

Dr Michelle Perro



Dr Michelle Perro has been a practising paediatrician in California for 35 years. With a background in paediatric emergency medicine, Dr. Perro has been a physician at Oakland Children's Hospital, a Marin County Examiner for abused children, paediatrician for Sunny Hills Children's Garden (in-patient facility for children with mental health issues), a paediatric hospitalist, and urgent care physician. She is presently an integrative physician with The Institute for Health and Healing with the Sutter Pacific Medical Foundation in Greenbrae, California. Dr Perro has seen children's health decline dramatically in North America, where near 50% of children are now diagnosed with a chronic disorder.

Gluten—Fad or Reality?

MADGE Talks: Sydney on 24 March 2015

So I want to start by talking about one of my favourite topics, which is food, and I think — what I've noticed what's happening in the US seems to be happening here in Australia as well. This issue regarding gluten: fad or reality? I haven't eaten gluten in about four or five years. I get teased endlessly about it. People think I'm crazy back home. And at the end this talk let's see if you think I'm crazy.

So let me talk about what we're reading in the United States. *Wheat belly* by Dr William Davis, *Grain brain* by Dr David Perlmutter. Both are MDs. Both of these books made the New York Times bestseller list. So obviously back home we are concerned about gluten. But something else is going on and I'm hoping by the end of my chat with you this evening you're gonna understand a bit more than both Dr Davis and Dr Perlmutter. A bit arrogant? Well, we'll see.

So what's happening California? Let me explain. This is from our newspaper out of Sacramento, our capital [points to news clipping titled, *Schools ordered to stock drugs for food allergies*], that schools now in the US are required to carry an Epi Pen (epinephrine). What does that mean? That kids have life-threatening allergies called anaphylaxis. So, is it just a US problem? Well, I was hanging out at one of your primary schools in Melbourne and I saw your anaphylaxis board and about 14% of that primary school body had anaphylaxis as well. So I was thinking we were kinda ahead of you in terms of health issues and now I'm not so sure. So my talk, as we've been coming through, has been changing a bit, depending on what I've been seeing right here. Nothing like being on the front line.

So, food allergies are a growing concern. Nearly six million or 8% of children have food allergies and it's probably a lot higher than — this is US data. Young kids are affected, boys more than girls. They can trigger other problems and our Center for Disease Control reported in 2013 a 50% increase between 1997 and 2011, at a *huge* economic cost.

So let me take you to where I live in Marin County, California. Beautiful. Eighth wealthiest county in the United States. It's pretty nice, right? You wanna come give your cards, come out for a visit? There's my little town of Fairfax where the Grateful Dead started. Now some you are kinda young — oh no, some of

you are not that young. When we have water that's what it looks like. Here's my Institute [for Health and Healing]. Beautiful, right, this beautiful setting that I'm showing you — you would think we have the healthiest children in the world. So in Marin County, those kids, are not so healthy. It's not just a Marin County issue; it's a US issue. We're facing a children's health crisis in the US. One out of two children approximately [43%] in the US now has a chronic health condition. Now if that doesn't get a paediatrician riled up — I'm riled up — I don't know what will. Some kinda rile. So I'm gonna try and rile up you guys tonight as well. Rabble rouser.

So now let's hone this down a bit. I'm gonna take you to a day in my clinic. And you're probably saying, 'Wait, she started talking about gluten fad or reality,' and now I'm taking you into my clinic. And for those of you who are not female — I see some gentleman in the office — I'm going to go into a female brain. The female brain will kinda go around a lot. You know how women think. This guy's smiling, yeah, and then I'm gonna bring it home for the big Broadway number at the end.

So a day in my clinic I am running [into] problems with the gut, digestive disorders, *all day long*. I'm speaking GI problems — gastrointestinal, immune dysfunction — a lot of it, respiratory problems such as asthma, sinus infections, chronic ear infections, chronic sore throats; increases in neurologic issues such as ADD, ADHD, autistic spectrum disorder, kids who can't process various things, like their vision and their hearing. That didn't exist when I first started in paediatrics. Fertility problems, big time, endocrine disorders, diabetes, and stressed-out parents. Now that is by the most stressful in that whole list for me are those stressed-out parents. I'm going through a box of tissues per week in my office. Two teary phone calls

per day, eight stressed-out emails. You can see what my day is like. You wanna join my practice? Yeah, it's like yeah, right, no way.

Here's one of my happy clients.

