

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, estimates show that 10% of men and 18% of women aged over 60 years have symptomatic osteoarthritis, including moderate and severe forms (WHO, 2014[1]).

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 2017, Germany, Austria, Switzerland, Finland, Luxembourg and Belgium were among the countries with the highest rates for hip and knee replacement (Figure 9.12 and Figure 9.13). The OECD averages are 182 per 100 000 population for hip replacement, and 135 per 100 000 for knee replacement. Mexico, Portugal, Israel, Ireland and Korea have 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 the country ranking does not change significantly after age standardisation (McPherson, Gon and Scott, 2013[2]).

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 is more than twice as high in some regions than others, even after age-standardisation (OECD, 2014[3]). Alongside the number of operations, the quality of hip and knee surgery (see indicator on “Hip and knee surgery” in Chapter 6) and waiting times (see indicator on “Waiting times for elective surgery” in Chapter 5) are also critical for patients.

Since 2000, the number of hip and knee replacements has increased rapidly in most OECD countries (Figure 9.14 and Figure 9.15). On average, hip replacement rates increased by 30% between 2007 and 2017 and knee replacement rates by 40%. This aligns with the rising incidence and prevalence of osteoarthritis, caused by ageing populations and growing

obesity rates in OECD countries. For example, in the United States, the prevalence of knee osteoarthritis has more than doubled since the mid-20th century (Wallace et al., 2017[4]).

Most OECD countries show increasing trends of varying degrees, but Ireland and Luxembourg show slower growth than the average, these are also the only OECD countries to show a decrease in hip replacements rates from 2007.

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.

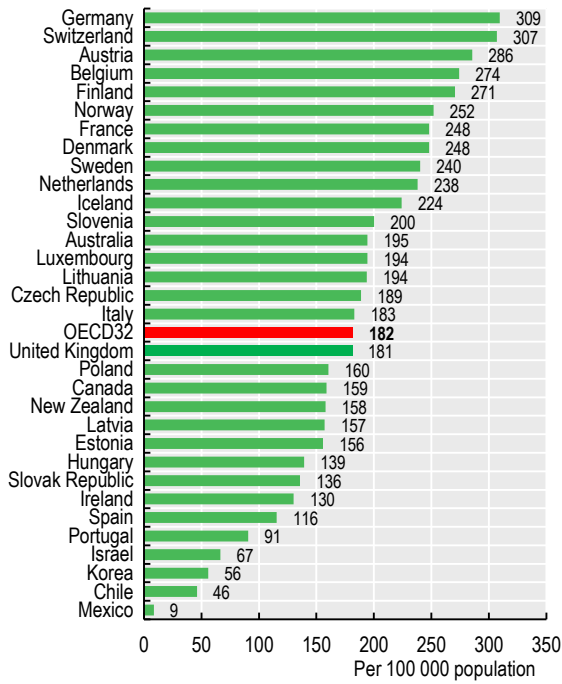
Knee replacement is a surgical procedure to replace the weight-bearing surfaces of the knee joint in order to relieve the pain and disability of osteoarthritis. It may also be performed for other knee diseases such as rheumatoid arthritis.

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 Ireland, Mexico, New Zealand and the United Kingdom, the data only include activities in publicly funded hospitals, thereby underestimating the number of total procedures presented here (for example, approximately 15% of all hospital activity in Ireland is undertaken in private hospitals). Data for Portugal relate only to public hospitals on the mainland. Data for Spain only partly include activities in private hospitals.

References

- [2] McPherson, K., G. Gon and M. Scott (2013), “International Variations in a Selected Number of Surgical Procedures”, *OECD Health Working Papers*, No. 61, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5k49h4p5g9mw-en>.
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- [4] Wallace, I. et al. (2017), “Knee osteoarthritis has doubled in prevalence since the mid-20th century”, *Proceedings of the National Academy of Sciences*, Vol. 114/35, pp. 9332-9336, <http://dx.doi.org/10.1073/pnas.1703856114>.
- [1] WHO (2014), “Chronic Rheumatic Conditions”, *Fact Sheet*, <http://www.who.int/chp/topics/rheumatic/en/>.

