

## Hip and knee surgery

Hip fracture repair is usually an emergency procedure. Evidence suggests that early surgical intervention – within 48 hours – improves patient outcomes and minimises the risk of complication. Time to surgery is influenced by many factors, including hospitals' surgical theatre capacity, flow and access, and targeted policy interventions. In 2019, on average across OECD countries, almost 80% of patients admitted for hip fracture underwent surgery within two days (Figure 6.19). COVID-19 had a significant impact on hospital capacity and function. For countries that were able to provide 2020 data, Latvia saw improvement, Lithuania saw a reduction, and Ireland, Iceland and Portugal maintained rates close to 2019 figures.

Osteoarthritis is among the most prevalent diseases in many OECD countries. It typically manifests as pain and stiffness in weight-bearing joints such as the hip and knee. Treatment of osteoarthritis of the hip and knee aims to reduce the patient's joint pain and improve their function, mobility and quality of life. Joint replacement surgery is generally recommended if symptoms persist after exhausting non-surgical treatment such as physical therapy and weight loss. Rates of elective hip and knee replacement have risen over the past decade, and the number of people undergoing these procedures in OECD countries each year is fast approaching a total of 2.5 million.

Patient-reported outcome measures (PROMs) can be used to assess the effect of a medical intervention from the patient's perspective. The Oxford Hip/Knee Score and the Hip/Knee Disability and Osteoarthritis Outcome Score – Physical Short Form (HOOS-PS/KOOS-PS) are among the most common condition-specific PROMs used in hip and knee replacement surgery. Common generic instruments include the EuroQol Five Dimensions (EQ-5D) questionnaire (OECD, 2019[30]).

Figure 6.20 shows the mean change on the Oxford Hip Score and HOOS-PS scales reported by patients after elective hip replacement surgery for osteoarthritis in an international set of joint replacement registries. Results have been adjusted for preoperative score and for the age and sex of the patient cohort. The average mean adjusted change reported across the participating registries was +21 on the Oxford Hip Score (equating to 44% improvement) and +33 on the HOOS-PS scale (equating to 33% improvement).

Figure 6.21 shows the adjusted mean change reported by patients using the Oxford Knee Score and KOOS-PS after elective knee replacement surgery for osteoarthritis. The average mean adjusted change was +17.6 on the Oxford Knee Score (equating to 36% improvement) and +21.1 on the KOOS-PS (equating to 21% improvement) – more modest than the average improvement reported by patient who underwent hip replacement.

The average mean change on the EQ-5D index – adjusted for preoperative score, age and sex – across participating

registries was +0.25 for patients after elective hip replacement surgery (equating to 25% improvement) and +0.19 after knee replacement surgery (equating to 19% improvement). The results suggest that – all other things being equal and compared to a no-intervention alternative – the average 65-year-old patient who underwent a hip replacement in the participating registries gained the equivalent of about five years in “full” health; the average patient who underwent knee replacement gained over three years.

### Definition and comparability

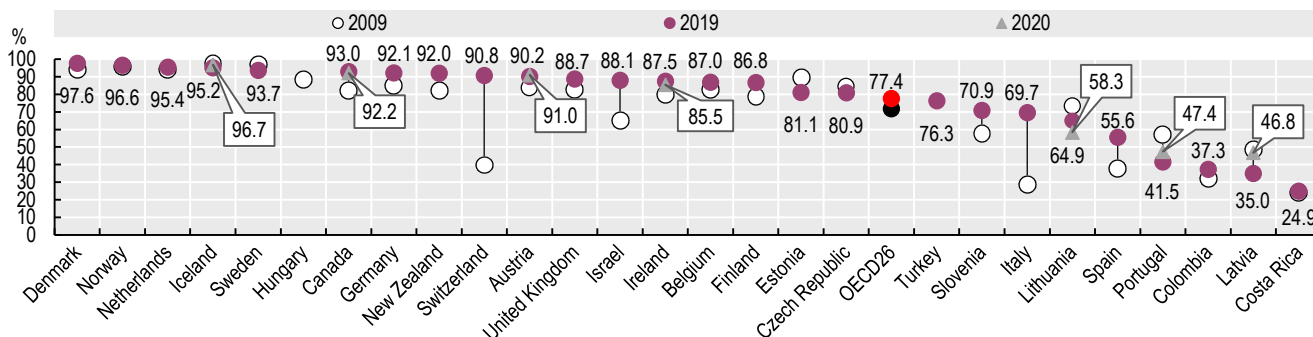
The hip fracture indicator is defined as the proportion of patients aged 65 years and over admitted to hospital in a specified year with a diagnosis of upper femur fracture, who had surgery initiated within two calendar days of their admission to hospital. The capacity to capture time of admission and surgery in hospital administrative data varies across countries. While cases where the hip fracture occurred during admission to hospital should be excluded, not all countries have a “present on admission” flag in their datasets to enable them to identify such cases accurately.

PROMs results are based on data from specific sites or networks of sites in countries using data on adult patients undergoing elective hip or knee replacement surgery with a principal diagnosis of osteoarthritis, who completed an Oxford Hip/Knee Score, and/or a HOOS-PS/KOOS-PS questionnaire and/or an EQ-5D or 12-Item Short Form Health Survey (SF-12v1 and SF-12v2) mapped to EQ-5D pre- and postoperatively. A higher score denotes better outcomes on all these scales (OECD, forthcoming[31]).

