doi/10.1093/biohorizons/hzx015/4670557>

<https://www.gdx.net/product/intestinal-permeability-assessment-urine>

A 3D anatomical illustration of the human digestive system, showing the stomach, small intestine, and large intestine. The large intestine is highlighted with a glowing, colorful, and textured appearance, suggesting a dense and diverse microbial community. The text is overlaid on this central part of the image.

Arthritis and Leaky Gut*

*increased intestinal permeability

2013

- A review of the scientific literature on gut health and joint pain reveals strong associations between altered intestinal microbiomes and various arthritis types. A huge percentage of our immune cells live in the gut, where their interactions with certain species of intestinal bacteria activate immune responses in other parts of the body, including the joints.

What is Arthritis?

- To have arthritis you must have evidence of inflammation with redness, pain, swelling, and heat in at least one of your joints. Typically if you have arthritis you can see it. If you have pain in a joint but no swelling, we call that an *arthralgia*.

Chronic Inflammation

- Unchecked chronic inflammation is essentially the beginning of a vicious cycle. Your body ends up fighting against you rather than for you and autoimmune disorders like rheumatoid arthritis are the result. You could be suffering from chronic inflammation if you have any of the following conditions:
 - ◆ fatigue
 - ◆ depression
 - ◆ achy joints
 - ◆ skin problems
 - ◆ digestive problems
 - ◆ food sensitivities
 - ◆ autoimmune conditions

Two primary types . . .

- Inflammatory Arthritis – which includes rheumatoid arthritis, psoriatic arthritis, ankylosing spondylitis, and arthritis from autoimmune conditions.
- Osteoarthritis – also known as degenerative joint disease

Who gets a leaky gut (and why)?

We all have some degree of leaky gut, as this barrier is not completely impenetrable (and isn't supposed to be!).

Some of us may have a genetic predisposition and may be more sensitive to changes in the digestive system, but our DNA is not the only one to blame.

Modern life may actually be the main driver of gut inflammation.

The standard American diet, which is low in fiber and high in sugar and saturated fats, may initiate this process.

Heavy alcohol use and stress also seem to disrupt this balance.

The process begins

- Hormones can trigger inflammatory markers, specifically cortisol, which is related to stress and insulin, which is related to carbohydrate intake. Any fluctuation in either of these marks distresses and the immune response kicks in.
- When your gut is stressed, and overrun with inflammation, holes begin to appear in the lining. Known as leaky gut syndrome or intestinal impermeability, particles are able to pass through into the bloodstream.
- Wherever they end up is not where they should be. Therefore, they are instantly targeted as foreign, along with the cells or tissue nearby. An autoimmune condition develops, more inflammation occurs, and the cycle continues.



REVIEW ARTICLE

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Leaky Gut As a Danger Signal for Autoimmune Diseases

 [Qinghui Mu](#)¹,  [Jay Kirby](#)¹,  [Christopher M. Reilly](#)² and  [Xin M. Luo](#)^{1*}

¹Department of Biomedical Sciences and Pathobiology, Virginia-Maryland College of Veterinary Medicine, Virginia Tech, Blacksburg, VA, USA

