

AMPUTATION SYSTEM OF CARE

- 1. REASON FOR ISSUE.** This Veterans Health Administration (VHA) Handbook describes policies and procedures for the Amputation System of Care with the goal of providing optimal care and rehabilitation for Veterans and Servicemembers with amputations.
- 2. SUMMARY OF MAJOR CHANGES.** This is a new VHA Handbook providing a description for the parameters of the Amputation System of Care and establishing principles in administering the Amputation System of Care regarding purpose, scope, components, and procedures.
- 3. RELATED ISSUES.** VHA Handbook 1172.1
- 4. RESPONSIBLE OFFICE.** The Office of Patient Care Services, Chief Consultant, Rehabilitation Services (10P4R) is responsible for the contents of this VHA Handbook. Questions may be referred to the Director, Physical Medicine and Rehabilitation Services at (202) 461-7444.
- 5. RESCISSIONS.** None.
- 6. RECERTIFICATION.** This VHA Handbook is scheduled for recertification on or before August 31, 2017.

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AMPUTATION SYSTEM OF CARE

1. PURPOSE

This Veterans Health Administration (VHA) Handbook describes procedures relating to the Amputation System of Care (ASoC). It is designed to assist Veteran Integrated Service Network (VISN) and facility leadership in establishing, maintaining, and improving programs within the ASoC for Veterans with amputations. This Handbook describes an integrated care system that provides specialized expertise in amputation rehabilitation incorporating the latest practices in medical management, rehabilitation therapies, and prosthetic technology. Changes in VHA procedures described in this Handbook reflect innovations and efforts to systematize the provision of rehabilitative care for Veterans with amputations within VHA.

2. BACKGROUND

a. Throughout the history of the Department of Veterans Affairs (VA), the care that is provided to Veterans with amputations has held a high priority. To many Americans, the Veteran with an amputation epitomizes the sacrifices made on our Nation's behalf. Consequently, VA strives to provide optimal care for the Veteran with an amputation in order to restore function and thereby improve quality of life for these individuals.

b. Section 105 of Public Law 102-405 (1992), the Veterans' Medical Programs Amendments of 1992, codified the establishment of the Secretary's Federal Advisory Committee on Prosthetics and Special-Disabilities Programs at 38 U.S.C. § 543 and included among the Committee's statutory duties the review of all of VA's prosthetics and special-disabilities programs. The term "special-disability programs" includes all programs for Veterans who have lost or lost the use of extremities. See § 543(e)(3). Such action underscores the importance of, and Congress' interest in, these programs and the special and complex needs of this patient population, particularly with respect to amputation prevention and the rehabilitation and prosthetic care of those with amputations. To that common end, section 1706(b) of title 38, United States Code, requires VA to ensure its capacity to care for the needs of disabled patients (including veterans with prosthetics and others specifically described in that law) is not reduced below the capacity of the Department, nationwide, to provide those services, as of October 9, 1996.

c. Amputations constitute a significant disability with medical, physical, social, and psychological ramifications for the Veteran and the Veteran's family. Current figures in 2010 show the number of amputees receiving care within VHA at more than 43,000 with approximately 5,000 amputations being performed each year within VHA.

d. The vast majority of Veterans with amputations treated within VHA are those resulting from diabetes or peripheral vascular disease (PVD). Amputations caused by diabetes and vascular diseases generally occur in the aging Veteran and are associated with numerous co-morbidities, such as cardiovascular disease, hypertension, end-stage renal disease, and arthritis. Veterans with amputations due to trauma including combat-related injuries are predominantly younger in age and typically require a longer continuum of care. Although the number of these

combat related amputations is relatively small compared to the number of amputations associated with disease, both groups require quality, comprehensive, life-long care. Coordination of services with the Military Health System (MHS) in the transition of combat-related military personnel with amputations to VA is essential to ensure continuity of services and life-long maintenance of the Veteran's healthcare needs.

e. Management of Veterans with amputations requires a comprehensive, coordinated, interdisciplinary program throughout the continuum of care. This includes offering the latest practices in medical interventions, prosthetic technology, and rehabilitation management, which allows the Veteran to reach the highest level of function.

f. Veterans with amputations may have their rehabilitation provided in a variety of environments across the continuum of care, from the time of acute inpatient hospitalization through a spectrum of inpatient and outpatient rehabilitation care settings including VA Community Living Centers (CLC) and into the home and community. The provision of rehabilitation services is determined by the Veterans' rehabilitative needs rather than by where the services are delivered, or under what title.