So, first time in modern history where parents are healthier than their children. It used to be the other way around and things have shifted.

So let's go into that digestive problem — with always that little gluten issue that we're gonna keep coming back to. Fad or reality?

So what am I seeing in my clinic? Tummy aches, the food allergies, coeliac disease, kids whose food is coming up and they have to swallow it back down, kids who are bloated after they eat and gassy — gassy tummies, constipation off the charts, diarrhea, obesity, particular kids with truncal obesity — their fat around the middle, the immune problem I talked about, kids who are not growing, inflammatory bowel disease, which is an autoimmune problem where the body attacks itself, such as ulcerative colitis and Crohn's disease. You may have heard these. I have an 18-month-old I just diagnosed with ulcerative colitis and poor absorption of nutrients. So, I did look for picture of Tony Abbott with a crying baby. Couldn't find one. And my husband said, 'Good thing, it's bad taste'. Now, I'm in Australia now.

So, let me just show you one of my biggest pet peeves. I have a lot of moms who can't nurse. There's no pediatricians who say don't nurse the baby. But some babies need formula. This is American formula [ingredients list of infant formula]. I hear your formula is a bit different. Look at these first two ingredients: corn syrup and sugar. Mmmm mmm.

A day in my clinic:

Increases in digestive disorders.

Increases in immunologic dysfunction.

Increases in respiratory issues.

Increases in neurological diseases.

Increases in fertility problems.

Increases in endocrine diseases.

Increases in stressed out parents.

So let's go to a couple [of] definitions. This is a medical talk. You can't do a medical talk without some definitions.

So what is coeliac disease? What is non-coeliac gluten sensitivity?

So gluten has two proteins in it: gliadin and glutenin (glue/glutenin). So when flour is mixed with water gluten forms a sticky network of proteins, making it 'doughy' and allowing the bread to rise. These proteins can be found in wheat (durum, spelt, farina, farro), rye, barley, triticale and oats, etcetera.

So that's what gluten is and that's what's in gluten.

So coeliac disease — this is right off the Coeliac Disease Foundation definition. It is an autoimmune disorder that occurs in a certain genetic population. And the ingestion of gluten — particularly the gliadin part the gluten — promotes the immune system to attack the small intestine. And they get damage to the villi. The villi are those little finger-like projections that line

the intestinal layer and it's like the coating... the side of a towel and allows increase in absorption. This is where nutrients are absorbed [in] the little villi. It affects a lot of people, one in a hundred, and you can develop other autoimmune diseases if you have coeliac disease. High risk of cancer in patients with coeliac disease. I'm getting about one new coeliac kid per week.

So now I'm gonna go to another issue — gluten and leaky gut. And you're probably saying leaky gut, what is leaky gut. I have paediatric friends and they don't even believe this exists. But you're gonna know more than my paediatric colleagues in about a second. So what it describes is intestinal permeability — where normally in your intestinal lining you have tight junctions that line the intestinal layer about one cell thick. When these are damaged for any reason they can open prematurely and food that is not fully digested can cross along where it's supposed to be a tight junction — and your immune system [that] is hanging out here on the other side sees that food as a foreign invader and makes an immune response. So the gluten can be broken down to something called gluteomorphins. Those gluteomorphins — morphin/morphine — yeah, yeah, travel right up into that brain, activate those little happy morphine centres in your brain and you feel real good. That's why people say they *love* bread. You hear people say that? I *love* bread. Chemical reaction. It's love. Oh, anyway, that's another subject.

Okay, let me get back to science. Love *is* science. Well, that's another topic.

Let me introduce you to Dr Arpad Pusztai, Arpad Pusztai, or Pusztai Arpad. I'm married to a Hungarian so I've gotta get that right. And this gentleman was asked in about 1996 to look at the effect of GMOs on rats and whether GMOs should be allowed into Europe. And he was a scientist. And we're gonna talk about GMOs. So hang onto that thought for a second and I'll explain what that

is. So what Dr Pusztai did was he took rats and fed them GM potatoes and non-GM potatoes and then he looked at their intestinal wall and the stomach lining. And what he found is in the GMO fed potatoes the architecture of the villi changed. And you see that structure looks different. And when I saw that slide I first realised I had an Ah Ha moment where I had a light bulb going off saying that is what's likely giving kids leaky gut. Not so complicated. Simple gal. Stomach lining shows — if you look at the GMO fed rats — increased cell growth that's called hyperplastic cell growth. And that's a precursor to cancer. So what Dr Pusztai found out, in addition, was — well the architecture changed, so we see changes — the nutritional content of those GM potatoes was less than conventionally grown potatoes. They are not equivalent. Rats that ate the GMO genetically modified potatoes had damaged immune systems and organ damage. So we found out a lot of stuff. When Dr Pusztai announced his findings in the UK — two days at first he was a hero and then two days later he was fired. Yeah. So I'm gonna leave that aside; this is not a political conversation. I'm just planting a seed, like a good lawyer.

