Small Joint Surgery

MEDICAL POLICY NUMBER: 438

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INSTRUCTIONS FOR USE: Company Medical Policies serve as guidance for the administration of plan benefits. Medical policies do not constitute medical advice nor a guarantee of coverage. Company Medical Policies are reviewed annually and are based upon published, peer-reviewed scientific evidence and evidence-based clinical practice guidelines that are available as of the last policy update. The Company reserves the right to determine the application of medical policies and make revisions to medical policies at any time. The scope and availability of all plan benefits are determined in accordance with the applicable coverage agreement. Any conflict or variance between the terms of the coverage agreement and Company Medical Policy will be resolved in favor of the coverage agreement. Coverage decisions are made on the basis of individualized determinations of medical necessity and the experimental or investigational character of the treatment in the individual case. In cases where medical necessity is not established by policy for specific treatment modalities, evidence not previously considered regarding the efficacy of the modality that is presented shall be given consideration to determine if the policy represents current standards of care.

SCOPE: Providence Health Plan, Providence Health Assurance and Providence Plan Partners as applicable (referred to individually as “Company” and collectively as “Companies”).

PLAN PRODUCT AND BENEFIT APPLICATION

☒ **Commercial** ☒ **Medicaid/OHP*** ☐ **Medicare****

*Medicaid/OHP Members

Oregon: Services requested for Oregon Health Plan (OHP) members follow the OHP Prioritized List and Oregon Administrative Rules (OARs) as the primary resource for coverage determinations. Medical policy criteria below may be applied when there are no criteria available in the OARs and the OHP Prioritized List.

**Medicare Members

This *Company* policy may be applied to Medicare Plan members only when directed by a separate *Medicare* policy. Note that investigational services are considered **"not medically necessary"** for Medicare members.

COVERAGE CRITERIA

Ankle Arthrodesis

I. Ankle arthrodesis may be considered **medically necessary** in skeletally mature members (15 years of age or older, with documentation of closed growth plates under 18 years) when all of the following criteria are met (A.-D.):

   A. Radiographic confirmation of advanced/end-stage arthritis of the tibiotalar joint; **and**
   B. Significant pain and functional impairment due to ankle arthritis persist after at least 3 months of supervised conservative management (unless radiographs show Kellgren-Lawence grade 4); **and**
   C. Documentation of adequate lower extremity vascular perfusion (e.g., strong, palpable pedal pulses); **and**

II. Ankle arthrodesis may be considered medically necessary for revision of failed previous reconstructions where sufficient bone stock and soft tissue integrity are present.

III. Ankle arthrodesis is considered **not medically necessary** when criterion I. or II. is not met.

Ankle Arthroplasty

IV. Total ankle arthroplasty may be considered **medically necessary** in skeletally mature patients when all of the following are met (A.-D.):

   A. Radiographic confirmation of advanced/end-stage arthritis of the tibiotalar joint;

and

B. Significant pain and functional impairment due to ankle arthritis persist after at least 3 months of supervised conservative management (unless radiographs show Kellgren-Lawrence grade 4); **and**
C. No contraindications exist for ankle arthroplasty (see Policy Guidelines for list of contraindications); **and**
D. Documentation of adequate lower extremity vascular perfusion (e.g., strong, palpable pedal pulses).

V. Revision total ankle arthroplasty may be considered **medically necessary** in skeletally mature patients when all of the following criteria are met (A.-D.):

A. Radiographic confirmation of implant problem; **and**
B. Significant pain and functional impairment due to the identified implant problem; **and**
C. Reconstruction after the management of periprosthetic infection confirmed by gram stain and culture; **and**
D. Documentation of adequate lower extremity vascular perfusion (e.g. strong, palpable pedal pulses).

VI. Total ankle arthroplasty is considered **not medically necessary** when criterion IV or V are not met.

Bunionette Surgery

VII. Bunionette surgery may be considered **medically necessary** when all of the following are met (A.-D.):

A. Skeletally mature patient (for bony procedures only)**; and**
B. Significant pain and functional limitation of the fifth metatarsophalangeal (MTP) joint and/or presence of a pre-ulcer (e.g., Wagner grade 0-1) that persists after at least 3 months of supervised conservative management or nonhealing ulcer at the site of the bunion, the sole of the foot or the second toe**; and**
C. Radiographic confirmation of an elevated intermetatarsal angle (greater than 9 degrees) or presence of lateral bony prominence when only simple exostectomy/resection lateral eminence is planned**; and**
D. Documentation of adequate lower extremity vascular perfusion (e.g., strong, palpable pedal pulses)

VIII. Bunionette surgery is considered **not medically necessary** when criterion VII is not met.

Hallux Valgus

IX. Hallux valgus surgery may be considered **medically necessary** when all of the following requirements are met (A.-D.):

A. Skeletally mature patient (for bony procedures only)**; and**
B. Significant pain and functional limitation of the first metatarsophalangeal joint and/or presence of a pre-ulcer (e.g., Wagner grade 0-1) that persists after at least 3 months of supervised conservative management or nonhealing ulcer at the site of the bunion, the sole of the foot or the second toe**; and**
C. Radiographic confirmation of an elevated hallux valgus angle (HVA) (metatarsophalangeal angle greater than 15 degrees or intermetatarsal angle greater than 9 degrees) or presence of medial bony prominence when only simple exostectomy/resection medial eminence is planned**; and**
D. Documentation of adequate lower extremity vascular perfusion (e.g., strong, palpable pedal pulses).

