

Total Hip Replacement: Optimising Outcomes for Patients with Co-Morbidities

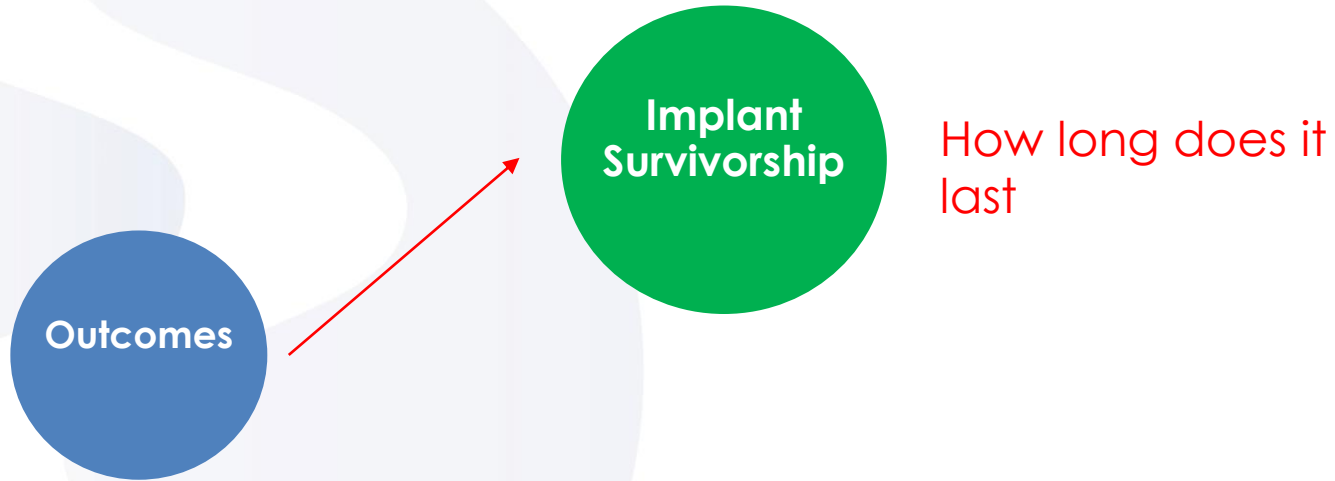
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Learning Outcomes