Caution is advised when comparing the results of participating registries from which postoperative data are collected at 6 months versus 12 months after surgery. Results derived from the condition-specific instruments (Oxford Hip/Knee Score and HOOS-PS/KOOS-PS) are presented separately because no validated methods exist for converting one to the other. Comparison of results derived from each instrument is not advised.

The EQ-5D analysis used the three-level index (EQ-5D-3L), using the valuation derived from the US population (Van Hout et al., 2012[32]). Several participating registries converted results from EQ-5D-5L to EQ-5D-3L using an algorithm that collapses the five-level scores of the former to the three levels of the latter. The EQ-5D index is used to calculate quality-adjusted life-years (QALYs). Additional QALYs were derived by multiplying the adjusted mean change in EQ-5D score by 20.5 years, which is the average life expectancy at age 65 in the participating registries' countries, minus one year to account for recovery and rehabilitation.

Figure 6.19. Hip fracture surgery initiation for patients aged 65 and over within two days of admission, 2009-19 (or nearest years) and 2020

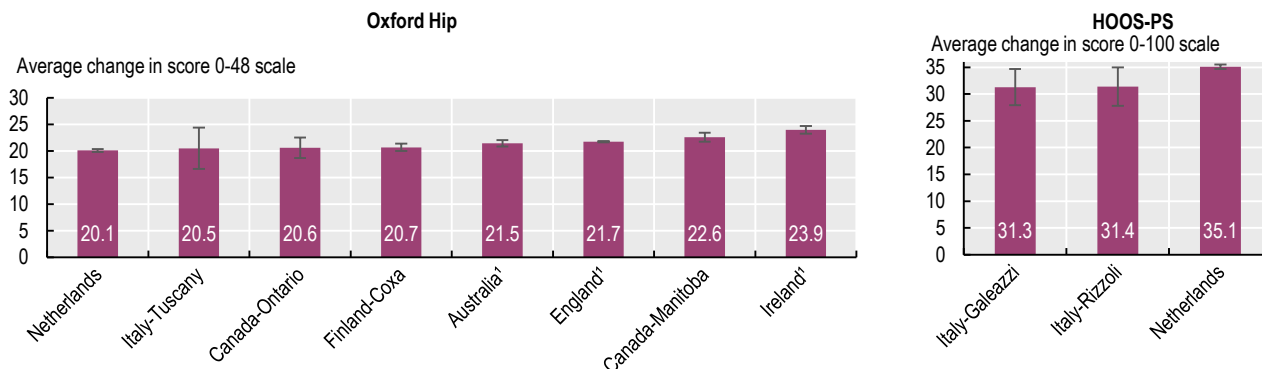


Note: Three-year average for Iceland for all years but 2020. For Canada, 2020 estimate is based on provisional 1 April to 30 September data from all jurisdictions except Quebec.

Source: OECD Health Statistics 2021.

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Figure 6.20. Adjusted mean change between pre- and postoperative Oxford Hip Score and HOOS-PS, 2014-20 (or nearest year)

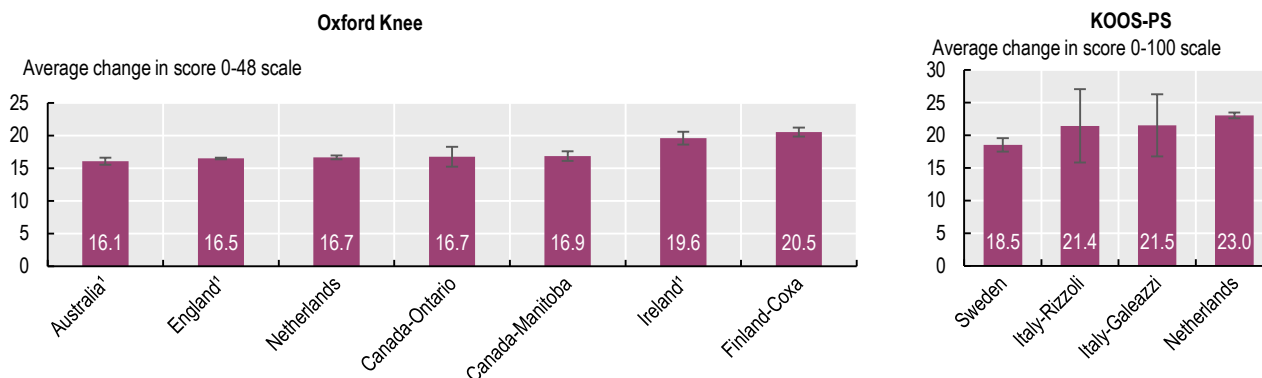


1. Postoperative collection at 6 months (all others at 12 months); Scales: Oxford 0-48; HOOS-PS 0-100. H lines show 95% confidence intervals.

Source: PaRIS Hip/Knee Replacement Pilot Data Collection, 2020-21.

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Figure 6.21. Adjusted mean change between pre- and postoperative Oxford Knee Score and KOOS-PS, 2014-20 (or nearest year)



1. Postoperative collection at 6 months (all others at 12 months); Scales: Oxford 0-48; KOOS-PS 0-100. H lines show 95% confidence intervals.

Source: PaRIS Hip/Knee Replacement Pilot Data Collection, 2020-21.

StatLink <https://stat.link/edlsy0>



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