What Your Bowel Habits May Reveal About Your Health



Jean-Pierre Richterich, MD

Specialist in Gastro-enterology in Küsnacht ZH, FMH

Author — Jean-Pierre Richterich

Bowel movements may seem mundane, but they can offer a surprising window into our health. Emerging research links bowel habits to the gut microbiome, metabolism, kidney function and even cognitive health – suggesting that what happens in the bathroom may reflect far more than digestion alone.

The stool is not the diagnosis, but it can be a surprisingly useful window into what is happening inside us. As a gastroenterologist, I ask patients about their bowel movements almost every day. It may not be the most elegant topic of conversation, but it is often remarkably informative.

How frequently we go to the bathroom, the consistency of the stool, whether emptying feels effortless or difficult, and whether our usual pattern suddenly changes can tell us something about intestinal motility, diet, hydration and the environment in which our gut microbiota live.

But numbers alone do not capture what bowel disease can mean in everyday life. In his recent memoir My Year on the Toilet, Franck Tabouring describes with remarkable openness and dark humour how ulcerative colitis trans-



The Adult Human Microbiome:
© Martin Oeggerli (aka "Micronaut") 2012, supported by HP Martin, Swiss TPH, Basel, University Hospital Basel (Pathology), and School of Life Sciences, FHNW, Muttenz.

GASTROENTEROLOGY

The stool is not the diagnosis, but it can be a surprisingly useful window into what is happening inside us.

formed ordinary routines into a daily negotiation with pain, urgency, uncertainty and loss of control. His account is not a medical guide; it is a patient perspective, and a useful reminder that bowel function is not merely a physiological measurement. When it changes significantly, it can affect almost every dimension of a person's life. (1)

Increasingly, research suggests that bowel habits may also tell us something about the wider biological system. Two recent studies have attracted particular attention because they connect bowel-movement frequency not only with gastrointestinal health, but also with the gut microbiome, systemic metabolism, kidney function and cognitive health. (2,3)

There is no perfect number

One of the questions patients frequently ask me is: How often should I have a bowel movement?

There is no single correct answer. For one person, twice a day may be entirely normal; for another, every second day can represent a stable and healthy pattern. Frequency alone therefore does not define a healthy bowel.

What interests me clinically is the whole picture: Is this your normal rhythm? Is the stool comfortably formed? Do you have to strain? Do you feel completely emptied? Are there associated symptoms such as pain, bloating, blood or unexpected weight loss?

Nevertheless, at population level, bowel-movement frequency appears to contain interesting information.

A 2024 multi-omics study of generally healthy adults found that people at the extremes of bowel-movement frequency displayed differences in their gut microbiota and in circulating metabolites. In people with constipation, microbial metabolism shifted away from fibre fermentation and short-chain-fatty-acid production and towards greater protein fermentation, with increased production of potentially harmful metabolites. One of these, 3-indoxyl sulfate, partially mediated the association between lower bowel-movement frequency and reduced kidney function. (2)

This does not mean that constipation inevitably damages the kidneys. It tells us something subtler and, in my view, more interesting: intestinal transit influences the ecological and metabolic environment of the gut.

The intestine is an ecosystem

We often talk about the microbiome as though it were a fixed collection of "good" and "bad" bacteria. It is much more dynamic than that.

What our microbes produce depends partly on what we feed them and on how long intestinal contents remain in the colon.

When plant fibres reach the colon, certain bacteria ferment them and produce short-chain fatty acids such as butyrate. These compounds play important roles in maintaining the intestinal barrier and regulating local and systemic metabolism.

If transit becomes very slow and readily fermentable carbohydrates are depleted, microbial metabolism can shift increasingly towards proteins. This produces a different spectrum of metabolites, some of which may become undesirable when produced or absorbed in excess. (2)

This is why I prefer not to view constipation simply as a mechanical problem of stool that "does not come out". It can also reflect a change in the intestinal environment.

And then there is the brain

The intestine and brain communicate constantly through neural, immune, endocrine and metabolic pathways, the so called gut-brain axis.

A large prospective study involving more than 112,000 adults examined bowel habits, the microbiome and cognitive function. Compared with participants having approximately daily bowel movements, people reporting bowel movements only every three days or less had poorer cognitive performance. In one analysis, the difference corresponded statistically to approximately three years of cognitive ageing. (3)

Importantly, this was an association, not proof that constipation causes cognitive decline.

Yet the microbiome findings were intriguing. Less frequent bowel movements and poorer cognition were associated with depletion of some butyrate-producing microorganisms, while very frequent bowel movements were also associated with an altered microbial profile and poorer cognitive outcomes. (3)

What we eat matters, but "more fibre" is not the whole story

If bowel function and microbial metabolism are interconnected, food is one of the most obvious levers we have.

Dietary fibre remains central. An updated systematic review and meta-analysis of 16 randomised trials in adults with chronic constipation found that fibre supplementation improved treatment response and increased stool frequency. Psyllium was among the fibre types with a significant effect, although the authors also noted substantial heterogeneity between studies and more flatulence with fibre. (4)

Large observational data also support a relationship between what we eat and bowel rhythm. In more than 20,000 participants in the EPIC-Oxford cohort, higher intakes of dietary fibre and non-alcoholic fluids were associated with more frequent bowel movements. Vegetarians, and particularly vegans, also had higher bowel-movement frequencies than meat eaters. This is an association, however, and not evidence that a particular diet is automatically healthier for every person. (5)

But I would not reduce gastrointestinal health to counting grams of fibre. The source, variety and individual tolerance of food matter.