X. Hallux valgus surgery is considered **not medically necessary** when criterion IX is not met.

Lesser Toe Deformity Surgery

XI. Lesser toe deformity surgery may be considered **medically necessary** in skeletally mature patients when all of the following criteria are met (A.-C.):
A. Significant pain and functional impairment persist after at least 3 months of supervised conservative management or non-healing ulcer attributed to the lesser toe deformity**; and**
B. Physical examination or imaging confirmation of a lesser toe deformity; **and**
C. Documentation of adequate lower extremity vascular perfusion (e.g., strong, palpable pedal pulses)

XII. Lesser toe deformity surgery is considered **not medically necessary** when criterion XI is not met.

Hallux Rigidus Surgery

XIII. Surgery for hallux rigidus (including cheilectomy or osteotomy) may be considered **medically necessary** in skeletally mature patients when ALL of the following requirements are met (A.-C.):

A. Mild/moderate hallux rigidus confirmed by radiography with either of the following (1.-2.):
1. Limited and/or painful range of motion of the first MTP joint; **or**
2. Activity limiting pain referrable to the first MTP joint; **or**
B. Significant pain and functional impairment of the first MTP joint persist after at least 3 months of supervised conservative management; **and**
C. Documentation of adequate lower extremity vascular perfusion (e.g., strong, palpable pedal pulses).

XIV. Hallux rigidus surgery is considered **not medically necessary** when criterion XIII is not met.

First Metatarsophalangeal Joint Arthrodesis

XV. First metatarsophalangeal joint arthrodesis may be considered **medically necessary** in skeletally mature patients when all of the following requirements are met (A.-D.):

A. Limited and/or painful range of motion first MTP joint; **and**
B. Significant pain and functional impairment of the first MTP joint; **and**
C. Presence of either of the following (1.-2.):
    1. Severe hallux rigidus confirmed by radiography; **or**
    2. Failed prior hallux valgus/rigidus surgery; **and**
D. Documentation of adequate lower extremity vascular perfusion (e.g., strong, palpable pedal pulses).

XVI. First metatarsophalangeal join arthrodesis surgery is considered **not medically necessary** when criterion XV is not met.

First Metatarsophalangeal Joint Arthroplasty

XVII. First metatarsophalangeal joint arthroplasty may be considered **medically necessary** in skeletally mature patients when all of the following requirements are met (A.-E.):

A. One of the following implant types will be used (1.-2.):
    1. Total prosthetic replacement arthroplasty with double stemmed silastic implants only; **or**
    2. Metallic hemiarthroplasty (metatarsal or phalangeal based); **and**
B. Limited and/or painful range of motion of the first MTP joint; **and**
C. Significant pain and functional impairment of the first MTP joint; **and**
D. Presence of either of the following (1.-2.):
    1. Severe hallux rigidus confirmed by radiography; **or**
    2. Failed prior hallux rigidus surgery; **and**
E. Documentation of adequate lower extremity vascular perfusion (e.g., strong, palpable pedal pulses

XVIII. First metatarsophalangeal joint arthroplasty is considered **not medically necessary** when criterion XVII is not met.

Metatarsal Osteotomy

XIX. Metatarsal osteotomy may be considered **medically necessary** in skeletally mature patients when all of the following criteria are met (A.-C.):

A. Significant pain and functional impairment and/or presence of a pre-ulcer (e.g., Wagner grade 0-1) that persists after at least 3 months of supervised conservative management or non-healing ulcer attributed to the metatarsal deformity; **and**
B. Physical examination or imaging confirmation of an anatomical difference requiring osteotomy; **and**
C. Documentation of adequate lower extremity vascular perfusion (e.g., strong, palpable pedal pulses).

XX. Metatarsal osteotomy is considered **not medically necessary** when criterion XIX is not met.

Link to Evidence Summary

POLICY CROSS REFERENCES

None

The full Company portfolio of current Medical Policies is available online and can be accessed here.

POLICY GUIDELINES

DOCUMENTATION REQUIREMENTS

In order to determine the medical necessity of the request, the following information must be submitted in order to determine if medical necessity criteria are met:

- Indication for the requested surgery
- Clinical notes documenting that the individual has been evaluated at least once by the requesting surgeon before submitting a request for surgery.
- Clinical documentation of extent and response to conservative care (e.g. physical therapy, activity modification and oral analgesics), as applicable to the policy criteria, including outcomes of any procedural interventions, medication use and physical therapy notes.
- Evaluation and documentation of the extent and specifics of one or more of the functional impairments or disabilities
    - Imaging requirements:
        - Documented interpretation of x-rays, which may be performed and read by the operating surgeon.
    - If advanced imaging is required, a radiologist's report (for CT, MRI, US or bone scan).
- Documentation of any criteria-specific lab values or reports.

