“Bone on Bone?” Yes and No.

For years we’ve been told that arthritis was the inevitable outcome of aging, that joints simply ’wear out.’ Now we know this isn’t true. Joints don’t come with a ’use by’ date.

January 15, 2022 By Mike Barr

Regular patient/client being followed for typical Standard American Diet health complaints of middle age-- hypertension, atherosclerosis, pre-diabetes-- went in to see his doctor for cardiac clearance for knee replacement surgery. He passed the stress test but was concerned by some of the numbers on his blood tests. He still had a few months before surgery and decided to adopt a kind of grain free, low carb lifestyle just to try to position himself for the fastest possible recovery.

Fast forward to the next time he appeared in the doctor’s office. He had lost his spare tire, was no longer pre-diabetic, and had been taken off his blood pressure meds because he no longer needed them. And that right knee arthroplasty? “Oh, I canceled it,” he explained. “My knee doesn’t really hurt anymore.”

So what’s going on?

For years and years we’ve been told that arthritis was caused simply by “wear and tear;” the older you get, the more you use your joints, and eventually they just get worn out. But joints don’t come with a “best by” date. And the most recent research confirms that arthritis is caused not by overuse but rather by microbes (some would add food sensitivities) in the gut that set off a process of inflammation. It’s this inflammatory cascade that “wears and tears” your joints-- not getting older.

In one particularly fascinating study, arthritic mice experienced a diminution in cartilage breakdown (and systemic inflammation) after beneficial bacteria were added to their feed.

A rapidly expanding body of research supports the idea that arthritis (and for that matter, neurocognitive decline) is caused not by aging or ’overuse’ but by a systemic inflammatory process set off by microbial

overgrowth in the gut.

In a bit of an oversimplification, the combination of increased intestinal permeability and the presence of inflammatory debris such as bacterial waste products (lipopolysaccharides or LPS) and, some would argue, protein fragments from grains (especially wheat but even newer faddish 'safe' grains including quinoa), bind onto certain molecules of joint surfaces called scialic acid and act like splinters, prompting an immune attack-- and chronic inflammation.

I live with someone who suffers from this and get to witness it first-hand. It's both fascinating and frightening because, as in the mantra we learned at the IFM, "Inflammation anywhere; inflammation everywhere." Much of it you simply can't see.

So what about this "bone on bone" thing? Is my surgeon just looking to cover the mortgage on his country house or meet institutional sales targets? (94% of orthopedic surgeons are men.)

Yes and no.

The cartilage that lines your joints is constantly being remade by groups of cells called chondrocytes and chondroblasts. You might recognize a similarity here: bones are also constantly remodeling-- via cells called osteoclasts (breaking down) and osteoblasts (building up). Actually, so do the neural networks in your brain (!!) (the recently lionized phenomenon of neuroplasticity is really just a dance of neuroblastic and neuroclastic activity), but that will have to wait for a future post.

Your joints don't one day mysteriously lose their ability to lay down new articular surfaces. Something is just getting in the way.

During this ongoing process in your joints, cartilage is constantly (just like with bones) broken down/destroyed and regrown. But with a background of chronic inflammation and an aberrant immune response, the regrowing part occurs unevenly, resulting in literal peaks and valleys of cartilage. The result is a sandpaper like lining of your joints. And if it happens to joints of the fingers or toes-- potentially ghastly disfigurement.

This is what the surgeon likely sees to give you the frighteningly effective, seal-the-deal, "How soon can they schedule me for surgery, doc?" 'bone on bone' thing.

But there's more to the story.

Those chondrocytes are still there. Your body makes or is capable of making new articular surfaces EVERY DAY! It just needs a little, let's anthropomorphize here, a little peace and quiet.

To break the cycle of inflammation and pain and NSAIDS and other painkillers, you need to quell the inflammation at its source: the gut. Heal the gut wall and start appreciating those amazing microbes that live within you.

Eat clean, support/heal your gut barrier, prune back the bad bugs, feed (twice daily) the friendly ones, and small miracles begin to happen.

Terry Wahls, kind of famous for having cured herself (a functional cure, let's make clear) of MS by researching and fixing her diet and life, is fond of coaching folks that around 2/3 of what they eat they eat to feed their gut microbes. Only the remaining 1/3 is actually for you! And when people come to both learn this and act upon it, genuine miracles happen.

In his 2019 best seller, a former Loma Linda heart surgeon reborn nutritional health guru, one part Oz two parts Orville Redenbacher, devotes pages and pages to this idea and is particularly unforgiving where wheat germ agglutinin (the aforementioned WGA) is concerned, but bulgar, barley, rye and brown rice are also high on his hit list. (His hectoring against lectins is perhaps more controversial; but criticisms aside, the majority of what he advocates is both commensense and increasingly backed up by science.)

Alcohol, NSAIDs, episodes of acute stress, as well as many food additives are also effective gut barrier busters. But then you likely already knew that.

Mike Barr, a longtime Poz Contributing Editor and founding member of and scribe for the Treatment Action Group (TAG), is a functional medicine practitioner and herbalist in NYC. Reach out to him here.

Feel free too to sign up for his curated (and generously discounted) professional grade supplement store. The site boasts both his current personal favorites— Quicksilver Scientific, Biocidin, Microbiome Labs, Metagenics— as well as stalwarts, Apex Energetics, Biotics Research, Nordic Naturals, Standard Process/MediHerb, Douglas Labs, Pure Encapsulations, Thorne, Designs For Health and others.

© 2026 Smart + Strong All Rights Reserved.