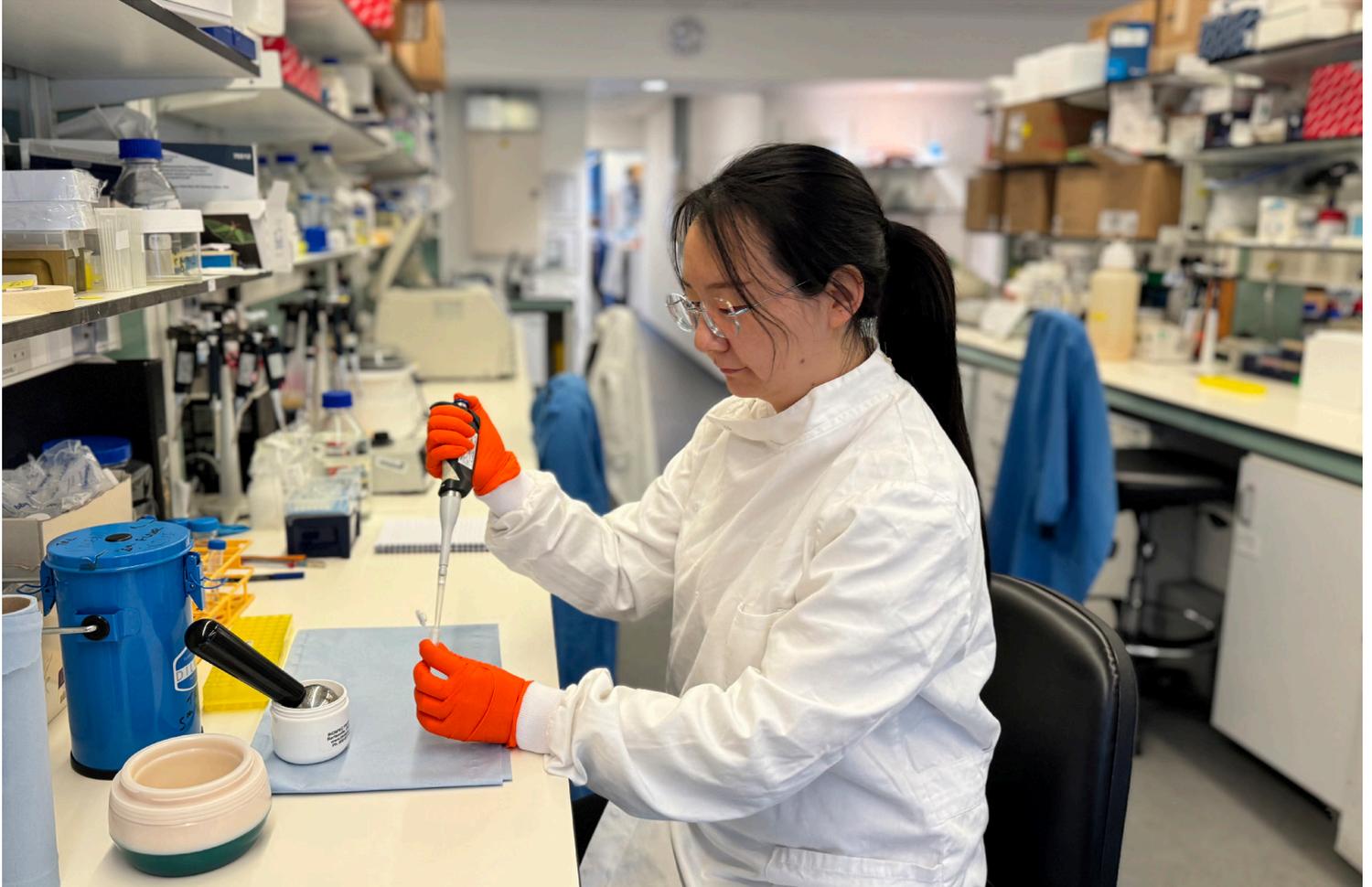


CUTTING EDGE OSTEOARTHRITIS

Newsletter from the Arthritis UK Centre for Osteoarthritis Pathogenesis

Volume 1 | JANUARY 2026



Welcome to the first issue of our newsletter from the Centre for Osteoarthritis Pathogenesis. We're delighted to share practical tips, the latest research to help you understand osteoarthritis (OA) and feel confident managing it. Osteoarthritis is common – and while it can be painful or frustrating at times, there's a lot that can be done to help. Our experts are working to discover what causes OA and how to prevent it, but we also know that small, everyday steps can make a big difference right now.