DEFINITIONS

Conservative Management

Conservative management offered by the provider or other health professionals for this condition(s) should include the following:

1. Footwear modification and/or padding/accommodative devices (e.g., foot orthosis) AND
2. At least one of the following complementary strategies to reduce inflammation, alleviate pain, and improve function:

- Activity modification
- Anti-inflammatory medications and analgesics
- Corticosteroid injection(s)
- Debridement of associated hyperkeratotic lesions, such as corns or calluses

If conservative management is not appropriate, the medical record must clearly document why such an approach is not reasonable.

Foot Contraindications

- Active infection of the joint
- Active systemic bacteremia
- Active skin infection
- Inadequate bone stock for osteotomy or arthrodesis
- Peripheral vascular disease

Ankle Arthroplasty Contraindications

- Active infection of the joint
- Active systemic bacteremia
- Charcot neuroarthropathy
- Active skin infection
- Inadequate bone stock
- Severe anatomic deformity in adjacent ankle structures, including hindfoot, forefoot and knee joint
- Prior surgery or injury that has adversely affected ankle bone quality
- Extensive avascular necrosis of the talar dome
- Malalignment (e.g., varus or valgus deformity greater than 15 degrees) not correctable by surgery
- Peripheral vascular disease
- Absence of the medial or lateral malleolus or both
- Severe osteoporosis, osteopenia or other conditions resulting in poor bone quality, as this may result in inadequate bony fixation
- High demand sports activities (e.g., contact sports, jumping)
- Immunosuppressive therapy
- Insufficient ligament support that cannot be repaired with soft tissue stabilization
- Insufficient musculature such that proper component positioning or alignment is not possible
- Neurologic impairment with dynamic muscular imbalance across the ankle joint
- Prior fusion of the ankle
- Psychiatric problems that hinder adequate cooperation during perioperative period

Wagner's Classification of Diabetic Foot Ulcers

Wagner’s Classification	
Grade 0	Skin intact but bony deformities lead to "foot at risk"

Grade 1	Superficial ulcer
Grade 2	Deeper, full thickness extension
Grade 3	Deep abscess formation or osteomyelitis
Grade 4	Partial Gangrene of forefoot
Grade 5	Extensive Gangrene

BACKGROUND

Ankle Arthrodesis

Ankle arthrodesis, also known as ankle fusion, is a surgical procedure that involves permanently joining the bones of the ankle joint—typically the tibia and talus—to eliminate movement in the joint. This is most commonly done to relieve severe pain caused by end-stage arthritis or deformity that hasn't responded to other treatments. The procedure can be performed using open surgery or arthroscopically and aims to improve stability and function, though it sacrifices joint mobility.

Ankle Arthroplasty (Total Ankle Replacement)

Ankle arthroplasty is a surgical procedure where the damaged parts of the ankle joint—typically due to arthritis—are replaced with artificial implants made of metal and plastic. Unlike ankle fusion, this procedure preserves joint motion, helping reduce pain and improve mobility.

Bunionette Surgery

Bunionette surgery involves removing a bony bump on the outside of the foot near the base of the little toe. Depending on the severity, the procedure may include shaving the bone (exostectomy), realigning the bone (osteotomy), or adjusting soft tissues to relieve pain and correct deformity.

Hallux Valgus Surgery

Hallux valgus surgery corrects the misalignment of the big toe, commonly known as a bunion. The procedure may involve cutting and realigning bones (osteotomy), removing bony growths, and adjusting tendons or ligaments to restore proper toe alignment and relieve pain.

Lesser Toe Deformity Surgery

Lesser toe deformity surgery addresses deformities of the smaller toes—such as hammer toe, claw toe, or mallet toe—caused by muscle imbalance, arthritis, or ill-fitting shoes. Surgical correction may involve tendon release, joint resection, or bone realignment to restore toe function and reduce discomfort.

Metatarsal Osteotomy

Metatarsal osteotomy is a surgical procedure used to correct deformities of the foot, particularly hallux valgus (bunion). It involves cutting and realigning one or more of the metatarsal bones to restore proper

alignment and function. The procedure may involve removing a wedge of bone, shifting the bone, and securing it with screws or pins. It is often performed when conservative treatments fail to relieve pain or correct the deformity. Recovery includes limited weight-bearing and physical therapy. The goal is to relieve pain, improve foot mechanics, and prevent further joint damage or deformity progression.

First Metatarsophalangeal (MTP) Joint Arthroplasty

First metatarsophalangeal (MTP) joint arthroplasty is a surgical procedure that replaces the damaged surfaces of the big toe joint with artificial components. It is typically performed to treat severe arthritis (hallux rigidus) when joint preservation is no longer viable. The goal is to relieve pain and maintain joint motion. The procedure involves removing arthritic bone and cartilage and inserting a prosthetic implant. While it preserves mobility, it may not be suitable for highly active individuals due to implant wear over time. Recovery includes rest, gradual weight-bearing, and physical therapy to restore function and range of motion.

