

## Hip and knee replacement

Hip and knee replacements are some of the most frequently performed and effective surgeries worldwide. The main indication for hip and knee replacement (joint replacement surgery) is osteoarthritis, which leads to reduced function and quality of life.

Osteoarthritis is a degenerative form of arthritis characterised by the wearing down of cartilage that cushions and smooths the movement of joints – most commonly for the hip and knee. It causes pain, swelling and stiffness, resulting in a loss of mobility and function. Osteoarthritis is one of the ten most disabling diseases in developed countries. Worldwide, WHO estimates show that about 528 million people have symptomatic osteoarthritis – an increase of 113% since 1990 (WHO, 2022<sup>[1]</sup>).

Age is the strongest predictor of the development and progression of osteoarthritis. It is more common in women, increasing after the age of 50, especially in the hand and knee. Other risk factors include obesity, physical inactivity, smoking, excessive alcohol consumption and injuries. While joint replacement surgery is mainly carried out among people aged 60 and over, it can also be performed on people at younger ages.

In 2021, Switzerland, Germany, Finland and Austria had some of the highest rates for hip and knee replacement, among countries with available data (Figure 5.27 and Figure 5.28). The OECD averages are 172 per 100 000 population for hip replacement, and 119 per 100 000 for knee replacement. Mexico, Costa Rica and Chile have relatively low hip and knee replacement rates. Differences in population structure may explain part of this variation across countries, and age standardisation reduces it to some extent. Nevertheless, large differences persist, and research has shown that country rankings do not change significantly after age standardisation (McPherson, Gon and Scott, 2013<sup>[2]</sup>).

National averages can mask important variation in hip and knee replacement rates within countries. In Australia, Canada, Germany, France and Italy, the rate of knee replacement was more than twice as high in some regions than others, even after age standardisation (OECD, 2014<sup>[3]</sup>). Alongside the number of operations, the quality of hip and knee surgery (see sections on “Safe acute care – surgical complications” and “Patient-reported outcomes in acute care” in Chapter 6) and waiting times are also critical for patients.

Up to 2019, the number of hip and knee replacements increased in all OECD countries (Figure 5.27 and Figure 5.28). This aligns with the rising incidence and prevalence of osteoarthritis, caused by ageing populations and growing obesity rates in OECD countries. Increases were particularly substantial in Poland, Costa Rica and Latvia for hip surgery (an increase of 70% or more); and Chile, Costa Rica and Poland

for knee surgery (where rates more than doubled). However, the volume of hip and knee replacements fell sharply in most countries in the first year of the pandemic, and remained below 2019 levels in the majority of countries in 2021. This reflects many countries postponing non-urgent elective surgery, particularly early in the pandemic, leading to marked increases in waiting times on many countries (see section on “Waiting times for elective surgery”).

### Definition and comparability

Hip replacement is a surgical procedure in which the hip joint is replaced by a prosthetic implant. It is generally conducted to relieve arthritis pain or treat severe physical joint damage following hip fracture.

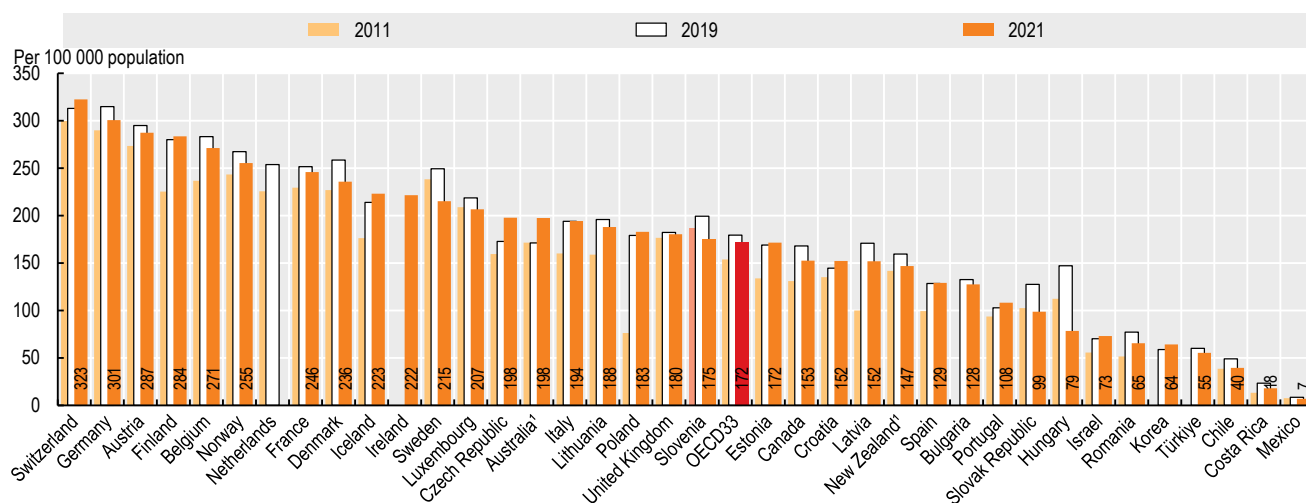
Knee replacement is a surgical procedure to replace the weight-bearing surfaces of the knee joint in order to relieve the pain and disability of osteoarthritis. It may also be performed for other knee diseases such as rheumatoid arthritis.