In this issue, you'll find:

- What's new in OA research
- Active and upcoming clinical studies
- Outreach and public engagement activities
- Recent publications from the OA Centre
- Advice and tips on OA management
- Other news

What's new in OA research

STEpUP OA Reveals Osteoarthritis to be a Single Disease at a Molecular Level OA Centre Leads: Prof. Tonia Vincent, Dr Thomas Perry, Dr Fiona Watt

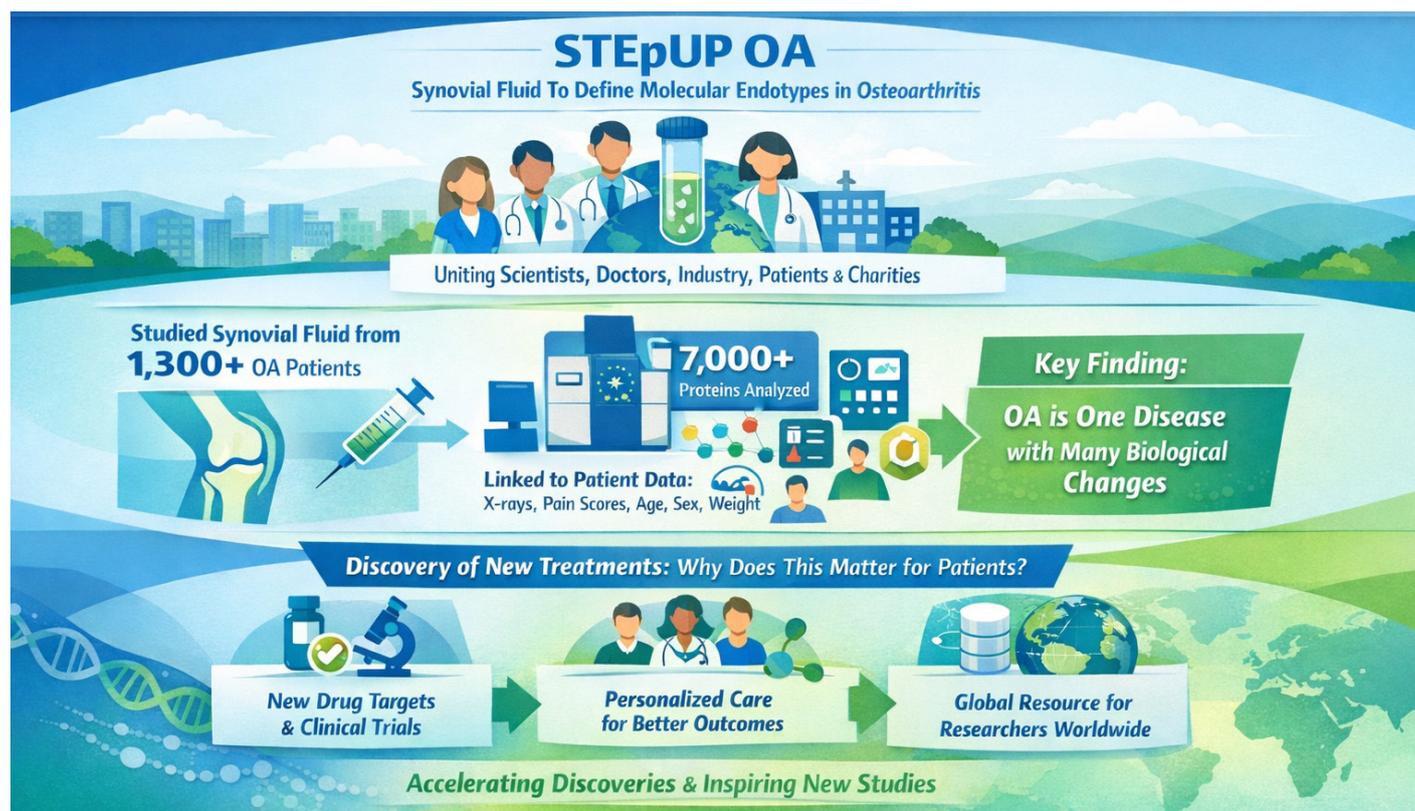
Osteoarthritis (OA) is the most common form of arthritis, but scientists still don't fully understand what drives it, or why it appears to be different from person to person. That's where STEpUP OA (Synovial Fluid To Define Molecular Endotypes by Unbiased Proteomics in Osteoarthritis) comes in.

