

A Comprehensive Approach to
Early Lower Limb Orthotic Implementation

*Creating Predictable Joint Position and Movement Patterns
Using ELLIOTT™ Patient Management System,
A New Early Intervention and Definitive Multipurpose Orthosis*

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The primary goals of early orthotic intervention are to prevent or minimize impairments and maximize function. Traditional approaches when intervening at the early stage of rehabilitation consist of two designs, prefabricated for the patient who is evolving and custom when long term application has been determined. Proper timing and use of an orthosis can facilitate gait training, increase overall safety, offset contractures, improve sensory feedback and should be considered early on in the rehabilitation process to permit these benefits to occur as early as possible.

ELLIOTT™ is a prefabricated lower limb early intervention and definitive orthotic system that has been designed specifically for the application in the acute, sub-acute and home health rehabilitation environments for management of the neurologically involved patient. This unique lower limb system is a single posterior upright Knee Ankle Foot Orthoses (KAFO's) referred to as ELLIOTT™ Orthosis. ELLIOTT™ Orthosis consists of one KAFO with three separate AFO variations that can be used either as part of a KAFO system or individually as AFO's. The AFO segment can be quickly separated from the Knee Orthosis (KO) segment enabling the rehabilitation team member to use the KO independent of the AFO.



ELLIOTT™ KAFO in one of seven KO and AFO configurations

In most instances, selecting a practical and effective orthosis for the patient during the rehabilitation process is either not optimal or cannot be adjusted to meet the varying needs of the patient. This can complicate or extend the rehabilitation process. Additionally, time away from the specific skill set and focused training by the rehab team is otherwise spent improvising with what devices may or may not be available. Utilizing the ELLIOTT™ Orthosis early intervention and definitive KAFO system in the rehabilitation setting rectifies these concerns through the unique multipurpose design and multifunctional capabilities. The following are the seven configurations of KAFO's, KO and AFO's and the variations and capabilities of each design:

- **One KAFO** with five knee and five ankle/foot functions.
 - » Knee – Free Motion, Variable ROM, Fixed Motion, Drop Lock and Ratchet Lock
 - » Ankle – Locked, posterior stop with free dorsiflexion, adjustable dorsi and plantar flexion angles. Open toe shoe or quick disconnect offloading foot section options.
- **One KO** with five individual functions of the knee joint Drop lock, Ratchet lock, ROM, locked and free motion

- **Three AFO's** with five ankle and foot functions
 - » Locked, posterior stop with free dorsiflexion, adjustable dorsi and plantar flexion angles.
 - » Open toe shoe or quick disconnect offloading foot section options.

Having seven configurations within the ELLIOTT™ Orthosis early intervention and definitive KAFO that are fully adjustable enables the rehabilitation team to intervene effectively and at the earliest point of the rehabilitation process. The built in, fully adjustable capabilities allows for accurate and effective joint positioning for gait and positioning augmentation to facilitate optimal outcomes. Single posterior upright minimizes bulk and impingement over bony prominences. Secondary benefits consistent with early mobilization include; prevents DVT, skin breakdown, contracture formation, constipation and pneumonia.

Brenda Miller PT, MSPT, CBIS at St. Joseph's Hospital and Medical Center's Outpatient Rehabilitation; Phoenix, Arizona has found the ELLIOTT™ Patient Management System "...enables me to have a quick fit orthosis readily available for gait evaluation. This guides me in making a more informed decision regarding moving forward with a definitive orthosis vs. continuing the use of a pre fabricated orthosis. The ability to use the AFO independent of the KAFO and the multifunctionality of the PENTAGON™ joint system accommodates musculoskeletal compromise while providing the needed stability and safety for the patient during the rehabilitation process."



Joseph W. Whiteside CO / LO has 25 years of experience in the clinical management of the neuro rehab patient. He is Clinical Director of Research and Development for Anatomical Concepts Inc. (www.anatomicalconceptsinc.com) He speaks nationally and internationally on the subject. E-mail him at jwhiteside@anatomicalconceptsinc.com.

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