So, let's just talk about what is GM.

A new type of artificial plant breeding. GMs have two main traits: they can be sprayed with weed killers which have glyphosate in them, which is the name of the pesticide. You've learned a lot about glyphosate this evening. They produce a toxin within the plant that kills certain insects that eat it. And some GM plants both produce the toxin and are also sprayed with the weed killer. When did this all happen? About 1996. That when it was grown commercially in the US. Now GM soy, corn, canola, sugar beets, cotton, alfalfa, Hawaiian papayas — I could go on and on — are genetically modified. It's in most processed foods in the US.

So, let's get back to gluten, right. Let's bring it on back. Remember I talked about fad and myth? We're gonna keep going back to that. What about gluten and our biome. So what the heck is our biome? So we have germs/microbes in our gut. Our bodies are more microbes than human cells — 10:1 is the ratio. So we are more bacteria than we are human. So my best friend is bacteria. And so what we know now is that this microbial balance is the key to good health.

So let's talk about what these bacteria in your gut do. Why, why do you need these gut bacteria? What's with the big deal with the bacteria? Well they supply us with amino acids. Those are the building blocks of proteins. They convert tryptophan to serotonin to melatonin. So you say melatonin — you guys may have heard melatonin — that stuff that can help you sleep? Well I have a lot of patients, a lot of the kids who can't sleep. Lots of kids now have sleep disorders. We call it dyssomnia or insomnia and we have to give them melatonin, to have to reset that. They help maintain the epithelial barrier of your GI tract. They guide your immune system from birth. So what does that mean? So when a baby is born it passes through the vaginal canal. They acquire mom's flora and that's what populates their own flora. So who doesn't get that flora? Cesarean section babies. In the US it's about one out of three babies now has cesarean section. So they're immune challenged from birth. They help detoxify toxins before they reach the liver, and they produce vitamins such as vitamin K. So, you have to *love* your bacteria. I'm talking a lot about love tonight. Maybe it's the Sydney audience, I don't know. I'm married though, see? But not dead. Just saying.

Glyphosate. What's glyphosate? It's a pesticide. So, when they first brought glyphosate into market the argument was it's harmless to humans. Why? We don't have a certain pathway called the shikimate pathway that plants have.

So it was harmless for us. We don't have it, but our bacteria do. You see, I see light bulbs popping. Anyone have a light bulb going off? Give me a sign.

There's a sign... Love praise Jesus, there's a sign!

Okay, so when I have a question or a problem, you know, in medicine, what do I do? I go to the literature. So I go to the literature [and] there is no literature. So what do I do next? I go to the veterinarian literature. Its close. I'm a paediatrician. So what I learned from the vet literature is there's evidence that highly pathogenic bacteria, such as Clostridia, Salmonella, are resistant to the spraying of glyphosate. Those beneficial bacteria in your gut — Lactobacillus, Bifidus (they come in yogurt) — die. So there's a selection of bad bugs in your gut when you eat that stuff.

Oh, okay wait, hold on guys. So I'm old — I was a disco queen [at] Studio 54, right here, love these guys, and I just saying — so some of you don't know who they? You better google the Bee Gees tonight. Alright, so let's get back to science. Now don't throw me off track. I have to talk science.

So, you don't have to go far about the topics that I'm talking about with this issue regarding gluten, getting back to that topic, because you guys are studying it right here in Australia. This study came out from Melbourne in February. It's a hot study. *Non-coeliac gluten sensitivity triggers gut dysbiosis* (we're talking about that), *neuroinflammation* (we'll talk to you what that is), *dysfunction between your gut and your brain, and vulnerability for dementia*. Not my patients, don't have dementia, but if parents have it, and kids on the spectrum, what a mess. So I want... this is a lot of stuff here, just bear with me one minute.