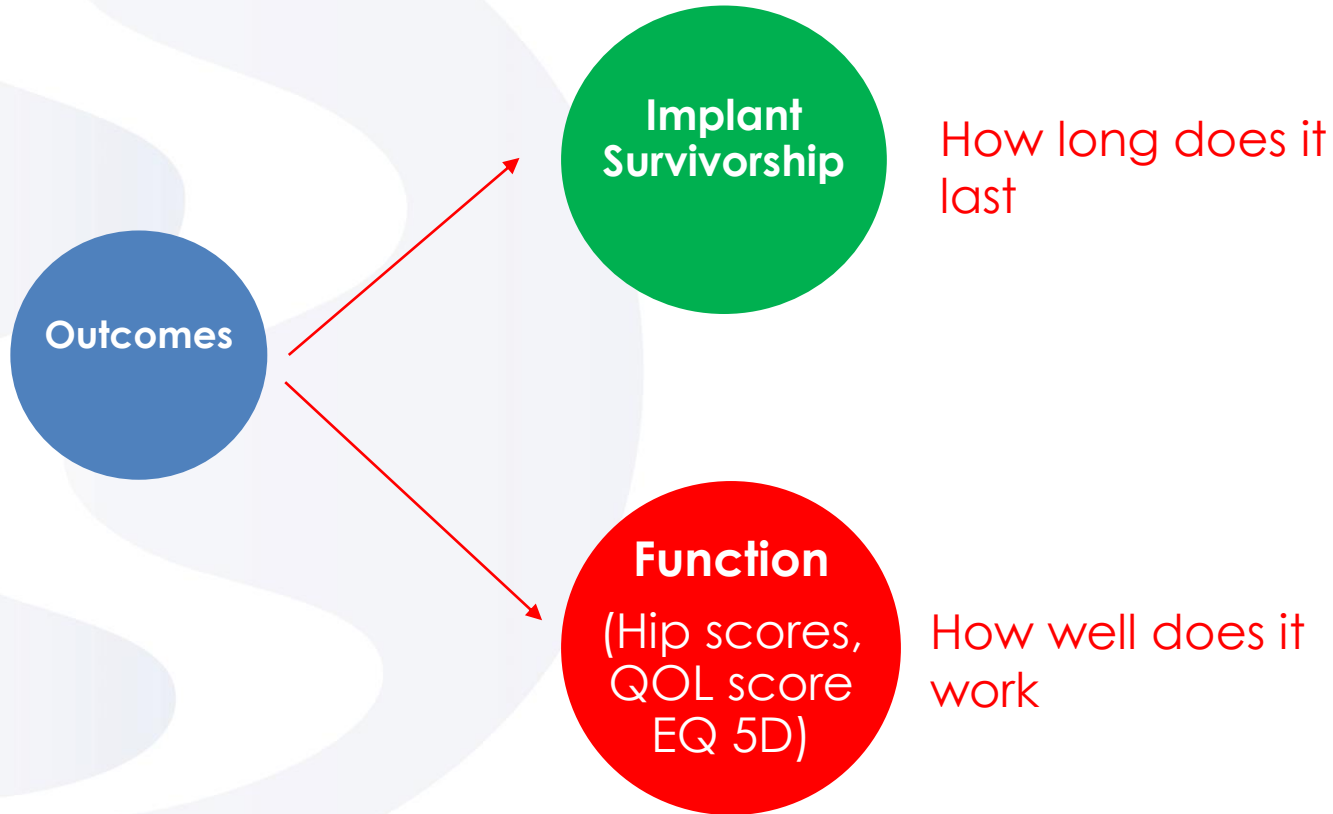
- Contemporary success rate of total hip replacement
- Effect of-comorbidities on outcomes
- Optimising outcomes in these patients

How Successful is Contemporary Total Hip Replacement?

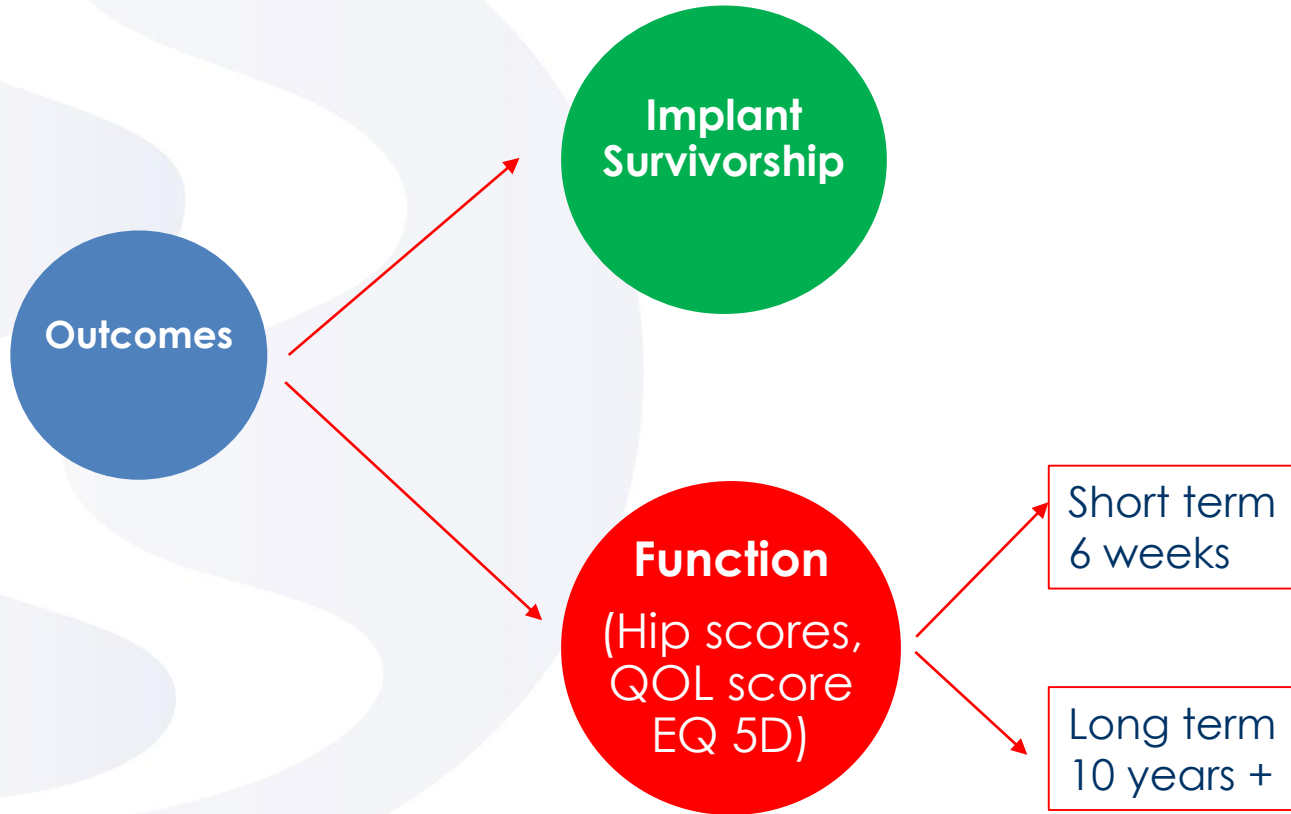
Measuring success after Total Hip Replacement....



