

**Clinical Practice Guideline: Removal of Foot and Ankle Implants**

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**Product: Specialty**

**GUIDELINES**

American Specialty Health – Specialty (ASH) considers services consisting of CPT Codes 20670 and 20680 to be medically necessary for the removal of either a superficial or deep implant, for 1 or more of the following:

- Leg length discrepancy of 10 mm or more in child after fracture union with intramedullary nailing
- Infection
- Symptoms (e.g., pain, effusion)
- Implantation of other hardware is planned (e.g., hip or knee arthroplasty)
- Mechanical failure

This procedure does not apply to or include the removal of percutaneous wires.

**CPT Codes and Descriptions**

CPT Code	CPT Code Description
20670	Removal of implant; superficial (e.g., buried wire, pin or rod) (separate procedure)
20680	Removal of implant; deep (e.g., buried wire, pin, screw, metal band, nail, rod or plate)

**BACKGROUND**

Many foot and ankle procedures require the insertion of implants/hardware for bone stabilization. Screws, plates, staples, pins and wires are used to fixate fractures, fusions and osteotomies. Hardware is necessary to stabilize osseous segments until one achieves complete bone healing, a process that typically takes six to eight weeks. Although the removal of implants/hardware is not recommended for routine purposes due to complications that may arise from the procedure, certain indications may substantiate hardware removal, i.e., syndesmotomic screws. As such, determinations need to be made on a case-by-case basis.

1 Syndesmotic screw fixation immobilizes the ligamentous disruption between the distal  
2 tibia and fibula to increase the likelihood of syndesmotic ligament healing. This  
3 immobilization inhibits physiologic tibiofibular movement and dorsiflexion; therefore  
4 removal, breakage, or loosening of syndesmotic screws may restore physiologic motion of  
5 the syndesmosis and ankle joint. Currently, there is a lack of consensus regarding best  
6 practices for syndesmotic screw removal. Walley et al. (2017) reviewed the literature on  
7 syndesmotic screw removal and evaluated the results of nine clinical studies. The research  
8 concluded that removal of syndesmotic screws is advisable mainly in cases of patient  
9 complaints related to other implanted perimalleolar hardware or malreduction of the  
10 syndesmosis after at least eight (8) weeks postoperatively. If patients are appropriately  
11 indicated for removal of hardware due to pain attributable to other perimalleolar hardware  
12 (i.e., medial and/or lateral plates and screws) it may be appropriate to remove syndesmotic  
13 fixation after at least two to three months postoperatively. While no formal evidence-based  
14 recommendations can be made due to the lack of existing literature, syndesmotic  
15 malreductions diagnosed in the early postoperative period may be considered for removal  
16 and revision syndesmotic fixation. Syndesmotic malreductions diagnosed late and/or after  
17 ligamentous and osseous healing has occurred are indicated for syndesmotic screw removal  
18 given literature demonstrating possible realignment of the malreduced syndesmosis. With  
19 regard to broken or loose screws, these should not be removed routinely unless causing  
20 symptoms.

21  
22 Internal fixation has been shown to maintain reduction, provide stability that predictably  
23 allows for bony union, and lead to earlier return to function after injury. Devices used for  
24 internal fixation of fractures include intramedullary nails, plates, and screws. In spite of the  
25 success and increased use of internal fixation, postoperative infection remains a significant  
26 problem. Postoperative infections associated with internal fixation devices can lead to  
27 delayed union, prolonged recovery, increased morbidity, and increased expense. Most  
28 infections are acquired at the time of trauma or during the subsequent fracture fixation  
29 procedure, and staphylococcus is the most frequent organism causing infection in these  
30 cases. Rasouli et al. (2015) reviewed the evidence on rates of hardware removal after open  
31 reduction and internal fixation procedures and observed the highest rates in tarsal (5.56%)  
32 and tibial fractures (3.65%). This higher rate of infection is attributed to the nature of the  
33 soft tissue envelope in the distal lower extremity. Notwithstanding, mechanisms resulting  
34 in distal tibial fractures frequently involve high-energy trauma that involves both the bone  
35 and the soft tissues, further compromising the management of open reduction and internal  
36 fixation.

37  
38 Williams et al. (2012) carried out a prospective study of 69 patients to determine if implant  
39 removal from the foot and ankle provides sufficient and reliable relief of pain symptoms.  
40 Patients reported significantly less pain following the procedure, with the average rating of  
41 pain on the visual analog scale (VAS) decreasing from 3.06 to 0.88 and the average rating

1 of present pain intensity decreasing from 2.03 to 0.58 ( $p < 0.05$  for both). Sixty-five percent  
 2 of the patients reported no pain on either measure at six weeks postoperatively and 91% of  
 3 patients were satisfied with the results.

#### 5 **PRACTITIONER SCOPE AND TRAINING**

6 Practitioners should practice only in the areas in which they are competent based on their  
 7 education, training, and experience. Levels of education, experience, and proficiency may  
 8 vary among individual practitioners. It is ethically and legally incumbent on a practitioner  
 9 to determine where they have the knowledge and skills necessary to perform such services  
 10 and whether the services are within their scope of practice.

11  
 12 It is best practice for the practitioner to appropriately render services to a member only if  
 13 they are trained, equally skilled, and adequately competent to deliver a service compared  
 14 to others trained to perform the same procedure. If the service would be most competently  
 15 delivered by another health care practitioner who has more skill and training, it would be  
 16 best practice to refer the member to the more expert practitioner.

17  
 18 Best practice can be defined as a clinical, scientific, or professional technique, method, or  
 19 process that is typically evidence-based and consensus driven and is recognized by a  
 20 majority of professionals in a particular field as more effective at delivering a particular  
 21 outcome than any other practice (Joint Commission International Accreditation Standards  
 22 for Hospitals, 2020).

23  
 24 Depending on the practitioner's scope of practice, training, and experience, a member's  
 25 condition and/or symptoms during examination or the course of treatment may indicate the  
 26 need for referral to another practitioner or even emergency care. In such cases it is prudent  
 27 for the practitioner to refer the member for appropriate co-management (e.g., to their  
 28 primary care physician) or if immediate emergency care is warranted, to contact 911 as  
 29 appropriate. See the *Managing Medical Emergencies (CPG 159 – S)* clinical practice  
 30 guideline for information.

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