A systematic review and meta-analysis looking specifically at foods, drinks and diets in adults with chronic constipation found evidence that certain whole foods can improve selected bowel outcomes. Kiwifruit and other fruits increased stool frequency in some trials, rye bread performed better than white bread, and certain high-mineral waters also showed benefit. At the same time, the authors emphasised that evidence for individual foods remains limited and that more high-quality trials are needed. (6)

Rather than searching for one "superfood for the gut", I generally encourage patients to create an intestinal environment that works well over time. That usually means a diverse, predominantly plant-rich diet containing vegetables, fruits, legumes, whole grains, nuts and seeds; adequate fluids; regular physical activity; and as little dependence as possible on heavily processed foods.

Sometimes the simplest intervention is the right one

When somebody comes to me with uncomplicated constipation, treatment does not necessarily start with medication. We first look at daily life.

- Is there enough fibre, and was it introduced gradually?
- Is the person drinking adequately?
- Are they moving regularly?
- Do they repeatedly ignore the urge to defecate?
- Have medications changed?
- Has the bowel pattern itself changed?

Soluble bulking agents such as psyllium can be very useful and are among the interventions with reasonable evidence. But even fibre has to be individualised. In a person with pronounced bloating, pelvic-floor dysfunction or certain motility disorders, simply adding ever more fibre may make symptoms worse rather than better.

That is why treating a patient is different from treating a number.

Do not normalise a new symptom

Most variations in bowel habits are benign. But a persistent change deserves attention, particularly when it is new.

Blood in the stool, unexplained weight loss, anaemia, persistent nocturnal symptoms, significant abdominal pain or a major unexplained change in bowel habits should be medically evaluated. Likewise, chronic diarrhoea should not simply be managed indefinitely by removing foods from the diet. Food intolerances, medications, infection, inflammatory bowel disease, bile-acid disorders, coeliac disease and other conditions may need to be considered.

A small daily signal from a much larger system

The most interesting development in modern gastroenterology is perhaps that we are gradually moving away from looking at organs in isolation.

The intestine interacts with the immune system, liver, kidneys, metabolism and nervous system. The microorganisms living inside it add another layer of complexity.

We are still far from being able to look at somebody's bowel frequency or microbiome profile and predict their future health. The studies described here are largely observational, and they cannot establish that changing bowel frequency itself will prevent kidney disease or cognitive decline. (2,3)

But they reinforce something I see every day in clinical practice: digestion should not be considered an isolated function that only matters when it becomes uncomfortable.

Patient stories reinforce the same point from a different angle. A bowel disorder can affect eating, sleep, work, travel, relationships and the simple confidence of leaving home. Science helps us understand the mechanisms; patient experience reminds us why those mechanisms matter. (1)

How we eat affects our intestinal environment. That environment influences the microbiome. The microbiome produces molecules that interact with us. And sometimes something as ordinary as our bowel habits provides the first visible clue to how that system is functioning.

Perhaps that is reason enough to start paying a little more attention to what happens after we eat.

References

1. Tabouring F. My Year on the Toilet. BUCCHHH Publishing; 2026. Patient memoir / further reading (not a scientific evidence source). ISBN 9798903334643.
2. Johnson-Martínez JP, Diener C, Levine AE, et al. Aberrant bowel movement frequencies coincide with increased microbe-derived blood metabolites associated with reduced organ function. Cell Reports Medicine. 2024;5(7):101646. doi:10.1016/j.xcrm.2024.101646. PMID: 39019013.
3. Ma C, Li Y, Mei Z, et al. Association Between Bowel Movement Pattern and Cognitive Function: Prospective Cohort Study and a Metagenomic Analysis of the Gut Microbiome. Neurology. 2023;101(20):e2014-e2025. doi:10.1212/WNL.0000000000207849. PMID: 37775319.
4. van der Schoot A, Drysdale C, Whelan K, Dimidi E. The Effect of Fiber Supplementation on Chronic Constipation in Adults: An Updated Systematic Review and Meta-Analysis of Randomized Controlled Trials. American Journal of Clinical Nutrition. 2022;116(4):953-969. doi:10.1093/ajcn/nqac184. PMID: 35816465.
5. Sanjoaquin MA, Appleby PN, Spencer EA, Key TJ. Nutrition and lifestyle in relation to bowel movement frequency: a cross-sectional study of 20,630 men and women in EPIC-Oxford. Public Health Nutrition. 2004;7(1):77-83. doi:10.1079/PHN2003522. PMID: 14972075.
6. van der Schoot A, Katsirma Z, Whelan K, Dimidi E. Systematic review and meta-analysis: Foods, drinks and diets and their effect on chronic constipation in adults. Alimentary Pharmacology & Therapeutics. 2024;59(2):157-174. doi:10.1111/apt.17782. PMID: 37905980

GASTROENTEROLOGY