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Consultant **Trauma** & Orthopaedic Surgeon

MEDICAL REPORT PREPARED FOR THE COURT TO BE READ IN CONJUNCTION WITH INITIAL MEDICO-LEGAL REPORT DATED 13 APRIL 2023

by

MR ANDREW D CARROTHERS
CONSULTANT TRAUMA & ORTHOPAEDIC SURGEON
ASSISTANT PROFESSOR, UNIVERSITY OF CAMBRIDGE

On

John Hartland

Date of Birth:	7 July 1964
Address:	3 North Star Court, King's Lynn, Norfolk PE30 2NF
Occupation:	Full time psychotherapist
Date of Index Event:	7 September 2022
Time off work:	Approximately 6 weeks
Prepared for the Court by:	Mr Andrew D Carrothers Consultant Trauma & Orthopaedic Surgeon
Instructed by:	Slater + Gordon Lawyers
Reference:	HAR63825/GSD
Date of Instruction:	29 March 2023
Place of Examination:	Nuffield Hospital, Cambridge
Date of Examination:	25 January 2024
Date of Report:	25 January 2024

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Medicolegal Secretary: Carolyn Hull /Elle Pearson

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Please note: This report should be viewed in colour. All video appendixes should be available for viewing along with this report.

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ABOUT THE AUTHOR:

I am a Consultant Orthopaedic Trauma surgeon at Addenbrooke's Hospital in Cambridge. Addenbrooke's is the Major Trauma centre for East Anglia, and hence deals with the majority of the region's complex trauma. I am currently the CUH Addenbrookes Trauma & Orthopaedic Clinical Governance Lead, having been CUH Addenbrookes Trauma Research Lead since 2019.

I am one of six orthopaedic specialist trauma surgeons with a personal subspecialist interest in pelvic complex trauma, and I regularly treat patients who have sustained multiple injuries.

I take part in the consultant on call rota for trauma and have a weekly fracture clinic for patients sustaining all types of orthopaedic injuries.

My areas of specialist interest are pelvic and acetabular (hip joint) fractures, open fractures, multiply injured patients and complex lower limb injuries. In addition I am a specialist hip and knee replacement surgeon undertaking in the region of 200 hip and knee replacement primary and revision surgeries each year.

As 1 of the 4 regional pelvic and acetabular surgeons we receive referrals from throughout the East of England (population 5.5million) for advice and definitive management of pelvic and acetabular fractures and complex trauma through our web referral form www.cambridgepelvicsurgery.co.uk

I have a significant academic interest in pelvic and acetabular fractures and as UK Chief Investigator of the NIHR NHS AceFIT Feasibility trial I have a £350,000 grant awarded. This is a randomised trial comparing non-operative management, vs fixation, vs fix and replace for older patients who have sustained acetabular fractures.I have been the principal investigator in Cambridge for National trauma trials including: AIM – A prospective trial into the management of ankle fractures in older patients & FiXDT – A prospective randomised trial into the management of distal tibial fractures.

SUMMARY OF INSTRUCTIONS

I have been instructed by Slator Gordon lawyers to provide a second medico-legal report on the injuries sustained, treatment given and to give an opinion on prognosis concerning an accident that happened to the claimant on 7 September 2022.

Throughout, I wore appropriate PPE as per the standards within the NHS.

His identity was confirmed as previous with a UK passport and driving licence.

I note that the instructing solicitors via Premex have instructed that they do not require medical records to be reviewed at this time.

SUMMARY

1. This gentleman is 59 years of age, being 58 at the time of the index accident, one years and four months ago on 7 September 2022. Today he is accompanied by his wife Lucy Hartland. At the time of his accident he sustained a subtrochanteric right proximal femoral fracture, necessitating an open reduction and internal fixation with intramedullary hip screw right sided surgery on 8 September 2022. At one year and four months post-accident and injury sustained, Mr Hartland has been left with a shortened right leg in the order of 1.5 to 2cm and a painful right hip. He denies having any pain in his right hip prior to the accident. He has had an MRI scan of his right hip performed on 23 June 2023 which has confirmed his mild to moderate osteoarthritic radiographic features within the right hip joint. Clinically, he is currently displaying moderate osteoarthritic features.
2. Mr Hartland's right hip currently limits his day-to-day activities and quality of life. He continues to utilise his stick whilst out of doors, but not usually whilst indoors. He describes building pain in his right hip after only 50m of ambulation. He tells me he has been discharged from his NHS hip surgeon in King's Lynn. He reports having ongoing NHS physiotherapy and his self-directed exercise regime which he performs every day. He has undergone a significant diet, with periods of fasting up to 7 days, to lose weight and to improve his overall management of his baseline diabetic status. He reports this has helped his right hip pain to a mild degree. More significantly, he continues having significant lower back pain, which may be in part related to the stiffening of his right hip, but almost certainly related to his altered gait and right short leg. I have recommended an orthotic review to consider an appropriate levelling orthotic. I have previously recommended a psychiatric formal medico-legal report which I defer to.
3. It is my opinion that this gentleman will now progress his osteoarthritic features to his right hip to the point where he will need to consider removal of the metalwork and likely

right-sided total hip replacement surgery within the next 1-3 years, as a direct result of his index accident and injuries sustained.

4. On the balance of probability, he will undergo his hip replacement within the age bracket of 60 - 64 and as per the literature provided in this medico-legal report, this will provide him with a lifetime revision risk of 17%. It unlikely that he will need to consider a re revision in his lifetime, however, the literature clearly states that patients who undergo a revision hip replacement have a steadily increasing risk of revision with the more procedures they undergo, and with each subsequent revision they have. Each subsequent revision lasts for approximately half the time of the previous one. If a hip replacement is revised, successive revisions are progressively and markedly less successful.

5. In addition, it is published that systemic medical complications following a joint replacement surgery is in order of 5.1% for hip replacement with a mortality rate for hip replacement of 0.3%. The most common medical complication following arthroplasty is venous thromboembolism. Pre-operative comorbidity (which would include diabetic status) was the most important risk factor for both post-operative mortality and systemic medical complications following arthroplasty procedures.