3. SCOPE

The Veterans Health Administration Amputation System of Care is an integrated, national health care delivery system that provides patient-centered, gender-sensitive, lifelong, holistic care and care coordination for the Veteran and Servicemember who has undergone amputation. Through the provision of quality rehabilitation and prosthetic care, the Amputation System of Care will minimize disability and enable the highest level of social, vocational, and recreational re-integration. This Handbook has been developed to provide guidance in the delivery of interdisciplinary services to Veterans and Servicemembers who have sustained an amputation.

4. GOALS

The primary goals of the rehabilitation system of care for Veterans with amputations are to:

- a. Establish a well-defined and coordinated continuum of care to meet the needs of all Veterans requiring rehabilitation and life-long care following amputation.
- b. Ensure that high-quality care is provided to each patient with an amputation at the right place and at the right time.
- c. Ensure equal access to the most advanced and appropriate prosthetic components to Veterans across the system of care regardless of geographic location.
- d. Provide a level of exemplary care using a multidisciplinary approach including, but not limited to: Orthopedic Surgery, Vascular Surgery, Psychology, Physiatry, Rehabilitation Therapy (Occupational Therapy, Physical Therapy, and Kinesiotherapy), Recreational Therapy (RT), Prosthetics and Sensory Aids Service (PSAS), Prosthetics and Orthotics, Podiatry, Pain Management, Wound Care Nursing, etc.

- e. Standardize the quality of care and resources available within each VISN to include: rehabilitation expertise, rehabilitation facilities, prosthetic expertise, and surgical expertise.
- f. Provide care that is focused upon patient's expressed individual needs along the life-long continuum of care and ensure the highest level of patient satisfaction.
- g. Provide innovative systems of care including telemedicine, educational programs, therapeutic interventions, and prosthetic devices.
- h. Develop a network of expertise across the system that can be accessed by rehabilitation providers using inter-facility consultations and telemedicine.
- i. Provide seamless transition of care for patients discharged from active duty, those transferred from Department of Defense (DOD) Military Treatment Facilities to VA medical facilities, as well as the transfer of patients within VA's ASoC.
- j. Extend the knowledge of amputation care through research and translate those findings into clinical practice.
- k. Collect outcomes data that are used to measure delivery of care and improve clinical care across the system. Inter-departmental measures must be identified to align different departments (i.e., prosthetics, rehabilitation therapies, and psychiatry) to work together for the common goals of improved amputee care.
- l. Develop a system of tracking patients to ensure life-long follow-up.
- m. Monitor clinical indicators; prevent secondary complications and additional amputations.
- n. Implement a well defined, data driven analysis of amputation care to identify gaps in services and assist in quality improvement activities.

5. POPULATION SERVED

The ASoC serves Veterans and Servicemembers with extremity amputations from any etiology. The ASoC also services individuals who have a high likelihood of requiring an extremity amputation secondary to disease or injury.

6. ACCESS TO CARE

Eligible Veterans and Servicemembers with amputations shall be provided the level of rehabilitative and prosthetic services required to restore them to their maximum level of function and quality of life. The facility at which rehabilitative services and care services will be provided will be determined collaboratively with the patient and the patient's family based on individual needs, goals, and preferences. Factors to be considered include the:

- a. Level of services required to maximize function,

- b. Health of the residual and contralateral limb,
- c. Geographic proximity to the patient's home, and
- d. Patient's personal preference.

7. VISION AND MISSION

ASoC's vision is to be a world leader in providing lifelong amputation care by being the provider of choice for Veterans and Servicemembers with amputations by providing state-of-the-art, holistic, interdisciplinary care. This includes:

- a. Optimizing each individual's activity and participation in recognized social roles through an interdisciplinary care approach.
- b. Employing wellness and preventative strategies to minimize secondary conditions, impairments, activity limitations, and participation restrictions.
- c. Developing leading treatment interventions and program processes through research and outcome assessment.
- d. Maximizing the availability of excellence in care, irrespective of where a patient resides, through a geographically integrated health care system.

