

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 (WHO, 2010b). Worldwide estimates are that 10% of men and 18% of women aged over 60 years have symptomatic osteoarthritis, including moderate and severe forms. 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.

There is considerable variation across countries in the rate of hip and knee replacement (Figures 4.7.1 and 4.7.2). Germany, Switzerland and Austria have high rates of both hip and knee replacement. The United States and Germany have the highest rate of knee replacement, even though the population structure of the United States is much younger than that of Germany. A number of reasons can explain cross-country variations in the rate of hip and knee replacement, including: i) differences in the prevalence of osteoarthritis problems; ii) differences in the capacity to deliver and pay for these expensive procedures; and iii) differences in clinical treatment guidelines and practices.

There are currently too few comparable studies on the prevalence of osteoarthritis to draw any conclusions on cross-country variations. Nor is there any evidence as to whether the age- and sex-specific incidence of osteoarthritis has changed in recent decades. However, the number of people suffering from osteoarthritis has increased, and is expected to continue to increase in the coming years, for two reasons: 1) population ageing, which is resulting in a growing number of people over 60 with a greater risk of suffering from osteoarthritis; and 2) the growing prevalence of obesity, which is the main risk factor for osteoarthritis beyond age and sex.

The number of hip and knee replacement 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 replace-

ment increased by over 25% between 2000 and 2009. The growth rate was even higher for knee replacement, nearly doubling over the past decade. In the United States, both hip replacement and knee replacement rates nearly doubled since 2000. In Denmark, while the hip replacement rate increased by only about 20% between 2000 and 2009, the knee replacement rate almost tripled. The growth rate was more modest in other countries such as France and Israel.

The growing volume of hip and knee replacement is contributing to health expenditure growth as these are expensive interventions. In 2007, the average estimated price of a knee replacement was nearly USD 15 000 in the United States and Australia, USD 12 000 in France, and about USD 10 000 in Canada, Germany and Sweden. The estimated price of a hip replacement was even higher, reaching more than USD 17 000 in the United States, about USD 16 000 in Australia, and between USD 11 000 and 12 000 in Canada, France and Sweden (Koechlin *et al.*, 2010).

Definition and comparability

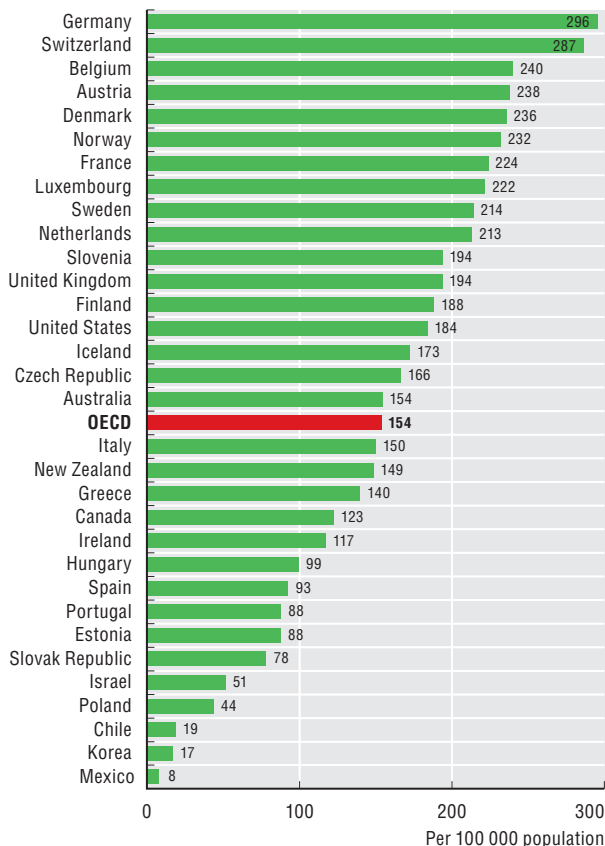
Hip replacement is a surgical procedure in which the hip joint is replaced by a prosthetic implant. It is generally conducted to relieve arthritis pain or treat severe physical joint damage following hip fracture.

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. In Ireland, the data only include activities in publicly-funded hospitals (it is estimated that over 10% of all hospital activity in Ireland is undertaken in private hospitals). Some countries only include total hip replacement, excluding partial hip replacement (e.g. Estonia).

Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

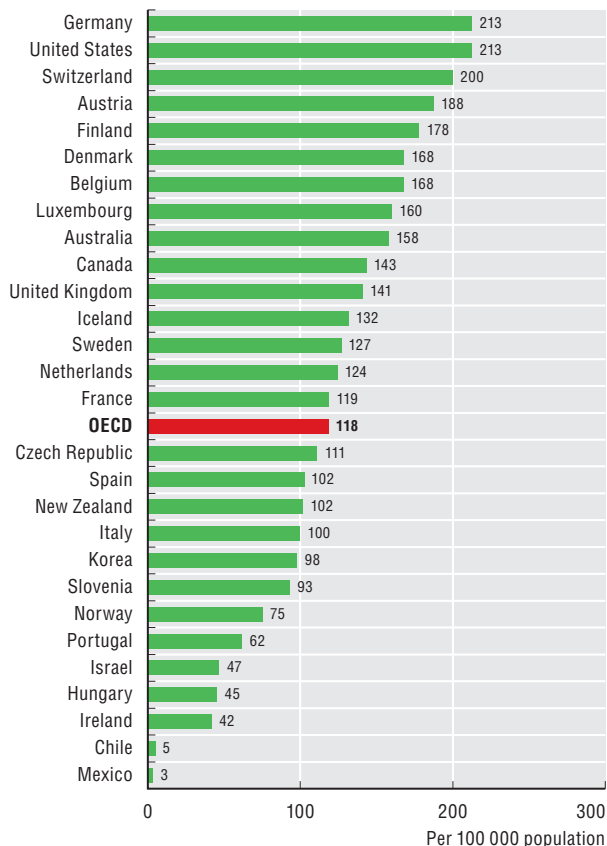
4.7.1 Hip replacement surgery, per 100 000 population, 2009 (or nearest year)



Source: OECD Health Data 2011.

StatLink <http://dx.doi.org/10.1787/888932524754>

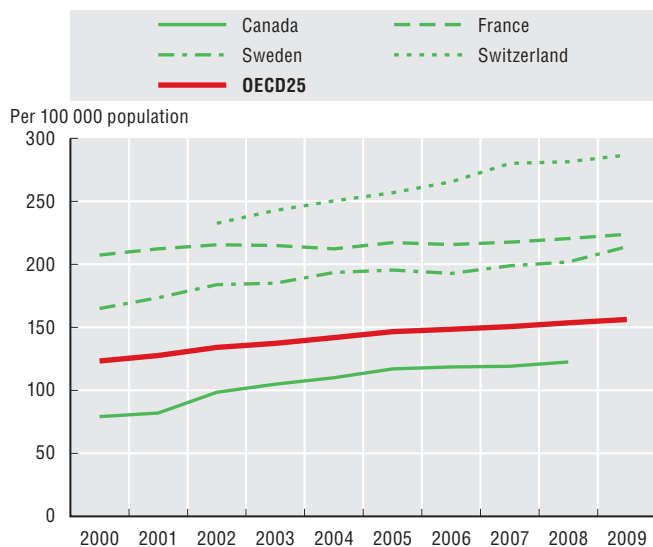
4.7.2 Knee replacement surgery, per 100 000 population, 2009 (or nearest year)



Source: OECD Health Data 2011.

StatLink <http://dx.doi.org/10.1787/888932524773>

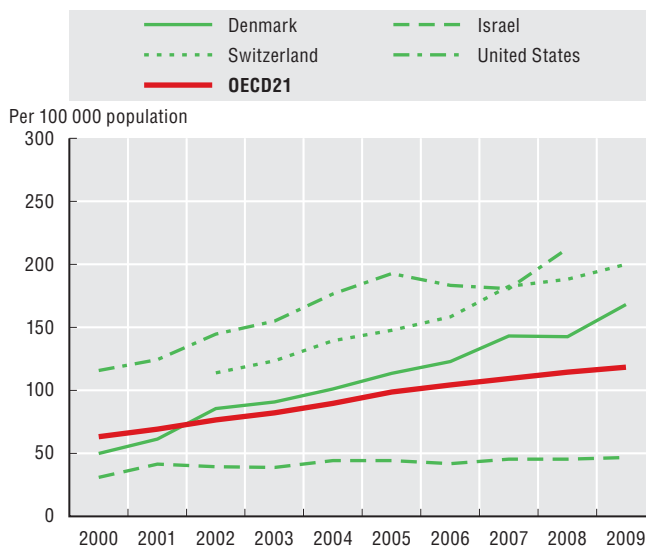
4.7.3 Trend in hip replacement surgery, 2000-09, selected countries



Source: OECD Health Data 2011.

StatLink <http://dx.doi.org/10.1787/888932524792>

4.7.4 Trend in knee replacement surgery, 2000-09, selected countries



Source: OECD Health Data 2011.

StatLink <http://dx.doi.org/10.1787/888932524811>



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