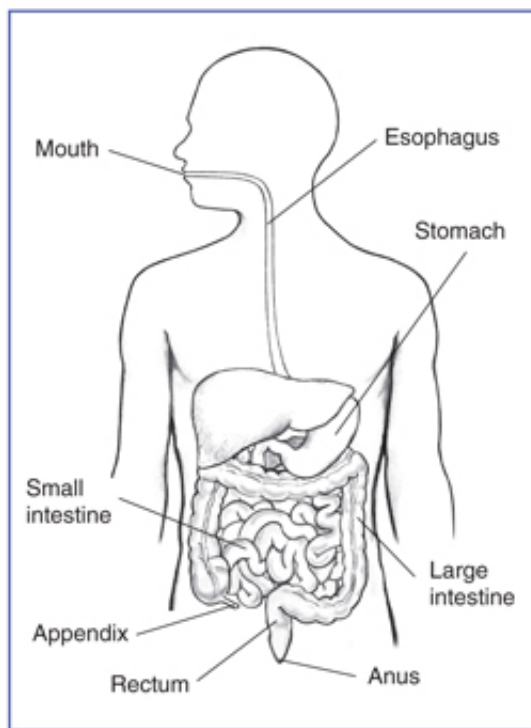


Hope for millions of Irritable Bowel Syndrome sufferers as research identifies cause of pain as 'gut itch'

October 16 2019



The organs of the GI tract. Credit: National Digestive Diseases Information Clearinghouse

This is big news for Irritable Bowel Syndrome (IBS) patients: 11 percent of the world's population suffers from IBS, but the fight against chronic pain has taken a major step forward with scientists identifying receptors

in the nervous system which cause the condition in the hope of developing effective treatments.

Flinders University researchers at SAHMRI have discovered receptors that cause itchy skin also exist in the [human gut](#) and activate neurons, which result in IBS patients feeling like they're experiencing chronic gut pain or a seriously painful 'gut itch.'

In millions of Americans with IBS, it looks like these 'itch' receptors might be more present than in healthy people. This means that more neurons are activated, causing the feeling of more pain.

NHMRC and Matthew Flinders Research Fellow in Gastrointestinal Neuroscience, Professor Stuart Brierley, says these gut itch receptors could offer a new way of targeting the underlying cause of gut pain, rather than using traditional drugs (like opioids), which don't fix the problem right now.

"We found receptors which bring about an itchy feeling on skin also do the same in in the gut, so these patients are essentially suffering from a 'gut itch'. We've translated these results to human tissue tests and now hope to help create a treatment where people can take an oral medication for IBS."

"Patients with IBS suffer from chronic abdominal pain and experience rewiring of their [nervous system](#) so they feel pain when they shouldn't—we decided to ask important questions about how nerves in the gut are activated to cause pain in order to seek out potential solutions."

Professor Brierley, also the Director of the Visceral Pain Research Group at SAHMRI, says pain experienced by IBS sufferers takes place when itch receptors are coupled with what's known as the 'wasabi

receptor' in the nervous system, which normally helps people react to consuming wasabi- the Japanese condiment.

"If you think about what happens when you eat wasabi, it activates a receptor on the nerves and sends a pain signal—that's exactly what's happening within in their gut as they experience an itchy effect or wasabi effect in the gut."

"Having shown these mechanisms contribute to chronic gut [pain](#), we can now work out ways to block these [receptors](#) and thereby stop the 'gut itch' signal traveling from the gut to the brain. This will be a far better solution that the problems currently presented by opioid treatments".

More information: Joel Castro et al, Activation of pruritogenic TGR5, MRGPRA3, and MRGPC11 on colon-innervating afferents induces visceral hypersensitivity, *JCI Insight* (2019). [DOI: 10.1172/jci.insight.131712](#)

Provided by Flinders University

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