8. AMPUTATION SYSTEM OF CARE (ASoC) ORGANIZATIONAL STRUCTURE

The ASoC is organized under Patient Care Services, Office of Rehabilitation Services, and the Physical Medicine and Rehabilitation (PM&R) Program Office. VHA Central Office provides for two leadership positions: the National ASoC Medical Director and the National ASoC Program Manager. The ASoC model is organized to provide graded levels of expertise and accessibility, and is comprised of four distinct components of care: Regional Amputation Centers (RAC), one for each of seven regions; Polytrauma-Amputation Network Sites (PANS), Amputation Clinic Teams (ACT), and Amputation Points of Contact (APOC).

a. **RAC.** The RACs provide the highest level of specialized expertise in clinical care and technology and provide rehabilitation to the most complicated patients. The RAC is responsible for:

(1) Hiring and maintaining four dedicated Full-time Equivalent (FTE) employees consisting of a Physician Medical Director, Amputation Rehabilitation Coordinator, Regional Prosthetist, and Program Support Assistant;

(2) Maintaining an Inpatient Rehabilitation Unit that is accredited by the Commission on Accreditation of Rehabilitation Facilities (CARF);

(3) Completing CARF accreditation with new amputation standards at the next scheduled CARF survey, and maintaining accreditation thereafter;

(4) Providing national leadership in the field of amputation rehabilitation through presentations, teaching, and publications.

(5) Maintaining the capability to fabricate prostheses on site, and maintaining laboratory and prosthetist certification;

(6) Developing and maintaining a Peer Visitation Program; and

(7) Implementing, coordinating, and maintaining telehealth amputation clinics in their region.

b. **PANS.** PANS provide a full range of clinical and ancillary services to Veterans within their local VISN catchment area. Each PANS is responsible for:

(1) Hiring and maintaining two dedicated FTE employees: an Amputation Rehabilitation Coordinator and a Program Support Assistant;

(2) Maintaining a CARF-accredited Inpatient Rehabilitation Unit;

(3) Completing CARF accreditation with the new amputation standards at the next scheduled CARF survey, and maintaining accreditation thereafter;

(4) Developing and maintaining a Peer Visitation Program;

(5) Having an on-site prosthetic lab or contract with community partner prosthetists;

(6) Evaluating any gaps in the level of services for amputees;

(7) Developing Telehealth Amputation Clinics (TAC) across their VISN; and

(8) Collecting amputee specific outcomes from their VISN and reporting to the RAC and/or the National PM&R Program Office.

c. **ACT.** ACTs are located at sites with limited inpatient and prosthetic capabilities, but have a core amputation team to provide regular follow-up and address on-going care needs. The ACT is responsible for:

(1) Maintaining a core interdisciplinary ACT;

(2) Maintaining regularly scheduled Outpatient Amputee Clinics;

(3) Providing access to a prosthetic or orthotic laboratory or an inpatient rehabilitation unit either by contract with private institutions or by referral to the PANS in their VISN or RAC in their region;

(4) Maintaining the capability for TACs with the PANS and RAC in their region.

d. **APOC**. An APOC must be identified at all other facilities within the ASoC to specifically serve as the point of contact for consultation, assessment, and referral of the Veteran to a facility capable of providing the level of services required (see par. 11). The APOC is responsible for educating local facility personnel and referring services on the ASoC.

9. RESPONSIBILITIES OF THE NATIONAL DIRECTOR, PHYSICAL MEDICINE AND REHABILITATION PROGRAM

The National Director, Physical Medicine and Rehabilitation Program, or designee, is responsible for:

- a. Providing national program leadership for amputee health care and rehabilitation services; and
- b. Reviewing significant proposed changes in the system of care with the Chief Consultant, Rehabilitation Services and relevant others.