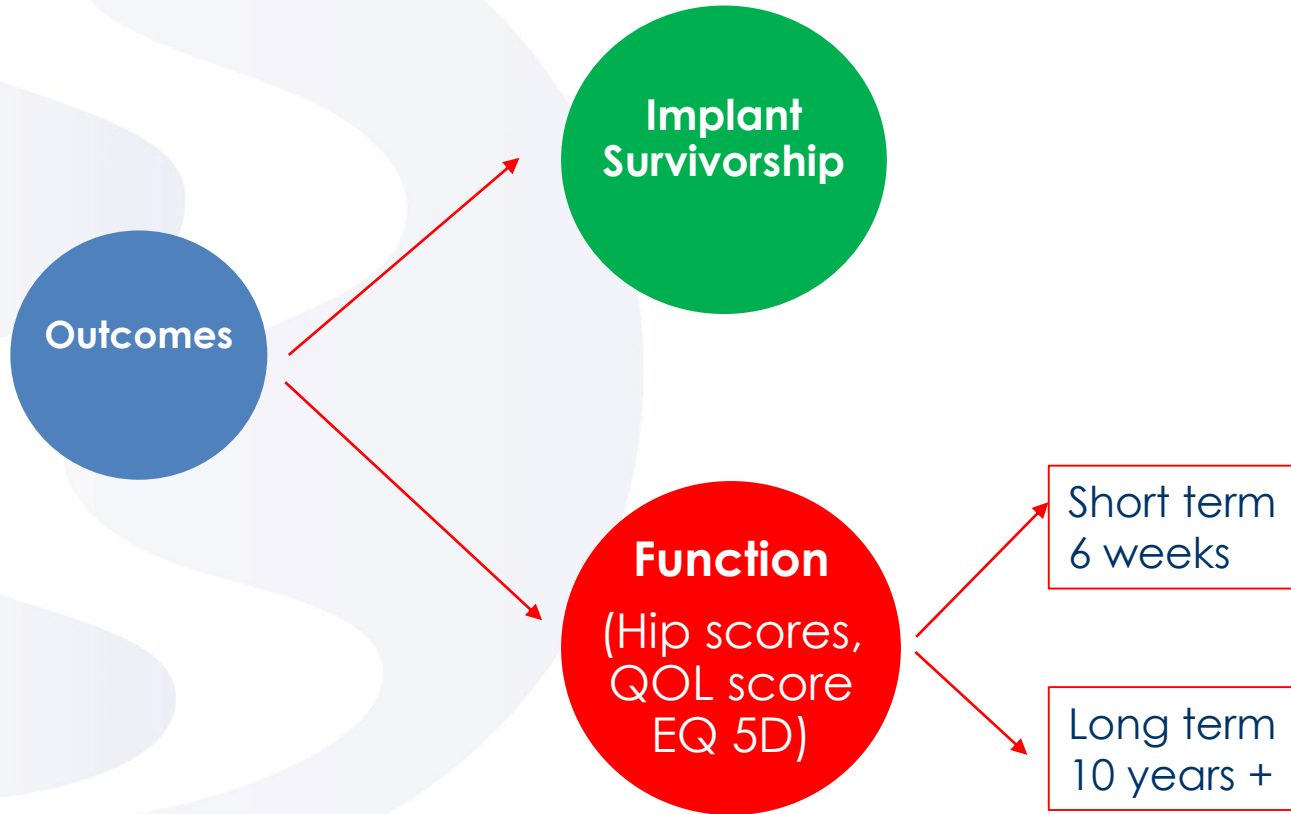
Measuring success after Total Hip Replacement....



