

KNEURO CODING GUIDE

| PDAC Approved L-Codes | Description | K2 Consideration | K3 / K4 Consideration |
|-----------------------|--|--|--|
| L5828 | <i>Fluid swing and stance control</i> | <ul style="list-style-type: none"> • Stability in stance • Downhill slope and sitting support | <ul style="list-style-type: none"> • Varied cadence • Uneven terrain |
| L5848 | <i>Stance extension with adjustability</i> | <ul style="list-style-type: none"> • Reduced terminal impact • Less stress on residuum • More natural gait | <ul style="list-style-type: none"> • Reduced terminal impact • Improved gait |
| L5845 | <i>Stance flexion</i> | <ul style="list-style-type: none"> • Reduced impact • Improved comfort • Beneficial for patients with osteoporosis or arthritis | <ul style="list-style-type: none"> • Shock absorption for high impact • Reduced compensatory movement • Step over step stair and slope descent |
| L5856 | <i>Microprocessor control</i> | <ul style="list-style-type: none"> • Stumble recovery feature • Improved economy of gait • Confidence in navigating curbs, uneven surfaces, or stairs | <ul style="list-style-type: none"> • Less compensatory movements • Step-Over-Step • Walk-to-Run • Variable cadence • Varied terrain |
| L5850 | <i>Knee Extension Assist</i> | <ul style="list-style-type: none"> • Lower energy expenditure • Reduces strain • Encouraging daily mobility | <ul style="list-style-type: none"> • Reduced fatigue • High activity level • Walk-to-Run |
| L5925 | <i>Manual lock</i> | <ul style="list-style-type: none"> • Stability for long stands • Training • Physical therapy uses | <ul style="list-style-type: none"> • Activity specific uses <ul style="list-style-type: none"> ◦ Gym ◦ Yoga |

L5828 – SINGLE AXIS FLUID CONTROL

ENDOSKELETAL KNEE-SHIN SYSTEM, SINGLE AXIS, FLUID SWING AND STANCE PHASE CONTROL

This hydraulic unit provides fluid swing and stance control, allowing the knee to adapt to different walking speeds and conditions by modulating resistance. This enhances stability, efficiency, and comfort for users across all activity levels.

L5848 – STANCE EXTENSION

FLUID STANCE EXTENSION, DAMPENING FEATURE, WITH OR WITHOUT ADJUSTABILITY

This feature helps reduce terminal impact and improve the patient's physiological gait patterns to reduce compensatory movements and prevent overuse of the sound side limb.

L5845 – STANCE FLEXION

ENDOSKELETAL, KNEE-SHIN SYSTEM, STANCE FLEXION FEATURE, ADJUSTABLE

Stance flexion allows for a more physiological gait pattern, replicating the eccentric motion of the knee extensors during initial contact.

For K2 populations, this is important due to the shock absorption and reduction of forces transferred up the chain of the knee to the socket and the residual limb. For lower activity patients, particularly those with osteoporosis or arthritis, shock absorption can greatly improve comfort in the prosthesis and preserve the sound side due to reduction in compensatory gait patterns.

For K3 / K4 patients, stance flexion is useful for the same reasons, but especially during higher impact activities where the value of shock absorption will be elevated. Additionally, higher activity patients benefit from the improved economy of gait when they are able to walk with a more natural gait pattern over the course of a long day.

L5856 – MICROPROCESSOR CONTROL

ENDOSKELETAL KNEE-SHIN SYSTEM, MICROPROCESSOR CONTROL FEATURE, SWING AND STANCE PHASE, INCLUDES ELECTRONIC SENSOR(S), ANY TYPE

The microprocessor control of the knee includes a variety of features that cater to the diverse needs of various patients.

The microprocessor includes stumble recovery, which is vitally important for fall reduction for K2 ambulators. This feature not only allows them to move more confidently in potentially slippery conditions like damp sidewalks, or obstacles like curbs and steps, but can even improve safety in the home on carpets and over lips or doorjamb.

K3 / K4 ambulators also benefit from stumble recovery, given the more challenging ambulatory conditions they may face. Additionally, they have access to Step-Over-Step stair ascent, which minimizes wear on the sound side, as well as Walk-to-Run, allowing the prosthesis to adapt to varying cadence such as running to catch a bus or playing with children.

L5850 – KNEE EXTENSION ASSIST

KNEE EXTENSION ASSIST

For both the K2 and K3 / K4 populations, the knee extension assist helps reduce the muscular demand when ambulating with the prosthesis.

For K2 patients, it can be particularly helpful for those who are unable to perform ADLs like grocery shopping without a power cart due to fatigue from walking longer distances. For these patients, the knee extension assist lowers the entry barrier for those who may not be able to build the requisite strength and stamina due to factors such as age, weakness, or comorbidities.