CURRENT SYMPTOMS

6. At 1 year and four months post-accident, Mr Hartland has clearly lost significant weight from his described keto diet and periods of fasting up to 7 days. He reports having been discharged from his NHS hip surgeon in King's Lynn.

7. He continues to describe significant lower back pain for which he takes co-codamol most days. He has not had any lower limb length equalising orthotics but has reverted to using his previous medial arch supports. He continues to use a stick in his left hand. He describes an ache within his groin and deep buttock region as well as his lower back. Pain is exacerbated after walking approximately 50 yards. He has accepted his

right lower limb shortening and permanent limp. He is reliant on his banister for stairs and has significant problems with driving, with increased pain in his back and right hip region with prolonged journeys. He sleeps poorly on his side and sleeps mainly on his back.

8. He denies having had any recent relevant general practitioner consultations other than telephone regarding orthotics. He reports that his wife assists him with shoes and socks when his back and right hip is going through a bad period. He struggles to get in and out of the bath and hence uses the shower. He describes poor balance which was clearly demonstrated in his examination when turning on the right lower limb today. He has been unable to ride his bicycle as he cannot get his right leg over the cross bar. He also reports appropriate fear and lack of confidence in this regard, since the time of his accident.

9. His wife will regularly help him with his right-sided shoes and socks, particularly if he has to do laces.

10. He reports having had a small garden of 10x7m and continues to cut the grass with his lawnmower due to the mechanical support and upright posture. He is unable to do low level gardening and his wife will help prune the tree as well as the roses. She has to do any lower-level weeding.

11. He reports having had an altered sex life since the time of this index accident, due to pain in his right hip and lower back.

Patient Reported Outcome Measures (patient completed 15 December 2023)

12. Symptoms are more formally described in the attached (**Appendix ii**)

13. The EQ-5D is a validated quality of life scoring system used in patients following trauma.

14. Pre-accident, Mr Hartland reports having a self-reported health score of 100% and answered the EQ-5D with a score of 1.0.

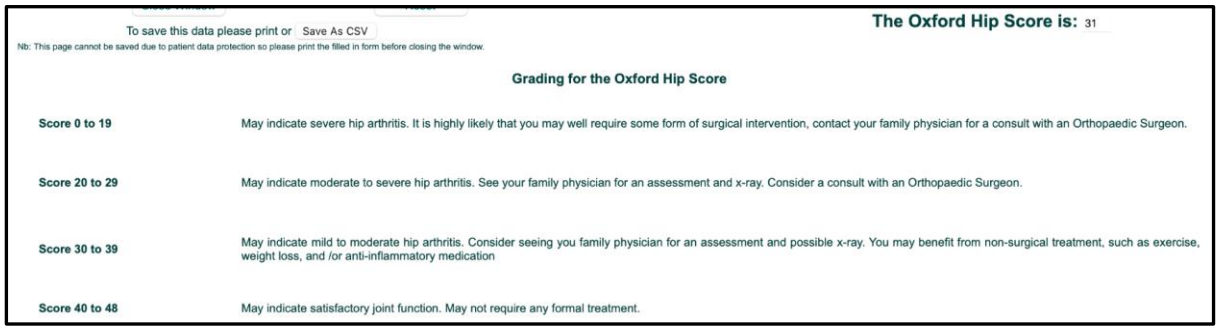
15. Post-accident, at 1 year and four months, he describes his self-reported health score as being 60% with his EQ-5D score as 0.548 (answered 3,2,3,32).

16. The DRI is a validated scoring system used for patients following lower limb injuries.

17. The Oxford Foot and Ankle Score is a validated scoring system used for patients following foot and ankle trauma.

18. The Oxford Hip Score is a validated scoring system mainly used in patients with hip arthritis but also following hip replacements. That said it is still useful to objectively document patients' symptoms following hip injuries.

19. The Oxford hip score is 31/48 indicating mild-moderate osteo-arthritic right hip issues.



To save this data please print or Save As CSV

Nb: This page cannot be saved due to patient data protection so please print the filled in form before closing the window.

The Oxford Hip Score is: 31

Grading for the Oxford Hip Score

Score 0 to 19	May indicate severe hip arthritis. It is highly likely that you may well require some form of surgical intervention, contact your family physician for a consult with an Orthopaedic Surgeon.
Score 20 to 29	May indicate moderate to severe hip arthritis. See your family physician for an assessment and x-ray. Consider a consult with an Orthopaedic Surgeon.
Score 30 to 39	May indicate mild to moderate hip arthritis. Consider seeing you family physician for an assessment and possible x-ray. You may benefit from non-surgical treatment, such as exercise, weight loss, and /or anti-inflammatory medication
Score 40 to 48	May indicate satisfactory joint function. May not require any formal treatment.

EXAMINATION

General

20. Clinical examination for the purpose of this medical report was restricted to the regions of the body, which were thought appropriate to the known facts and nature of the case and was carried out with the claimant's express consent.

21. Mr Hartland sat throughout the interview without any obvious discomfort. He answered questions openly without overlay or exaggeration.

22. Mr Hartland is of normal healthy body habitus weighing 90kg and being 193cm in height (BMI: 24.1). He has been actively losing weight with keto diet and fasting since the previous medico-legal consultation when he weighed 107kg. This is in order to try

and manage his baseline blood sugars as well as easing his problems with his right hip and to a lesser extent, his left knee.

23. Today, he had evidence of a slight stooped postural deformity. He tends to use his walking aid when he is out of doors ambulating for more than 50m, as which point he gets quite significant lower back pain and right deep buttock pain. He uses his stick in his contralateral hand. He walked with a Trendelenburg gait without his stick with a short leg on the right and clearly adverse effect on balance, particularly when he turned on the right lower leg and almost fell over, as shows as video file 1 (appendix iii.).

24. When he stands, he has to flex his right knee to gain standing floor equality. He walks with a slightly externally rotated right lower limb attitude.