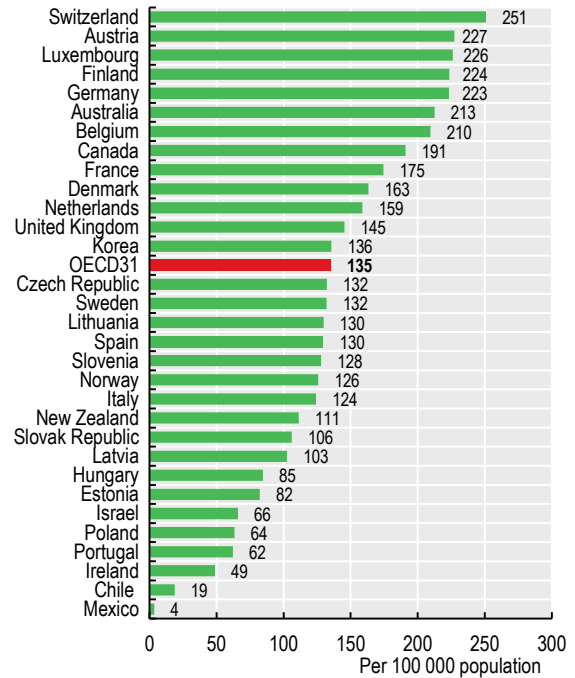
Figure 9.12. Hip replacement surgery, 2017 (or nearest year)



Source: OECD Health Statistics 2019.

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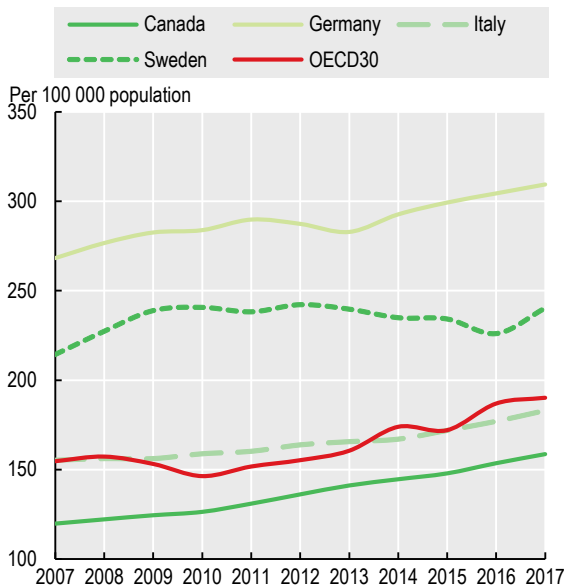
Figure 9.13. Knee replacement surgery, 2017 (or nearest year)



Source: OECD Health Statistics 2019.

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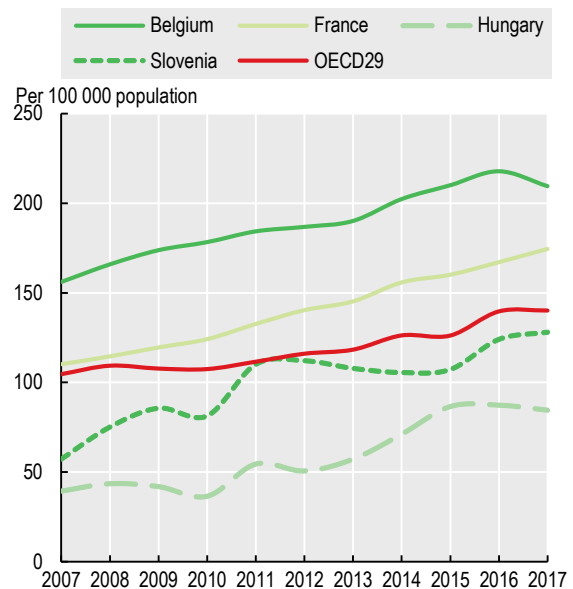
Figure 9.14. Hip replacement surgery trends in selected OECD countries, 2007-17



Source: OECD Health Statistics 2019.

StatLink <https://doi.org/10.1787/888934017880>

Figure 9.15. Knee replacement surgery trends in selected OECD countries, 2007-17



Source: OECD Health Statistics 2019.

StatLink <https://doi.org/10.1787/888934017899>



From:
Health at a Glance 2019
OECD Indicators

Access the complete publication at:
<https://doi.org/10.1787/4dd50c09-en>

Please cite this chapter as:

OECD (2019), "Hip and knee replacement", in *Health at a Glance 2019: OECD Indicators*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/2fc83b9a-en>

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