

Reducing experimental inflammatory arthritis

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(Medical Xpress)—UCD researchers led by Conway Fellow, Professor David Brayden in UCD School of Veterinary Medicine have successfully reduced inflammation in the swollen arthritic knees of a murine model using a novel nanoparticle.

The team used an anti-inflammatory molecule complexed in a nanoparticle of [hyaluronic acid](#) to overcome the body's normal clearing processes.

In addition to reducing inflammation after a localised injection of this new nanoparticle preparation, the team identified the inflammatory receptor target for the components of the particle and demonstrated its reduction.

"By using these molecules in a 'nano' format, we were able to successfully target the site of inflammation and retain them there to reduce swelling. The effect compared favourably to treatment with steroids", said Prof Brayden. "This may provide a new type of long-acting, 'nano' therapy for human or animals suffering with [inflammatory arthritis](#) in the future".

This condition has a huge social impact for the aging Western population with the [World Health Organisation](#) (WHO) reporting 10% of men and 18% of women aged over 60 have symptomatic osteoarthritis (OA). The WHO estimates that 80% of those have limitations in movement and 25% cannot perform major daily activities.

More information: Ryan, S. et al. An intra-articular salmon calcitonin-based nanocomplex reduces experimental inflammatory arthritis, *Journal of Controlled Release* (2013) 167: 120-129 Feb 4.

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