What does this study show, because it's a really good study. That abnormal bacteria in patients who have the Non-Coeliac Gluten Sensitivity cause gut issues, inflammation, diarrhoea, etcetera. Abnormal germs produce a substance called lipopolysaccharides; they can cause inflammation. Those substances go up your Vagus nerve. It's a nerve to your brain — causes inflammation in your brain by activating a certain type of immune cell in your brain called microglial cells — very hard to turn them off when they're activated, and glutamate, which is exciting to your brain. And that inflammation — how does that look like in children? Emotional ability, temper tantruming, kids who can't settle themselves down, kids who can't focus, spacey brain kids — and that's what it can look like.

So let's talk about what glyphosate can do. It originally came onto the market as a chelator. What's a chelator? Binds minerals. Which ones? About all of them — manganese, calcium, zinc, cobalt, chromium — you need *those* minerals to run *your* body. Zinc is involved in about 250 reactions in your brain; magnesium about 200, etcetera etcetera. So it's binding those minerals that your body [then] can't use. What am I seeing in the US? Kids with mineral deficiencies: low zinc, low magnesium, when I check them, they're low. It inhibits cytochrome p450 detox system. Well what's that? That's the major detoxification system in your liver. Okay, so the gut bacteria do it first. (Come on in guys, we're up to detoxification... just file in, have a seat. We're doing liver detoxification... take notes, come on, sit down, there'll be a test.) So what does that do? It inhibits this. So you're not going to be able to detox things, a lot of stuff, like what? One of the things you can't do is convert vitamin D2 to D3. Vitamin D3 is the active vitamin for immune function, for example. What kids in sunny California have low vitamin D three levels, and their immune system don't work. Kills the beneficial bacteria — we talked about that. Does other things too, which — I'm gonna move on.

So I told you when I don't know stuff I go to the literature but I also look at smart people — what smart people [are] saying. This woman is smart. She's a physicist, she lives in Washington State in the US, she worked for the army, switch-hitter. So she talks about a lot of great stuff, and she reports it's a chelator [of heavy metals, 1961], herbicide [1968], antibiotic [2002] [that] Monsanto applied for [as patents]. This glyphosate to be used as an antibiotic as well (kills everything), anti-protozoal agent [2001], very effective. She showed a very nice graphic. You look on that vertical axis, there's glyphosate applied on wheat, and the horizontal axis is coeliac disease incidence. This doesn't show cause and effect. It shows a relationship.

I wanna talk about your gal Dr Judy Carman. She's at Flinders University, Adelaide. She did a great pig study. She took GM-fed pigs and non-GM fed pigs. And what she found was that the GM-fed pigs had — just when I'm seeing in my paediatric patients inflammation, see all that red stuff, that's not normal. Pigs intestines are just like ours. And so she has some more stuff coming out soon.

Another smart guy, another smart doc in the US. What Dr Vasquez said: He named glyphosate the most toxic chemical of the year at an Institute for Functional Medicine conference. And you can look at his work on Vimeo [<http://vimeo.com/115304371>]. It's really good.

And lastly Dr Kremer. He's a retired research microbiologist from United States Department of Agriculture, and after 33 years he retired. And when he retired he said: 'Gee, those GMO seeds [are] not saving farmers money. The seed quality [is] not as good, they're slow to emerge, they lose their viability, and you have to coat those genetically engineered seeds with

fungicides, insecticides and nutrients.’ And he said, ‘Something not great about these seeds’. I’m like, really, come on... you could have said this about thirty years before.

So here is Dr Stephanie Seneff. Love her. She's a senior research scientist at the Massachusetts Institute of Technology and about a year and a half ago she put out this paper, *Glyphosate, pathways to modern diseases 11: coeliac sprue and gluten intolerance*. (Coeliac sprue is another name for coeliac disease.)

So now we’re getting back to that gluten thing.

So, is that what Dr Perlmutter thinks? That this is just all a gluten issue, and you can read about this in his book, or is there something more to the story? I think there's something more. What Dr Samsel and Dr Seneff said, that glyphosate is the most important causal factor with gluten intolerance and coeliac disease.

So, I just want to show you this brief slide. I’m not going into treatment for glyphosate toxicity and how I treat these complicated kids, because they're sick and they're complicated. Another lecture. Have me come back. But, what I did find out — I look at kids toxicity, I check them for solvents and pesticides and all kinds of stuff, and one, and this one toxicity report that I got...

