

# SCOKJ™ Justification

## Suggested Justification

For many decades, rehabilitation experts have been searching for an orthosis that will safely support a weakened or paralyzed leg without locking the knee and interfering with swing phase function. [Michael JW, Bowker JH, *Prosthetics/Orthotics Research for the Twenty-First Century, Journal of Prosthetics & Orthotics* 6:4, 1994] Due to the loads applied combined with the requirement to make the joints as thin and light in weight as is practical, this has been an elusive goal despite efforts by many researchers worldwide. Following several years of collaboration with National Aeronautical and Space Administration scientists, an orthotic joint offering this clinical function has been developed.

Horton's Stance Control Orthotic Knee™ Joint [SCOKJ™] is the only available component for a custom orthosis that automatically stabilizes the patient's knee against flexion upon weight bearing and then releases to permit unimpeded knee flexion during the swing phase of gait. Many of the features of this multifunctional knee joint are improvements of functions offered by earlier components, and are therefore described by existing L-Codes.

One of the key advances offered by the SCOKJ™ is that it automatically engages and disengages a lock against flexion, offering the patient both stance phase security as well as swing phase toe clearance. No other orthosis offers this combination of clinical function, and preliminary studies suggest that permitting knee flexion during swing phase is likely to substantially reduce the energy cost of ambulation for the users. [Kaufman KR, Irby SE, Mathewson JW, Wirta RE, Sutherland DH, *Energy-Efficient Knee-Ankle-Foot-Orthosis: A Case Study, Journal of Prosthetics & Orthotics* 8:3, 1996]

One critical element in the design and fitting of an orthosis utilizing the SCOKJ™ is the creation of a custom release mechanism that is individualized to each patient's unique gait pattern and pathomechanics. The Qualified orthotist must configure a special "stirrup" that is custom-molded over a model of the patient's affected leg that articulates with the shin segment of the brace. Based on iterative visual gait analysis trials, the orthotist then progressively trims the borders of the stirrup until the knee lock engages and disengages at the proper time during the gait cycle. To insure patient safety, the orthotist then verifies via ambulation trials that the engagement and release pattern is also sufficient for use on slopes and irregular surfaces.

There is currently no L-Code describing the evaluation, casting, design, fabrication, fitting, gait trials, and modifications necessary for safe and effective implementation of the SCOKJ™. Consequently, these procedures must be described individually using Code L2999.

The fee for this Code is based on the incremental cost for the materials in the SCOKJ™ over a conventional joint, and on the time required for the additional evaluation, casting, design, fabrication, fitting, gait trials, and modifications necessary.