

cerebral palsy who have ankle plantarflexion weakness associated with Achilles lengthening procedures and hamstring weakness.

**[0056]** Although the present invention has been described in terms of particular exemplary and alternative embodiments, it is not limited to those embodiments. Alternative embodiments, examples, and modifications which would still be encompassed by the invention may be made by those skilled in the art, particularly in light of the foregoing teachings.

**[0057]** Those skilled in the art will appreciate that various adaptations and modifications of the exemplary and alternative embodiments described above can be configured without departing from the scope and spirit of the invention. Therefore, it is to be understood that, within the scope of the appended claims, the invention may be practiced other than as specifically described herein.

What is claimed is:

1. An exoskeletal orthosis, comprising:  
a proximal cuff comprising a hinge along an upper edge of the cuff;  
an ankle section/footplate; and  
at least one posterior strut connecting the proximal cuff to the ankle section/footplate.
2. The orthosis of claim 1, further comprising:  
at least one posterior mounting plate; and  
at least one fastener for attaching the at least one posterior strut to the proximal cuff and to the ankle section/footplate.
3. The orthosis of claim 1, wherein the proximal cuff comprises a reinforced carbon fiber composition.
4. The orthosis of claim 1, wherein the at least one posterior strut comprises a single strut having a rectangular bar shape.
5. The orthosis of claim 1, wherein the at least one posterior strut comprises a dual strut configuration.
6. The orthosis of claim 5, wherein each strut of the dual strut configuration has a tubular or cylindrical shape.
7. The orthosis of claim 1, wherein the at least one posterior strut is integral with at least one of the proximal cuff or ankle section/footplate.
8. The orthosis of claim 1, wherein the at least one posterior strut is removably attachable to at least one of the proximal cuff or the ankle section/footplate.

9. The orthosis of claim 1, wherein the ankle section/footplate comprises a supranalleolar ankle section.

10. The orthosis of claim 1, wherein the ankle section/footplate comprises a reinforced carbon fiber composition.

11. The orthosis of claim 1, wherein the ankle section/footplate comprises a lateral wing for mediolateral stability.

12. The orthosis of claim 1, wherein a footplate section of the ankle section/footplate extends to a user's toetips, resulting in the toes positioned in slight extension, and has an arch.

13. The orthosis of claim 1, wherein the at least one posterior strut has a length of about 5 inches to about 12 inches.

14. The orthosis of claim 1, further comprising a detachable knee orthosis section.

15. The orthosis of claim 1, further comprising an upper knee cuff connected to said proximal cuff via a hinge.

16. An orthosis, comprising:

a proximal cuff comprising at least one hinge along an upper edge of the cuff;

an ankle section/footplate; and

at least one posterior strut attached at a proximal end to the proximal cuff and attached at a distal end to the ankle section/footplate,

wherein the ankle section/footplate comprises a supranalleolar ankle section having a lateral wing and a footplate section extending to the tips of a user's toes and having an arch.

17. A method of treating an injury, comprising:

fitting an individual having an injury with an orthosis according to claim 1; and

placing the individual's foot with the attached orthosis inside a shoe or boot.

18. A method according to claim 17, further comprising progressing the individual from ambulation during a post-injury phase to agility and impact activities.

19. A method according to claim 17, further comprising modifying the at least one posterior strut over time, wherein a second at least one posterior strut is stiffer than a first at least one posterior strut.

20. A method according to claim 17, wherein the injury is selected from the group consisting of ankle fusion; talus or calcaneus fractures; tibial nerve injury; peroneal nerve injury; partial foot amputation; soft tissue loss in a leg; and pain in an ankle during a weight-bearing activity.

\* \* \* \* \*