In the K3 and K4 populations, who generally possess the strength for most ADLs, the knee extension assist enables them to maintain their pace during faster cadences and allows them to complete longer or higher activity days without excessive fatigue. This way, patients can keep up with their peers, friends, family, or children without needing frequent breaks.

L5925 – MANUAL LOCK

MANUAL LOCK

This feature serves various purposes for different patient populations.

K2 patients may benefit from the added stability of manually locking their knee for ADLs such as washing dishes, standing for extended periods in therapy, or holding their children without concern of their knee bending.

K3 or K4 patients may have these same applications, along with the potential for using the manual lock while doing planks at the gym, or locking their knee during challenging hiking terrain, when they wish to sidestep safely.

For any questions, please contact the BrainRobotics clinical team at Clinical@BrainRobotics.com

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L5828 – Single Axis Fluid Control

ENDOSKELETAL KNEE-SHIN SYSTEM, SINGLE AXIS, FLUID SWING AND STANCE PHASE CONTROL

This hydraulic unit provides fluid swing and stance control, allowing the knee to adapt to different walking speeds and conditions by modulating resistance. This enhances stability, efficiency, and comfort for users across all activity levels.

L5848 – Stance Extension

FLUID STANCE EXTENSION, DAMPENING FEATURE, WITH OR WITHOUT ADJUSTABILITY

This feature will help reduce terminal impact and improve the patients physiological gait patterns, to reduce compensatory movements, and prevent overuse of the sound side limb.

L5845 – Stance Flexion

ENDOSKELETAL, KNEE-SHIN SYSTEM, STANCE FLEXION FEATURE, ADJUSTABLE

Stance flexion allows for a more physiological gait pattern, replicating the eccentric motion of the knee extensors during initial contact. For K2 populations, this is important due to the shock absorption and reduction of forces transferred up the chain of the knee to the socket and the residual limb. For lower activity patients, particularly those with osteoporosis or arthritis, shock absorption can greatly improve comfort in the prosthesis, as well as preserve the sound side due to reduction in compensatory gait patterns. For K3 / K4 patients, stance flexion will still be useful for all the same reasons, but especially during higher impact activities where the value of shock absorption will be elevated. Additionally, higher activity patients will benefit from the improved economy of gait when they are able to walk with a more natural gait pattern over the course of a long day.

L5856 – Microprocessor control

ENDOSKELETAL KNEE-SHIN SYSTEM, MICROPROCESSOR CONTROL FEATURE, SWING AND STANCE PHASE, INCLUDES ELECTRONIC SENSOR(S), ANY TYPE

The microprocessor control of the knee includes a variety of features which will benefit different patients in different areas. For K2 ambulators, the microprocessor includes stumble recovery, which is vitally important for fall reduction. This feature will not only allow them to be more confident in the community on potentially slippery conditions like damp sidewalks, or obstacles like curbs or steps, but can even improve safety in the home on carpets and over lips or doorjambes. K3 / K4 ambulators will still benefit from stumble recovery, due to potentially more adverse ambulatory conditions, but will also have access to step-over-step stair ascent, which will reduce wear on the sound side, as well as intuitive walk to run, allowing the prosthesis to keep up with the patient for variable cadence like running to catch a bus or playing with kids in the yard.

L5850 – Knee Extension Assist

KNEE EXTENSION ASSIST

For both the K2 and K3 / K4 populations, the knee extension assist will help in reducing the muscular demand on the patient to ambulate with the prosthesis. In the case of the K2 patient, this may benefit patients who are unable to complete ADLs like grocery shopping without a power cart, due to the fatigue of ambulating longer distances with the prosthesis. For these patients, the knee extension assist will reduce the barrier of entry if they are unable to build the requisite strength and stamina due to potential age, weakness, or comorbidities. In the K3 and K4 populations, who have the requisite strength for most ADLs, the knee extension assist will allow the prosthesis to keep up with them during faster cadences, and also allow them to complete longer or higher activity days without excessive fatigue, so the patient is able to keep up with their classmates, friends, family, or children, without needing excess breaks.

L5925 – Manual Lock

MANUAL LOCK

This feature can have different applications for different patient populations. K2 patients may benefit from the added stability of being able to manually lock their knee for ADLs like washing dishes, extended standing time in therapy, or holding their (grand)children when they don't want to worry about their knee bending. K3 or K4 patients may have these same applications, as well as the added potential for manual lock usage during planks at the gym, or locking their knee during particularly treacherous hiking terrain, when they want to safely sidestep.

For further questions, please reach out to the BrainRobotics Clinical team at Clinical@BrainRobotics.com