10. RESPONSIBILITIES OF THE VETERANS INTEGRATED SERVICES NETWORK (VISN) DIRECTOR

The VISN Director, or designee, serves a critical role in implementation and support of the national ASoC, balancing the need for local responsiveness with timely and full access with national consistency and coordination. The VISN Director is responsible for:

- a. Supporting all components and services in the Amputation System of Care and continuum of care described in this Handbook;
- b. Facilitating smooth and efficient transfers for care between VA facilities;
- c. Providing and facilitating necessary communication, resources, and quality improvement efforts to maintain expertise and quality services;
- d. Facilitating travel and access to RAC services in the designated region, in accordance with national policy for inter-facility transfers, established criteria for travel eligibility, and use of hardship criteria, as appropriate;
- e. Submitting proposed changes to the ASoC for review and approval through the Office of Rehabilitation Services, Chief Patient Care Services Officer, Deputy Under Secretary for Health for Policy and Services, Deputy Under Secretary for Health for Operations and Management, and Principal Deputy Under Secretary for Health, to the Under Secretary for Health for approval.

11. RESPONSIBILITIES OF THE FACILITY DIRECTOR

The facility Director is responsible for:

- a. Designating at least one person to serve as APOC, who is knowledgeable about the ASoC and the available levels of services it can offer, and who can refer a Veteran to the appropriate level of care
- b. Maintaining the appropriate staffing to accomplish the mission of the ASoC programs;
- c. Having final authority over, and responsibility for, the accountability of the program within the organizational structure;
- d. Ensuring compliance with all applicable legal and regulatory requirements;
- e. Collaborating with the operational leadership of the ASoC program;
- f. Supporting public information efforts designed to inform various groups about the services provided through the ASoC.

12. RESPONSIBILITIES OF THE REGIONAL AMPUTATION CENTER (RAC) PHYSICIAN MEDICAL DIRECTOR

It is expected that the RAC Physician Medical Director will be designated to the Amputation Program as a 1.0 FTE employee, and that the RAC Physician Medical Director be well versed in all aspects of amputation care. This includes amputation specific rehabilitation, medical issues commonly encountered in the care of amputees (i.e., wound care and pain management), and prosthetic prescription.

- a. In addition the RAC Physician Medical Director is to be actively involved in:
 - (1) The administrative aspects of the RAC. This includes: reports to local, VISN, and national leaders on the state of amputation care in their region; periodic gap analysis reports; and, collaboration with RAC prosthetist for their region.
 - (2) The development of the telerehabilitation amputation program for their region. This includes:
 - (a) Identifying appropriate sites in their region,
 - (b) Identifying telerehabilitation equipment,
 - (c) Educating staff, and
 - (d) Setting up and participating in telerehabilitation clinics.
 - (3) The education of various stakeholder groups on amputation care and the ASoC (i.e., surgeons, primary care physicians, nursing staff, physical and occupational therapists), to include clinical practice guidelines.

(4) Various quality improvement activities as they pertain to amputation care in their local facilities and region.

b. The RAC Physician Medical Director is involved in amputation-related research activities as a principal investigator or co-investigator locally, regionally or nationally to advance the knowledge base of amputee care.

c. The RAC Physician Medical Director is responsible for ensuring the relevant gap analysis is identified, collected and reported.

d. The RAC Physician Medical Director serves as the “face” of the ASoC in their region, coordinating effective communication on amputation care and the ASoC through a variety of mediums, serving as chair or co-chair monthly calls with clinicians involved in amputation care in their region, and making presentations to various stakeholders in their region.

e. The RAC Physician Medical Director participates in national and local committees as assigned by the ASoC Leadership.

13. RESPONSIBILITIES OF THE AMPUTATION REHABILITATION COORDINATOR (ARC)

a. The RAC or PANS ARC is expected to be designated to the Amputation Program as a 1.0 FTE employee, of which 75 percent of their time will be spent on ASoC duties for their facility and region of responsibility for amputation programs, and up to 25 percent is spent on clinical duties as they relate to amputation care.

b. The ARC is the point of contact for information about the ASoC and amputation care for their facility, VISN, and region (if a RAC). They must have a visible role in their facilities, VISN, and region as a subject matter expert in the ASoC.

c. The ARC is responsible for:

(1) Participating in all national ASoC required calls.

(2) Transmitting ASoC needs and responsibilities up and down the chain of command.

(3) Maintaining a database of all amputees within their facility, VISN, and region.

(4) Submitting quarterly reports to the National PM&R Program Office using an Excel or Access spreadsheet. The data to be collected is determined by ASoC leadership with input from the ARC’s and other ASoC stakeholders.

