

Supplementary Material

Supplementary material i. Search strategy per database.

Pubmed:

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(((((("Arthroplasty, Replacement, Knee"[Mesh] OR total knee arthroplasty [title] OR total knee replacement [title]))) AND (("Reoperation"[Mesh] OR revision [tiab] OR re-operation [tiab]))) AND (predict* [tiab] OR "Risk Factors"[Mesh] OR risk factor* [tiab] OR "Prognosis"[Mesh] OR prognos* [tiab] OR factor [tiab] OR "Association"[Mesh] OR associate* [tiab] OR correlate* [tiab] OR effect [tiab] OR influence* [tiab] OR cause [tiab])) AND ("Outcome Assessment (Health Care)"[Mesh] OR Outcome [tiab] OR result [tiab] OR "Patient Reported Outcome Measures"[Mesh] OR patient reported [tiab] OR outcome score [tiab] OR PROM [tiab] OR clinical [tiab] OR function* [tiab] OR "Patient Satisfaction"[Mesh] OR satisfaction [tiab] OR "Survival"[Mesh] OR survival [tiab] OR "Prosthesis Failure"[Mesh] OR failure [tiab] OR re-revision [tiab] OR repeat revision [tiab] OR "Reoperation"[Mesh] OR re-operation [tiab] OR "Pain"[Mesh] OR pain [tiab] OR "Postoperative Complications"[Mesh] OR complication* [tiab] OR "Postoperative Period"[Mesh] OR post-operative [tiab] OR "Long Term Adverse Effects"[Mesh] OR long-term [tiab]))
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Embase:

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(exp knee arthroplasty/ or total knee arthroplasty.m_titl. or total knee replacement.m_titl.) and (reoperation.mp. or exp reoperation/ or exp revision arthroplasty/ or revision.mp.) and (exp predictive value/ or predictive value.mp. or risk factor.mp. or exp risk factor/ or exp prognosis/ or prognosis.mp. or factor.mp. or exp association/ or association.mp. or exp correlation analysis/ or correlation.mp. or correlate*.ti,ab. or effect.ti,ab. or influence*.ti,ab. or cause.ti,ab.) and (exp outcome assessment/ or Outcome.ti,ab. or result.ti,ab. or exp patient-reported outcome/ or "patient reported".ti,ab. or "outcome score".ti,ab. or PROM.ti,ab. or clinical.ti,ab. or function*.ti,ab. or exp patient satisfaction/ or satisfaction.ti,ab. or exp survival prediction/ or exp survival/ or exp survival rate/ or exp survival analysis/ or survival.ti,ab. or exp prosthesis complication/co, di, ep, pc or failure.ti,ab. or re-revision.ti,ab. or "repeat revision".ti,ab. or exp reoperation/ or re-operation.ti,ab. or exp knee pain/ or exp pain/ or exp postoperative pain/ or exp bone pain/ or pain.ti,ab. or exp postoperative complication/ or complication*.ti,ab. or exp postoperative period/ or post-operative.ti,ab. or exp adverse event/co, si, su or long-term.ti,ab.)
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Web of science:

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Ti=(total knee arthroplasty OR total knee replacement) AND TS=("Reoperation" OR reoperation OR revision)
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AND

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TS=(predict* OR "Risk Factors" OR "risk factor*" OR Prognosis OR prognos* OR factor OR Association OR associate* OR correlate* OR effect OR influence* OR cause)
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AND

TS=("Outcome Assessment (Health Care)" OR Outcome OR result OR "Patient Reported Outcome Measures" OR "patient reported" OR "outcome score" OR PROM OR clinical OR function* OR "Patient Satisfaction" OR satisfaction OR Survival OR survival OR "Prosthesis Failure" OR failure OR re-revision OR "repeat revision" OR Reoperation OR re-operation OR Pain OR pain OR "Postoperative Complications" OR complication* OR "Postoperative Period" OR post-operative OR "Long Term Adverse Effects" OR long-term)

Supplementary table ii. Prognostic factor categories.