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Measuring success after Total Hip Replacement....

Lancet 2019; 393: 647-54

How long does a hip replacement last? A systematic review and meta-analysis of case series and national registry reports with more than 15 years of follow-up

Jonathan T Evans, Jonathan P Evans, Robert W Walker, Ashley W Blom, Michael R Whitehouse, Adrian Sayers**

Systematic review including case series and national joint registry data

228,888 hips reporting on 15 year survival or above

ODEP standard: 95% at 10 years

Current Evidence

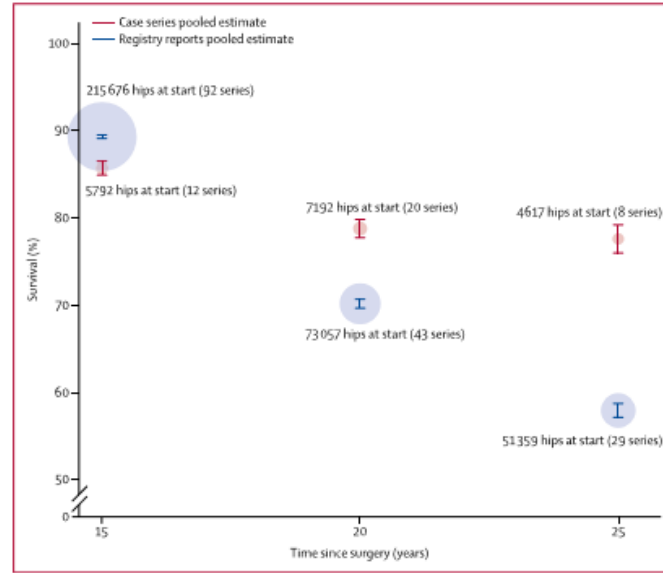


Figure 4: Comparison of pooled survival estimates from case series and registry reports at 15 years, 20 years, and 25 years

15 years.... 85%

20 years.... 75%

25 years.... 58%

Current Evidence

Over half of patients who have a total hip replacement can expect their hip implant to last 25 years

Avg age 67

55% women

88% for osteoarthritis

Why do hip replacements fail?



Loosening



Fracture



Dislocation



Infection

What is the effect of common co-morbidities ?