Classification systems and registration practices vary across countries, which may affect the comparability of the data. While most countries include both total and partial hip replacement, some countries only include total replacement. In Costa Rica, Mexico, New Zealand, Portugal and the United Kingdom, the data only include activities in publicly funded hospitals, thereby underestimating the number of total procedures presented here.

### References

- McPherson, K., G. Gon and M. Scott (2013), [2]  
 “International Variations in a Selected Number of Surgical Procedures”, *OECD Health Working Papers*, No. 61, OECD Publishing, Paris, <https://doi.org/10.1787/5k49h4p5g9mw-en>.
- OECD (2014), *Geographic Variations in Health Care: What Do We Know and What Can Be Done to Improve Health System Performance?*, OECD Health Policy Studies, OECD Publishing, Paris, <https://doi.org/10.1787/9789264216594-en>. [3]
- WHO (2022), *Chronic Rheumatic Conditions, Fact Sheet*, World Health Organization, <http://www.who.int/chp/topics/rheumatic/en/>. [1]

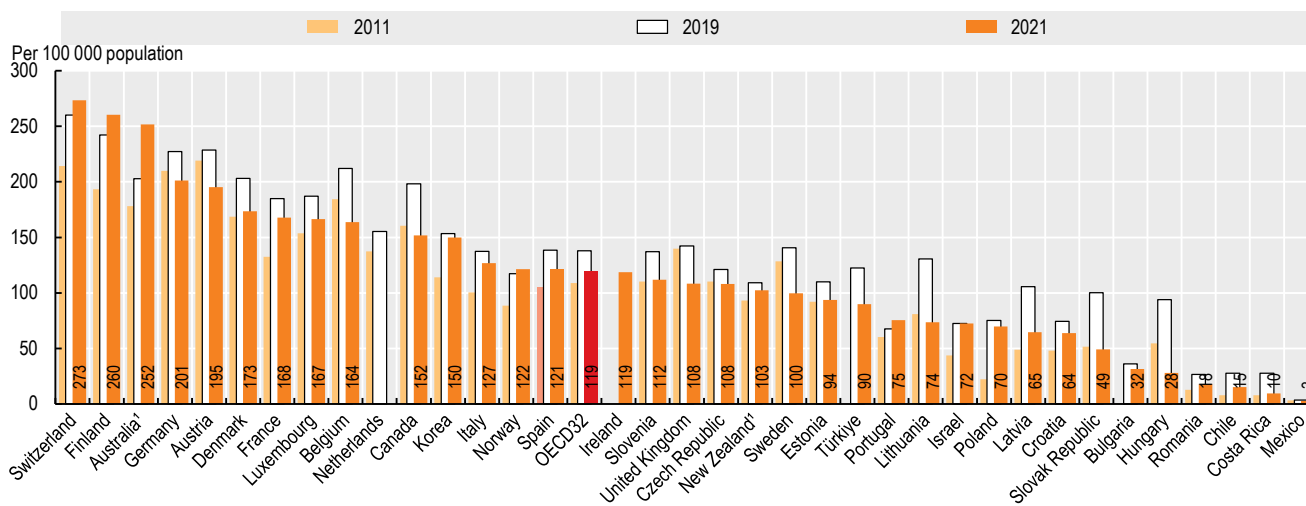
Figure 5.27. Hip replacement surgery, 2011, 2019 and 2021 (or nearest year)



1. Latest available data from 2020.  
Source: OECD Health Statistics 2023.

StatLink  <https://stat.link/9zrmhje>

Figure 5.28. Knee replacement surgery, 2011, 2019 and 2021 (or nearest year)



1. Latest available data from 2020.  
Source: OECD Health Statistics 2023.

StatLink  <https://stat.link/mak2xs>



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