²Edward Via College of Osteopathic Medicine, Blacksburg, VA, USA

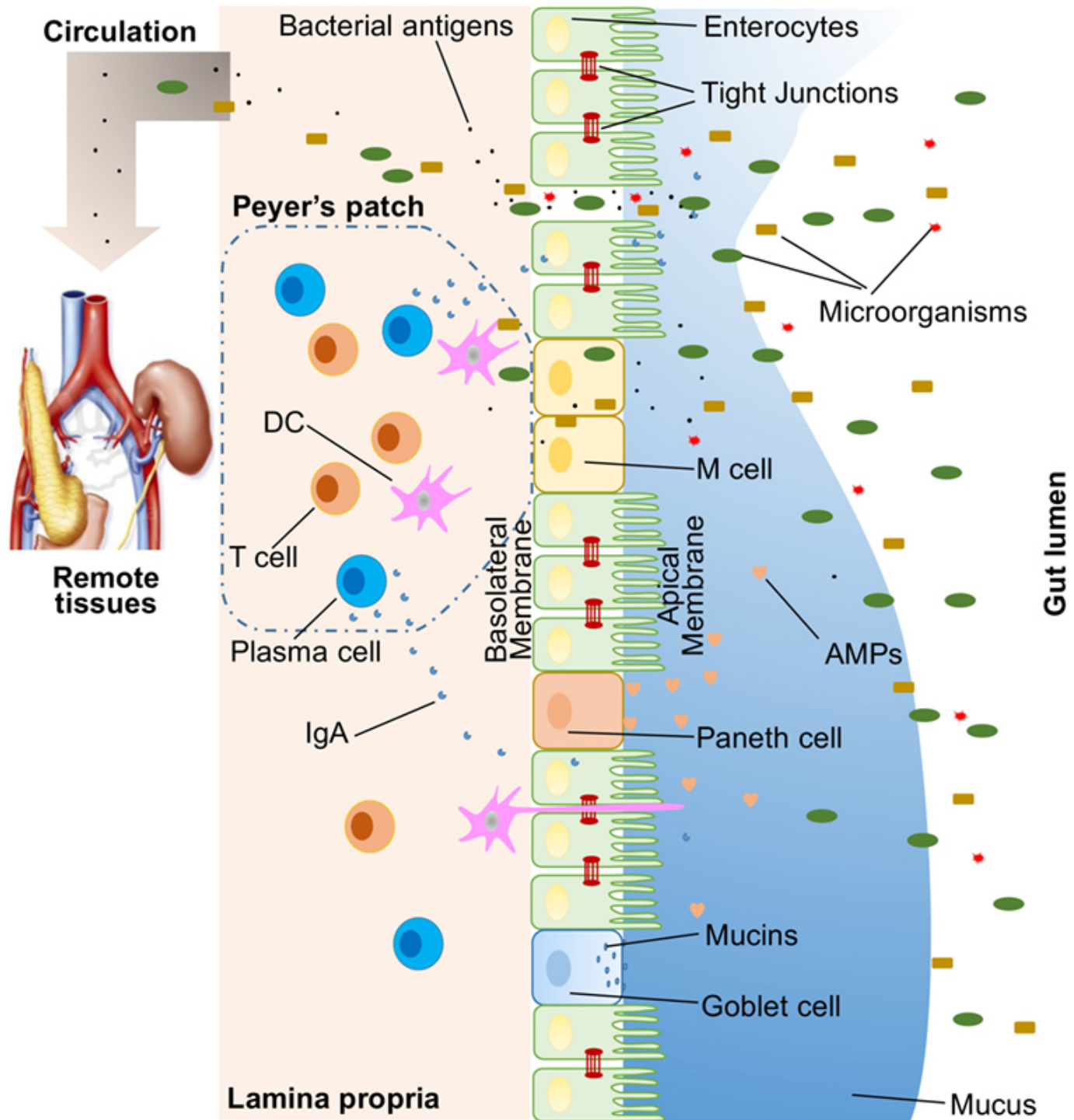
<https://www.frontiersin.org/articles/10.3389/fimmu.2017.00598/full>

TWO ISSUES

The food you eat and other factors produce the intestinal permeability. Which, *might* not be a problem (most folks have mild leaky gut), the real problem is . . .

The leaky gut is allowing microbial particles to pass through into the bloodstream.

This is why you will continue to have food triggers and symptom flares if you eat inflammatory foods while the gut is still damaged. In addition to developing autoimmune responses.



So, What's a Microbe?

Though microbes are small, they are very important for our overall health.

The human body harbors trillions of viruses, bacteria, and other little bugs, collectively called the human microbiome.

The microbes that make up the microbiome outnumber human cells 10 to 1, and they contribute nearly 8 million genes to us.

Most of these microbes live in the gut.

In fact, the gut has about 100 billion bacteria for every 1 gram of intestinal matter.

Keeping the gut balanced and healthy could play a crucial role in managing not only RA, but also many other diseases.

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**"To treat the joints, you must first
heal the gut"**

Dr. Susan Blum, MD, MPH



What if there was a way to begin to turn off the autoimmune response?