(5) Providing amputation education to providers and leadership at their facility, VISN, and region (if a RAC).

(6) Being involved in the planning of regional educational conferences.

(7) Working with facility case managers and other case managers in their VISN facilities to establish and maintain mechanisms that facilitate case management as they pertain to amputees.

(8) Being involved in quality assurance activities for their facility with respect to amputation care.

(9) Collecting amputation care related reports from ACTs in their VISN.

(10) Developing TACs at their facilities, VISN or region (if a RAC) to increase access to specialty care.

(11) Participating in research that will advance amputation care, if provided the opportunity.

(12) Having periodic communication with other VA facilities in their VISN to review amputation related practices, once the standards of care and measures for Veteran amputees are finalized.

b. The PANS ARCs are responsible for maintaining a contact list of local leaders of amputation programs at every facility in their VISN.

c. The RAC ARCs are responsible for ensuring that a contact list of all amputation leaders in their region is available to VA Central Office.

14. RESPONSIBILITIES OF THE RAC PROSTHETIST

a. It is expected that the RAC Prosthetist will be designated to the Amputation Program as a 1.0 FTE employee, of which 50 percent of their time will be spent on ASoC duties for their facility, VISN, and region (if an amputation program), and up to 50 percent of their time can be spent on clinical duties as they relate to amputation care.

b. The RAC Prosthetist is versed in aspects of amputation care related to prosthetic limbs. This includes amputation specific design, fabrication, advanced technologies training, education, and prosthetic prescription.

c. RAC Prosthetist is actively involved in:

(1) The administrative aspects of the RAC. This includes: reports to local, VISN and national leaders on the state of amputation care and prosthetic care in their region; periodic gap analysis reports; and, collaboration with ARC and Medical Director for their region.

(2) The development of the telerehabilitation amputation program for their region. This includes identifying appropriate sites in their region, educating staff, and participating in telerehabilitation clinics.

(3) The education of various stakeholder groups on amputation care and the ASoC (i.e., surgeons, primary care physicians, nursing staff, physical and occupational therapists).

(4) PM&R resident training and collaborating in amputation specific training programs for other disciplines as the training may relate to prosthetics limb technologies.

(5) Amputation-related research activities as a principal investigator or co-investigator locally, regionally, or nationally to advance the knowledge base of amputee care, if provided the opportunity.

c. In addition the RAC Prosthetist is responsible for:

(1) Serving as the communicator on prosthetic limb care in a variety of mediums as the “face” of prosthetic care for the ASoC in their region.

(2) Participating in monthly calls with clinicians involved in amputation care in their region.

(3) Making presentations to various stakeholders in their region.

(4) Assisting with various quality improvement activities as they pertain to amputation care in their local facilities and region.

(5) Participating in national and local committees as assigned by the ASoC Leadership.

15. RESPONSIBILITIES OF THE RAC AND POLYTRAUMA AMPUTATION NETWORK SITES (PANS) PROGRAM SUPPORT ASSISTANT (PSA)

It is expected that the RAC and PANS PSA will be designated to the Amputation Program as a 1.0 FTE employee.

a. The PSA works directly under the supervision of the ARC and RAC Physician Medical Director to assist in the administration of the Amputation Program at all levels. Administration of the Amputation Program requires knowledge and skills in the area of general office administration and office operations as well as clinical patient scheduling and coordination of care services.

b. The PSA is responsible for planning and carrying out assignments to improve the efficiency and productivity of the Amputation Program using established methods, practices, and criteria.

16. COMMUNICATION LADDER

The communications ladder enhances communication and information sharing across the ASoC in order to facilitate operational efficiency and program cohesion. It encompasses various means of communication including conference calls, email correspondence, and SharePoint sites. This communication ladder is designed to ensure open and effective communication within the ASoC, as well as communication between the ASoC and VA Central Office.

a. ASoC Conference Calls

Conference Calls	Frequency	Minutes	Distribution
Leadership Committee	2 per month	Yes	VHA Central Office ASoC Leadership
			VHA Central Office ARCs
ARCs	1 per month	Yes	VHA Central Office ASoC Leadership
			VHA Central Office ARCs

