Appendix E-1 Coding Algorithm

PATIENT SELECTION

1) **lateral malleolar fractures**
   INCLUSION CRITERIA – must have both at least 1 procedure and 1 diagnosis code
   procedure (SEPARATE EACH OF THE FOUR PROCEDURES)

   1) (CR) 79.06 closed reduction of fracture without internal fixation, of tibia/fibula
   2) (CRIF) 79.16 closed reduction of fracture with internal fixation
   3) (OR) 79.26 open reduction of fracture without internal fixation
   4) (ORIF) 79.36 open reduction of fracture with internal fixation

   diagnosis (SEPARATE OPEN AND CLOSED FRACTURES)
   1) 824.2 fracture of lateral mal, closed
   2) 824.3 fracture of lateral mal, open

   EXCLUSION CRITERIA
   Diagnosis
   Previous or concurrent
   824.0 fracture of medial mal, closed
   824.1 fracture of medial mal, open
   824.4 bimal fracture, closed
   824.5 bimal fracture, open
   824.6 trimal fracture, closed
   824.7 trimal fracture, open
   824.8 unspecified, closed
   824.9 unspecified, open

   733.16 pathologic fracture of tibia or fibula
   733.93 stress fracture of tibia or fibula

   Infection
   711.07 pyogenic arthritis
   711.47 arthropathy associated with other bacterial diseases
   711.87 arthropathy associated with other infectious and parasitic diseases
   711.97 unspecified infective arthritis
   730.07 acute osteomyelitis
   730.17 chronic osteomyelitis
   730.27 unspecified osteomyelitis
   730.37 periostitis
   730.87 other infections involving bone
   730.97 unspecified infection of bone

2) **bimalleolar fractures**
   INCLUSION CRITERIA – must have both at least 1 procedure and 1 diagnosis code
   procedure – operative and nonoperative (SEPARATE EACH OF THE FOUR PROCEDURES)

   1) (CR) 79.06 closed reduction of fracture without internal fixation, of tibia/fibula
   2) (CRIF) 79.16 closed reduction of fracture with internal fixation
   3) (OR) 79.26 open reduction of fracture without internal fixation
   4) (ORIF) 79.36 open reduction of fracture with internal fixation

   diagnosis (SEPARATE OPEN AND CLOSED FRACTURES)
   1) 824.4 bimal fracture, closed

2) 824.5 bimal fracture, open

EXCLUSION CRITERIA
Diagnosis
Previous or concurrent
824.0 fracture of medial mal, closed
824.1 fracture of medial mal, open
824.2 fracture of lateral mal, closed
824.3 fracture of lateral mal, closed
824.6 trimal fracture, closed
824.7 trimal fracture, open
824.8 unspecified, closed
824.9 unspecified, open

733.16 pathologic fracture of tibia or fibula
733.93 stress fracture of tibia or fibula

Infection
711.07 pyogenic arthritis
711.47 arthropathy associated with other bacterial diseases
711.87 arthropathy associated with other infectious and parasitic diseases
711.97 unspecified infective arthritis
730.07 acute osteomyelitis
730.17 chronic osteomyelitis
730.27 unspecified osteomyelitis
730.37 periostitis
730.87 other infections involving bone
730.97 unspecified infection of bone

3) trimalleolar fractures

INCLUSION CRITERIA – must have both at least 1 procedure and 1 diagnosis code
procedure – operative and nonoperative (SEPARATE EACH OF THE FOUR PROCEDURES)

1) (CR) 79.06 closed reduction of fracture without internal fixation, of tibia/fibula
2) (CRIF) 79.16 closed reduction of fracture with internal fixation
3) (OR) 79.26 open reduction of fracture without internal fixation
4) (ORIF) 79.36 open reduction of fracture with internal fixation

diagnosis (SEPARATE OPEN FROM CLOSED FRACTURES)
1) 824.6 trimal fracture, closed
2) 824.7 trimal fracture, open

EXCLUSION CRITERIA
Diagnosis
Previous or concurrent
824.0 fracture of medial mal, closed
824.1 fracture of medial mal, open
824.2 fracture of lateral mal, closed
824.3 fracture of lateral mal, closed
824.4 bimal fracture, closed
824.5 bimal fracture, open
824.8 unspecified, closed
824.9 unspecified, open

733.16 pathologic fracture of tibia or fibula

733.93 stress fracture of tibia or fibula

Infection
711.07 pyogenic arthritis
711.47 arthropathy associated with other bacterial diseases
711.87 arthropathy associated with other infectious and parasitic diseases
711.97 unspecified infective arthritis
730.07 acute osteomyelitis
730.17 chronic osteomyelitis
730.27 unspecified osteomyelitis
730.37 periostitis
730.87 other infections involving bone
730.97 unspecified infection of bone

OUTCOMES for all groups

Procedures
Fusions (SEPARATE TYPES OF FUSION)

1) 81.11 ankle fusion
2) 81.12 triple arthrodesis
3) 81.13 subtalar fusion

Arthroplasty
81.56 total ankle replacement

ORIF (SEPARATE EACH OF THE FOUR PROCEDURES)

1) (CR) 79.06 closed reduction of fracture without internal fixation, of tibia/fibula
2) (CRIF) 79.16 closed reduction of fracture with internal fixation
3) (OR) 79.26 open reduction of fracture without internal fixation
4) (ORIF) 79.36 open reduction of fracture with internal fixation

Irrigation and debridement
86.22 excisional debridement of wound, infection, burn
86.28 nonexcisional debridement of wound, infection, burn
77.67 local excision of lesion or tissue of bone, tibia and fibula (ankle)

Hardware Removal
78.67 removal of implanted devices from bone, tibia/fibula

Diagnoses
715.27 osteoarthrosis, localized, secondary, ankle and foot
716.17 traumatic arthropathy, ankle and foot

719.47 pain in joint, ankle and foot
719.57 stiffness of joint, ankle and foot

733.81 malunion of fracture
733.82 non union of fracture

Infection
711.07 pyogenic arthritis
711.47 arthropathy associated with other bacterial diseases
711.87 arthropathy associated with other infectious and parasitic diseases
711.97 unspecified infective arthritis

730.07 acute osteomyelitis
730.17 chronic osteomyelitis
730.27 unspecified osteomyelitis
730.37 periostitis
730.87 other infections involving bone
730.97 unspecified infection of bone

Wound complications
998.31 disruption of internal operation wound
998.32 disruption of external operation wound
998.59 other postoperative infection
998.51 infected postoperative seroma
998.83 non-healing surgical wound

DVT/PE
415.11 iatrogenic pulmonary embolism and infarction
415.19 pulmonary embolism and infarction, other
Pulmonary embolism PRIOR TO 1995 was coded as 997.3 as well as 415.1
453.40 deep venous thrombosis of lower extremity
453.41 DVT of proximal lower extremity
453.42 DVT of distal lower extremity

Amputations
1) 84.10 lower limb amputation, NOS
2) 84.13 disarticulation of ankle
3) 84.14 amputation of ankle through malleoli of tibia and fibula
4) 84.15 other amputation below knee
5) 84.16 disarticulation of knee
6) 84.17 amputation above knee