First Metatarsophalangeal (MTP) Joint Arthrodesis

First MTP joint arthrodesis, or fusion, is a surgical procedure that permanently joins the bones of the big toe joint to eliminate motion and pain caused by arthritis or deformity. It is commonly used for severe hallux rigidus or failed previous surgeries. The surgeon removes the joint cartilage and uses screws or plates to hold the bones together until they fuse. This procedure provides excellent pain relief and stability but sacrifices joint movement. Recovery involves a period of non-weight-bearing followed by gradual rehabilitation. It is often preferred for patients with high physical demands or significant joint degeneration.

Hallux Rigidus Surgery

Hallux rigidus surgery addresses arthritis of the big toe joint, which causes stiffness and pain due to cartilage degeneration. Surgical options depend on the severity of the condition and include cheilectomy (removal of bone spurs), osteotomy (realignment), arthroplasty (joint replacement), or arthrodesis (fusion). Early-stage disease may benefit from less invasive procedures, while advanced cases often require fusion or replacement. The goal is to relieve pain, restore function, and improve quality of life. Recovery varies by procedure but typically includes rest, limited activity, and physical therapy.

Hallux Valgus

Hallux valgus is a common foot deformity where the big toe deviates laterally toward the second toe, often forming a bunion at the base. It results from genetic predisposition, improper footwear, or biomechanical imbalances. Symptoms include pain, swelling, and difficulty wearing shoes. Diagnosis is clinical and confirmed with X-rays. Treatment ranges from conservative measures like orthotics and footwear changes to surgical correction, such as osteotomy or fusion, in severe cases. Surgery aims to realign the toe, relieve pain, and restore function. Postoperative recovery includes rest, protected weight-bearing, and gradual return to activity.

REGULATORY STATUS

U.S. FOOD AND DRUG ADMINISTRATION (FDA)

Approval or clearance by the Food and Drug Administration (FDA) does not in itself establish medical necessity or serve as a basis for coverage. Therefore, this section is provided for informational purposes only.

CLINICAL EVIDENCE AND LITERATURE REVIEW

EVIDENCE REVIEW

A review of the ECRI, Hayes, Cochrane, and PubMed databases was conducted regarding small joint surgery. Below is a summary of the available evidence identified through May 2025.

Ankle Surgery

In 2022, Hayes published a health technology assessment titled, "Comparative Effectiveness Review of Total Ankle Replacement: A Review of Reviews".[1] The assessment included a systematic review and meta-analysis, plus 4 additional studies comparing total ankle replacement (TAR) to ankle arthrodesis (AA). Across the systematic review and subsequently published studies, the TAR implants that were compared with AA included Ankle Evolutive Systems (AES) (2 studies), Agility (3 studies), Hintegra (5 studies), Mobility (3 studies), Salto-Talaris (1 study), and STAR (5 studies); 4 did not report TAR implant type. Based on the evidence reviewed in the current report, TAR and AA may produce similar outcomes for clinical scores assessing pain, function, deformity, ability after surgery, and patient satisfaction; however, conclusions regarding rates of reoperation between groups remain unclear.

> *Clinical Scores (1 meta-analysis; 1 primary study):* Across studies, results regarding clinical outcome scores were mixed. One systematic review found no difference between TAR- and AA-treated groups in the AOFAS score (MA, 4 studies), VAS for pain (MA, 2 studies), or SF-36 mental and physical component scale scores (MA, 2 studies). Alternatively, 1 retrospective cohort study reported improved VAS pain scores and FAAM scores for TAR over AA procedures but no differences between treatment groups on SF-12 mental and physical component scales.
>
> *Patient Satisfaction (1 meta-analysis):* One systematic review reported no significant differences in patient satisfaction between TAR and AA using data pooled from 4 comparative studies in the MA.
>
> *Reoperation (1 meta-analysis; 1 primary study):* Rates of reoperation were reported as significantly higher in TAR-treated patients (21%) compared with AA-treated patients (13.9%) in 1 systematic review (MA, 3 studies). Similarly, a retrospective database analysis reported that TAR-treated patients had a significantly greater risk of requiring revision ankle replacement procedures compared with AA-treated patients; however, the risk of requiring salvage AA or

subsequent subtalar arthrodesis was significantly lower in the TAR group compared with the AA group.

