Orthotic devices

Michael Dvorznak, Kevin Fitzpatrick, Amol Karmarkar, Annmarie Kelleher, Thane McCann

Rehabilitation Sciences

Research output Chapter in Book/Report/Conference proceeding › Chapter

Abstract

Learn the basic principles of the biomechanics used in orthoses
Know the common types of materials used in orthoses
Learn about the basic methods of orthoses design
Understand the problems for which orthoses are used
Gain knowledge about the principles used in orthoses

The intent of this chapter is to provide a general overview of the principles, design, fabrication, and function of spinal, lower extremity, and upper extremity orthoses. It is acknowledged that entire books and atlases have been dedicated to this subject. Orthotics is considered an art and skill, requiring creativity and knowledge in anatomy, physiology, biomechanics, pathology, and healing. Evolving into a competent clinician, who is comfortable with designing and fabricating orthoses to meet the unique needs of each individual client, requires practice of these skills and knowledge.

Original language: English (US)
Title of host publication: An Introduction to Rehabilitation Engineering
Publisher: CRC Press
Pages: 261-285
Number of pages: 25
ISBN (Electronic): 9781420012491
ISBN (Print): 0849372224, 9780849372223
Published: Jan 1 2006

ASJC Scopus subject areas
- Physics and Astronomy(all)
- Biochemistry, Genetics and Molecular Biology(all)
- Medicine(all)

Access to Document
- Link to publication in Scopus
- Link to citation list in Scopus
Orthotics is a medical specialty that focuses on the design and application of orthoses. An orthosis (plural: orthoses) is "an externally applied device used to modify the structural and functional characteristics of the neuromuscular and skeletal system". An orthotist is the primary medical clinician responsible for the prescription, manufacture and management of orthoses. An orthosis may be used to: Control, guide, limit and/or immobilize an extremity, joint or body segment for a particular reason.

Westcoast Brace and Limb provides unsurpassed orthotic and prosthetic care by focusing on the whole patient, empowering individuals with the tools they need to lead independent lives. Our state-of-the-art laboratory, provides our patients custom orthotic and prosthetic devices to be designed in-house, which allows for a faster turnaround time and higher quality devices. Orthotic devices. January 2006. Authors

Children with cerebral palsy and children with myelomeningocele frequently require orthotic devices for standing and walking. The purpose of this article is to review the literature on orthotic devices for walking, present principles of lower-extremity orthoses, discuss designs of orthoses, and consider criteria for selecting orthotic devices. Although discussion of the devices is specific to...