Prognostic factor category	Prognostic factor
case-mix	age
case-mix	alcohol abuse
case-mix	alcohol use
case-mix	BMI
case-mix	cannabis abuse
case-mix	drug abuse
case-mix	drug use
case-mix	ethnicity
case-mix	former smoking
case-mix	frailty
case-mix	gender
case-mix	geographical rurality
case-mix	hospital volume
case-mix	index of multiple deprivation
case-mix	insurance status
case-mix	Medicaid
case-mix	obesity
case-mix	opioid use
case-mix	smoking
case-mix	social status
case-mix	weight
case-mix	weight loss
comorbidity	AIDS
comorbidity	arterial hypertension
comorbidity	ASA
comorbidity	bleeding disorders
comorbidity	cardiac arrhythmia
comorbidity	cardiac disease
comorbidity	cardiovascular disease
comorbidity	cerebrovascular disease
comorbidity	Charlson comorbidity index
comorbidity	chronic heart disease
comorbidity	chronic kidney disease
comorbidity	chronic lung disease
comorbidity	chronic pulmonary disease
comorbidity	chronic viral hepatitis
comorbidity	comorbidity
comorbidity	congestive heart failure
comorbidity	connective tissue disorder
comorbidity	COPD
comorbidity	coronary heart disease
comorbidity	coronary vascular disease
comorbidity	diabetes mellitus
comorbidity	dialysis
comorbidity	DM insulin dep
comorbidity	DM insulin dep
comorbidity	DM non-insulin dep

comorbidity	Elixhauser comorbidity index
comorbidity	fluid electrolyte disorder
comorbidity	gastrointestinal disease
comorbidity	gout
comorbidity	heart failure
comorbidity	haematological disease
comorbidity	hypertension
comorbidity	hypothyroidism
comorbidity	inflammatory arthritis
comorbidity	inflammatory disease
comorbidity	iron deficiency
comorbidity	kidney disease
comorbidity	kidney failure
comorbidity	liver disease
comorbidity	lymphoma
comorbidity	malignancies
comorbidity	malignancy
comorbidity	neurological disease
comorbidity	peptic ulcer
comorbidity	peripheral vascular disease
comorbidity	pulmonary circulation disorder
comorbidity	pulmonary disease
comorbidity	pulmonary hypertension
comorbidity	renal disease
comorbidity	renal failure
comorbidity	rheumatoid arthritis
comorbidity	sleep apnoea
comorbidity	stroke
comorbidity	systemic disease
comorbidity	thyroid disease
comorbidity	valvular disease
comorbidity	vascular arterial disease
comorbidity	vascular disease
comorbidity	vascular venous disease
functional	functional status
functional	KSS clinical
functional	KSS function
functional	preoperative flexion
functional	ROM
functional	stiffness
functional	walking aid
indication surgery	anaerobic pathogens
indication surgery	antibiotic resistant organism
indication surgery	causative pathogen
indication surgery	culture negative PJI
indication surgery	diagnosis
indication surgery	emergency operation
indication surgery	extension contracture
indication surgery	flexion contracture

indication surgery	infection
indication surgery	MRSA
indication surgery	negative culture
indication surgery	pathogen
indication surgery	periprosthetic fracture
indication surgery	PJI
indication surgery	planned surgery
indication surgery	polymicrobial infection
indication surgery	positive cultures
indication surgery	positive minor criteria for PJI
indication surgery	pre-operative alignment
indication surgery	pre-operative antibiotics
indication surgery	reason for revision
indication surgery	sinus tract
indication surgery	Staphylococcus aureus
indication surgery	type of infection
indication surgery	virulent pathogens
lab test	albumin
lab test	anaemia
lab test	blood urea nitrogen
lab test	coagulation
lab test	C-reactive protein
lab test	creatinine
lab test	electrolyte imbalance
lab test	elevated CRP/ESR
lab test	Glomerular Filtration Rate
lab test	haematocrit
lab test	haemoglobin
lab test	International Normalized Ratio
lab test	platelet count
lab test	red blood cell distribution width
lab test	serum creatinine
lab test	white blood cell count
medical history	anticoagulant use
medical history	anxiety
medical history	bilateral
medical history	blood transfusion
medical history	tumour
medical history	cirrhosis
medical history	deep venous thrombosis
medical history	dementia
medical history	depression
medical history	dialysis
medical history	dyspnoea
medical history	dyspnoea on exertion
medical history	haemodialysis-dependent
medical history	hepatitis C
medical history	history of VTE
medical history	inflammatory bowel disease

