

Orthotist and Prosthetist



Career Description

Orthotics and prosthetics is a specialized health care profession that combines a unique blend of clinical and technical skills. Orthotists and prosthetists evaluate patients and custom-design, fabricate, and fit orthoses and prostheses. Orthotic patients have neuromuscular and musculoskeletal disorders, and prosthetic patients have a partial or total absence of a limb. Orthotists and prosthetists give their patients the ability to lead more active and independent lives by working with physicians and members of the rehabilitation team to create a treatment plan and custom device. This work requires substantial clinical and technical skill and judgment.

The principles of biomechanics, pathomechanics, gait analysis, kinesiology, anatomy and physiology are crucial to the practitioner's ability to provide comprehensive patient care and a positive clinical outcome. Patient assessment, treatment, and education are part of the practitioner's responsibility, all of which requires collaborative communication skills.

The practice of an orthotist and/or prosthetist includes evaluating the patient, formulating a treatment plan, designing and fabricating the prosthetic or orthotic, fitting and modifying the prosthetic or orthotic, and follow-up treatment care and practice management.

Patient evaluation may include, but is not limited to, the following:

- Skin integrity
- Pain
- Biomechanics
- Gait analysis, including temporal and spatial assessment
- Range of motion
- Muscle strength
- Posture and balance
- Activities of daily living
- Environmental barriers including social, home and work reintegration
- The need for physical and occupational therapy modalities

Formulation of a treatment plan based on a comprehensive assessment includes, but is not limited to:

- Evaluation of prescription/documentation
- A needs assessment based on patient and/or caregiver input
- Development of functional goals
- Analysis of structural and design requirements
- Assessment of potential physical and occupational therapy requirements
- Consultation with and/or referral to other health care professionals

Implementation of the orthotic and/or prosthetic treatment plan includes, but is not limited to:

- Preparatory care
- Material selection
- Fabrication of orthoses and/or prostheses
- Prototype development including evaluative wear
- Structural evaluation
- Diagnostic fitting
- Gait training
- Patient education and instruction

- Supervision of the provision of care

Follow-up treatment planning, which ensures successful orthotic and/or prosthetic outcomes, patient health, and quality of life, includes, but is not limited to:

- Documentation of functional changes
- Formulation of modifications to ensure successful outcomes
- Reassessment of patient expectations
- Reassessment of treatment objectives
- Development of long-term treatment plan
- Confirmation of patient education and instruction
- Evidence-based practice

Practice management involves the development and documentation of policies and procedures ensuring patient protection that includes, but is not limited to:

- Adherence to applicable local, state, and federal laws and regulations
- Following patient care guidelines and procedures
- Maintaining a safe and professional environment for patient care
- Understanding of claims development and submission



History

The practice of orthotics and prosthetics has its history in the artisans and other skilled craftsmen of the past. Many of the developments of the 20th century in both professions are a result of the two world wars and the polio epidemics of the 1950s. Today's practitioners work in a variety of settings and use innovative materials and techniques to restore function and provide relief for various impairments.

The American Orthotic & Prosthetic Association (AOPA) originated in 1917 as the Artificial Limb Manufacturers and Brace Association (ALMBA). Anticipating that World War I casualties would require orthotic and prosthetic treatment, the Council of National Defense and artificial limb and brace manufacturers met to prepare the industry to meet those needs.

Between the world wars, ALMBA's focus changed. Its members began to view themselves as clinicians and professionals, who care for patients, rather than craftspeople and blacksmiths hammering on leather and metal. Furthermore, the rehabilitation of people with disabilities was also becoming a priority.

Through World War II and the Korean conflict, O&P practitioners realized a need for more research in the field and, through the Association, interested the government in funding studies. During these years, membership expanded and the Association assumed more duties. It also changed its name to the Orthopedic Appliance and Limb Manufacturers Association (OALMA) and established a national office in Washington, DC to work more effectively with the federal government. Through the years, AOPA has changed its scope and evolved to become the unified voice of the O&P profession and industry.

