

# MIDLANDS ENGINE HEALTH

## Focus on Trauma & Rehabilitation

### Versus Arthritis Centres of Excellence

MIDLANDS  
ENGINE



The Midlands is leading four Versus Arthritis Research Centres in Primary Care, Pain, Musculoskeletal Ageing and Sports, Exercise and Osteoarthritis, as well as partnering in the Tissue Engineering and Rheumatoid Arthritis Pathogenesis Centres. In total, partners in the Midlands are delivering research excellence in six of 13 national Versus Arthritis Research Centres.

**Primary Care Centre Versus Arthritis, led by Keele University:** Musculoskeletal problems represent the single largest group of chronic conditions for which patients consult their GPs. The Primary Care Centre Versus Arthritis is focused on reducing the existing wide variation of care, treatment and overall management of musculoskeletal conditions. Research at this centre will focus on some of the most common musculoskeletal problems seen in primary care including osteoarthritis and chronic musculoskeletal pain, gout and polymyalgia rheumatica. This centre was awarded to Keele University in 2008 and renewed in 2013 for a second term of five years.

# VERSUS ARTHRITIS



**Pain Centre Versus Arthritis, led by University of Nottingham:** The centre brings together healthcare professionals and research scientists from different fields to create a national centre for research into understanding the mechanisms of pain in arthritis. Research aims to better understand the biological basis of pain in osteoarthritis, to develop new drugs to treat pain more effectively and use a more targeted treatment approach for individuals. Alongside this research, the centre is investigating the basic pathways of pain perception and the changes in the tissues caused by arthritis to identify new targets for developing treatments. This research should help to develop clinical trials which address the major concerns of people with arthritis pain. This centre was originally awarded in 2010 and renewed for a second period of five years in 2015.

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#### **MRC-Arthritis Research UK Centre for Musculoskeletal Ageing Research, Universities of Birmingham (lead) and Nottingham:**

Musculoskeletal ageing presents significant challenges to individuals, their families/carers and the whole of the UK (socially and economically). Research at this centre is focused on understanding how and why we lose muscle, bone and cartilage as we age, and the role played by factors such as inflammation, metabolism, altered hormones and obesity in this process. The loss of muscle, bone and cartilage, as well as decreased function of the nervous system, results in reduced control of movement and balance, which has a number of clinical consequences including osteoarthritis and increased risk of falls and fracture. Researchers hope to detect the key factors which drive ageing of the cells and tissues that make up the musculoskeletal system. This will allow them to identify new drugs and lifestyle changes, such as exercise and diet, to maintain a healthy musculoskeletal system. This will reduce age-related decline and keep individuals healthy and active for longer.



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#### **Centre for Sport, Exercise and Osteoarthritis Research Versus Arthritis, Nottingham University Hospitals NHS Trust (lead) and Loughborough University:**

This centre is based at the Nottingham Universities Hospitals NHS Trust in conjunction with the Universities of Oxford, Southampton, Bath, Loughborough and Leeds. The consortium is strengthened by several international collaborators, utilising expertise from Sweden, The Netherlands, Australia and USA.

The centre brings together experts in sports medicine and osteoarthritis to understand the relationship between exercise, sport, injury, rehabilitation and osteoarthritis. Research is focused on gaining better insight into the development of osteoarthritis following sport and exercise injury and the associated risk factors. The research aims to provide everyday exercisers, recreational sportsmen and sportswomen, and elite athletes with up-to-date, evidence-based advice and information about taking part in sport and exercise so they can reduce their risk of injury and development of osteoarthritis.



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