medical history	ipsilateral hip involvement
medical history	low back pain
medical history	malignant tumour
medical history	myocardial infarction
medical history	organ transplant
medical history	psychiatric disorder pharmacologically treated
medical history	psychoses
medical history	renal transplant
medical history	steroid use
medical history	systemic lupus
medical history	thrombophilia
medical history	TIA/CVA
medical history	transfusion pre-op
medical history	tumour history
medical history	venous insufficiency
medical history knee specific	coronal deviation
medical history knee specific	DAIR
medical history knee specific	failed DAIR
medical history knee specific	heterotopic ossification
medical history knee specific	patella resurfacing
medical history knee specific	previous arthroscopy
medical history knee specific	previous revision TKA
medical history knee specific	previous two-stage
medical history knee specific	primary diagnosis
medical history knee specific	prior arthroplasty
medical history knee specific	prior DAIR
medical history knee specific	prior infection
medical history knee specific	prior revision
medical history knee specific	prior surgery
medical history knee specific	surgical history
medical history knee specific	tibial malrotation
medical history knee specific	tibial tuberositas osteotomy
medical history knee specific	time to revision
medical history knee specific	wound infection
pain	pain
PROM	central sensitization
PROM	disability
PROM	EQ-5D 3L anxiety/depression
PROM	EQ-5D 3L self-care
PROM	KSS function
PROM	OKS
PROM	pain
PROM	SF-36 MCS
PROM	social deprivation SIMD
PROM	UCLA activity

ASA, American Society of Anaesthesiologists; COPD, chronic obstructive pulmonary disease; DAIR, debridement, antibiotics and implant retention; DM, diabetes mellitus; EQ-5D, EuroQol five-dimension; EQ-VAS, EuroQol visual analogue scale; ICU, intensive care unit; KOOS-PS, Knee Injury and Osteoarthritis Outcome Score – Physical Function Short Form; KSS, Knee Society Score; EQ-5D 3L, EuroQol five-dimension three-level; VR-12 MCS, Veterans Rand 12 item mental health component summary; MRSA, methicillin-

resistant Staphylococcus aureus; NSAID, nonsteroidal anti-inflammatory drugs; OKS, Oxford Knee Score; OR, operating room; VR-12 PCS, Veterans Rand 12 item physical health component summary; PJI, periprosthetic joint infection; PROMIS, Patient-Reported Outcomes Measurement Information System; ROM, range of motion; SF-36, 36-Item Short Form Survey; TKA, total knee arthroplasty; UCLA, University of California at Los Angeles; VTE, venous thromboembolism; WOMAC, Western Ontario and McMaster Universities Osteoarthritis Index.

Supplementary table iii. Outcome categories.

Outcome category	Outcome
adverse event	acute kidney injury
adverse event	acute renal failure
adverse event	adverse events
adverse event	amputation
adverse event	amputation above knee
adverse event	anaemia
adverse event	any medical complication
adverse event	aseptic loosening
adverse event	bleeding
adverse event	blood loss
adverse event	blood transfusion
adverse event	cardiac arrest
adverse event	cardiac complications
adverse event	cardiac pulmonary complication
adverse event	central nervous system
adverse event	cerebrovascular accident
adverse event	Charlson comorbidity index
adverse event	complications
adverse event	consultation with health professional
adverse event	death
adverse event	deep infection
adverse event	deep surgical site infection
adverse event	deep venous thrombosis
adverse event	deep wound infection
adverse event	emergency department visit
adverse event	extended length of stay
adverse event	extensor mechanism failure
adverse event	fail to wean
adverse event	fracture
adverse event	gastrointestinal complication
adverse event	genitourinary complications
adverse event	hematoma
adverse event	heterotopic ossification
adverse event	ICU admission
adverse event	ileus episode
adverse event	infection
adverse event	length of stay
adverse event	ligamentous laxity
adverse event	major complications
adverse event	malposition
adverse event	manipulation under anaesthesia
adverse event	minor complications
adverse event	mortality
adverse event	mortality due to cancer
adverse event	mortality due to cerebrovascular event
adverse event	mortality due to congestive heart failure
adverse event	mortality due to liver failure

