Clinical Practice Guideline: **Open Treatment of Distal Tibiofibular Joint (Syndesmosis) Disruption**

Date of Implementation: **June 18, 2015**

Product: **Specialty**

GUIDELINES

American Specialty Health – Specialty (ASH) considers services consisting of CPT® Code 27829 to be medically necessary for the treatment of instability of fixation of associated fractures (syndesmotic injury) with instability when **one (1) or more** of the following criteria have been met:

- Closed reduction is not feasible or cannot be maintained
- Intra-articular fracture
- Significant displacement
- Procedure is part of multistep repair of open fracture
- Malunion, nonunion, or deformity

CPT® **Codes and Descriptions**

CPT® Code	CPT® Code Description
27829	Open treatment of distal tibiofibular joint (syndesmosis) disruption, includes internal fixation, when performed

BACKGROUND

The syndesmosis forms the distal articulation between the tibia and fibula. This articulation is anchored by a number of ligaments that are crucial to the normal functioning of the joint. This ligamentous structure provides a very strong and stable ankle mortise (Porter et al., 2014).

A syndesmotic injury may involve just the ligament (e.g., high ankle sprain). Depending on the ankle's degree of instability, these injuries can be treated without surgery. High ankle sprains require greater healing time than a typical ankle sprain. In many cases, a syndesmotic injury includes both a ligament sprain and one or several fractures. These are unstable injuries and generally require surgical intervention (Fort et al., 2017).

According to Singh et al. (2014), it is estimated that 10% of all ankle fractures are associated with syndesmotic disruption. Syndesmotic screw fixation is recommended when there is a tibiofibular diastasis, a Maisonneuve fracture, or syndesmotic instability after fixation of distal tibia-fibula fractures. However, there is currently no consensus about the

optimum method of stabilization, position of the ankle during implant placement, weight-bearing restrictions, or need for and timing of implant removal.

Tibiofibular syndesmosis injuries can occur without a fracture, making diagnosis of these injuries a challenge, and often stress radiographs are beneficial (Magan et al., 2014; Porter et al. 2014). Magan et al. (2014) also concluded the management of syndesmotic injuries remains controversial, and there is no consensus on how to optimally repair syndesmosis. Further, a high proportion of syndesmotic fixations demonstrates malreduction of the syndesmosis. In addition, if syndesmosis disruption is not identified or not treated long term, it often results in arthritis and pain (Magan et al., 2014). Porter et al. (2014) concurred that immediate recognition and prompt management of syndesmotic injuries should minimize complications and improve the prognosis and recovery.

Conservative (non-surgical) treatment is typically performed if the syndesmosis is found to be stable. Such treatment protocols typically involve early rigid immobilization with a focus on relieving pain.

Unstable injuries should be treated surgically by stabilizing the syndesmosis with syndesmotic screw fixation, suture-button dynamic fixation or direct repair of the anterior inferior tibiofibular ligament (de-Las-Heras Romero et al., 2017). Syndesmosis injuries with associated fracture(s) or frank diastasis are considered grade III injuries and require surgical reduction. Internal fixation with trans-syndesmotic screws is a common surgical approach for tibiofibular syndesmosis stabilization (Porter et al., 2014). It should be noted that repair of syndesmotic injury with internal fixation will almost always require a second surgery to remove the fixation device(s).

Conditions such as diabetes, peripheral vascular disease, and osteoporosis have been identified as risk factors for postoperative complications following surgery for ankle fractures (Malyavko et al., 2022). In addition, those with active infections or chronic wounds around the ankle, may avoid surgery.

Potential complications of surgical intervention while uncommon include wound infection, implant or fixation failure, pulmonary embolism, mortality, amputation, and reoperation. (Singh et al., 2014). Additional surgical risks include adverse reactions to anesthesia, and nerves/blood vessel damage. The primary complications associated with surgical repair of a syndesmosis disruption include screw breakage and hardware pain, the need for an additional surgery for hardware removal, and the risk of subsequent diastasis if the screws are compromised prior to healing (Kapadia et al., 2020).

Surgical intervention may be contraindicated if there is significant soft tissue swelling, infection, skin, or vascular problems (e.g., diabetes), a non-functional extremity from stroke or paralysis, rheumatoid arthritis, use of anticoagulants, patient smokes cigarettes or

has a medical condition that would increase the risk of anesthetic and/or surgery related complications (Meyr et al., 2017).

PRACTITIONER SCOPE AND TRAINING

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

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

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

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

References

American College of Ankle Foot and Ankle Surgeons (ACFAS) Cosmetic Surgery Position Statement (2020). Retrieved February 12, 2024 from: https://www.acfas.org/policy-advocacy/policy-position-statements/acfas-position-statement-on-cosmetic-surgery

American Medical Association. (current year). Current Procedural Terminology (CPT) Current year (rev. ed.). Chicago: AMA

de-Las-Heras Romero, J., Alvarez, A. M. L., Sanchez, F. M., Garcia, A. P., Porcel, P. A. G., Sarabia, R. V., & Torralba, M. H. (2017). Management of Syndesmotic Injuries of the Ankle. *EFORT open reviews, 2*(9), 403–409. https://doi.org/10.1302/2058-5241.2.160084

Fort, N. M., Aiyer, A. A., Kaplan, J. R., Smyth, N. A., & Kadakia, A. R. (2017). Management of acute injuries of the tibiofibular syndesmosis. *European journal of orthopaedic surgery & traumatology: orthopedie traumatologie*, *27*(4), 449–459. https://doi.org/10.1007/s00590-017-1956-2

Joint Commission International. (2020). Joint Commission International Accreditation Standards for Hospitals (7th ed.): Joint Commission Resources

Kapadia, B. H., Sabarese, M. J., Chatterjee, D., Aylyarov, A., Zuchelli, D. M., Hariri, O. K., Uribe, J. A., & Tsai, J. (2020). Evaluating success rate and comparing complications of operative techniques used to treat chronic syndesmosis injuries. *Journal of Orthopaedics*, *22*, 225–230. https://doi.org/10.1016/j.jor.2020.04.011

Magan, A., Golano, P., Maffulli, N., & Khanduja, V. (2014). Evaluation and management of injuries of the tibiofibular syndesmosis. *British Medical Bulletin*, *111*(1), 101-115

Malyavko, A., Quan, T., Stoll, W. T., Manzi, J. E., Gu, A., Tabaie, S., & Stein, B. E. (2022). Association of Bleeding Disorders and Risk of Complications Following Open Reduction and Internal Fixation of the Ankle. *Foot & Ankle International*, *43*(4), 551-559. https://doi.org/10.1177/10711007211058163

Meyr, A. J., Mirmiran, R., Naldo, J., Sachs, B. D., & Shibuya, N. (2017). American College of Foot and Ankle Surgeons Clinical Consensus Statement: Perioperative Management. *The Journal of Foot and Ankle Surgery*, *56*(2), 336-356. doi:10.1053/j.jfas.2016.10.016

Porter, D. A., Jaggers, R. R., Barnes, A. F., & Rund, A. M. (2014). Optimal management of ankle syndesmosis injuries. *Open access journal of sports medicine*, *5*, 173–182. https://doi.org/10.2147/OAJSM.S41564

Singh, R., Kamal, T., Roulohamin, N., Maoharan, G., Ahmed, B. & Theobald, P. (2014). Ankle Fractures: A Literature Review of Current Treatment Methods. *Open Journal of Orthopedics*, 4(11), 292-303. doi: 10.4236/ojo.2014.411046