Results regarding treatment-related complications were mixed across studies. One systematic review (MA, 2 studies) reported a significantly increased rate of major complications in patients treated with TAR (10.2%) compared with AA (5.8%). Major complications were defined as AEs requiring surgery (e.g., implant failure, aseptic loosening, osteolysis, polyethylene liner fracture, hardware pain, malalignment, nonunion, heterotopic ossification, wound problems). The systematic review also reported significantly higher rates of wound problems, perioperative fracture, and nerve injury in TAR-treated compared with AA-treated patients. Conversely, 1 retrospective database analysis found significantly higher rates of periprosthetic joint/wound infection, subsequent subtalar arthrodesis, and below-the-knee amputation among AA-treated patients compared with TAR-treated patients at an average of 6.6 years follow-up. Two other retrospective database analyses reported an increased risk of perioperative complications following AA compared with TAR. No cases of treatment-related mortality were reported in the reviewed literature.

The overall quality of the evidence for TAR compared with AA for the treatment of end-stage ankle arthritis was rated as low primarily due to concerns regarding individual study quality as well as a lack of well-designed RCTs with sufficient follow-up. The overall quality of evidence for the comparison of Hintegra with Mobility TAR implants was considered to be low mainly due to individual study limitations and inconsistent or lack of reporting of key outcomes. The overall quality of evidence for the comparison of STAR with Salto Talaris implants was considered to be very low due to individual study limitations, concerns regarding precision (limited number of studies), and inconsistent or lack of reporting of key outcomes. The quality of the evidence was assessed taking into consideration the quality of individual studies; the precision, directness, and consistency of data; and the applicability of the data to patients with end-stage ankle disease.

Hayes gave the procedures a C rating: “For use of total ankle replacement (TAR) as an alternative to conventional ankle arthrodesis (AA) for treating adult patients with end-stage ankle arthritis without contraindications to TAR. This Rating reflects an overall low-quality body of evidence that suggests that the effectiveness of TAR is at least comparable with AA for the treatment of adult patients with end-stage ankle arthritis. This Rating also reflects some uncertainties about rates of reoperation and complications due to inconsistences in the evidence, the small number of studies reporting certain outcome measures, and questions regarding the long-term durability of TAR.”[1]

Bunionette Surgery

In 2018, Martijn et al. conducted a systematic review and meta-analysis to evaluate the effectiveness of different fifth metatarsal osteotomy techniques for treating bunionette deformity.[2] The study included 28 prospective and retrospective studies encompassing 733 feet in 608 patients. The primary outcomes were correction of the fourth-to-fifth intermetatarsal angle (IMA), fifth metatarsophalangeal angle (MPA), American Orthopaedic Foot and Ankle Society (AOFAS) scores, complication rates, and patient satisfaction. All osteotomy types—proximal, diaphyseal, and distal—achieved significant reductions in IMA and MPA. Proximal osteotomies yielded the greatest IMA correction (mean difference 5.73°) and

highest satisfaction (100%), but also had the highest complication rate (22%). Diaphyseal osteotomies provided intermediate correction and satisfaction (92%) but had the highest revision surgery rate. Distal osteotomies, the most commonly performed, showed the lowest complication rate (11%) and a high satisfaction rate (96%). AOFAS scores improved significantly across all groups. Strengths of this meta-analysis include its comprehensive literature search, standardized outcome measures, and stratified analysis by osteotomy type. Limitations include heterogeneity in surgical techniques, small sample sizes for some subgroups, and reliance on non-randomized studies. The authors concluded that while all osteotomy types are effective, distal osteotomies may be preferred when major angular correction is not required due to their lower complication risk.

Hallux Valgus Surgery

In 2018, Barg et al. conducted a systematic literature review to evaluate the frequency and nature of unfavorable outcomes following surgical treatment of hallux valgus (HV) deformity.[3] The review included 229 studies encompassing 16,273 procedures across 12,866 patients. The authors followed PRISMA guidelines and applied a modified Coleman Methodology Score (mCMS) to assess study quality. The primary outcomes included patient dissatisfaction, recurrence of deformity, postoperative pain, metatarsalgia, nerve injury, infection, nonunion, hallux varus, and need for secondary surgery. The pooled rates were 10.6% for dissatisfaction, 4.9% for recurrence, 1.5% for persistent pain, and 6.3% for metatarsalgia. Simple bunionectomy and joint hemiresection were associated with the highest dissatisfaction and complication rates. First tarsometatarsal arthrodesis had the highest infection and nonunion rates. The study also found that a higher preoperative HV angle correlated with recurrence, while a lower intermetatarsal angle correlated with dissatisfaction. Strengths of this review include its comprehensive scope, rigorous methodology, and statistical analysis. Limitations include heterogeneity in surgical techniques, inconsistent outcome definitions, and reliance on retrospective studies. The authors concluded that while HV surgery generally yields favorable outcomes, certain procedures, particularly older or less anatomically corrective ones, carry higher risks of complications and should be approached with caution.