This large, international project brought together scientists, doctors, industry, patients and charities to answer a big question: is OA a single disease, or a collection of different diseases? To find out, researchers studied the joint fluid ("synovial fluid") of more than 1,300 people with OA of the knee, analysing over 7,000 proteins per sample using cutting-edge technology. They also linked these results to detailed patient information including pain levels, X-rays, scores, age, sex, and weight. The key finding was that OA was a single disease but with wide ranging changes in biology.

Discovery of new treatments: why does this matter for patients?

- By mapping the biology of OA at this level of detail, scientists can now look for new drug targets and test these in clinical trials.
- Personalizing the care for patients: In the future, patients may be "stratified" into different treatment groups based on their underlying biology, leading to more effective therapies.
- Providing a global resource: STEpUP OA is the largest dataset of its kind, researchers worldwide will be able to access it - accelerating discoveries even further.

The project is already inspiring new studies and collaborations.



Prof. Francesco Dell'Accio and Dr. Suzanne Eldridge have established ReFleks, a new UK spin-out company developing an innovative regenerative therapy that promotes the repair of damaged cartilage.

Their lead agent, a protein called Agrin, has demonstrated the ability to stimulate cartilage repair in both mice and sheep, with additional unpublished data showing improvements in pain behaviour in animal models of osteoarthritis. With two major publications supporting its regenerative mechanism, the team are now working on defining Agrin's receptor interactions, completing the necessary safety studies, and finalising a formulation suitable for first-in-human trials.

ReFleks recently secured competitive grant funding (principal applicant: Dr. Eldridge) to deliver this programme and advance Agrin towards clinical evaluation. The company aims to grow into a UK-based leader in joint-health therapeutics, with Agrin as the first in a portfolio of regenerative agents.

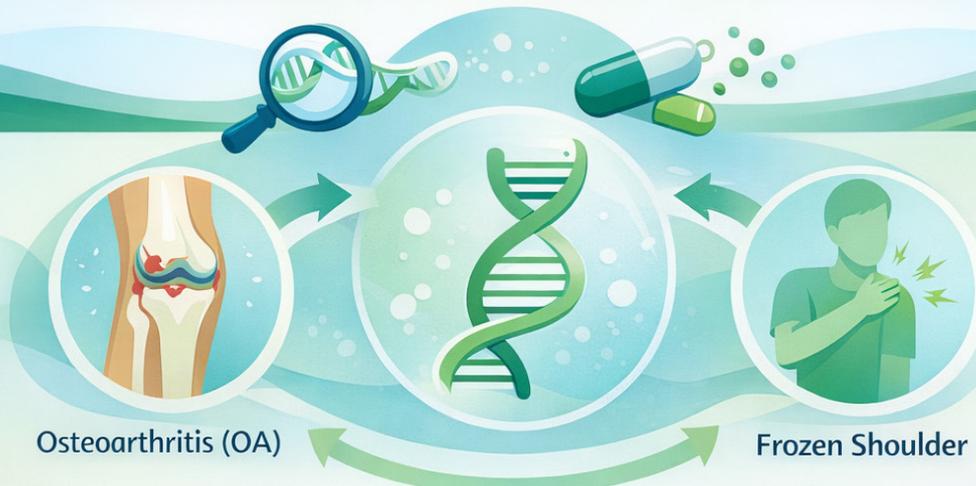
Dr Eldridge was recently awarded the OBN Emerging Entrepreneur of the Year 2025 in recognition of her efforts in this endeavour.

