

The Microbes In The Belly Part 3

by Lisa Sarasohn

What's in a belly? To recap, your belly plays host to **100 trillion** bacteria. These single-celled creatures — your gut microbiota — shape your physical and mental health. When your belly bacteria, in terms of their numbers and their species diversity, achieve a balance, they vitalize your digestion, immunity, hormone production, nerve communication, and more.

Imbalance among and depletion of the gut bacteria likely play a key role in **body-mind disorders** such as anxiety, autism, obesity, irritable bowel syndrome, autoimmune diseases, and allergies.

The belly's **microbiome** — together with the microbial worlds dwelling on our skin, in breast milk, and in every orifice and organ open to the environment—is receiving increasing notice these days, especially since June 2012. That's when the **Human Microbiome Project** released its first reports identifying and sequencing the genetic material of bacteria sampled from nearly 250 healthy men and women.

The spotlight is shining on the gut microbiome now as researchers attempt to define its protective role with regard to specific infectious and chronic diseases. As I mentioned in the previous article, the incidence of deadly intestinal infection with the **Clostridium difficile** bacterium has **increased dramatically**, at least in part due to the use of antibiotics that have destroyed the beneficial bacteria which, if present in the gut, could prevent and eliminate the infection.

Celiac disease — intolerance to gluten, the protein in wheat — has likewise become a common chronic complaint, its incidence increasing by as much as a **factor of four** over the last thirty years. **Research** suggests that certain members of the gut microbiome alter the way intestinal cells respond to gluten. In the presence of these bacteria, the response is tolerance. If the gut microbiome has been depleted and they're absent, the intestinal cells' response to gluten is inflammation.

What determines the character of the microbiome we tote around in our bellies?

As research regarding celiac disease is demonstrating, our mothers introduce us to many of our microbial playmates in the process of pushing us through their vaginal microbiome and out into the world. Our mothers take us to play-dates with bacterial friends as they feed us with their breast milk. In contrast, birth by Caesarean section and bottle feeding **diminish the chances** a child has to develop a robust microbiome.

Given the microbial realm we enter when and after we're born, we enrich or deplete our microbiome with the remedies we use to address illness. Do we choose herbs, minerals, antibiotics, or something else entirely?

The environment in which we live can also add to or take away from the microbiome's protective capacity. An overly-sanitized environment may in fact put our health in jeopardy. When I recently asked a group of women "How many children express the instinct to eat dirt?" one woman replied immediately: "Everyone!" Heads nodded around the room. Sifting through stories I hear, I suspect many indigenous cultures have sustained a custom among adults of eating dirt from time to time.

Our gut microbiome is constantly changing. When we move our bowels, only half of what we eliminate is the undigested fiber remaining from the food we've eaten. The other half of [what we eliminate](#) is a mass of microbes. How do we keep replenishing our belly microbiota so they'll help keep us healthy in body and mind?

In the previous article, I mentioned [fecal microbial transplantation](#) as a method physicians are currently using to restore the gut microbiome and treat intestinal infection with [Clostridium difficile](#). Fecal microbial transplantation has a long history as a healing practice in China and, I suspect, among traditional cultures around the globe.

[Cuisines](#) that enrich the gut microbiome are also indigenous worldwide. Such culinary traditions fortify meals with fermented foods such as pickled vegetables, sour milk beverages, soups, and breads. These foods — natto, miso, tempeh, kombucha, kimchi, sauerkraut, kefir, yogurt, borscht, buttermilk, sourdough — resupply the gut's population of health-enhancing bacteria.

I have to wonder: How does the use of pesticides in food production diminish the soil's microbiome. How does depletion of the soil — together with the protocols of industrial food processing — affect the microbial resources we need to take from what we eat?

Choosing vaginal birth, breast-feeding, avoiding antibiotics, maintaining environmental diversity, eating fermented and organic foods — these are all ways to establish and replenish a healthy gut microbiome.

What about physical activity?

In the next installment, I'll discuss the power-centering gestures comprising the Gutsy Women's Workout as featured in [The Woman's Belly Book](#) and on the [Honoring Your Belly](#) dvd. Energizing the body's center, these moves may well activate your gut microbiome and make its healing powers all the more available to you.