Lesser Toe Deformity Surgery

Metatarsal Osteotomy

In 2022, Fukushi et al. conducted a systematic review and meta-analysis to compare outcomes of different osteotomy sites for hallux valgus correction.[4] The review included randomized controlled trials (RCTs) and controlled clinical trials (CCTs) comparing distal, mid-shaft, and proximal osteotomies of the first metatarsal. Ten studies with a total of 793 feet were included. Outcomes assessed included hallux valgus angle (HVA), intermetatarsal angle (IMA), AOFAS scores, pain VAS, complications, and recurrence. The review found no significant differences in outcomes between scarf (mid-shaft) and chevron (distal) osteotomies. Comparisons between distal and proximal osteotomies yielded mixed results, with one RCT favoring proximal osteotomy and others showing equivalence. The authors concluded that while all osteotomy types are effective, the choice should be tailored to deformity severity and surgeon experience. Strengths of the review included a comprehensive search strategy and inclusion of only comparative trials. Limitations included heterogeneity in surgical techniques and outcome measures.

The authors emphasized the need for standardized reporting and longer-term follow-up in future studies.

First Metatarsophalangeal Joint Arthroplasty

In 2019, Emmons and Carreira conducted a systematic review to evaluate outcomes following interposition arthroplasty of the first metatarsophalangeal (MTP) joint for the treatment of hallux rigidus.[5] The review focused on studies reporting patient-reported outcomes (PROs), surgical techniques, and complication rates. Independent reviewers searched PubMed, Embase, and the Cochrane Central Register of Controlled Trials (CENTRAL), assessed study quality, and extracted data. The primary outcome was improvement in PROs, including AOFAS scores. Secondary outcomes included complication rates and need for revision surgery. Twenty studies were included, comprising 498 patients and 539 feet, with a mean follow-up of 4.5 years. The most common interposition material was autogenous capsular tissue. Across studies, mean improvements in PROs exceeded minimal clinically important differences. The most frequently reported complication was transfer metatarsalgia, observed in up to 57.9% of patients in one study. The progression to further surgery occurred in only 3.8% of cases. Strengths of this review included a broad literature base, consistent outcome reporting, and focus on motion-preserving techniques. Limitations included the predominance of Level IV evidence and retrospective study designs. The authors concluded, “Interposition arthroplasty appears to be a viable option for the treatment of moderate to severe hallux rigidus in patients looking to salvage motion through the first metatarsophalangeal joint.”

First Metatarsophalangeal Joint Arthrodesis

In 2022, Kang and Bridgen conducted a systematic review to evaluate the effectiveness of modern fixation techniques used in first metatarsophalangeal (MTP) joint arthrodesis.[6] The review focused on union rates, time to union, complication rates, and functional outcomes across different fixation methods, including screws, plates, and staples. Independent reviewers systematically searched databases, assessed study quality using standardized tools, and extracted data. Seven studies conducted in the United States were included, encompassing 277 feet. The primary outcome was union rate, with secondary outcomes including time to union and complication incidence. Staples demonstrated the highest union rate at 98.2%, followed by plates (95.2%) and screws (94.9%). The average time to union was 83.5 days. Complication rates were low across all fixation types, with an overall incidence of 5.8%. Functional outcomes were favorable regardless of fixation method. The results of the meta-analysis supported the use of modern fixation techniques, particularly plating, for improved stability and early ambulation. Strengths of this review included a focused comparison of contemporary techniques, consistent outcome reporting, and inclusion of only U.S.-based studies. Limitations included small sample sizes and lack of randomized controlled trials. The authors concluded, “Modern fixation techniques for first MTP arthrodesis are highly effective, with plating offering biomechanical advantages and excellent union rates.”

Hallux Rigidus Surgery

- In 2024, Arceri et al. conducted a systematic review and meta-analysis to evaluate outcomes of cheilectomy for hallux rigidus.[7] The review included 16 studies with a focus on clinical outcomes, range of motion (ROM), pain reduction, and complication rates. Cheilectomy improved ROM by an average of 51.15%, with traditional techniques yielding greater gains than minimally invasive ones. Pain scores (VAS) decreased by 72.61%, and AOFAS scores improved by 33.99%. Complications occurred in 11% of cases, with residual pain and nerve injury being the most common. Revision rates were 7.4%. The authors concluded that cheilectomy is effective for mild to moderate hallux rigidus, with both traditional and minimally invasive techniques offering satisfactory outcomes. Strengths of the review included adherence to PRISMA guidelines, use of validated outcome measures, and meta-analytic synthesis. Limitations included heterogeneity in surgical technique and follow-up duration.

- In 2024, Semelsberger et al. conducted a systematic review to evaluate patient-reported outcomes following minimally invasive cheilectomy for mild to moderate hallux rigidus.[8] The review aimed to assess improvements in joint range of motion (ROM), pain reduction, complication rates, and overall patient satisfaction. Independent reviewers systematically identified eligible studies from U.S. databases, assessed methodological quality, and extracted data. Eight studies were included, encompassing 296 patients who underwent either fluoroscopic or arthroscopic cheilectomy. The primary outcome was improvement in dorsiflexion, while secondary outcomes included pain scores and complication rates. Mean dorsiflexion improved from 32.4° to 61.2°, and pain scores decreased significantly. Complication rates were low (6.1%), with nerve irritation being the most common. All studies reported improved functional scores and high patient satisfaction. The results of the review confirmed the efficacy of minimally invasive cheilectomy in preserving joint motion and reducing symptoms. Strengths of this review included adherence to PRISMA guidelines, focus on patient-centered outcomes, and inclusion of multiple minimally invasive techniques. Limitations included small sample sizes and heterogeneity in outcome measures. The authors concluded, “Minimally invasive cheilectomy is a safe and effective surgical option for early-stage hallux rigidus, offering significant improvements in mobility and pain with minimal complications.”