MRC UKRI funded Functional Genomics Cluster in Musculoskeletal Diseases Leads: Prof Dominic Furniss, Prof Sarah Snelling, Prof Tonia Vincent

Many genes have been associated with the risk of developing diseases such as OA but how these contribute to disease and how this impacts the genetic risk passed on to our children, is poorly understood. This project is studying the effects of individual changes in our genes on the biology of OA then asking to what extent these genes are shared across other common diseases affecting our skeleton including frozen shoulder, carpal tunnel syndrome and Dupuytren's disease. This study is using human tissues taken at the time of surgery.

MRC UKRI funded Functional Genomics Cluster in Musculoskeletal Diseases

Studying the effects of individual changes in our genes on the biology of musculoskeletal diseases using human tissues taken at the time of surgery.



STEP FORWARD study – Helping to Personalise Treatment and Prevent Progression of Knee Osteoarthritis

Lead: Dr Fiona Watt. Co-lead: Dr Thomas Perry

Knee osteoarthritis (OA) affects approximately 4.5 million people in the UK. Something you may not know is that almost half of those diagnosed with knee OA will not experience worsening symptoms. We don't understand fully why some people get worse, while others do not.

What is our aim?

The STEP FORWARD team (including Centre researchers at Imperial and Oxford) is on a mission to deepen our understanding of knee osteoarthritis, particularly in its earlier stages so that we can predict who is at greater risk of disease progression over time. Currently, we don't have a way to test or predict this.

How will we achieve this?

We will be studying blood and knee joint fluid (synovial fluid) samples. Synovial fluid provides more detailed information than blood samples alone, as it is next to the damaged joint tissues. We will study factors in this fluid and blood, linking protein markers with knee information over time, to see whether we can predict who gets worse or better.

To explore more about the study, visit

[New clinical studies to help diagnose and treat arthritis effectively | Versus Arthritis.](#)

How could this research benefit patients?

We aim to link the proteins we measure to future changes in knee health, paving the way for new tests. Ultimately, our goal is to develop more personalised treatments that could help people with knee osteoarthritis and their health professionals have a clearer picture about the future, ensuring that the best treatment options are offered early on. The STEP FORWARD project is supported by Versus Arthritis, a registered charity in the UK dedicated to empowering and informing individuals living with arthritis.

To learn more about the charity and its research funding, visit [Versus Arthritis | A future free from arthritis.](#)

STEP FORWARD study –
Helping to Personalise Treatment and Prevent Progression of Knee Osteoarthritis

4.5 MILLION
People in the UK
with Knee Osteoarthritis

Almost 50%
Do Not Get Worse
Over Time

OUR AIM
Understand who is at risk
of knee OA progression

OUR APPROACH
Study Blood & Synovial Fluid Samples

Active and upcoming clinical studies

RAMBOH-1 Study

RAMBOH-1 is the short title given to the Retinoic Acid Metabolism Blocking agents (RAMBAs) to treat Osteoarthritis of the Hand: A 2-arm double-blind randomised controlled proof of concept study.

RAMBOH-1 is a University of Oxford sponsored study and is funded by the Medical Research Council (MRC) with the drug, talarozole, gifted to us by GSK. The Chief Investigator is Professor Dominic Furniss and the Scientific Lead for the study is Professor Tonia Vincent.

