Doing More with the Same: High-Intensity Hip Arthroplasty Lists at a Ring-Fenced Elective Orthopaedic Centre

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Abstract (300 word limit)

Background: Elective orthopaedic waiting lists remain a major NHS challenge, requiring models that increase surgical capacity without compromising safety. High-Intensity Theatre lists aim to reduce non-operative time, standardise peri-operative workflows and maximise throughput for high-volume procedures. We evaluated the implementation of High-Intensity Theatre lists and day-case total hip arthroplasty at a ring-fenced barn-style elective orthopaedic centre.

Methods: A prospective quality improvement project was undertaken using a PDSA framework. Data was collected for patients undergoing total hip arthroplasty across 12 High-Intensity Theatre lists. The pathway included pre-operative optimisation, standardised case selection, dedicated theatre teams, procedure-specific equipment, parallel processing, protocol-driven handovers, multimodal analgesia, early mobilisation and criteria-led discharge. Outcomes included throughput, turnaround time, length of stay, day-case discharge, complications, readmissions and multidisciplinary team feedback.

Results: 77 patients underwent total hip arthroplasty across 12 High-Intensity Theatre lists. Mean age was 70 years, mean BMI was 29 kg/m2 and 74% were ASA grade 2. Surgical throughput increased from 1-2 to 3-4 cases per session, representing a 50-60% increase in capacity. Mean turnaround time reduced from 50-60 minutes to 23.5 minutes. Mean length of stay was 1 day. 18 patients were discharged on the day of surgery, 48 on Day 1, 9 on Day 2 and 2 on Day 3. There were no post-operative complications and no readmissions in the day-case cohort. Three patients attended the emergency department with non-surgical medical issues. Early mobilisation was achieved within 2-4 hours, and post-list debriefs demonstrated high team satisfaction.

Conclusion: High-Intensity Theatre lists combined with a day-case hip arthroplasty pathway increased operative capacity by 50-60% while maintaining safety. This ring-fenced barn-style elective centre model reduced turnaround times, enabled early mobilisation and supported safe same-day discharge. It provides a scalable, GIRFT-aligned approach to elective recovery across NHS orthopaedic services.

Recent Publications

Murhekar S, Relwani S, Lau S, Virani S. Evaluation of the Effectiveness of Virtual Telephone Consultations Against Traditional Face-to-Face Consultations in Spine Surgery Using an Objective Metric. Cureus. 2024 Sep 15;16(9):e69433. doi: 10.7759/cureus.69433. PMID: 39411612; PMCID: PMC11474130.

Onubogu I K, Relwani S, Grewal U S, et al. (October 13, 2021) Distal Femoral Replacement as a Primary Treatment Method for Distal Femoral Fractures in the Elderly. Cureus 13(10): e18752. doi:10.7759/cureus.18752

Submitted awaiting decision: Scantling-Birch Y, Relwani S, McKecknie C, Zambarakji H. A four-year retrospective surgical case series examining postoperative complications following removal of silicone oil (ROSO) scored using the Complications in Retinal Detachment Surgery (CORDS) Severity Classification Tool.

Biography (150 Word Limit)

Sanjana Relwani is a Core Surgical Trainee currently working in Trauma & Orthopaedics in the Kent, Surrey and Sussex Deanery. She graduated from Barts and the London School of Medicine in 2023 with an MBBS and completed an MSc in Global Public Policy and Health in 2021. Sanjana completed her foundation training in London and was awarded the Barts Health Foundation Trainee Award in 2024. She is interested in Trauma and Orthopaedics and is actively involved in surgical education and quality improvement.