25. He has had no change to his surgical scars/

26. Mr Hartland continued to be Trendelenburg positive on the right and negative on the left. He has obvious wasting to his right sided quadriceps when compared to the left side as well as the gluteal musculature as shown below.

27. His limb length discrepancy is shown in the attached photographs and continues to be in the region of 3-3.5cm.

28. Today, he was wearing his old medial arch support over the shelf orthotics to both shoes. Out of his footwear, he continues to have mild pes planus bilaterally, with good foot pulses and normal lower limb sensation throughout. He struggled with his socks and shoes on the right when compared to the left.

29. He continues to have grade 4+/5 to his right hip flexors, due to pain inhibition. Sensation was intact with no signs of neuralgia paraesthetica today.

30. Screening both knees were symmetrical with crepitus throughout from full extension, with a mild effusion to the left knee and none to the right, through to 125 degrees of bilateral knee flexion. Cruciates and collaterals are intact with slight varus alignment, correctable on the couch.

31. With regard to the right hip, Mr Hartland was significantly tender over the lateral trochanteric region at the area of the prominent hip screw in the lateral cortex of the femur. He had no evidence of fixed flexion deformity on Thomas test and could forward flex his right hip to 80 degrees, compared to 95 degrees on the left, before he rocked his pelvis. He had no internal rotation to the right hip with reproduction of his lateral hip and deep buttock discomfort, compared to 5 degrees of internal rotation to the left hip. The right hip was uncomfortable beyond 10 degrees of external rotation to the hip to a maximum 15 degrees. The left hip had 20 degrees of external rotation. His abduction adduction arc in extended hip position was in the order of 40 degrees to the right when compared to 50 degrees on the left. The right side was uncomfortable at the extremes of abduction and adduction.

Radiology (X-ray) Review

32. X-rays were reviewed as below:

29/08/2023 15:28:08	XR FEMUR (THIGH) RT
29/11/2022 11:46:17	BONE DENSITOMETRY DXA
22/11/2022 14:14:06	XR FEMUR (THIGH) RT
08/09/2022 15:41:10	FLUORO LOWER LIMB - RIGHT
07/09/2022 13:28:50	XR HIP RT
07/09/2022 13:25:34	XR CHEST
07/09/2022 13:22:32	XR FEMUR (THIGH) RT
07/09/2022 13:20:51	XR PELVIS

33. MRI right hip performed 23 June 2023 reported by Dr Rahaman, Consultant Radiologist.

RE: John Hartland DOB: 07.07.1964 ID: 14159517
3 North Star Court King S Lynn PE30 2NF

Thank you for referring this patient.

Examination Date: 23.06.2023

Examination: MRI Hip Rt

PROCEDURE: MRI Hip Rt

CLINICAL INDICATION: ORIF with intramedullary nail for reverse oblique subtrochanteric fracture of the right proximal femur. Ongoing right hip and right lower limb shortening, pain, stiffness and loss of function.

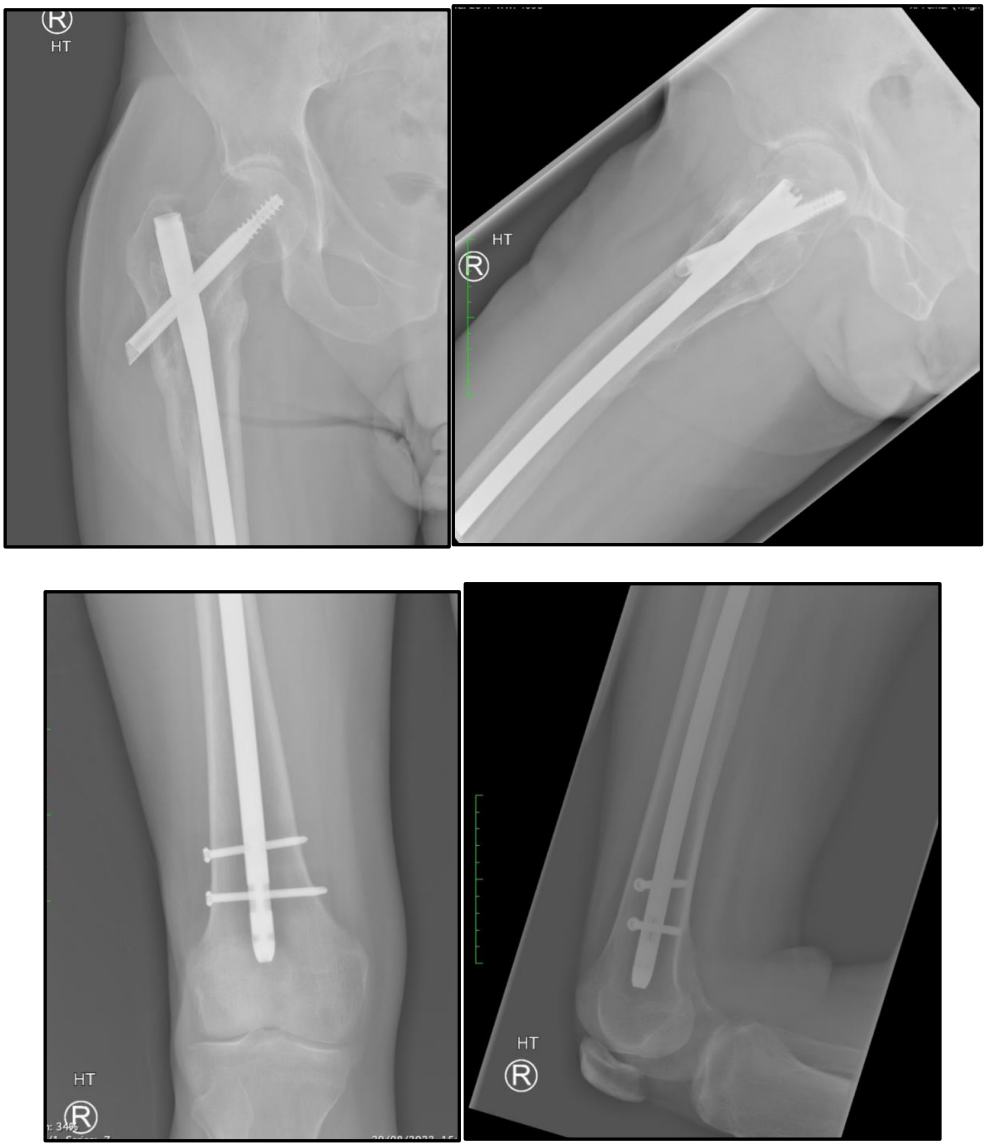
FINDINGS: Global articular cartilage thinning and full thickness articular cartilage loss at the anteriolateral aspect of the right hip joint.
No associated collection with the metal work.
Mild degenerative fraying of the acetabular labrum of the right hip.
The gluteal tendons of the right hip are intact.
Mild articular cartilage thinning of the superiolateral aspect of the left hip joint.
No tendonopathic change.
Mild degenerative changes of the hamstring origins only.
Normal adductor tendons.
No myositis.
Normal appearance of the sacroiliac joints.

