

FORCE-TJR QI Data Elements

OR Data	Implant Data	<p>Data elements</p> <ul style="list-style-type: none"> Manufacturer of Implant Model of Implant Catalogue Number of Implant Product Lot Number
	Surgical Data	<p>Data regarding surgical procedure</p> <ul style="list-style-type: none"> ICD9 procedure code ICD9 primary diagnosis code Hip/Knee surgical approach data Discharge Summary
Chart Data	Surveillance and Adverse Events	<p>Surgery/Post-Surgery treatment</p> <ul style="list-style-type: none"> Patient reported Pain and Function post-operatively Patient Reported Post-surgery events/complications, including: <ul style="list-style-type: none"> Death Deep Joint Infection Deep Vein Thrombosis Emergency Department Visit Dislocation Fracture Hardware Failure Hematoma Pulmonary Embolism Other Other Return to the OR for Total Readmission No 90 Day Post-operative Events

	Intra operative/ hospital stay	1 year post op	5 years post op	10 years post op	15 years post op
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Geneva Arthroplasty Registry Variables

Hip and knee							
Geographical Identifier		✓			✓	✓	✓
Height		✓			✓	✓	✓
Weight		✓			✓	✓	✓
BMI		✓			✓	✓	✓
Smoking		✓					
Physical activity	Active vs. sedentary (patient-reported), type of sports or leisure activity (only hip)	✓			✓	✓	✓
UCLA activity scale	Since 2006 postop; since 2011 preop and pre-OA	✓		✓	✓	✓	✓
Insurance status	Public vs. private	✓					
Education	Since 2011. three levels	✓					
Work Status		✓			✓	✓	✓
Cardiac History	Angina, MI, Congenital or other, pacemaker	✓					
Liver		✓					
Diabetes		✓					
Circulation		✓					
ASA score		✓					
Hypertension		✓					
Cerebrovascular accident		✓					
Rheumatic Fever		✓					
Respiratory		✓					
Other:	Skin conditions, epilepsy, blood disorders etc.	✓					
Alcohol abuse		✓					
Gastrointestinal		✓					
Renal		✓					
Anxiety / Depression	SF-12 mental component score	✓		✓	✓	✓	✓
Surgery	Previous surgeries of hip, knee and back	✓			✓	✓	✓
Rheumatoid Arthritic		✓					

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Treatments	Intra-articular steroids	✓				
Current medication		✓				
Medication	Statin use (only hip), analgesics	✓	✓	✓	✓	✓
Steroid injection		✓	✓			
Prophylactic antibiotics	Type, dose		✓			
Osteoarthritis		✓				
Septic Arthritis		✓				
Gout		✓				
Inflammatory conditions		✓				
Avascular Necrosis		✓				
Paget's		✓				
Congenital		✓				
Trauma		✓				
Other medical /surgical hist.	Cancer, metastasis, osteoporosis	✓				
Duration of symptoms	In years, patient-reported	✓				
Implant details			✓			
Surgical technique			✓			
Surgeon experience			✓			
Surgery time			✓			
Anticoagulation therapy	Type, dose		✓			
Length of hospital stay			✓			
Discharge	Home, assisted living, other hospital		✓			
Surgical complications	Intra-operative fracture, nerve lesion, bleeding		✓			
Post operative complications	Haemorrhage, DVT, PE, Chest Infection, MI, CVA, dislocation, deep infection, wound problems, urinary infection, death, periprosthetic fracture, abductor avulsion, readmission, other		✓	✓	✓	✓

Baseline	Intra operative/ hospital stay	1 year post op	5 years post op	10 years post op	15 years post op
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Knee Specific							
Operation type	TKR n=	UKR n=	Rev TKR n=	Re-Rev TKR	✓		
Side of operation					✓		
Limb examination	pain on internal rotation, pain on external rotation, quad muscle power, tender joint lines Knee valgus/varus, knee pain,				✓		✓
AKSS					✓		✓
Pain VAS scale					✓	✓	✓
Neuropathic pain (DN4)	Preop since January 2014, postop sample (n=750)				✓	✓	✓
Pain quality	Night pain, irradiation, pattern over time				✓	✓	✓
Satisfaction	Operation, 5-point Likert scale					✓	✓
Would you re-undergo the surgery?						✓	✓
WOMAC 12 (short form)					✓	✓	✓
SF-12					✓	✓	✓
UCLA activity scale					✓	✓	✓
Hip Specific							
Operation type	THR n=	Resurfacing=	Rev THR n=	Re-Rev THR	✓		
Side of operation					✓		
Limb examination	hip pain, hip flexion, hip flexion internal rotation, hip abduction, hip fixed flexion deformity, hip flex abd er, internal rotation, external rotation, hip ext, trochanteric bursitis, trendelenberg sign, abductor muscles strength, leg length difference				✓		✓
Walking distance					✓	✓	✓
Charnley disability grade					✓	✓	✓
Harris Hip score					✓	✓	✓
Merle d'Aubigné score					✓	✓	✓
Pain VAS					✓	✓	
Pain quality	Night pain, irradiation, pattern over time				✓	✓	✓
WOMAC 12					✓	✓	✓

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		✓		✓	✓	✓	✓
SF-12		✓		✓	✓	✓	✓
UCLA activity scale		✓		✓	✓	✓	✓
Neuropathic pain (DN4)		✓		✓			
Satisfaction VAS	Operation			✓	✓	✓	✓
Medical Illustration							
knee x-rays	Symptomatic patients only at follow-up, all pre and postop	✓	✓		✓	✓	✓
hip x-rays	All patients invited for clinical and X-ray follow-up	✓	✓		✓	✓	✓
MRI hip	MoM hips (symptomatic patients or high ion levels)			✓	✓	✓	✓
Kellgren-Lawrence grades	Hips and knees 2003 (under way) and 2010	✓					
Osteolysis, migration, fracture, bone quality, cementing quality, other	Hips analysed only so far		✓		✓	✓	✓
Blood							
Cobalt, Chrome, CRP, sedimentation rate, Creatinine	MoM hips at follow-up						
Adipokines, cytokines (details see publications below*)	Cohort primary OA hip and knee 2010	✓					

*Bas S, Finckh A, Puskas GJ, Suva D, Hoffmeyer P, Gabay C, Lübbecke A. Adipokines correlate with pain in lower-limb OA: different association in hip and knee. Int Orthop 2014

*Lübbecke A, Finckh A, Puskas G, Suva D, Lädermann A, Bas S, Fritschy D, Gabay C, Hoffmeyer P. Do synovial leptin levels correlate with pain in end-stage arthritis? Int Orthop 2013