adverse event	mortality due to multiple causes
adverse event	mortality due to myocardial infarction
adverse event	mortality due to pulmonary embolism
adverse event	mortality due to renal failure
adverse event	mortality due to respiratory failure
adverse event	mortality due to sepsis
adverse event	mortality due to systemic inflammatory response syndrome
adverse event	mortality related to comorbidities
adverse event	mortality related to infection
adverse event	myocardial infarction
adverse event	on ventilator
adverse event	organ infection
adverse event	organ surgical site infection
adverse event	peripheral vascular disease
adverse event	periprosthetic fracture
adverse event	periprosthetic joint infection
adverse event	pneumonia
adverse event	postoperative infection
adverse event	prolonged length of stay
adverse event	pulmonary complications
adverse event	pulmonary embolism
adverse event	readmission
adverse event	re-infection
adverse event	reintubation
adverse event	renal complications
adverse event	renal failure
adverse event	renal insufficiency
adverse event	reoperation
adverse event	re-revision
adverse event	re-revision for aseptic loosening
adverse event	re-revision for infection
adverse event	re-revision for instability
adverse event	re-revision for loosening
adverse event	re-revision for pain
adverse event	re-revision for stiffness
adverse event	respiratory complication
adverse event	respiratory failure
adverse event	return to OR
adverse event	sepsis
adverse event	septic shock
adverse event	septicaemia
adverse event	stiffness
adverse event	stroke
adverse event	superficial surgical site infection
adverse event	surgical site infection
adverse event	systemic infection
adverse event	systemic sepsis
adverse event	thromboembolic complication

adverse event	thromboembolic event
adverse event	time to re-revision
adverse event	transfusion
adverse event	treatment failure
adverse event	treatment success
adverse event	unplanned intubation
adverse event	urinary system complication
adverse event	urinary tract infection
adverse event	vascular complication
adverse event	venous thromboembolism
adverse event	ventilator dependence
adverse event	wound complications
adverse event	wound dehiscence
adverse event	wound disruption
adverse event	wound infection
cognitive function	PROMIS mental
cognitive function	SF-36 mental health
cognitive function	VR-12 MCS
costs	costs
pain	narcotic pain medication
pain	NSAIDs
pain	opioid overdose
pain	opioid use
pain	pain
pain	pain at rest
pain	pain during mobilisation
pain	pain related ED visit
pain	SF-36 bodily pain
pain	WOMAC pain
participation	activity of daily living limitation
participation	Koval grade
participation	Lower-Extremity Activity Scale (LEAS)
participation	non-home discharge
patient's global assessment of target joint	expectations
patient's global assessment of target joint	satisfaction
physical function	extension
physical function	extension deficit
physical function	flexion
physical function	Hospital for Special Surgery score (HSS)
physical function	instability
physical function	knee function
physical function	KOOS-PS
physical function	KSS
physical function	KSS clinical
physical function	KSS function
physical function	OKS
physical function	OKS change
physical function	Physical Function SF10A

physical function	PROMIS physical
physical function	ROM
physical function	SF-36 physical
physical function	stiffness
physical function	UCLA
physical function	VR-12 PCS
physical function	walking aids
physical function	WOMAC
physical function	WOMAC clinical
physical function	WOMAC function
quality of life	EQ-5D
quality of life	EQ-VAS
quality of life	KOOS quality of life
quality of life	SF-12
quality of life	SF-36

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