CONCLUSION / RECOMMENDATION: Mild to moderate osteoarthritis of the right hip joint.

Reported and Verified by: Rayhaan Rahaman
Consultant Radiologist

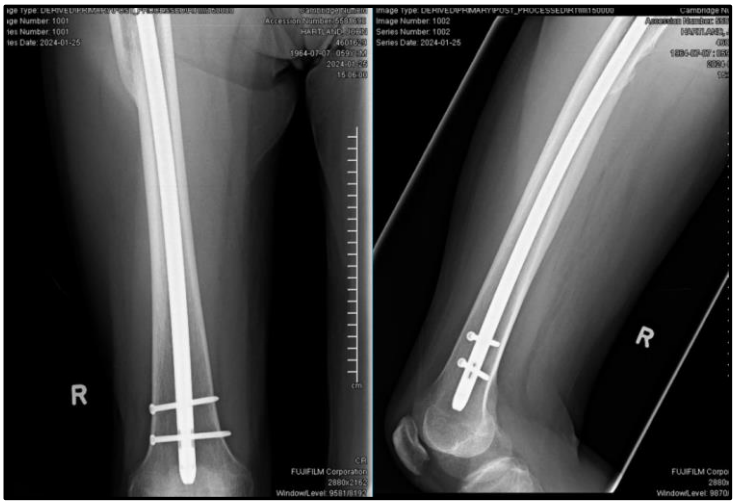
34. I note the global articular cartilage thinning and full thickness articular cartilage loss at the anterior lateral aspect of the right hip with no associated collection to the metal work. Mild degenerative fraying of the acetabular labrum of the right hip and mild articular cartilage thinning of the superolateral aspect of the left hip joint.

35. X-rays on 29 August 2023, right femur.



36. X-rays show mental work in situ to right femur with united fracture and moderate osteoarthritic features to the right hip.

37. X-rays taken at Nuffield Health Cambridge Hospital on 25 January 2024 confirm the right metalwork in situ with united fracture and moderate osteoarthritic features, which appear progressive when compared to the previous films and have a marked difference to the left hip AP projection.



DIAGNOSIS

38. As a direct result of the accident that happened to Mr Hartland on the 7 September 2022, he sustained:

Closed right sided reverse oblique subtrochanteric right proximal femoral fracture necessitating an intramedullary hip screw right side surgery on 08/09/2022.

Soft tissue injury right foot.

Psychological injury.

39. Mr Hartland gave a normal and rational history. There was no attempt to exaggerate. There was no discrepancy between the mechanism of injury and the injuries he sustained. In my opinion the time taken off work was reasonable and he was very motivated to return at the early point he did.

OPINION & PROGNOSIS REGARDING RIGHT HIP

40. At 1 year and four months post-accident, Mr Hartland has, on the balance of probability, plateaued his recovery. He has been discharged from his hip specialist in King's Lynn. He continues to be rather stoical in trying to cope with his right-sided lower limb length discrepancy and progressive right hip and lower back pain. His x-rays show progressive right hip osteoarthritic features which on the balance of probability, will continue to progress to end-stage osteoarthritis, necessitating removal of metalwork and consideration of a complex primary right-sided total hip replacement surgery, as a direct result of his direct accident. This is in keeping with his clinical presentation and MRI findings as well as more recent x-rays.

41. He should be considered for orthotic review to equalise his leg length and try and minimise his lower back pain, in the context of his right hip osteoarthritis which is deteriorating. He would likley benefit from a right-sided intra articular hip injection with local anaesthetic, steroid and hyaluronic acid to try and mitigate his progressive pain from his right hip and prolong the longevity of his native hip joint. On the balance of probability, however, any benefit from this injection is likely to be transient, but depending on this clinical progress, he could have up to a maximum of three of these.

42. Despite a total hip replacement being favourably reported upon in the literature, there are complications such as damage to his intact sciatic nerve, ongoing leg length inequality or hip replacement dislocation as well as deep infection which could necessitate revision surgery, and all of which could significantly compromise any

functional outcome. The literature suggests the final outcome has plateaued after total hip replacement successful surgery at 12 months.

43. In overall terms of UK reported hip replacement complications Curlewis et al. reported in 2022, 'Systemic medical complications following joint replacement: a review of the evidence'.

Royal College of Surgeons of England
ADVANCING SURGICAL CARE

REVIEW

Ann R Coll Surg Engl 2023; **105:** 191–195
doi 10.1308/rcsann.2022.0012

Systemic medical complications following joint replacement: a review of the evidence

K Curlewis[1], B Leung[2], L Sinclair[3], C Thornhill[4], G Chan[5], D Ricketts[5]

[1]Royal Free London NHS Foundation Trust, UK
[2]Barts Health NHS Trust, UK
[3]Brighton and Sussex University Hospitals NHS Trust, UK
[4]NHS Forth Valley, UK
[5]University Hospitals Sussex NHS Foundation Trust, UK

ABSTRACT

Introduction Arthroplasty procedures are commonly performed in the UK. Informed consent is required for each procedure. To obtain informed consent the patient and their surgeon should discuss the risks and benefits of the proposed operation. This discussion should include both regional and systemic complication rates. Regional complications of arthroplasty are generally well documented in the literature. Systemic medical complications are less well described. This lack of accurate data could make it difficult for the treating surgeon to obtain valid consent. The aim of this paper was to review and compare the literature regarding the rate of systemic medical complications after common arthroplasty procedures.