Conference Calls	Frequency	Minutes	Distribution
ASoC Committees	1 per month	Yes	Committee Members
			ASoC Medical Director
			ASoC Program Manager
ASoC Medical Director and Program Manager	Weekly	No	
Regional (RAC) with Region or PANS with VISN (Phone or email correspondence)	Quarterly	Yes	Regional ACTs and APOCs
			ASoC Medical Director
			ASoC Program Manager

b. ASoC SharePoint Utilization

a. A National ASoC SharePoint site must be maintained by VA Central Office PM&RS to enhance communication across the ASoC and improve the efficiency of document reviews and updates.

b. It is recommended that each Regional Amputation Center maintain a SharePoint site specific to their region to facilitate communication in the region. The site must be accessible to all members of the ASoC within the specific region.

c. Links must be created between the National and RAC SharePoint sites.

d. All SharePoint sites must be maintained on a routine basis.

17. TELEHEALTH

a. TACs improve access to specialty amputation care for Veterans in rural and highly rural areas. Telehealth is a key factor in making VA's new comprehensive system of amputation care possible. Given the rapid pace of development in amputation care, expertise in amputation care and prosthetics is not evenly distributed across the nation and such expertise is not readily available at every VA facility. Also, not every VA facility sees the volume of patients with amputation to stay abreast of the latest advances and maintain the necessary skills and competencies. Telehealth addresses this issue. Telehealth programs in RACs can consult to smaller facilities without the specialized amputation care services that may be needed for only a few Veterans, and preclude them from having to travel long-distances for such care.

b. Many Veterans with amputations have mobility issues and avoiding the cost and inconvenience of travel is important. For Veterans who have realized the active lifestyle that prosthetics and rehabilitation services in VA have made possible, frequent travel can affect their employment, and/or that of their caregiver. They want to minimize the time they (and possibly a caregiver) need to be away from their jobs for clinic appointments. Telehealth programs make it possible for patients to receive specialty care more rapidly. The benefits that can be expected from telehealth as a result of improved access to specialty care include:

- (1) Improved continuity of care for Veterans in rural and highly rural areas,
- (2) Improved access to specialty services, and
- (3) More seamless transition from DOD to VA.

c. Telehealth provides a way to get our expert clinicians wherever they are needed, whenever they are needed, without having them travel. TAC provides a significant training benefit to clinicians at the site where the patient is seen, enabling a specialist to instruct the practitioner at the patient site on how to assess and manage patients with an amputation. The goal is to have the RACs and PANS provide TAC with other facilities (e.g., the ACTs and APOC) in order to provide the right care, at the right place, at the right time to the Veteran with an amputation.

d. TAC encounters are conducted using real-time videoconferencing, which is termed Clinical Video Telehealth (CVT). CVT is a part of Clinic-based Telehealth (CBT) along with Store and Forward (SF) Telehealth. An Operations Manual has been developed for CBT and can be found at: <http://vaww.infoshare.va.gov/sites/telehealth/docs/cbt-ops-manual.docx> . **NOTE:** *This is an internal web site and is not available to the public.* In addition, an addendum to the CBT Manual specifically for telerehabilitation and specialty clinics such as TACs has been developed and can be found at: <http://vaww.infoshare.va.gov/sites/telehealth/docs/trehab-scs.docx> . **NOTE:** *This is an internal web site and is not available to the public*

e. Courses on general processes in telehealth can be found on the Talent Management System (TMS). The Office of Telehealth Services Website at <http://vaww.telehealth.va.gov/> is an excellent source of information. **NOTE:** *This is an internal web site and is not available to the public.*

18. LOWER LIMB AMPUTATION CLINICAL PRACTICE GUIDELINES (CPG)

a. CPG need to be used in the care of patients with amputations to the extent supported by current medical evidence and state-of-the-art practice. The RAC Physician Medical Director is responsible for incorporating the CPG into the appropriate medical care settings throughout the region. The CPG for the Rehabilitation of Lower Limb Amputation can be located at:

http://www.healthquality.va.gov/Lower_Limb_Amputation.asp

b. VA and DOD guidelines are based upon the best information available at the time of publication. They are designed to provide information and assist decision-making. They are not intended to define a standard of care and should not be construed as one. Neither should they be interpreted as prescribing an exclusive course of management. Variations in practice will inevitably and appropriately occur when providers take into account the needs, abilities, and motivations of individual patients, available resources, and limitations unique to an institution or type of practice. Every healthcare professional making use of these guidelines is responsible for evaluating the appropriateness of applying them in the setting of any particular clinical situation.

