



# A TEAM-BASED APPROACH TO **AMPUTEE REHABILITATION**

HEALTHCARE TEAM MEMBERS WORK TOGETHER TO PROVIDE  
STATE-OF-THE-ART CARE FOR PATIENTS.

## Patient Care Team Includes:

- Surgery
- Physical Medicine and Rehabilitation
- Regional Anesthesia and Pain Management
- Nursing
- Physical Therapy
- Occupational Therapy
- Prosthetics and Orthotics
- Psychiatric Consultation and Liaison Service
- Social Work
- Dietitians
- Public Affairs Office
- Gait Lab
- Ministry and Pastoral Care
- Peer Visitation (ACA)
- VA Counseling
- Vocational Rehabilitation and Employment Services
- VA Research Community
- Red Cross
- Patient
- Patient's Family

**D**uring previous military conflicts, soldiers who underwent amputation typically received immediate life-saving medical treatment and limb stabilization in a military medical facility. Once they were stable, the trend was to medically discharge them and transfer them to the Veterans Health Administration for rehabilitation and prosthetic care. After Operation Desert Storm, however, we realized that an amputation was not necessarily a career-ending injury, especially with the evolution of new prosthetic devices that enabled soldiers to run, jump, and function at a much higher level than they could in the past.

Now, after Operation Enduring Freedom and Operation Iraqi Freedom, the military's philosophy of healthcare has evolved into a proactive team-based approach to amputee rehabilitation. This means that a team of healthcare professionals work together with the patient to meet his or her surgical, prosthetic, rehabilitation, training, emotional, spiritual, financial, and continuing medical needs. To accomplish this, in December 2001, WRAMC

established the Amputee Patient Care Center, which provides a full spectrum of high-tech care for soldiers who sustain traumatic amputations on the battlefield. The healthcare team at the Center is dedicated to the rehabilitation and restoration of these amputees with the end goal of giving them the option to remain on or return to active duty and complete their military careers.

The subspecialties involved in this rehabilitation team include the Physical Medicine and Rehabilitation (PM&R) Service, the orthopaedic team, prosthetics, physical therapy (PT), occupational therapy (OT), nutrition care, psychiatry, the Social Work Service, the ministry and pastoral care group and the nursing staff, including the nurse case manager and the rehab nursing staff. Throughout the amputee's hospitalization, this team keeps patients and their families actively involved in the decision-making process to help them develop and achieve attainable goals.

## **The Orthopaedic Service**

WRAMC orthopaedic surgeons have the education and experience necessary to surgically treat upper- and lower-extremity injuries that result from the trauma of war and eventually lead to a limb amputation. The high kinetic energy delivered by modern munitions, such as landmines and other blast-producing weapons, results in extensive soft-tissue damage that is far different from the injuries sustained in conventional civilian trauma. The necessary surgical procedures are staged throughout the evacuation process, and the patient and his or her family participate in the decision-making process concerning the level of amputation and other aspects of surgery. After final closure of the amputation and the patient's limb is stabilized, the orthopaedic team turns the patient over to the management of the PM&R physician, although the orthopaedic surgeon remains an active member of the team and is available for further wound care and revisions as needed.

## **The Physical Medicine & Rehabilitation Service**

With the patient's input at the forefront, the PM&R physician manages the rehabilitation team, and the members of the team each contribute their own expertise with the goal of helping the patient attain the highest level of independence possible. Pain management, for example, is one of the primary areas of concern coordinated by the PM&R physician. WRAMC is currently the only institution in the Department of Defense offering regional anesthesia through the continuous infusion of local anesthetics by catheter for peripheral nerve blocks. This leading-edge technology alleviates pain and associated anxiety, helping the patient sleep and participate in physical therapy, occupational therapy, and prosthesis fitting.

## **Prosthetic Service**

Whenever possible, prosthetists, PTs, and OTs work together, communicating continuously during the pre-amputation and immediate post-amputation planning and care of the patient. Fortunately, military medical centers have all of these healthcare professionals available under one roof.

The prosthetist is a crucial member of the rehab team, and he or she discusses prosthetic options and the optimal length of the patient's residual limb with the surgeons before they perform the amputation or final limb revision. When the patient is ready for a prosthesis, a prosthetist at WRAMC uses leading-edge CAD/CAM (computer-aided design and machining) equipment to digitally and unobtrusively measure the patient's residual limb with a laser device. Once these measurements are taken and used to develop a computer model of the patient's residual limb, the machinery can fabricate the patient's socket. Once the socket is ready, state-of-the-art components for both upper- and lower-limb prostheses can be added to help patients return to a higher level of function.

## **The Physical Therapy Service**

This team is highly dedicated to helping these patients return to the highest level of activity they wish to achieve. Many of these amputees are young soldiers who are on par with high-level athletes, and they desire to return to sports and running if possible. The PTs direct rehab towards achieving these goals using an extensive program of aquatic and gym therapies.