Methods A literature search was conducted using the PubMed, Cochrane Library and MEDLINE databases. Studies regarding the systemic medical complications and mortality rate of joint replacement were included.

Findings We found that systemic complications were more frequent than regional complications following arthroplasty. The systemic complication rates were: hip, 5.1%; knee, 6.9%; ankle, 3.0%; shoulder, 11.2%; elbow, 8.5%; and wrist, 0%. Mortality rates for arthroplasty procedures were: hip, 0.3%; knee, 0.2%; ankle, 0.3%; shoulder, 0.3%; elbow, 0.2%; and wrist, 0%.

Conclusions The most common systemic medical complication following arthroplasty was venous thromboembolism. Preoperative comorbidity was the most important risk factor for both postoperative mortality and systemic medical complications following arthroplasty procedures. We recommend that to obtain informed consent the given rates of systemic medical complications of joint replacement should be discussed and documented.

Table 3 Regional complication rates after arthroplasty procedures

Joint	Common regional complications	Rate (%)	Reference
Hip	Deep wound infection	0.51	Belmont *et al*[4]
	Superficial wound infection	0.83	
	Wound dehiscence	0.14	
	Peripheral nerve injury	0.11	

44. In 2020 Heo et al. reported on 'Complications to 6 months following total hip or knee arthroplasty: observations from an Australian clinical outcomes registry'.

RESEARCH ARTICLE Open Access

Complications to 6 months following total hip or knee arthroplasty: observations from an Australian clinical outcomes registry

Sung Mu Heo[1*], Ian Harris[2], Justine Naylor[2] and Adriane M. Lewin[2]

Abstract

Background: Total hip and total knee arthroplasty (THA/TKA) are increasing in incidence annually. While these procedures are effective in improving pain and function, there is a risk of complications.

Methods: Using data from an arthroplasty registry, we described complication rates including reasons for reoperation and readmission from the acute period to six months following THA and TKA in an Australian context. Data collection at 6 months was conducted via telephone interview, and included patient-reported complications such as joint stiffness, swelling and paraesthesia. We used logistic regression to identify risk factors for complications.

Results: In the 8444 procedures included for analysis, major complications were reported by 9.5 and 14.4% of THA and TKA patients, respectively, whilst minor complications were reported by 34.0 and 46.6% of THA and TKA patients, respectively. Overall complications rates were 39.7 and 53.6% for THA and TKA patients, respectively. In THA patients, factors associated with increased risk for complications included increased BMI, previous THA and bilateral surgery, whereas in TKA patient factors were heart disease, neurological disease, and pre-operative back pain and arthritis in a separate joint. Female gender and previous TKA were identified as protective factors for minor complications in TKA patients.

Conclusion: We found moderate rates of major and high rates of minor postoperative complications following THA and TKA in Australia and have identified several patient factors associated with these complications. Efforts should be focused on identifying patients with higher risk and optimising pre- and post-operative care to reduce the rates of these complications.

Keywords: Total hip arthroplasty, Total knee arthroplasty, Primary joint replacement, Registry, Epidemiology, Complication, Readmission, Reoperation, Infection

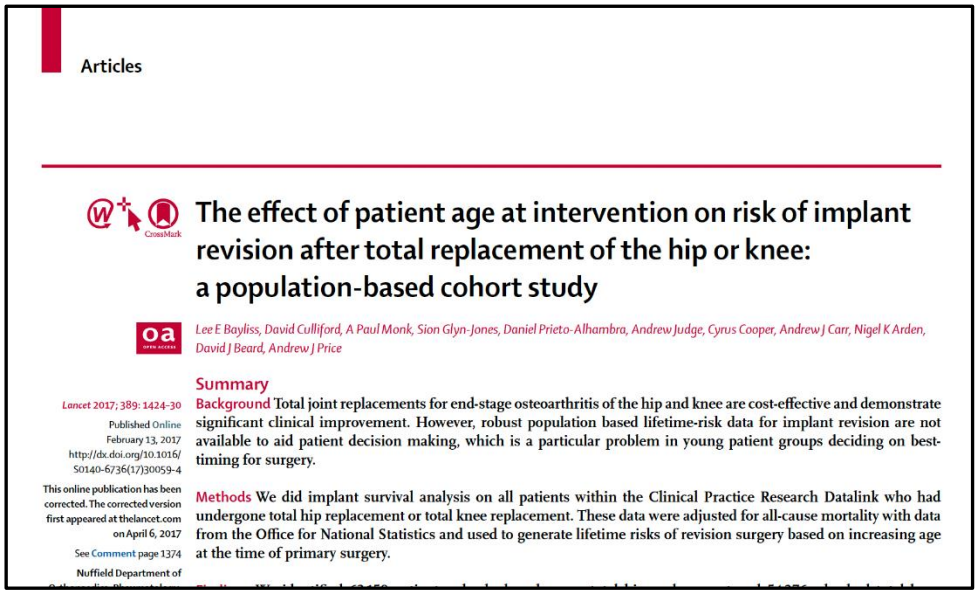
Table 3 Complications by severity and type (includes complications during acute admission and follow-up to 6 months post-surgery)