- Researcher [Alessio Fasano, M.D.](#) has been on the forefront of recent autoimmune and Celiac Disease research. In 2011, he published a paper titled “[Leaky Gut and Autoimmune Diseases](#)” introducing a new theory that suggests prevention and reversal of autoimmune disease is possible.

Low Carb Diets and Gout

Gout is one of the most painful types of arthritis. The suggested correlation between a low-carb diet and an increased [risk of gout](#) seems obvious.

Gout is caused by an excess of uric acid in the body. A diet comprised of foods rich in [purines](#) (i.e. meat, poultry, seafood, nuts, eggs, etc.) are later broken down into [uric acid](#) in the body.

According to NIH, eating fewer than 130 grams of carbohydrate a day can lead to the buildup of ketones in your blood. Ketosis can also raise uric acid levels.

Eliminating Inflammatory Foods

- Gluten
- Dairy
- Soy
- Corn
- Eggs
- Sugar
- Processed foods
- and especially for arthritis sufferers, the Nightshade Vegetables (tomatoes, potatoes, eggplant, peppers)
- Try removing these foods for 3 weeks, and then reintroduce each one separately for a few days, one at a time, to see if you experience any symptoms. If you do, then remove the food for 3-6 months while you work on healing your gut.

Diet

70 percent of what we eat should come in the form of whole vegetables. Evidence indicates that vegetarianism, veganism, and the Mediterranean diet are among the supports for a healthy gut microbiome.

Conscious eating

- limiting refined sugars, food dyes and preservatives
- avoiding glyphosate and other environmental toxins
- using high-quality fat and oils
- eating humanely-raised animals
- and opting for foods rich in fiber, micronutrients, and phytonutrients.

- Dr. Scher thinks the best way to modify the microbiome is through diet. He points to studies showing that people with RA have benefitted from adopting a Mediterranean diet high in fish, olive oil and vegetables. Other studies have found that a vegan diet profoundly changes the gut microbiome and improves arthritis symptoms.

When arthritis patients integrate healthy eating and stress reduction into their lives, they often find that sustainable pain relief becomes far more achievable than with analgesic drugs alone. Underneath it all, their microbiomes will flourish, providing benefits that ripple out not just into the joints, but throughout the entire body.

Vitamin D levels and RA

- The researchers found that only 33 percent of the people with RA showed satisfactory vitamin D levels, and the levels were lower for those who had active RA and experienced more severe symptoms.
- “Vitamin D deficiency is associated with the clinical activity of the disease,” the authors wrote. “The quantification of serum 25 (OH) D levels and, consequently, vitamin D supplementation, should be considered in the management of patients with RA.”

Stress Reduction

- Dance, meditation, visualization and guided imagery, shaking, breathing practices, or opting to listen to music instead of turning on the news are all good options.

Two bacteria strains that help

- A 2013 study published in the *Journal of Interferon & Cytokine Research* looked at the effect of two common bacterial strains on arthritis in rats. Results showed that bacteria commonly found in yogurt, *Lactobacillus casei* and *Lactobacillus acidophilus*, reduced joint inflammation more effectively than the NSAID indomethacin.

"With inflammatory conditions, you have to finish what you start"

Shifting the microbiome towards a permanently improved state of health requires permanent lifestyle change.

"Otherwise, we're guilty of being quick-fix docs like everybody else."

Dr. Susan Blum, MD, MPH



Protect Your Microbes

- Don't be scared of microbes. Most actually help you.
- Don't pressure your doctor to give you antibiotics. They may cause more harm than good.
- Know when to wash your hands—for example, when preparing food and before eating. To learn more, visit www.cdc.gov/handwashing (link is external).
- Don't use antibacterial products you don't need. Antibacterial soaps have little or no health benefit. And antibacterial versions of household products (like phones and staplers) have not been shown to reduce your risk of infection.
- Don't go overboard with hand sanitizers. They're useful in health care settings, but hand washing is a better option in most situations.
- Experiment with different skin moisturizers to see which work best for you.
- Researchers are investigating the potential health benefits of “probiotic” products, which aim to restore a healthy microbe mix, but experts can't yet make any recommendations.