

Wrong kind of gut microbes could cause malnutrition

Malnutrition seems like an intuitive problem: you don't eat enough food, so your health suffers. But it's not that simple. One mysterious type of malnutrition known as [kwashiorkor](#)—characterised by leaky blood vessels, puffy limbs, distended stomachs, and fragile skin—often affects children who eat just as much as their healthy neighbours.

A team of scientists, led by [Jeff Gordon](#) at the Washington University School of Medicine first started studying kwashiorkor in Malawi [a few years ago](#), after noticing that some children developed the condition while their identical twins did not. Why the difference? Turns out, their gut microbes were very different.

The team identified a set of 11 species that when transplanted into mice only harmed animals that ate a Malawian diet. These included three Enterobacteriaceae, and several common gut inhabitants like *Bacteroides fragilis* and *Bacteroides thetaiotamicron*. Individually, these microbes did very little. Collectively, they led to shredded guts and severe weight loss. These results suggest that this particular type of malnutrition isn't just caused by the *absence* of food, but also by the *presence* of the wrong microbes.

The team then used the same techniques to show that healthy twins, who don't get kwashiorkor, have guts that are rich in two particular bacteria, *Akkermansia muciniphila* and *Clostridium scindens*. The team are now trying to understand how the 11 microbes that they identified damage the gut, and how *C.scindens* and *A.muciniphila* thwart them.

Read full, original article: [Fishing For the Microbes Behind Malnutrition](#)