	Hip *N* = 2782	Knee *N* = 5662
Major	**263 (9.5)**	**815 (14.4)**
Mortality	5 (0.2)	14 (0.2)
Reoperation	55 (2.0)	144 (2.5)
Arthroplasty-related readmission	109 (3.9)	342 (6.0)
Dislocation	11 (0.4)	4 (0.1)
Fracture	31 (1.1)	21 (0.4)
DVT	21 (0.8)	102 (1.8)
PE	10 (0.4)	33 (0.6)
Surgical site infection requiring:		
Oral antibiotics	45 (1.6)	237 (4.2)
IV antibiotics	6 (0.2)	13 (0.2)
Cardiovascular	45 (1.6)	107 (1.9)
Stroke	1 (0)	1 (0)
Minor	947 (34.0)	2637 (46.6)
Bladder infection or retention	78 (2.8)	133 (2.3)
Respiratory infection	29 (1)	42 (0.7)
Cellulitis	13 (0.5)	50 (0.9)
Nerve injury/ neuropathy	23 (0.8)	71 (1.3)
Delirium[a]	24 (0.9)	51 (0.9)
Wound dehiscence[a]	9 (0.3)	34 (0.6)
Pressure area[a]	1 (0)	3 (0.1)
Fall during hospital stay[a]	3 (0.1)	23 (0.4)
Hypotension[a]	48 (1.7)	43 (0.8)
Drug reaction[a]	0	2 (0)
Fat embolus[a]	0	1 (0)
Other[a]	97 (3.5)	238 (4.2)
Joint stiffness[b]	244 (8.8)	1045 (18.5)
Unexpected pain[b]	153 (5.5)	555 (9.8)
Leg length discrepancy[b]	197 (7.1)	84 (1.5)
Swelling[b]	129 (4.6)	881 (15.6)
Paraesthesia[b]	149 (5.4)	885 (15.6)
Muscle weakness[b]	64 (2.3)	123 (2.2)
Total (major and minor)	**1103 (39.7)**	**3033 (53.6)**

[a] Acute admission only
[b] Post-discharge only

45. On the balance of probability Mr Harland will go on to need removal of metalwork and a complex primary right sided hip replacement surgery within the next 2-3 years.

46. For hip replacement revision risk it is generally accepted to refer to the provided Lancet paper from 2017, The Effect of Patient age at Intervention on Risk of Implant Revision after Total Replacement of Hip and Knee.



Articles

The effect of patient age at intervention on risk of implant revision after total replacement of the hip or knee: a population-based cohort study

Lee E Bayliss, David Culliford, A Paul Monk, Sion Glyn-Jones, Daniel Prieto-Alhambra, Andrew Judge, Cyrus Cooper, Andrew J Carr, Nigel K Arden, David J Beard, Andrew J Price

Lancet 2017; 389: 1424-30
Published Online February 13, 2017
http://dx.doi.org/10.1016/S0140-6736(17)30059-4
This online publication has been corrected. The corrected version first appeared at thelancet.com on April 6, 2017
See Comment page 1374

Nuffield Department of

Summary

Background Total joint replacements for end-stage osteoarthritis of the hip and knee are cost-effective and demonstrate significant clinical improvement. However, robust population based lifetime-risk data for implant revision are not available to aid patient decision making, which is a particular problem in young patient groups deciding on best-timing for surgery.

Methods We did implant survival analysis on all patients within the Clinical Practice Research Datalink who had undergone total hip replacement or total knee replacement. These data were adjusted for all-cause mortality with data from the Office for National Statistics and used to generate lifetime risks of revision surgery based on increasing age at the time of primary surgery.

47. The lifetime risk of revision after total hip and total knee replacement surgery is as follows:

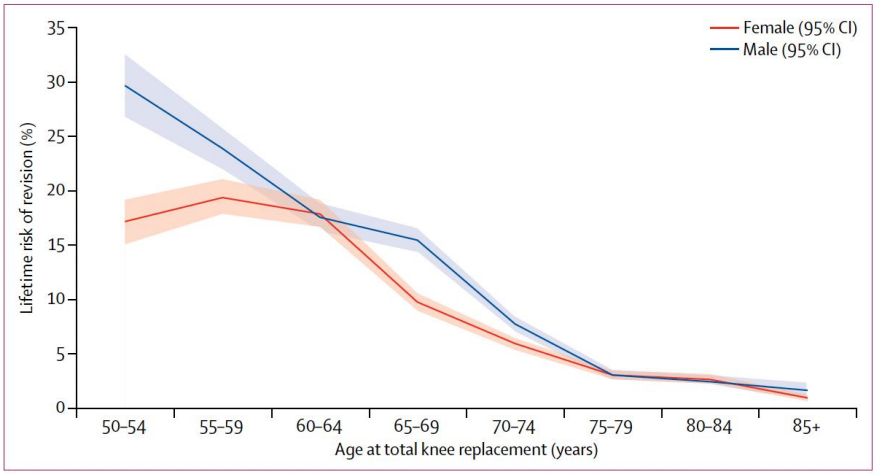
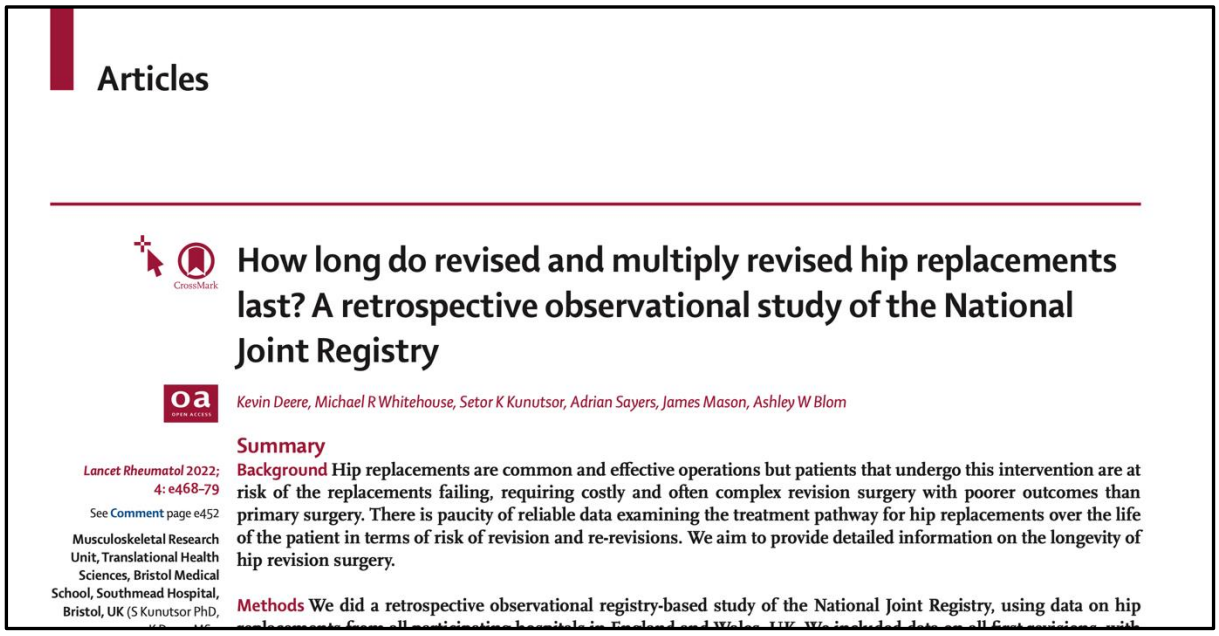


