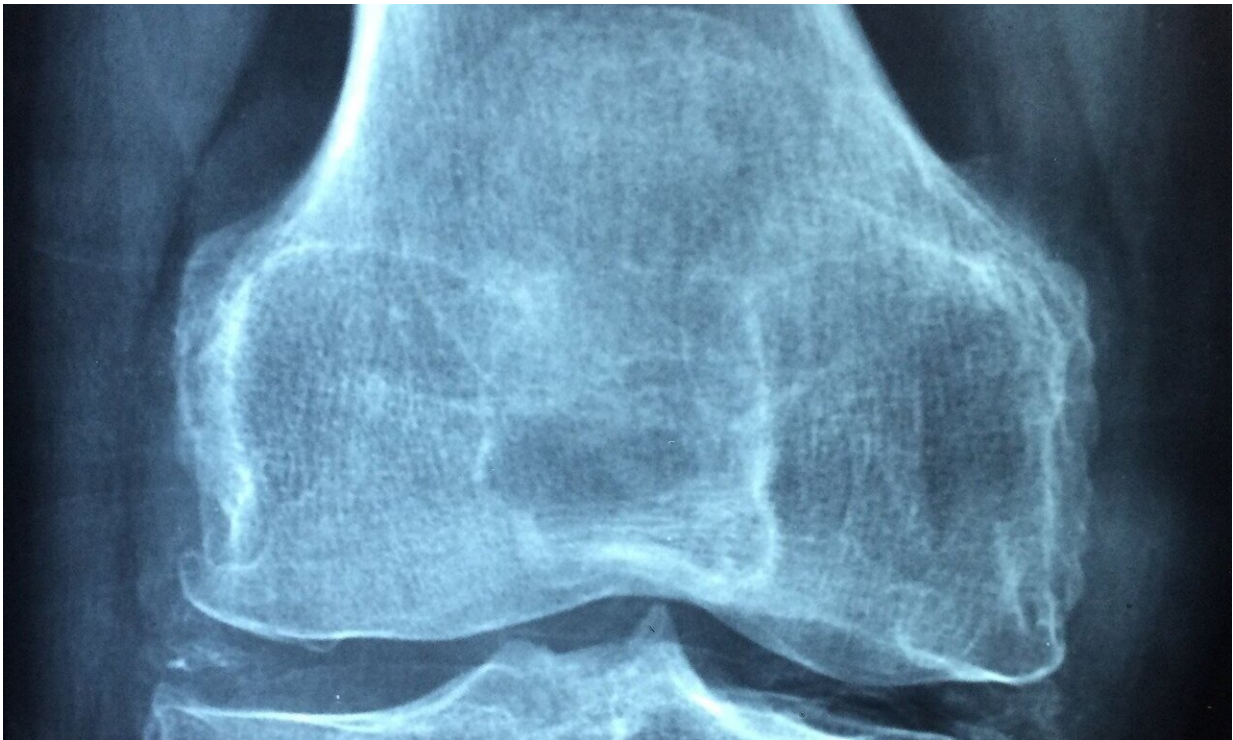


# Researchers find one autoimmune disease could lead to another

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Researchers at the University of Colorado Anschutz Medical Campus have discovered that having one kind of autoimmune disease can lead to another.

The scientists serendipitously found that mice with antibody-induced

[rheumatoid arthritis](#) in their joints went on to develop spinal lesions similar to those in axial spondyloarthritis (AxSpA) which causes fusion of the vertebrae and curvature, or bending, of the backbone.

The study was published today in the journal *Immune Network*.

"Our results suggest that one autoimmune disease, such as inflammatory arthritis, may also lead to a secondary autoimmune disease such as AxSpA," said the study's lead author Nirmal Banda, Ph.D., professor in the division of rheumatology at the University of Colorado School of Medicine. "This interesting disease association may be due to the binding of anti-collagen autoantibodies to the spine, or to some alteration of the immune system that requires further investigation."

These same anti-collagen antibodies are also present in humans with arthritis. They directly attack joint cartilage resulting in inflammation and pain.

Banda noted that every mouse injected with collagen antibody-induced arthritis (CAIA) developed arthritis and then curvature of the spine consistent with axial spondyloarthritis.

"I began to notice the proliferation of bone in the spine and fusing of the vertebrae," he said. "The normal spaces between the spine vertebrae in certain locations were disappearing. This is similar to what happens to humans with AxSpA."

The connection, he said, has not been made in any other study he's seen.

"I believe we are the first to make this link," he said.

But exactly how one autoimmune disease could trigger another remains a mystery, one that Banda hopes to investigate.

"I want to know what the mechanism is," he said.

In the meantime, he suggested that those with an autoimmune disease be vigilant in case they develop another.

"I believe because of our changing environment we are seeing a growth in [autoimmune diseases](#)," he said. "There are already connections between gum [disease](#) and rheumatoid arthritis and dry age-related macular degeneration and rheumatoid [arthritis](#). I believe this is an area that needs further exploration."

**More information:** V. Michael Holers et al, A Potential New Mouse Model of Axial Spondyloarthritis Involving the Complement System, *Immune Network* (2022). [DOI: 10.4110/in.2021.21.e45](https://doi.org/10.4110/in.2021.21.e45)

Provided by CU Anschutz Medical Campus

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