

NUS Medicine and PolyU ink MoU to advance AI-enabled musculoskeletal research

June 9, 2026 | News

To improve the early detection, risk stratification, and right-siting of knee osteoarthritis



The Department of Orthopaedic Surgery at the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine) has formalised a Memorandum of Understanding (MoU) with the Department of Biomedical Engineering at The Hong Kong Polytechnic University (PolyU) establishing a strategic academic–clinical partnership focused on healthy ageing, functional mobility, and community-based musculoskeletal research.

At the centre of this partnership is the JointCare programme, an AI-enabled initiative that integrates orthopaedic expertise, biomedical engineering, and population health approaches to improve the early detection, risk stratification, and right-siting of knee osteoarthritis (OA) in community settings.

The programme will develop an AI-enabled, label-free motion profiling approach to assess lower-limb movement patterns associated with knee OA outside traditional hospital environments. Together with a structured knee health questionnaire, this tool is designed to support community-based risk stratification and triage, enabling more consistent right-siting of care.

The initiative also expands education and academic capacity by creating opportunities for clinician-scientists, researchers, students, and trainees to participate in a scalable, community-embedded research programme, while building institutional capability in AI-enabled healthcare delivery and population health research.

The project is expected to commence in Q4 2026, with an initial pilot at Boon Lay serving as a proof-of-concept to evaluate feasibility and performance in a real-world setting and refine workflows prior to broader implementation. Following successful validation, the programme will be progressively rolled out to communities across Western Singapore, with a subsequent phase exploring expansion into a multi-centre international research collaboration involving Hong Kong and potentially other countries.