The American Academy of Orthotists and Prosthetists (AAOP) was founded in 1970 to further the scientific and educational achievements of professional practitioners in the disciplines of orthotics and prosthetics. The Academy is dedicated to the attainment of the highest standards of clinical competence and ethical conduct by its members, the professional recognition of qualified

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practitioners, and the development of clinical and ethical standards for the profession. Membership in the Academy is restricted to individuals who have been certified in orthotics and/or prosthetics by the American Board for Certification in Orthotics, Prosthetics and Pedorthics, Inc (ABC), and who maintain their certification in good standing.

The ABC was established in 1948 by a group of practitioners who were concerned about patient care and wanted to develop standards to ensure that patients treated by certified practitioners at accredited facilities would receive the best care possible. ABC continues to set clinical and organizational standards, furthering professionalism and establishing the orthotics and prosthetics practitioner as a valuable member of the allied health care community. ABC certifications and registrations are considered the profession's highest standards for professionals providing patient care and technical services. These credentials are awarded to individuals who have met ABC's education, experience, and competency assessment (examination) requirements. The individuals who have achieved these certifications and registrations have passed specific examinations based on a comprehensive practice analysis of the orthotic, prosthetic and pedorthic professions.



Employment Characteristics

The practice of orthotics and prosthetics is carried out in many settings, including orthotic and prosthetic facilities, hospitals, specialty clinics, acute care facilities, rehabilitation facilities, university and research facilities, rural outreach clinics, home health settings, and skilled nursing facilities.



Salary

According to the American Orthotic and Prosthetic Association (AOPA), salaries for board-certified orthotists and prosthetists averages between \$69,800 and \$88,700, depending on the certification type and work setting. For more information, refer to www.ama-assn.org/go/hpsalary.



Employment Outlook

Data from the US Bureau of Labor Statistics indicate that projected 2008-18 employment of orthotists and prosthetists is expected to grow faster than average, compared to other occupations.



Educational Programs

Length. Individuals interested in an education in orthotics and prosthetics attend schools with curriculum specific programs accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the National Commission on Orthotic and Prosthetic Education (NCOPE). This education occurs in two forms: baccalaureate degree and post-graduate certificate programs. Degree programs are based on a standard four-year curriculum, and certificate courses range from 6 months to a year for one discipline to 18 months to 2 years for both disciplines. Post-baccalaureate clinical experience is required through a structured residency program. NCOPE-accredited residency sites provide the orthotic and prosthetic resident with qualified experience that extends the education and training process into the patient management setting.

Prerequisites. Applicants for the four-year baccalaureate degree programs should have a high school diploma or equivalent and meet institutional entrance requirements. Applicants for post-baccalaureate programs must have a baccalaureate degree

that includes appropriate coursework in biology, chemistry, physics, psychology, algebra, human anatomy, and physiology, as well as any other specified by the institution.

Curriculum. The professional curriculum includes formal instruction in:

- Biomechanics
- Gait analysis/pathomechanics
- Kinesiology
- Pathology
- Materials science
- Research methods
- Diagnostic imaging techniques
- Measurement
- Impression taking
- Model rectification
- Diagnostic fitting
- Definitive fitting
- Postoperative management
- External powered technology
- Static and dynamic alignment of sockets related to various amputation levels
- Fitting and alignment of orthoses for lower limb, upper limb, and spine.

The curriculum also includes a structured clinical experience.



Certification

The American Board for Certification in Orthotics, Prosthetics and Pedorthics, Inc (ABC) is the certifying and accrediting body for the orthotic, prosthetic, and pedorthic professions. The certification process includes a written exam, written simulation exam, and hands-on clinical patient management exam. Exams are given three times a year at nationwide sites, with the exception of the Clinical Patient Management Exams, which are given twice a year at two specific locations.



Inquiries

Careers

Information on careers in orthotics and prosthetics is available at www.opcareers.org.

Education

Information on colleges and universities offering bachelor's and master's degree programs is available from:

National Commission on Orthotic and Prosthetic Education (NCOPE)
330 John Carlyle Street, Suite 200
Alexandria, VA 22314
(703) 836-7114
E-mail: info@ncpe.org
www.ncpe.org

Certification

American Board for Certification in Orthotics, Prosthetics and Pedorthics, Inc. (ABC)
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