Osteoarthritis (OA) in the hands is common and can cause pain, stiffness, swelling, and difficulty with everyday tasks. Current treatments focus on symptom relief through lifestyle advice, exercises, pain medication, splints and steroid injections. When these fail, surgery is possible for OA in the base of thumb joint (trapeziectomy). There are currently no treatments that slow OA progression.

Recent research has linked severe hand OA to changes in the ALDH1A2 gene, which affects production of retinoic acid, a natural anti-inflammatory substance that decreases after cartilage injury. Talarozole, a drug that blocks retinoic acid breakdown (a RAMBA), preserves retinoic acid levels in cartilage and we hope, will reduce inflammation.

The RAMBOH-1 study is a proof-of-concept study testing this approach by giving patients talarozole or placebo (dummy) capsules for 2 weeks before their planned trapeziectomy surgery. Waste cartilage tissue, usually discarded during surgery, will instead be analysed to assess inflammatory and retinoic acid-related gene activity, alongside collecting clinical and feasibility data to guide potential future, larger trials.

RAMBOH-1 is running at two centres in Oxford (Nuffield Orthopaedic Centre) and Frimley (Wexham Park/Heatherwood Hospitals). Stoke Mandeville Hospital also identifies potentially eligible patients who then join the study at one of the two main centres.

Recruitment began in January 2024 and we are making steady progress. Recruitment will end 31 May 2026. Sample analysis will be completed in Prof Tonia Vincent's laboratory by Dr Linyi Zhu. Please contact Mandy Lewis – RAMBOH-1 Trial Manager (ramboh-1@kennedy.ox.ac.uk) if you have any questions about the study.

Watch this space for future clinical studies. None planned at present.

Recent publications from the OA Centre

New Publication: Practical Management of Hand Osteoarthritis

We're delighted to share a new article from our Centre's researchers, published on 19 September 2025:

Watt, F.E., Kennedy, D.L., Gardiner, M.D., & Vincent, T.L. (2025). Current and future advances in practice: practical management of hand osteoarthritis. *Rheumatology Advances in Practice*, 9(4), rkaf093.

This comprehensive review looks at the most effective ways to manage hand osteoarthritis, focusing on personalised care that goes beyond medication. It highlights the latest recommendations and practical strategies – including exercise, education, and other non-drug approaches – that can make a real difference in day-to-day life for people living with hand OA. Although the article is mainly written for healthcare professionals, it also includes a lay summary and plenty of useful links to additional information.

You can read the full article here:

<https://academic.oup.com/rheumap/article/9/4/rkaf093/8259574>





More publications from the OA Centre that were published in 2025:

Peripheral neuronal sensitization and neurovascular remodelling in osteoarthritis pain

<https://www.nature.com/articles/s41584-025-01280-3>

Liposomic lubricants suppress acute inflammatory gene regulation in the joint in vivo

<https://www.sciencedirect.com/science/article/pii/S1742706125002636>

Development of a translational strategy for using TIMP-3 to inhibit aggrecanase activity in osteoarthritis

