

Supplementary material S1 – OPCS-4 code criteria used for Hospital Episode Statistics data extraction

Code	Code description
OPCS-4 codes for knee revision procedures	
O180	Conversion from previous hybrid prosthetic replacement of knee joint using cement
O182	Conversion to hybrid prosthetic replacement of knee joint using cement
O183	Revision of hybrid prosthetic replacement of knee joint using cement
O184	Attention to hybrid prosthetic replacement of knee joint using cement
W400	Conversion from previous cemented total prosthetic replacement of knee joint
W402	Conversion to total prosthetic replacement of knee joint using cement
W403	Revision of total prosthetic replacement of knee joint using cement
W404	Revision of one component of total prosthetic replacement of knee joint using cement
W410	Conversion from previous uncemented total prosthetic replacement of knee joint
W412	Conversion to total prosthetic replacement of knee joint not using cement
W413	Revision of total prosthetic replacement of knee joint not using cement
W414	Revision of one component of total prosthetic replacement of knee joint not using cement
W420	Conversion from previous total prosthetic replacement of knee joint NEC
W422	Conversion to total prosthetic replacement of knee joint NEC

W423	Revision of total prosthetic replacement of knee joint NEC
W424*	Attention to total prosthetic replacement of knee joint NEC
W425	Revision of one component of total prosthetic replacement of knee joint NEC
W522†	Conversion to prosthetic replacement of articulation of bone using cement NEC
W523†	Revision of prosthetic replacement of articulation of bone using cement NEC
W532†	Conversion to prosthetic replacement of articulation of bone not using cement NEC
W533†	Revision of prosthetic replacement of articulation of bone not using cement NEC
W542†	Conversion to prosthetic replacement of articulation of bone NEC
W543†	Revision of prosthetic replacement of articulation of bone NEC
W544*†	Attention to prosthetic replacement of articulation of bone NEC
W553†	Conversion to prosthetic interposition arthroplasty of joint
W564†	Conversion to interposition arthroplasty of joint NEC
W574†	Conversion to excision arthroplasty of joint
W582†	Revision of resurfacing arthroplasty of joint
W603†	Conversion to arthrodesis and extra-articular bone graft NEC
W613†	Conversion to arthrodesis and articular bone graft NEC
W641†	Conversion to arthrodesis and internal fixation NEC
W642†	Conversion to arthrodesis and external fixation NEC

OPCS-4 codes for laterality	
Z941	Bilateral

- Z942 Left-sided
- Z943 Right-sided

ICD-10 codes for Infection

- T845 Infection and inflammatory reaction due to internal joint prosthesis
- T846 Infection and inflammatory reaction due to internal fixation device [any site]
- T847 Infection and inflammatory reaction due to other internal orthopaedic prosthetic devices, implants and grafts
- T814 Infection following a procedure, not elsewhere classified

ICD-10 codes for fracture

- M966 Fracture of bone following insertion of orthopaedic implant, joint prosthesis or bone plate

ICD-10 codes for mechanical complications

- T840 Mechanical complication of internal joint prosthesis
- T841 Mechanical complication of internal fixation device of bones of limb
- T842 Mechanical complication of internal fixation device of other bones
- T843 Mechanical complication of other bone devices, implants and grafts
- T844 Mechanical complication of other internal orthopaedic devices, implants and grafts

ICD-10 codes for osteoarthritis/arthritis

- M15- Polyarthrosis
- M17- Gonarthrosis
- M19- Other arthrosis

OPCS-4 = Office of Populations Censuses and Surveys Classification of Interventions and Procedures version 4. ICD-10 = International Statistical Classification of Diseases and Related Health Problems, tenth revision. * Where

OPCS-4 codes Y032 (renewal of prosthesis in organ NOC) or Y037 (removal of prosthesis from organ NOC) were also used. † Where OPCS-4 codes O132 (knee NEC) or Z765 (lower end of femur NEC) or Z774 (upper end of tibia NEC) or Z787 (patella) or Z844 (patellofemoral joint) or Z845 (tibiofemoral joint) or Z846 (knee joint) or Z851 (upper tibiofibular joint) were used to identify knee as the body site.