Hallux Valgus

- In 2025, Kafagi et al. conducted a systematic review and meta-analysis to compare the outcomes of minimally invasive surgery (MIS) versus open surgery (OS) for hallux valgus correction.[9] The review included studies conducted in the United States and focused on radiographic correction, functional outcomes, and complication rates. Independent reviewers systematically searched databases, assessed study quality using the Cochrane risk-of-bias tool, and extracted data. Thirty-two studies were included, encompassing 2,423 patients. The primary outcomes were changes in the hallux valgus angle (HVA), intermetatarsal angle (IMA), and distal metatarsal articular angle (DMAA). Secondary outcomes included AOFAS scores and hardware removal rates. MIS demonstrated significantly better correction of DMAA and higher postoperative AOFAS scores. However, MIS was associated with a higher rate of hardware removal. No significant differences were found in HVA or IMA correction. The results of the meta-analysis supported the use of MIS as a viable alternative to OS, with comparable or superior outcomes in select metrics. Strengths of this review included a large sample size, inclusion of both RCTs and cohort studies, and robust statistical analysis. Limitations included heterogeneity in MIS techniques and follow-up durations. The authors concluded, “Minimally

invasive surgery offers comparable or superior outcomes to open surgery for hallux valgus correction, with some trade-offs in hardware-related complications."

- In 2024, Ettinger et al. conducted a living systematic review and meta-analysis to evaluate the correction potential and clinical outcomes of various surgical procedures for hallux valgus.[10] The review aimed to inform the German AWMF S2e guideline "Hallux valgus" and adhered to PRISMA-P and PICOS guidelines. Independent reviewers systematically searched four major databases and grey literature, screened 3,022 studies, and included 46 studies (100 arms) in the qualitative synthesis, with 31 studies (53 arms) eligible for meta-analysis. The primary outcomes were radiographic correction—specifically changes in the intermetatarsal angle (IMA) and hallux valgus angle (HVA)—and patient-reported outcomes measured by the American Orthopaedic Foot & Ankle Society (AOFAS) score. The IMA improved by an average of 7.3°, and the HVA improved by 18.9°, with third-generation minimally invasive surgery (MIS) achieving significantly greater HVA correction (21.2°). AOFAS scores improved by an average of 33.8 points across all techniques. Meta-regression showed that 69% of IMA and 39% of HVA correction could be explained by preoperative values, while 82% of AOFAS improvement was predicted by baseline scores. Strengths included the living design, rigorous methodology, and meta-regression analysis. Limitations included heterogeneity in surgical techniques and follow-up durations. The authors concluded, "Third-generation MIS may offer superior radiographic correction, while both open and MIS techniques significantly improve patient outcomes."

CLINICAL PRACTICE GUIDELINES

Ankle Arthrodesis and Arthroplasty

American College of Foot and Ankle Surgeons

The 2021 ACFAS Clinical Consensus Statement on the diagnosis and treatment of ankle arthritis provided the following recommendations:[11]

- Ankle arthritis management should be individualized, incorporating both non-operative and operative strategies based on patient function, deformity, and comorbidities.
- Ankle arthrodesis remains a reliable surgical option for end-stage arthritis, particularly in younger or high-demand patients, while total ankle arthroplasty may be considered in older, lower-demand individuals with preserved alignment and bone stock. Imaging, including weight-bearing radiographs and CT, is essential for preoperative planning. Periarticular osteotomy may be considered in select cases to preserve joint motion and delay the need for fusion or replacement.
- Shared decision-making and patient education are critical to optimizing outcomes.

Bunionette Surgery and Lesser Toe Deformity Surgery

American College of Foot and Ankle Surgeons

The 2020 ACFAS Clinical Practice Guideline on forefoot disorders provided the following recommendations for bunionette and lesser toe deformity surgery:[12]

- Tailor's bunion (bunionette) and digital deformities such as hammertoes and claw toes should be evaluated with a combination of clinical examination and weight-bearing radiographs.
- Conservative treatment—including padding, footwear modification, and orthotics—should be attempted prior to surgical intervention.
- Surgical correction may involve distal or proximal metatarsal osteotomies for bunionette and flexor-to-extensor tendon transfers or arthroplasty for lesser toe deformities. Procedure selection should be based on deformity severity, joint integrity, and patient activity level.
- Postoperative protocols should include protected weight-bearing and physical therapy to optimize outcomes.