Obesity

Diabetes

Kidney Disease

Obesity

The Effect of Obesity on Having a Hip Replacement

Osteoarthritis and Cartilage



Osteoarthritis and Cartilage 28 (2020) 31–44

Greater risks of complications, infections, and revisions in the obese versus non-obese total hip arthroplasty population of 2,190,824 patients: a meta-analysis and systematic review

J.R. Onggo †*, J.D. Onggo †, R. de Steiger ‡, R. Hau †§

Systematic review/meta-analysis looking at

non-obese (BMI < 30)

obese (BMI >30)

morbidly obese (BMI >40)

2,190,824 patients

The Effect of Obesity on Having a Hip Replacement

Increased risk of complications Obese > 40		Obese (>30)	Morbidly
all complications		1.53	2.68
infection	2.71	3.69	
dislocation	1.72	2.12	
revisions	1.44	2.17	

Infection... major problem for patient, doctors, healthcare system

The Effect of Obesity on Having a Hip Replacement

Obesity and morbid obesity in particular significantly increases the risk of complications after total hip replacement

? Proceed with hip replacement v ?delay/trial of weight loss to reduce BMI/risks

Optimising outcomes in obese patients

**Patients must be informed of risks and be given opportunity to reduce BMI,
particularly if BMI > 40**

Signpost/refer to dietician/bariatric service

Diabetes

The effect of diabetes on having a hip replacement

The impact of glycaemic control and diabetes mellitus on perioperative outcomes after total joint arthroplasty
Milford MH, Viens N, Cook C, Vail T, Bolognesi M



2009 Jul;91(7):1621-9

Retrospective review looking at complications in diabetic patients who had a total joint replacement

no diabetes 920,555

controlled diabetes 105485

uncontrolled diabetes 3973

The Effect of Diabetes on Having a Hip Replacement

Increased risk of complications in uncontrolled diabetes versus controlled diabetes

CVA 3.42 (odds ratios)

UTI 1.47

Transfusion 1.19

Wound infection 2.28

Death 3.23

Increased length of stay (1-2 days)

Optimising outcomes in diabetic patients

**Preoperative control important..... HBA1c should be > 7%
(preassessment clinic)**

Perioperative control (endocrine team input)

Manage other co-morbidities typical with diabetes

Chronic Kidney Disease

The effect of chronic kidney disease on having a hip replacement

Effect of chronic kidney disease on outcomes of total joint arthroplasty: a meta-analysis

Chang-Wan Kim^{1†}, Hyun-Jung Kim^{2†}, Chang-Rack Lee^{1*} , Lih Wang³ and Seung Joon Rhee⁴

Meta-analysis looking at looking at complications after total joint replacement in patients with and without chronic kidney disease

Prevalence 8 – 16%

27 studies, 100,000 patients

The Effect of Diabetes on Having a Hip Replacement

Increased risk of complications in patients with chronic kidney

Mortality	1.89,	(higher if on dialysis 4.2)
Infection	1.37	(no difference if on dialysis)
Revision risk	2.15	(increased only if on dialysis)

Optimising outcomes in chronic kidney disease patients

Risk stratification

Optimising renal function before, during and after surgery

Malnutrition

The effect of malnutrition on having a hip replacement

Preoperative Malnutrition Negatively Correlates With Postoperative Wound Complications and Infection After Total Joint Arthroplasty: A Systematic Review and Meta-Analysis

Gu A, Malahias A, Strigelli V, Nocon A, Sculco TP, Sculco K
J of Arthroplasty 2018

Meta-analysis looking at looking at complications after total joint replacement in patients with malnutrition.

20 studies that investigated serological malnutrition

low albumin <3.5 g/dl

low total lymphocyte count <1500 cells/mm³

prevalence of 5- 30%

The effect of malnutrition on having a hip replacement

Increased risk of complications in patients with malnutrition

Delayed wound healing **2.176**

Wound infection **up to 5**

The effect of malnutrition on having a hip replacement

If malnutrition suspected, assess with albumin/total lymphocyte count

Delay surgery until albumin $>3.5\text{g/dl}$, TLC > 1500

Summary

Total Hip Replacement is generally a successful procedure

95% satisfaction

60% can expect their hip replacements to last 25 yrs

Optimising outcomes now depends more on what we do around the time of surgery

Recognising co-morbidities, advising re risks and optimizing care pre and perioperatively critical to achieving best outcomes

Thank you