

Genetic link found between spinal arthritis and inflammatory bowel disease

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Researchers at the University of Queensland Diamantina Institute in Brisbane, Australia, have found that a form of spinal arthritis is genetically linked to Inflammatory Bowel Disease. The study will be published on December 2 in the open-access journal *PLoS Genetics*.

Ankylosing Spondylitis (AS) is a common form of arthritis involving [chronic inflammation](#) particularly of the spinal and pelvic joints, which causes pain, stiffness, and often disability. Affecting up to 0.5% of the population, the risk of AS is almost entirely genetically determined. Curiously, AS patients appear to be highly susceptible to [Inflammatory Bowel Disease](#) (IBD), including Crohn's disease. Similarly, the development of AS is common in IBD patients. Professor Matt Brown and his colleagues wanted to determine if this was more than a coincidence.

"It seemed likely that common pathogenic pathways may be acting in the development of both diseases" said Professor Brown.

In order to test whether genes associated with Crohn's disease are also associated with AS, they searched for known genetic markers of Crohn's disease in the genomes of more than 2700 AS patients, working with colleagues from England, North America and Canada. The results revealed that both AS and Crohn's disease share several similar genetic variations, and identified seven genes affecting both conditions.

When the researchers took a closer look at the function of the genes they

had identified, they found that four of the genes are known to influence the activation of a recently discovered class of helper T-cells called Th17 cells. Identifying the involvement of these [immune cells](#) greatly increases what is known about how AS develops, and points to potential new therapies for this form of arthritis. This study highlights the value of studies that look into individual [genes](#) that might be implicated in related diseases.

More information: Danoy P, Pryce K, Hadler J, Bradbury LA, Farrar C, et al. (2010) Association of Variants at 1q32 and STAT3 with Ankylosing Spondylitis Suggests Genetic Overlap with Crohn's Disease. *PLoS Genet* 6(12): e1001195. [doi:10.1371/journal.pgen.1001195](https://doi.org/10.1371/journal.pgen.1001195)

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