<https://www.sciencedirect.com/science/article/pii/S1063458425011318>

Outreach and public engagement activities

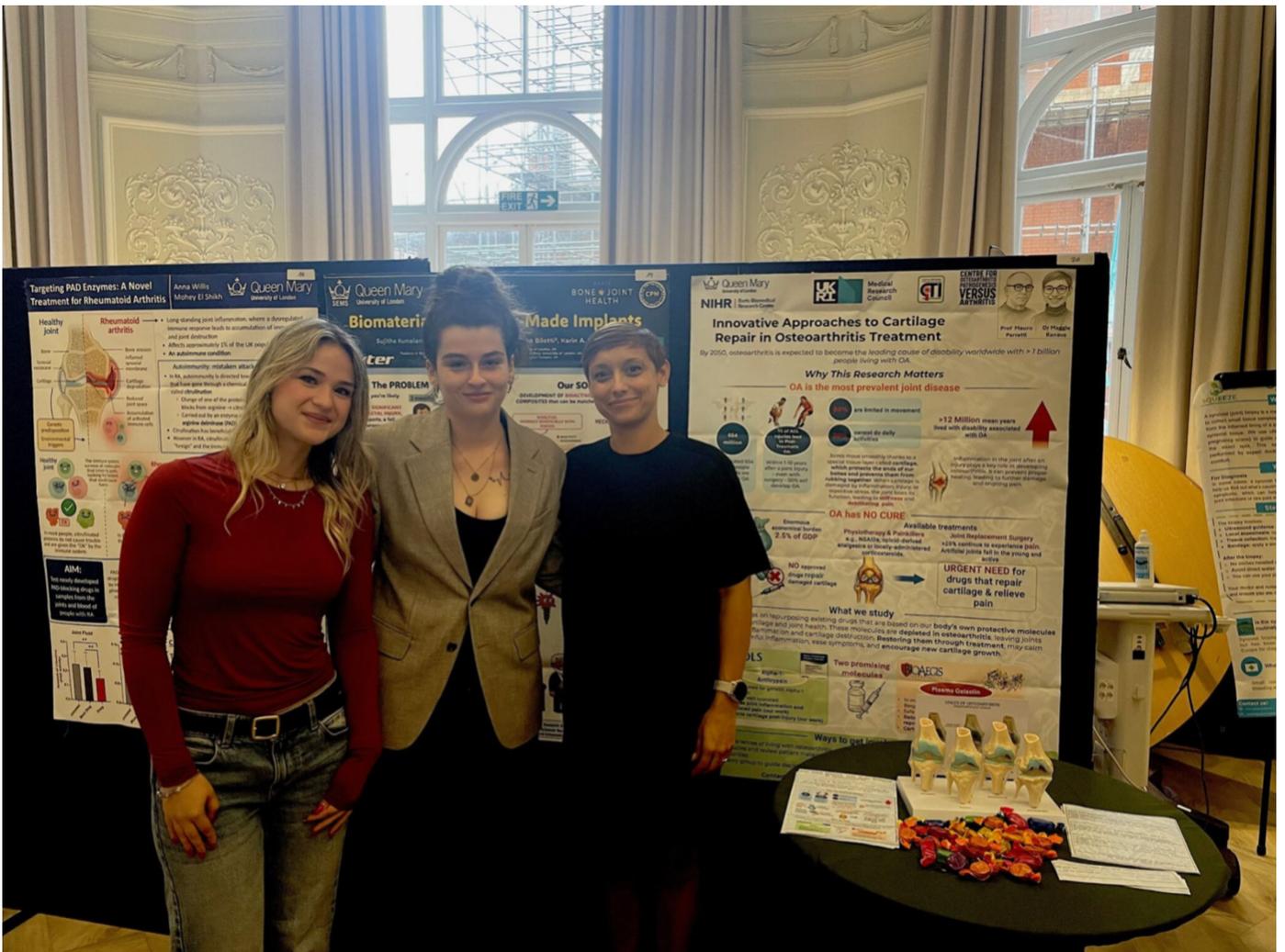
PPI Research Showcase – November 2025

At the end of November, The OA Centre hosted an inspiring PPI (Patient and Public Involvement) Research Showcase, led by Professor Tonia Vincent. During the event, our principal investigators and their research teams shared their latest work with a panel of individuals living with a range of musculoskeletal (MSK) conditions, including OA.

The showcase was all about making research accessible, engaging, meaningful, and giving patients the opportunity to influence the way we conduct research through their own valuable perspectives.

Patient feedback and lived experience play a vital role in shaping future research. Comments and insights gathered during these sessions help strengthen future grant applications and ensure that our research stays closely connected to what truly matters to patients. If you would like to participate in future meetings please contact The OA centre via email, oacentre@kennedy.ox.ac.uk.





Award-Winning Poster at the MSK Patient and Family Day

Congratulations to Nia Sciucca and Dr Magdalena Kaneva (William Harvey Research Institute, Queen Mary University) for winning the Best Poster Presentation Award at the 2nd Musculoskeletal (MSK) Patient and Family Day at QMUL: Advancing Knowledge of Arthritis and Auto-immune Diseases.