## **The Occupational Therapy Service**

The Occupational Therapy Service has state-of-the-art resources and strives to provide patients with the best possible care. The members of this service focus their training on the following

areas to help patients become more independent:

- **Activities of daily living and instrumental activities of daily living.** These activities include basic personal hygiene, dressing, feeding, and toileting, as well as more complex tasks like writing, cooking, manipulating objects, and driving.
- **Upper-extremity residual-limb management.** OTs teach upper-extremity amputees skin care techniques, how to maintain or improve strength, and how to use a myoelectric or body-powered prosthesis.
- **Community reintegration activities to help amputees and their family members navigate through their environment.** OTs help patients identify and overcome physical, emotional and mental obstacles they face as new amputees. Adjusting to these barriers is an important element in improving the patients' mental health and outlook.

## **The Psychiatric Counseling Liaison Service**

This service provides preventive and restorative psychiatric care as part of the multidisciplinary team. All patients returning from the Operation Enduring Freedom and Operation Iraqi Freedom theatres of operations are screened upon arrival at WRAMC, and treatment is administered as deemed necessary. This treatment may consist of individual, family or group therapy.



### **The Social Work Service**

This service provides patients and families with psychosocial assessment and support. Its staff members serve as liaisons for the transition of care from the military medical system to a number of different environments, including the Veterans Health Administration, civilian healthcare facilities, and family resource organizations. These social workers are also responsible for coordinating the provision of durable medical equipment for patients, such as wheelchairs, walkers and crutches.

### **Ministry and Pastoral Care**

Chaplains and ministers provide comprehensive religious and spiritual support to patients and their families 24/7 through assigned ward chaplains and on-call staff who coordinate their ministry with interdisciplinary teams. Patients and their family members are met upon arrival at WRAMC and then have an initial formal meeting with a chaplain on their ward within 24 hours. The chaplains then provide daily follow-up with both patients and

family members. Religious, spiritual, and moral support is offered for all faith groups and individuals, and worship opportunities are offered in the chapel or brought to the patient on the ward. Chaplains provide counseling opportunities, prayer, sacraments, rites, ordinances, religious literature, and a constant spiritual presence until the patient is discharged. Follow-up care is offered and coordinated with the patient's home chaplains when desired or necessary.

### **Nursing**

The nursing staff manages and directs most of the acute and rehabilitative care provided, beginning with the patient's arrival until his or her discharge. Because nurses are working with the patients 24/7, they are able to observe subtle physical, mental and psychosocial changes in them and initiate timely interventions. Nurses also participate in multidisciplinary care coordination and seek to address the concerns of patients and their family members.

Not all soldiers will choose to remain at a medical center, and some will opt to return home for rehabilitation and eventual prosthetic fitting and training. These individuals have the option of transitioning over to the Veterans Health Administration facility close to their home, and we will make every effort to ensure a smooth transition and provide the same modern rehabilitation and prosthetics available through the military medical system. In some instances, soldiers may seek their follow-up rehabilitation and prosthetics through a local facility via TRICARE, a managed healthcare program for active duty and retired members of the uniformed services, their families and survivors. Using the team approach, this program brings together the healthcare resources of the military and supplements them with networks of civilian healthcare professionals to provide better access and high-quality service to help the amputee achieve the highest quality of life.

## **AMPUTEE COALITION OF AMERICA PROVIDES TRAINING AND SUPPORT TO MILITARY MEDICAL PERSONNEL**

The Amputee Coalition of America (ACA) has been participating with Walter Reed Army Medical Center (WRAMC) and the Veterans Administration (VA) on several projects designed to educate healthcare professionals and the service men and women they care for who have lost limbs through trauma in conflicts abroad, accidents or disease.

In August 2002, approximately 100 military medical personnel, including doctors, nurses, physical and occupational therapists, and prosthetists, attended a full-day seminar at the Uniformed Services University of the Health Sciences (USUHS). Douglas Smith, MD, ACA's medical director; John Michael, MEd, CPO, FAAOP, FISPO; and Paddy Rossbach, RN, ACA's president and CEO, presented "An Overview of Care

for Amputees."

This seminar has been followed in 2003 and 2004 by programs designed to update WRAMC nurses and VA healthcare providers in several Veterans Integrated Service Networks (VISNs) on current practices in amputee care. Pat Isenberg, MS, ACA's chief operating officer and a master trainer, has also conducted peer visitation training programs at WRAMC to certify individuals to conduct peer visits to injured military personnel.

Designing and developing *Military inStep* has also been a large part of this ongoing partnership to provide better information about limb loss to injured service men and women.

— by Paddy Rossbach, RN, ACA President/CEO