

## 4. HEALTH CARE ACTIVITIES

### 4.7. Hip and knee replacement

Significant advances in surgical treatment have provided effective options to reduce the pain and disability associated with certain musculoskeletal conditions. Joint replacement surgery (hip and knee replacement) is considered the most effective intervention for severe osteoarthritis, reducing pain and disability and restoring some patients to near normal function.

Osteoarthritis is one of the ten most disabling diseases in developed countries. Worldwide estimates are that 10% of men and 18% of women aged over 60 years have symptomatic osteoarthritis, including moderate and severe forms (WHO, 2010b). 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, excess alcohol and injuries (European Commission, 2008b). While joint replacement surgery is mainly carried out among people aged 60 and over, it can also be performed among people of younger ages.

In 2011, Switzerland, Germany and Austria had the highest rates of hip replacement, while the United States had the highest rate of knee replacement followed by Austria, Germany and Switzerland (Figures 4.7.1 and 4.7.2). Differences in population structure may explain part of these variations across countries, and age standardisation reduces to some extent the cross-country variations. Nonetheless, large differences persist and the country ranking does not change significantly after age standardisation (McPherson et al., 2013).

National averages can mask important variations in hip and knee replacement rates within countries. In Germany, the rate of knee replacement is 3.5 times higher in the district with the highest rate compared with the district with the lowest rate (Nolting et al., 2012; Kumar and Schoenstein, 2013). In the United States, regional variations in hip and knee replacement are substantial, with the rates being four to five times higher in some regional health care markets compared with others in 2005-06 (Dartmouth Atlas, 2010). In Spain also, the age-standardised rate of hip replacement was more than four times higher in some autonomous regions than in others in 2005, and the rate of knee replacement three times higher (Allepuz et al., 2009).

The number of hip and knee replacements has increased rapidly over the past decade in most OECD countries

(Figures 4.7.3 and 4.7.4). On average, the rate of hip replacement increased by almost 30% between 2000 and 2011. The growth rate was higher for knee replacement, nearly doubling over the past decade. In the United States, both hip replacement and knee replacement rates doubled since 2000. In Switzerland, the hip replacement rate increased by 27% between 2002 and 2011, while the knee replacement rate nearly doubled. The growth rate for both interventions was more modest in France.

The growing volume of hip and knee replacement is contributing to health expenditure growth as these are expensive interventions. In 2010, the estimated price of a hip replacement on average across 24 OECD countries was about USD 7 800, while the average price of a knee replacement was about USD 7 600.

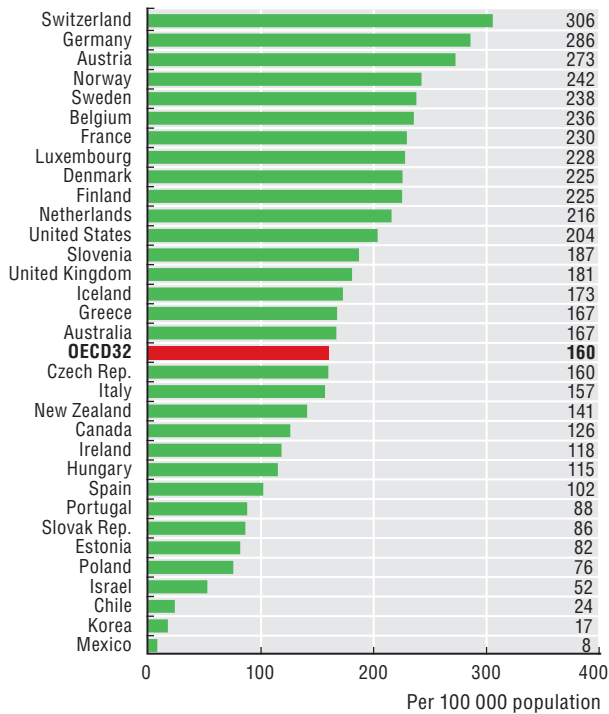
#### **Definition and comparability**

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.