Organised by the National Institute for Health and Care Research (NIHR) Barts Biomedical Research Centre Musculoskeletal Patient and Public Involvement and Engagement Committee the event brought together patients, students, researchers, and healthcare professionals dedicated to improving understanding and treatment of arthritis and autoimmune diseases. Supported by the NIHR Barts BRC, Centre of the Cell, and Versus Arthritis, the day featured a vibrant mix of short talks, poster sessions, laboratory tours, sensory testing, bioengineering demonstrations, ultrasound imaging, and interactive sessions on living with arthritis.

The group's winning poster, titled "Innovative Approaches to Cartilage Repair in Osteoarthritis Treatment," showcased novel strategies aimed at enhancing cartilage regeneration and joint repair – a key step toward future osteoarthritis therapies.

Advice and tips on OA management

Living Well with Osteoarthritis

Practical tips from our OA Centre experts

A diagnosis of osteoarthritis (OA) can feel worrying, but there's a lot you can do to ease pain, protect your joints and stay active. The good news? Most people with OA live full, active lives – and symptoms can often improve with simple daily steps.

1. Understand your OA

Getting a clear diagnosis helps you take control.

OA doesn't mean your joints are "worn out" or "beyond repair." It means your joint is reacting to changes in cartilage, bone and surrounding tissue – and these changes can often be managed.

2. Keep moving – gently but regularly

Exercise is one of the best "treatments" for OA. It helps reduce stiffness, strengthens muscles, and boosts energy. Try walking, swimming, cycling, yoga, or hand exercises if your fingers are affected. Even a few minutes a day can make a real difference.

3. Look after your body weight and posture

If you're carrying extra weight, losing even a few kilos can ease pressure on your weight bearing joints. For reasons that are not entirely clear, it can also help OA in the finger joints. Weight loss is mainly due to a change in diet. Exercise will help a little but modifying calorie intake contributes most.

4. Protect your joints

Make small adjustments to everyday habits:

- Take breaks from repetitive tasks.
- Ask about splints or supports for comfort.
- Use gentle heat to soothe sore joints.

5. Manage pain wisely

Start with simple options: topical creams or gels, gentle exercise, and heat therapy.

If pain is still a problem, your clinician may suggest oral medicines, joint injections, or other treatments – but these work best alongside lifestyle measures, not instead of them. The level of evidence for these treatments is relatively modest.

6. Stay positive and stay connected

OA doesn't always get worse – many people find their symptoms improve when they stay active and informed. Talk to your GP, physiotherapist or specialist if things change. There are many newer agents being investigated that might become available.

And remember, you're not alone. Our OA Centre is working to understand better the causes of OA and to discover new treatments for the future.

Other news

The Centre has been successful in securing and being part of multi-million-pound research grants including:

Human Functional Genomics MSK group (£4 million funded by MRC), which runs till 2028. It aims to study the functional effects of genetic risk genes across a number of different musculo-skeletal disorders (including OA) using large scale tissue collections, long read sequencing and epigenetics.

Tissue Biology Platform (£3.5M funded by Arthritis UK and KTRR), which runs till 2027. It aims to use human tissue analysis at scale to validate targets which can be tested in Experimental Medicine studies.

PROBE CONSORTIUM. An EU multicentre grant (£14 million) to define best measures for OA trial outcomes. Lead: Erasmus University Rotterdam, Netherlands.

The Histology team at the OA Centre Oxford continues to surprise us with stunning BioArt creations. Can you guess what it is? (*Answer overleaf)



Image created by Dr Ida Parisi, Oyindamola Ajisegiri and Ugne Radziukaite.

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<https://www.kennedy.ox.ac.uk/oacentre>

* This is a section through the ear!

The ear also has cartilage (the auricular cartilage), which is visible in the middle of the section, flanked by skin on either side.

If you have any comments about this newsletter, we would love to hear them.