I was talking to a very awesome toxicologist in the US named Dr Schauss. He wrote *Victory over a small world*, I think, or *Victory over a planet*, something like that, years ago. [Mark Schauss, *Achieving victory over a toxic world*, 2008]. But what he was said to me was, ‘Michelle, just use some glycine.’ Glycine is an amino acid, it comes as a powder, its easy for kids to tolerate, and and it's not very expensive. He said, ‘A lot of your kids with a lot of these

health issues you're describing get better on glycine.' I'm like, okay, I'll try it. So my kids did get better. When I looked at glycine, and then I looked at *glyphosate* I said, well gee, those things look kinda similar. As a matter fact glycine is the main amino acid in *glyphosate*. So I emailed Stephanie and I said, 'Dr Seneff, can it be that I'm competing with that glycine and these kids are really *glyphosate* toxic, and there's a competition going on?' And she said, 'Yes.'

Well, that's interesting stuff. So this is how we have to formulate stuff. You hear that I'm not going to the textbook. You say, oh come on, open the paediatric textbook. It's not there. I've gotta talk to my smart friends.

So this is my favourite Navajo proverb. ['You can't wake a person who is pretending to be asleep.'] Sneezed on the truth. Need I say more?

So I wanna talk about one last study, mentioning Stanford in California, Palo Alto California, and right before our labelling law was coming in, about two years ago, when we tried to label GMOs. Big thing. This study came out in September [2012] and Dr Bravata published a study that said there's little evidence of health benefits from organic food. That was her study. Made airtime and the newspapers where we live. But she also said: 'Two studies of children consuming organic and conventional diets did find lower levels of pesticide residues in the urine of children on an organic diet, though the significance of these findings on child health is unclear.' That's what Dr Bravata said.

So, this is the question you should all be asking, right, this is what I asked. Is the significance of finding lower levels of pesticides on child health unclear?

Well is it? I don't know. Let's go to the literature. Well, that first study you see up there, the Chamacos study [2013], is out of UC Berkeley at the School of Public Health and Dr Eskenazi has been studying the health of children in a farm growing region in California for nearly 30 years. And she found out, well, gee, those kids near those pesticides did have issues, like ADHD, poor birth outcomes, low motor tone (kinda floppy kids), loss of IQ points, the mothers were sick, dads were sick, they were all sick. Well, I guess Dr Bravata didn't read that study.

'Let thy food be thy medicine and thy medicine be thy food' — Hippocrates. So I'm not saying this for the first time. I think there are a few people before me who have said this.

Fertility — going down in the US; it's going down worldwide. We're going to hear more about that from my colleagues.

So again, back to the gluten. It's only part of the story.

So in summary, I'm gonna wrap this up for you, the big Broadway dance moment. I'm not doing a disco dance. I see someone wants... no, maybe later. So what we're doing here?

GMOs. What do they do?

They disrupt the intestinal lining and cause gut inflammation in animals. All I'm doing all day is treating inflammation. Glyphosate, the stuff in Roundup, potentiates toxicity via chelation of minerals, altering the detoxification pathways and causing imbalances in your gut microbiome. The subsequent health issues presented in children can include food allergies, autoimmune diseases and diseases with underlying brain inflammation.

Many more human feeding studies. I'm gonna slide over this right now. What a concept eat real food.

So, what do we do? This is my preferred method. And perhaps in Australia this might be your preferred method. I mean, dude.

So in summary, how do we know pesticides are affecting children's health? Where are the human studies? How about we practice the Precautionary Principle: prove we'll be boiled; prove we won't be. In other words, let's test stuff before it hits our community and then we have to prove that it's not safe. To me it's not precautionary, it's common sense — which is not so common.

So, in summary, I've got a website coming out to look at this further [<https://www.gmoscience.com>]. In the US when we talk about this stuff we have to back it up with a lot of science where they cannot take us apart. I'm gonna be working on a book [*The toxic child: an integrative pediatrician's journey into chronic health issues in children*, Dr Michelle Perro and Dr Vincanne Adams], and this should be coming out next year as well. And this is how you find me if you want to learn more — Michelle Perro MD, Institute for Health and Healing, 1350 South Eliseo, Suite 120, Greenbrae, CA 94904, USA. Tel 415-461-9000 Email perrom@sutterhealth.org

If you have questions — I just danced a little bit on this issue this evening. It's a big topic, you know, in 20 minutes you're not gonna learn everything there is to know. I want you to sample the water so that you get an understanding of what's happening in the US.

And thank you for your attention. Appreciate it.