

## **Dissolve Biofilms with Fibrinolytic Enzymes: One Nutritionist's Novel Approach to Autism Spectrum Disorders**

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*I'm including Dr. Cohen's interview to help the reader of my post, Dr. Ettinger's Biofilm Protocol for Lyme and Gut Pathogens, understand more about my biofilm protocol. This interview will help to shed light on the importance of fibrinolytic enzymes and their importance in the treatment of diseases in which biofilm is a component.*

An Interview with Peta Cohen, M.S., R.D., founder of Total Life Center in Northern New Jersey. Cohen specializes in treating children with autism using a biomedical / nutritional model. Cohen received her Masters in Clinical Nutrition from New York University and has been a Defeat Autism Now! practitioner for the past ten years.

**Focus:** You have evolved a highly successful strategy to treating chronic bacterial infections and biofilm that involves some new insights and relies in part on fibrinolytic enzymes like nattokinase and lumbrokinase. I understand you are working with autism experts like Anjum Usman, M.D. and functional medicine pioneers to get the word out on your new insights.

**Cohen:** Bacteria build biofilm by first aggregating together, and then rapidly weaving this protective web or matrix around them. They build a polymeric matrix ... They're very protected. They're very crafty in creating a way to survive and procreate and hide from the immune system.

**Focus:** Why are they protected, and how does that impact our health?

**Cohen:** They're protected because they've built this matrix but are still alive, still fermenting and metabolizing and leaching toxins into the bloodstream ...Because of the biofilm they can no longer be reached by an anti-infectious agent or even the immune system. And **because of the biofilm you may not find evidence of the infection in the fecal matter when you do stool cultures.** For years, I knew from organic acid testing, from the short-chain fatty acids and metabolites the children were excreting, that they carried these infections. Yet when I did a stool culture I did not find the bugs. **EMPHASIS ADDED**

**Focus:** When you began to work at dissolving the biofilm, did you find the bugs?

**Cohen:** Oh yes! But I found something else that was just as fascinating, something nobody was thinking about ... It's standard knowledge that **biofilm bacteria sequester calcium, magnesium and iron** to help build that matrix. Minerals give the biofilm integrity—as if you're building a wall ... To address this, first you use fibrinolytics to help dissolve the fibrin, **then you use EDTA**

**to chelate out the minerals.** And guess what? We started getting huge dumps of toxic metal. Now why is that? I think the answer points to something so huge, **whether we're dealing with autism or Lyme disease or multiple sclerosis or lupus or even cancer.** EMPHASIS ADDED

**Focus:** Why were the kids dumping toxic metals when you began to degrade the biofilm?

**Cohen:** EDTA is able to chelate them well. Mercury, and copper, and other heavy metals are positively charged. Why would the bug preferentially insert calcium or magnesium? It could use any positively charged metal. As we degraded this biofilm matrix and liberated these bugs, not only did the organic acid levels get higher ... but the kids started to dump metals into the bowel. I felt like I'd exposed these little terrorists in a cell. EMPHASIS ADDED

**Focus:** So the metals and the bugs are both in the gut?

**Cohen:** Right. At an Autism One Conference in Chicago last May, one researcher presented his proton analysis of brain tissue, attempting to verify the presence of mercury in the brains of autistic children, and he couldn't find it. Yet he still found evidence of activation of the microglia (a type of glial cell that acts as the first and main form of active immune defense in the central nervous system) as a consequence of toxic metals. So where are these metals? I'm suggesting they are in the biofilm, along with the bugs, in the gut. If the biofilm wasn't using toxic metals, along with common minerals, to build the biofilm, then why all of a sudden do I get these huge dumps of metals on stool tests?

**Focus:** What exactly is your therapy and what sequence do you use?

**Cohen:** I start with **enzymes like nattokinase and lumbrokinase, as well as other mucolytic enzymes,** to get the best, broad fibrinolytic effect. Dr. Usman feels **nattokinase is particularly good at degrading strep biofilm** and I think that strep is a very big player in these children's health. I will run strep titers and they will be extraordinarily high. And these children—and certainly some adults as well—**will manifest strep as a comorbid infection** that has significant implications for neurological function. They will have very OCD type tendencies, and sometimes almost psychotic outbursts. EMPHASIS ADDED

**Focus:** How much do you recommend?

**Cohen:** Remember, these patients are very young; some are just a few years old. So I will recommend half a capsule of each, two times a day. That would be a **50 milligram capsule of nattokinase, and a 20 milligram capsule of lumbrokinase.** **First do the enzymes along with EDTA, then thirty minutes later, add in an arsenal of antimicrobials.** I use formulations containing **berberine, artemisinin, citrus seed extract, black walnut hulls, artemisia herb, echinacea, goldenseal, gentian, tea tree oil, fumitory, gentian, galbanum oil, oregano oil, neem,** and pharmaceuticals as well when necessary, such as Vancomycin, Diflucan, Gentamycin. I use a different one every day. Then an hour later you come in with the **binders**

to help mop up the debris. I use chitosan, citrus pectin, a special bicarbonate formula, organic germanium, chlorella and others. I also use buffering agents, such as buffered vitamin C, since when the body is destroying bacteria it becomes acidic. Minerals must be assessed, and replete when necessary. I test blood work and “pees and poos” (urine and stool) every two months to monitor the process. **EMPHASIS ADDED**

**Focus:** Enzymes, EDTA, antimicrobials, binders, and buffering agents. What are the clinical results?

**Cohen:** They’re fantastic. It’s like the missing piece. I had one little autistic boy who lives in the city who is loaded with viruses and infections and is now almost fully recovered. His mother used to complain about the terribly high levels of copper in his bloodstream and that his hair was like a copper mattress. We measured the hair but there was a marginal amount of copper in it. He was not eliminating. As we got into the thick of the biofilm his copper blew out of his body in his stool, for months and months. He’d been loaded with copper. I’ve had other children struggling for ages to get mercury out, and out it came.

**Focus:** It sounds like this approach would work for any chronic illness in which chronic infection plays a role.

**Cohen:** Yes, I think biofilm are a huge missing piece in Lupus, Lyme Disease, Multiple Sclerosis and any autoimmune-type chronic infection. You have to ask, what compels the immune system to maintain this state of dysfunction? Ask yourself, how could an organism perceived by the immune system as foreign survive its presence? Either something has corrupted the immune system, or the organism has transformed itself in a way that the immune system can’t find it. That’s what the biofilm does. I believe it’s one of the biggest medical issues we’re dealing with today.

— Abstracts —

**J Dermatol Sci. 1997 Nov;16(1):2-10 Biofilm formation of *Staphylococcus aureus* strains isolated from impetigo and furuncle: role of fibrinogen and fibrin. Akiyama H, Ueda M, Kanzaki H, Tada J, Arata J.**

**Appl Environ Microbiol. 2008 Aug;74 Fibrinogen induces biofilm formation by *Streptococcus suis* and enhances its antibiotic resistance. Grignon L, Grenier D.**