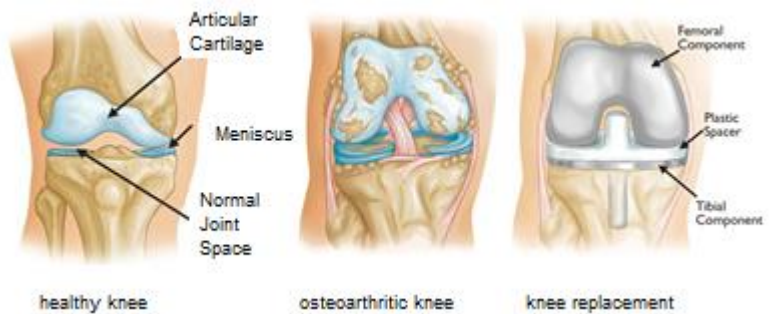


# Total Knee Replacement in the Younger Population

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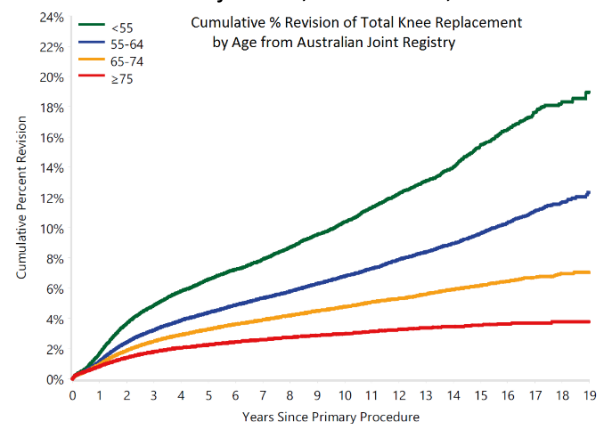
## Introduction:

Osteoarthritis most commonly affects people later in life, but can affect younger people. A number of factors can cause this including; previous injury or surgery following injury to the knee, malalignment of the lower limbs ("bow legs" or "knocked knees"), shape of the joint (dysplasia), genetics and lifestyle factors such as obesity.



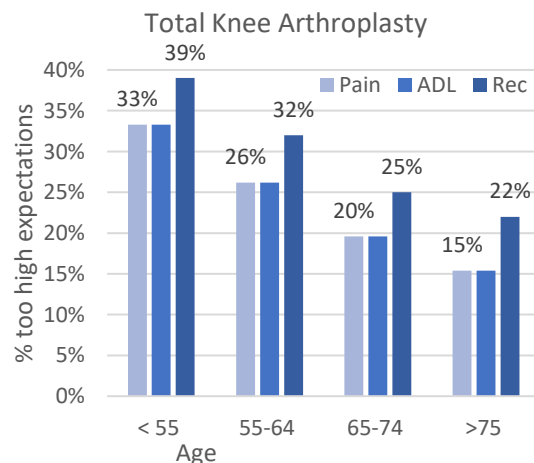
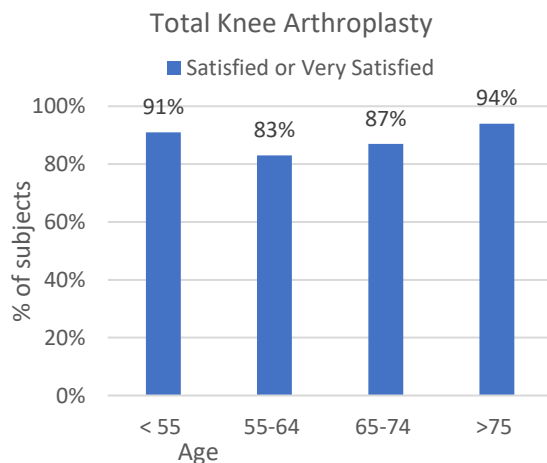
## Revision Risk

Total knee replacements are an effective treatment for end-stage knee arthritis in people who have exhausted all modalities of [non-surgical treatment](#). A concern for many younger people is "how long a knee replacement will last?". A recent systematic review and meta-analysis published in the international journal, The Lancet, found that over 4 in 5 total knee replacements last 25 years or longer before requiring a revision (ie. to redo the knee replacement) (1). Another systematic review has shown that in those under 55 years undergoing knee replacement, around 5% will have had the knee replacement redone within 10 years (2). It is however known and has been shown in many studies that the chances of requiring a revision knee replacement are highest in those aged under 55 years (3,4). It is, therefore, vital when addressing the timing of knee replacement in the younger patient to discuss the potential need for revision in the future of that individual patient.



## Satisfaction and Expectations

It has been shown in many studies that up to one in five people undergoing a knee replacement are not happy with the outcome (5), with those aged under 55 years having been shown to be generally less satisfied with the outcome of their joint replacement than older patients (6). The reasons for this have been hypothesised, but not necessarily proven to be definitive and predictable. Certain medical conditions such as heart disease and some mental health conditions, such as depression, have been shown to lead to less satisfaction following a total knee replacement (7). In our own study of 980 knee replacement patients, overall satisfaction was high at 91% in those <55 years, but 33-39% also reported that their expectations were too high before surgery, most commonly with leisure and recreational activities. Another important factor to consider is that satisfaction with a knee replacement performed under the age of 65 years has been shown to change with time. Once into the second decade following knee replacement, pain rates in the operated knee have been quoted to be up to 40% at 15 years (8). So while the knee may not require another operation, it may be functioning at a lower level.



## Physical Activity

Most people have a significant improvement in their pain symptoms following knee replacement and an increase in load-bearing activities such as walking and cycling. This increase in activity is greatest in those people aged under 55 years undergoing knee replacement surgery when compared to older people. However, the demands of a knee replacement cannot match those of a non-replaced knee including activities that involve kneeling and squatting. A return to higher level sporting activities that involve medium or high-impact (such as running, jumping and twisting sports) are not advised and are not a realistic expectation following a knee replacement (9).

## Conclusion

So when discussing the pros and cons of a total knee replacement in a younger patient, it is vital that one considers the evidence that the success of knee replacement is influenced by age. This success can be measured through the need for another operation, how long the knee replacement lasts, how it functions or how it feels. These outcomes are known to be influenced by the age of the patient at the time of the total knee replacement and this should always be considered. It is important for younger patients to have realistic expectations based on evidence when considering this surgery.

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