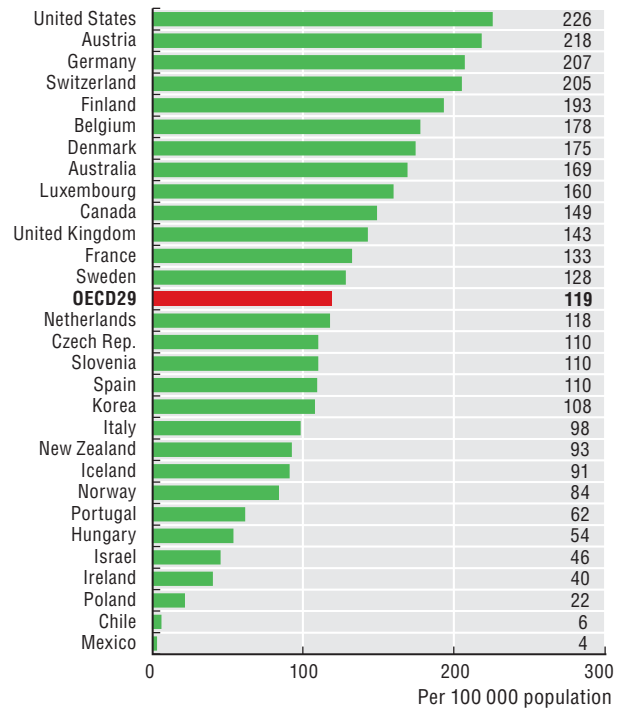
Classification systems and registration practices vary across countries, which may affect the comparability of the data. Some countries only include total hip replacement (e.g. Estonia), while most countries also include partial replacement. In Ireland, Mexico, New Zealand and the United Kingdom, the data only include activities in publicly-funded hospitals (it is estimated that approximately 15% of all hospital activity is undertaken in private hospitals). Data for Portugal relate only to public hospitals on the mainland. Data for Spain only partially include activities in private hospitals.

4.7.1. Hip replacement surgery, 2011 (or nearest year)



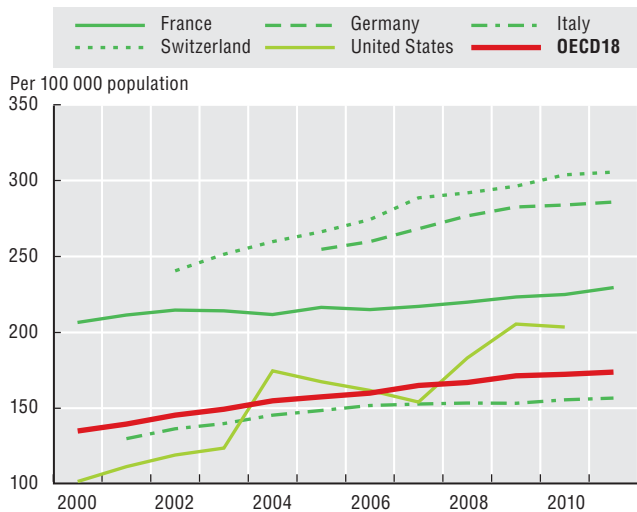
Source: OECD Health Statistics 2013, <http://dx.doi.org/10.1787/health-data-en>.  
StatLink <http://dx.doi.org/10.1787/888932917541>

4.7.2. Knee replacement surgery, 2011 (or nearest year)



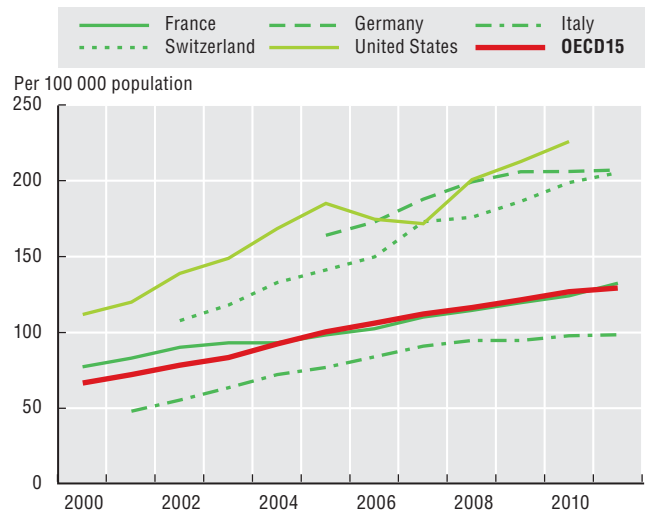
Source: OECD Health Statistics 2013, <http://dx.doi.org/10.1787/health-data-en>.  
StatLink <http://dx.doi.org/10.1787/888932917560>

4.7.3. Trend in hip replacement surgery, selected OECD countries, 2000 to 2011 (or nearest year)



Source: OECD Health Statistics 2013, <http://dx.doi.org/10.1787/health-data-en>.  
StatLink <http://dx.doi.org/10.1787/888932917579>

4.7.4. Trend in knee replacement surgery, selected OECD countries, 2000 to 2011 (or nearest year)



Source: OECD Health Statistics 2013, <http://dx.doi.org/10.1787/health-data-en>.  
StatLink <http://dx.doi.org/10.1787/888932917598>



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