***Figure 2*: Lifetime risk of revision after total hip replacement**
Plot showing estimates of lifetime risk of total hip replacement revision against age at the time of total hip replacement primary surgery (in 5-year age bands) and stratified by sex (results adjusted for lost and censored population).

48. Note the x axis for hip replacement graph is mislabelled and should read ‘age at total replacement hip’ and not ‘age at total knee replacement’. If undergoing primary hip replacement type surgery in the age bracket between 60 and 64, he is at a lifetime risk of needing revision hip surgery in the order of 17%.
49. For subsequent hip replacement revisions, as you will see from the Lancet publication below and attached, on the balance of probability, risk will be rather low, and I would estimate in Mr Hartland’s case, this to be less than 2-3% for the remainder of his life.
50. Re-revision Hips Data



Articles

How long do revised and multiply revised hip replacements last? A retrospective observational study of the National Joint Registry

Kevin Deere, Michael R Whitehouse, Setor K Kunutsor, Adrian Sayers, James Mason, Ashley W Blom

Lancet Rheumatol 2022; 4: e468–79
See Comment page e452

Musculoskeletal Research Unit, Translational Health Sciences, Bristol Medical School, Southmead Hospital, Bristol, UK (S Kunutsor PhD,

Summary

Background Hip replacements are common and effective operations but patients that undergo this intervention are at risk of the replacements failing, requiring costly and often complex revision surgery with poorer outcomes than primary surgery. There is paucity of reliable data examining the treatment pathway for hip replacements over the life of the patient in terms of risk of revision and re-revisions. We aim to provide detailed information on the longevity of hip revision surgery.

Methods We did a retrospective observational registry-based study of the National Joint Registry, using data on hip

Findings Between April 1, 2003, and Dec 31, 2019, there were 29 010 revision hip replacements with a linked primary episode. Revision rates of revision hip replacements were higher in patients younger than 55 years than in older age groups. After revision of primary total hip replacement, 21·3% (95% CI 18·6–24·4) of first revisions were revised again within 15 years, 22·3% (20·3–24·4) of second revisions were revised again within 7 years, and 22·3% (18·3–27·0) of third revisions were revised again within 3 years. After revision of hip resurfacing, 23·7% (95% CI 19·6–28·5) of these revisions were revised again within 15 years, 21·0% (17·0–25·8) of second revisions were revised again within 7 years, and 19·3% (11·9–30·4) of third revisions were revised again within 3 years. A shorter time between revision episodes was associated with earlier subsequent revision.

Interpretation Younger patients are at an increased risk of multiple revisions. Patients who undergo a revision have a steadily increasing risk of further revision the more procedures they undergo, and each subsequent revision lasts for approximately half the time of the previous one. Although hip replacements are effective for improving pain and function and usually last a remarkably long time, if they are revised, successive revisions are progressively and markedly less successful.

It unlikely that he will need to consider a re revision in his lifetime, however, the literature clearly states that patients who undergo a revision hip replacement have a steadily increasing risk of revision with the more procedures they undergo, and with each subsequent revision they have. Each subsequent revision lasts for approximately half the time of the previous one. If a hip replacement is revised, successive revisions are progressively and markedly less successful.

51. The literature suggests that final plateau of recovery after hip replacement is around 12 months post-surgery. As long as there are no significant complications, Mr Hartland should have a good outcome functionally and have more normal mobility. However, Mr Hartland would be strongly advised to avoid moderate to heavy manual repetitive work, including any work involving regular squatting, kneeling, lifting or carrying heavy objects, working low down or getting into confined spaces, because this would likely aggravate his hip replacement and also put him at significantly higher risk of revision surgery.
52. During initial recovery after Hip Replacement surgery, particularly for the first 8-12 weeks, Mr Hartland will be limited in his ability to perform domestic tasks, gardening and DIY, and will need additional assistance. He will also need physiotherapy during his rehabilitation for likely 12 sessions.

Prognosis overall

53. His EQ-5D score prior to the accident was 1. His EQ-5D score today is 0.548 meaning a 0.452 reduction in disability adjusted life years. i.e., reduction in quality of life since the accident.

54. The EQ5D score is a validated quality of life scoring system, which is commonly used in orthopaedic trauma outcome studies. It has a maximum score of 1, representing the best possible health, a score of 0, is equivalent of death, although the lowest recordable score is in fact -0.59. As a reference, in patients with severe neurological conditions, their EQ5D is reduced by approximately 0.25 disability adjusted life years.

55. Mr Hartland's initial EQ-5D self-reported post-accident was 0.536 which is fairly consistent to today's score. His self-reported health score has however changed from 80% after his accident at initial review to 60% at one year and four months.

