QUALITY FOR LIFE

Suggested L-Codes for Use with the 17B202 E-MAG Active

This information is intended to assist practitioners in creating their letter of medical necessity for the E-MAG Active KAFO. **This material is not designed to be submitted as the documentation or justification for E-MAG Active KAFO reimbursement.** The documentation and justification for reimbursement must be unique to the patient and components being fit, and can only be effectively drafted by the treating Orthotist. Form letters and copied papers of product description are not adequate justification for medical necessity and are commonly rejected by paying sources. This information will help you draft E-MAG Active KAFO justification for your initial request for reimbursement.

* The responsibility for accurate coding lies with the patient care facility that selects a product and fits the patient. Otto Bock's coding recommendations are based on our best judgment. These recommendations are open to revision based on additional information or changes in the alpha-numeric system.

Otto Bock HealthCare North America Corporate Headquarters
Two Carlson Parkway North • Suite 100 • Plymouth • MN • 55447
Phone 763.553.9464 • Toll Free 800.328.4058
Fax 763.519.6153 • Toll Free 800.655.4963
www.ottobockus.com • usa.customerservice@ottobock.com

QUALITY FOR LIFE

L-Coding Justification

L2999: Addition to lower extremity stance control orthosis, electronic activation, stance phase only

Knee-Ankle-Foot Orthoses (KAFOs) are medically indicated for patients that present with quadriceps weakness or absent knee extensors to safely support body weight during ambulation. The prevalence of falling is significant among these patient populations due to compromise of the sensorimotor system, muscle weakness and reduced postural control or balance[1].

The general purpose of a KAFO is to provide knee stability during stance, which is the weight-bearing phase of ambulation. Three types of KAFOs exist to assist individuals with weak or absent quadriceps who wish to walk independently: 1)"Locked Hinge", 2) "Eccentric Hinge", and 3) "Stance Control". In the past, the "Locked Hinge" and "Eccentric Hinge" KAFOs were the only options available. Although they provide support, these KAFOs do not ensure safe and efficient ambulation. "Locked Hinge" KAFOs immobilize the knee joint at all times except when disengaged manually to permit knee flexion during sitting. This forces the patient to walk "stiff-legged", using significant energy and compensatory movements, including "hip hike", (i.e. pelvic obliquity), circumduction, (i.e. hip abduction), and "vault" (contralateral ankle plantarflexion in stance). These deviations induce significant energy expenditure, prematurely fatiguing the patient[2,3]. "Eccentric Hinge" KAFOs provide limited stance stability but allow flexion and extension to occur at all times, thus limiting the compensatory movements associated with "Locked Hinge" KAFOs. In order to remain stable while walking (i.e. stance phase stability), the individual must physically force their knee joint into hyperextension, effectively "locking" their knee, leaving the patient in a highly vulnerable position to buckle their knee and fall. Both "Locked Hinge" and "Eccentric Hinge" KAFO designs result in inefficient gait and an elevated risk of falling.

"Stance Control" KAFOs, also known as Stance Control Orthoses (SCOs), allow the knee joint to flex during swing phase but block flexion during stance, which is the weight bearing phase of the gait cycle. This action holds the knee in a safe and stable position while walking on the weak, braced leg. These mechanisms are designed to release the knee, allowing both flexion and extension during swing, the non-weight bearing phase of the gait cycle. Thus, a patient is afforded a more normal, energy efficient, and biomechanically safe gait.

Otto Bock HealthCare North America Corporate Headquarters
Two Carlson Parkway North • Suite 100 • Plymouth • MN • 55447
Phone 763.553.9464 • Toll Free 800.328.4058
Fax 763.519.6153 • Toll Free 800.655.4963
www.ottobockus.com • usa.customerservice@ottobock.com

QUALITY FOR LIFE

The **E-MAG Active** is an electronically controlled knee joint with a secure stance phase and free swing phase that is controlled independent of the ankle or sole of the foot. The **E-MAG Active** is designed for a Stance Control KAFO.

The **E-MAG Active** electronics contain a gyroscope to monitor the patient's gait pattern. The gyroscope measures the gait pattern and unlocks the knee joint to facilitate a more natural gait pattern. Since the electronic component measures gait independently from the ankle joint or the foot sole, the patient does not require ankle range of motion to have functional stance control. As some patients have conditions of the ankle, the **E-MAG Active** can aid in more consistent unlocking of the joint.

It is the patient's clinical presentation that dictates whether they are an appropriate candidate for Stance Control. Quadriceps weakness is the primary indication. Patient groups include but are not limited to those with neuromuscular diseases such as poliomyelitis; post polio-syndrome; incomplete paraplegics; muscle dystrophies, flaccid paresis or trauma to the knee extensors or nerves to the knee extensors.

The design of the **E-MAG Active** allows the user: (1) secure stance phase to prevent falls (2) free swing phase to eliminate hip hiking (3) increased mobility for more community ambulation (4) a more physiological gait pattern leading to less stress to other body areas (5) less need for compensatory movements (6) up to a 15 degree knee flexion contracture with dorsal stop at the ankle (7) up to 15 degree knee valgum/varum (8) stance control with no ankle range of motion.

Knee flexion contractures in excess of 10 degrees are contraindicated for other stance control orthoses. Likewise other stance control orthosis may require ankle range of motion to achieve stance control. Since the electronic activation is calibrated and can be recalibrated for changes in the user's gait, the **E-MAG Active** offers more consistent unlocking during variable step length than other stance control KAFOs.

References

1. Lord SR, Allen GM, Williams P, Gandevia SC. Risk of falling: predictors based on reduced strength in persons previously affected by polio. APMR 2002;83:757-63.

2. Irby, S.E.; Kaufman, K.R.; Mathewson, J.W.; Sutherland, D.H. Automatic control design for a dynamic knee-brace system Rehabilitation Engineering, IEEE Transactions on Volume 7, Issue 2, Jun 1999 Page(s):135 – 139.

3. Amy Gross McMillan, PT, PhD, et al., Preliminary Evidence for Effectiveness of a Stance Control Orthosis, JPO, 16(1); 6-13.

Otto Bock HealthCare North America Corporate Headquarters
Two Carlson Parkway North • Suite 100 • Plymouth • MN • 55447
Phone 763.553.9464 • Toll Free 800.328.4058
Fax 763.519.6153 • Toll Free 800.655.4963
www.ottobockus.com • usa.customerservice@ottobock.com