Hallux Valgus Surgery

Rheumatology International

The 2024 clinical practice guideline for foot and ankle management in rheumatoid arthritis provided the following surgical recommendations:[13]

- Forefoot deformities, including hallux valgus, lesser toe deformities, and metatarsalgia, are common in RA and often require surgical correction when conservative measures fail. Surgical options include metatarsal head resections, osteotomies, and MTP joint arthrodesis, tailored to deformity severity and joint destruction.
- Hallux valgus correction may involve soft tissue balancing, osteotomy, or fusion depending on joint integrity. Multidisciplinary care, including rheumatology and podiatric or orthopedic surgery, is essential for optimal outcomes. Postoperative rehabilitation and disease-modifying therapy coordination are critical to long-term success.

EVIDENCE SUMMARY

There is enough evidence to support surgery for ankle and foot arthritis, deformities, injuries, and other conditions, when conservative treatments have failed. Both peer-reviewed research studies and clinical guidelines support surgical treatment for specific indications. Fusion versus arthroplasty depends on the severity of the case.

HEALTH EQUITY CONSIDERATIONS

The Centers for Disease Control and Prevention (CDC) defines health equity as the state in which everyone has a fair and just opportunity to attain their highest level of health. Achieving health equity requires addressing health disparities and social determinants of health. A health disparity is the occurrence of diseases at greater levels among certain population groups more than among others. Health disparities are linked to social determinants of health which are non-medical factors that influence health outcomes such as the conditions in which people are born, grow, work, live, age, and the wider set of forces and systems shaping the conditions of daily life. Social determinants of health include unequal access to health care, lack of education, poverty, stigma, and racism.

The U.S. Department of Health and Human Services Office of Minority Health calls out unique areas where health disparities are noted based on race and ethnicity. Providence Health Plan (PHP) regularly reviews these areas of opportunity to see if any changes can be made to our medical or pharmacy policies to support our members obtaining their highest level of health. Upon review, PHP creates a Coverage Recommendation (CORE) form detailing which groups are impacted by the disparity, the research surrounding the disparity, and recommendations from professional organizations. PHP Health Equity COREs are updated regularly and can be found online here.

BILLING GUIDELINES AND CODING

CODES*		
CPT	27702	Arthroplasty, ankle; with implant (total ankle)
	27703	Arthroplasty, ankle; revision, total ankle
	27870	Arthrodesis, ankle, open
	28110	Ostectomy, partial excision, fifth metatarsal head (bunionette) (separate procedure)
	28285	Correction, hammertoe (eg, interphalangeal fusion, partial or total phalangectomy)
	28289	Hallux rigidus correction with cheilectomy, debridement and capsular release of the first metatarsophalangeal joint; without implant
	28291	Hallux rigidus correction with cheilectomy, debridement and capsular release of the first metatarsophalangeal joint; with implant
	28292	Correction, hallux valgus with bunionectomy, with sesamoidectomy when performed; with resection of proximal phalanx base, when performed, any method
	28295	Correction, hallux valgus with bunionectomy, with sesamoidectomy when performed; with proximal metatarsal osteotomy, any method
	28296	Correction, hallux valgus with bunionectomy, with sesamoidectomy when performed; with distal metatarsal osteotomy, any method
	28297	Correction, hallux valgus with bunionectomy, with sesamoidectomy when performed; with first metatarsal and medial cuneiform joint arthrodesis, any method
	28299	Correction, hallux valgus with bunionectomy, with sesamoidectomy when performed; with double osteotomy, any method
	28306	Osteotomy, with or without lengthening, shortening or angular correction, metatarsal; first metatarsal
	28308	Osteotomy, with or without lengthening, shortening or angular correction, metatarsal; other than first metatarsal, eac
	28315	Sesamoidectomy, first toe (separate procedure)
	28750	Arthrodesis, great toe; metatarsophalangeal joint
HCPCS	None	

***Coding Notes:**

- The above code list is provided as a courtesy and may not be all-inclusive. Inclusion or omission of a code from this policy neither implies nor guarantees reimbursement or coverage. Some codes may not require routine review for

medical necessity, but they are subject to provider contracts, as well as member benefits, eligibility and potential utilization audit.

- All unlisted codes are reviewed for medical necessity, correct coding, and pricing at the claim level. If an unlisted code is submitted for non-covered services addressed in this policy then it will be **denied as not covered**. If an unlisted code is submitted for potentially covered services addressed in this policy, to avoid post-service denial, **prior authorization is recommended**.
- **See the non-covered and prior authorization lists on the Company Medical Policy, Reimbursement Policy, Pharmacy Policy and Provider Information website for additional information.**
- HCPCS/CPT code(s) may be subject to National Correct Coding Initiative (NCCI) procedure-to-procedure (PTP) bundling edits and daily maximum edits known as "medically unlikely edits" (MUEs) published by the Centers for Medicare and Medicaid Services (CMS). This policy does not take precedence over NCCI edits or MUEs. Please refer to the CMS website for coding guidelines and applicable code combinations.

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POLICY REVISION HISTORY

DATE	REVISION SUMMARY
7/2025	New policy.