

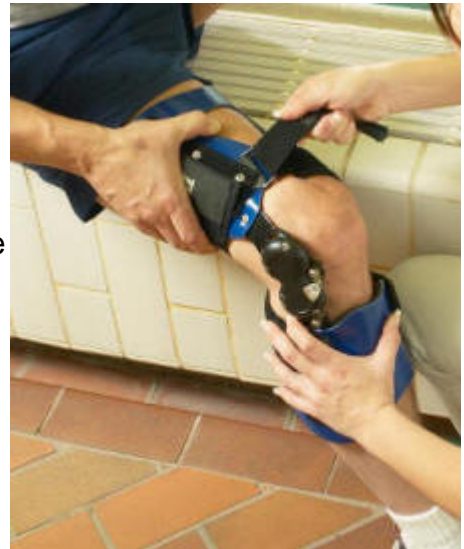


Medical Appliance Technician Overview

The Field - Preparation - Day in the Life - Earnings -
Employment - Career Path Forecast - Professional Organizations

The Field

Medical appliance technicians construct, fit, maintain, and repair braces, artificial limbs, joints, arch supports, and other surgical and medical appliances. They follow prescriptions or detailed instructions from podiatrists or orthotists, who request braces, supports, corrective shoes, or other devices; prosthetists, who order prostheses -- replacement limbs, such as an arm, leg, hand, or foot -- for patients who need them due to a birth defect, accident, or amputation; or other health care professionals. Medical appliance technicians who work with these types of devices are called orthotic and prosthetic technicians. Other medical appliance technicians work with appliances that help correct other medical problems, such as hearing aids.



Creating medical devices takes several steps. To make arch supports, for example, technicians first make a wax or plastic impression of the patient's foot. Then they bend and form a material so that it conforms to prescribed contours required to fabricate structural components. If a support is mainly required to correct the balance of a patient with legs of different lengths, a rigid material is used. If the support is primarily intended to protect those with arthritic or diabetic feet, a soft material is used. Supports and braces are polished with grinding and buffing wheels. Technicians may cover arch supports with felt to make them more comfortable.

For prostheses, technicians construct or receive a plaster cast of the patient's limb to use as a pattern. Then, they lay out parts and use precision measuring instruments to measure them. Technicians may use wood, plastic, metal, or other material for the parts of the artificial limb. Next, they carve, cut, or grind the material using hand or power tools. Then, they drill holes for rivets and glue, rivet, or weld the parts together. They are able to do very precise work using common tools. Next, technicians use grinding and buffing wheels to smooth and polish artificial limbs. Lastly, they may cover or pad the limbs with rubber, leather, felt, plastic, or another material. Also, technicians may mix pigments according to formulas to match the patient's skin color and apply the mixture to the artificial limb. After fabrication, medical appliance technicians test devices for proper alignment, movement, and biomechanical stability using meters and alignment fixtures. They also may fit the appliance on the patient and adjust them as necessary. Over time the appliance will wear down, so technicians must repair and maintain the device. They also may service and repair the machinery used for the fabrication of orthotic and prosthetic devices.

"Medical Appliance Technician Overview"

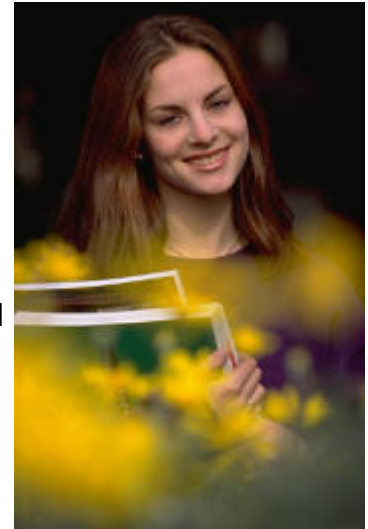
Prepared as part of the Sloan Career Cornerstone Center (www.careercornerstone.org)

Note: Some resources in this section are provided by the US Department of Labor, Bureau of Labor Statistics.

Preparation

Most medical appliance technicians learn their craft on the job; however, many employers prefer to hire those with formal training. High school students interested in becoming medical appliance technicians should take mathematics, metal and wood shop, and drafting. Medical appliance technicians usually begin as helpers and gradually learn new skills as they gain experience.

Formal training is also available. Orthotic and prosthetic technician programs are accredited by the National Commission on Orthotic and Prosthetic Education (NCOPE). These programs offer either an associate degree or a 1-year certificate for orthotic or prosthetic technicians. The programs instruct students on human anatomy and physiology, orthotic and prosthetic equipment and materials, and applied biomechanical principles to customize orthotics or prostheses. The programs also include clinical rotations to provide hands-on experience. The following is a list of currently accredited programs in medical appliance technology.



Michigan <ul style="list-style-type: none">• Baker College of Flint	Oklahoma <ul style="list-style-type: none">• Francis Tuttle
Minnesota <ul style="list-style-type: none">• Century College	Washington <ul style="list-style-type: none">• Spokane Falls Community College

Day in the Life

Medical appliance technicians generally work in clean, well-lit, and well-ventilated laboratories. They have limited contact with the public. Salaried laboratory technicians usually work 40 hours a week, but some work part time.

At times, technicians wear goggles to protect their eyes, gloves to handle hot objects, or masks to avoid inhaling dust. They may spend a great deal of time standing.



Earnings

According to the U.S. Department of Labor, Bureau of Labor Statistics, the median hourly earnings of wage-and-salary medical appliance technicians is about \$14.99. The middle 50 percent earn between \$11.34 and \$19.65 an hour. The lowest 10 percent earn less than \$8.93, and the highest 10 percent earn more than \$27.00 an hour.

"Medical Appliance Technician Overview"

Prepared as part of the Sloan Career Cornerstone Center (www.careercornerstone.org)

Note: Some resources in this section are provided by the US Department of Labor, Bureau of Labor Statistics.

Employment

Medical appliance technicians hold about 12,000 jobs in the United States. About 55 percent of salaried jobs were in medical equipment and supply manufacturing laboratories, which usually are small, privately owned businesses with fewer than 5 employees. However, some laboratories are large; a few employ more than 1,000 workers.

In addition to manufacturing laboratories, many medical appliance technicians worked in health and personal care stores, while others worked in public and private hospitals, professional and commercial equipment and supplies merchant wholesalers, or consumer goods rental centers. Some were self-employed.



Career Path Forecast

According to the U.S. Department of Labor, Bureau of Labor Statistics, opportunities for medical appliance technicians will grow about nine percent between 2006-2016, about as fast as the average for all occupations. This is because of the increasing prevalence of the two leading causes of limb loss -- diabetes and cardiovascular disease. In addition, advances in technology may spur demand for prostheses that allow for greater movement.



Professional Organizations

Professional societies provide an excellent means of keeping current and in touch with other professionals in the field. These groups can play a key role in your development and keep you abreast of what is happening in your field. Associations promote the interests of their members and provide a network of contacts that can help you find jobs and move your career forward. They can offer a variety of services including job referral services, continuing education courses, insurance, travel benefits, periodicals, and meeting and conference opportunities. The following is a partial list of professional associations serving medical appliance technicians.

- ▶ **American Academy of Orthotists and Prosthetists (www.opcareers.org)**
- ▶ **National Commission on Orthotic and Prosthetic Education (www.ncope.org)**
- ▶ **American Board for Certification in Orthotics and Prosthetics (www.abcop.org)**

"Medical Appliance Technician Overview"

Prepared as part of the Sloan Career Cornerstone Center (www.careercornerstone.org)

Note: Some resources in this section are provided by the US Department of Labor, Bureau of Labor Statistics.