LIFE EXPECTANCY AND LONG-TERM CONSEQUENCES

56. On the balance of probability, Mr Hartland will have no adverse effects on his life expectancy as a direct result of this index accident and musculo-skeletal injury. His long-term consequences now are that of, on the balance or probability, necessitating removal of metalwork and undergoing complex primary right-sided total hip replacement surgery in the next two to three years as per my opinion section. He will have approximately a 17% lifetime risk of needing revision surgery.

TREATMENT

57. I have previously recommended Mr Hartland be considered for private orthotic review in the context of his lower limb leg length discrepancy.

58. The cost of a single right-sided intra articular hip injection in the private sector with local anaesthetic, steroid and hyaluronic acid is in the order of £2,500-£3,000 depending on whether this is performed by a radiologist or orthopaedic surgeon in a

laminar flow setting. He could be eligible for up to three of these depending on the clinical progression of his right hip symptoms.

59. The cost of removal of metalwork and having a complex primary right-sided total hip replacement surgery in the private sector will be between £18,000-£22,000, particularly if MAKO robotic assistance is considered in his case which will be advantageous due to his lower limb leg length discrepancy. After this surgery, he will need to be considered for up to 12 sessions of private physiotherapy costing approximately £100 per one hour session, each.

60. It is generally accepted that depending on the complexity of re revision hip surgery, the costs are approximately £25,000-£30,000 in the private sector with a need for up to 12 sessions of weekly private physiotherapy, each session costing approximately £100 per one hour session, to aid with his rehabilitation.

Adaptions / help required to aid in activities of daily living

61. Mr Hartland would likely benefit from having orthotics provided for his right lower limb leg length discrepancy.

62. He is currently coping within his home environment but he is struggling with any lower-level work. He is able to cut his small garden's grassed area, but not perform heavier activities or low-level weeding. He should be considered for appropriate gardening assistance until the time of full rehabilitation at 12 months post anticipated right complex primary hip replacement and removal of metalwork surgery.

PROSPECTS ON THE OPEN JOB MARKET

63. Please see my previous report dated 13 April 2023. My opinion has not changed.

Definition of disability

64. I have been asked to comment on whether the claimant meets the definition of disability. While strictly a question for the court, from a medical point of view, the claimant appears to meet the Ogden definition of disability, in that they have all three of the following conditions in relation to ill-health or disability:

    (i.) They have an illness or a disability which has or is expected to last for over a year or is a progressive illness.

    (ii.) The DDA 1995 definition is satisfied in that the impact of the disability has a substantial adverse effect on the claimant's ability to carry out normal day-to-day activities. The claimant's adverse effects are highlighted in the attached document (**appendix ii**)

    (iii.) The effects of impairment limit either the kind or the amount of paid work they can do.

65. It should be noted that with an uncomplicated successful surgery to his right hip, with removal of metalwork and a complex primary total hip replacement surgery, that after a period of maximum rehabilitation of 12 months, Mr Hartland's definition of disability may change.

EXPERTS DECLARATION

I, Mr Andrew Douglas Carrothers, Declare that

1. I understand that my duty in providing written reports and giving evidence is to help the Court, and that this duty overrides any obligation to the party by whom I am engaged or the person who has paid or is liable to pay me. I confirm that I have complied and will continue to comply with my duty.

2. I confirm that I have not entered into any arrangement where the amount or payment of my fees is in any way dependent on the outcome of the case.

3. I know of no conflict of interest of any kind, other than any which I have disclosed in my report.

4. I do not consider that any interest which I have disclosed affects my suitability as an expert witness on any issues on which I have given evidence.

5. I will advise the party by whom I am instructed if, between the date of my report and the trial, there is any change in circumstances which affect my answers to points 3 and 4 above.

6. I have shown the sources of all information I have used.

7. I have exercised reasonable care and skill in order to be accurate and complete in preparing this report.

8. I have endeavoured to include in my report those matters, of which I have knowledge or of which I have been made aware, that might adversely affect the validity of my opinion. I have clearly stated any qualifications to my opinion.

9. I have not, without forming an independent view, included or excluded anything which has been suggested to me by others, including my instructing lawyers.

10. I will notify those instructing me immediately and confirm in writing if, for any reason, my existing report requires any correction or qualification.

11. I understand that;

11.1 My report will form the evidence to be given under oath or affirmation;

11.2 Questions may be put to me in writing for the purposes of clarifying my report and that my answers shall be treated as part of my report and covered by my statement of truth;

11.3 The Court may at any stage direct a discussion to take place between experts for the purpose of identifying and discussing the expert issues in the proceedings, where possible reaching an agreed opinion on those issues and identifying what action, if any, may be taken to resolve any of the outstanding issues between the parties;

11.4 The Court may direct that following a discussion between the experts that a statement should be prepared showing those issues which are agreed, and those issues which are not agreed, together with a summary of the reasons for disagreeing;

11.5 I may be required to attend Court to be cross-examined on my report by a cross-examiner assisted by an expert;

11.6 I am likely to be the subject of public adverse criticism by the judge if the Court concludes that I have not taken reasonable care in trying to meet the standards set out above.

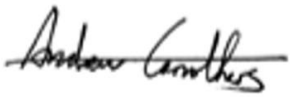
12 I have read Part 35 of the Civil Procedure Rules, the accompanying practice direction and the Guidance for the instruction of experts in civil claims and I have complied with their requirements.

13 I am aware of the practice direction on pre-action conduct. I have acted in accordance with the Code of Practice for Experts.

STATEMENT OF TRUTH

I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer.

I understand that proceedings for contempt of court may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief in its truth.



Signature……..

Mr Andrew D Carrothers. ***VR, MBChB, MA (Cantab), DipIMC RCSEd, FRCS (Tr & Orth)***

CONSULTANT ORTHOPAEDIC TRAUMA SURGEON CAMBRIDGE

ASSISTANT PROFESSOR, UNIVERSITY OF CAMBRIDGE

Date: 25 January 2024.

SOURCES USED TO COMPILE THE REPORT

X-rays reviewed as per radiology section.