c. Key elements of the CPG include:

- (1) Defining the phases of rehabilitation care and the steps included in each phase;
- (2) Recognizing the importance of comprehensive interdisciplinary assessment of the patient before and after surgery, and understanding the physical and social support system;
- (3) Recognizing importance of the decision about the appropriate level of amputation to maximize function;
- (4) Discussing surgical principles to optimize wound healing and shaping of the residual limb for prosthetic rehabilitation;
- (5) Discussing immediate postoperative dressing and management of the residual limb to maximize healing and functional outcome;
- (6) Identifying key elements of the rehabilitation treatment and prosthetic training across all phases of the rehabilitation process;
- (7) Emphasizing the importance of foot care to prevent future amputation and optimize the condition of the contralateral limb;
- (8) Describing the key components of medical management of medical comorbidities and prevention of complications;
- (9) Addressing strategies for pain management across all phases of the rehabilitation process;
- (10) Emphasizing the contribution of behavioral health assessment and intervention;

- (11) Recognizing the importance of patient education; and
- (12) Emphasizing the need for life-long follow-up care.

19. PATIENT AND FAMILY EDUCATION

a. Patients, their families, and significant others, need to receive appropriate education and training to increase their knowledge of the patients' illnesses or disabilities and treatment needs, and to learn the skills and behaviors that promote recovery and maximize function.

b. All rehabilitation personnel are responsible for providing education to patients and their families as appropriate to their specific disciplines and documenting the education when provided. All staff continually assesses and documents the patient and family's educational needs and readiness to learn so that educational efforts are appropriate and effective.

c. Education is provided as a part of ongoing therapy, through patient and family meetings, through written information (handouts and booklets), and through the medical facility's ongoing televised Patient Education Series.

d. Education may include, but is not limited to, instruction in:

(1) Rehabilitation techniques to facilitate adaptation to, and functional independence in, the anticipated discharge environment;

(2) Accessing available community resources;

(3) Safe and effective use of prosthetic, orthotic, and durable medical equipment;

(4) Care of the residual limb;

(5) Care of the contralateral limb;

(6) Safe and effective use of medication;

(7) Effective physical modalities for pain;

(8) Restrictions and precautions, e.g., driving, alcohol, physical activity level; and

(9) How to handle emergencies.

e. All education provided must be based upon, and appropriate to, the assessed needs, educational level, cultural background, and readiness to learn of the patient, family member, or significant other to whom it is offered.

20. ACCREDITING ENTITIES

a. **Commission on Accreditation for Rehabilitation Facilities (CARF)**. CARF provides an international, independent, peer review system of accreditation that is widely-recognized by Federal agencies, forty state governments, major insurers, and leading professional groups in rehabilitation, as well as by consumer and advocacy organizations throughout the United States and in other countries. Established in 1966, CARF serves as the pre-eminent standards setting and accreditation body promoting the delivery of quality rehabilitation services for people with disabilities.

(1) The standards developed by CARF are consumer-focused, field-driven, state-of-the-art national and international standards for rehabilitation. They have been developed in the areas of medical rehabilitation, aging services, behavioral health, and employment and community services. CARF standards are applicable to both inpatient and outpatient settings and a variety of specialized programs. As a consequence, CARF standards directly address many of the populations and services of concern to VHA.

(2) The positive outcomes of rehabilitative care have been shown to increase when this care is provided in a dedicated unit that provides coordinated, interdisciplinary evaluation and services. Although rehabilitation care may be delivered in a variety of settings, the interdisciplinary focus, including dedicated staff and appropriate case management, should not be compromised. No institution is free from the need for external oversight. Consequently, CARF accreditation ensures that VHA can ensure VHA constituents that it meets community standards for accountability in rehabilitation care (see http://vaww.archive.oqp.med.va.gov/oqp_services/accreditation/carf.asp for more detailed information). **NOTE:** *This is an internal website and is not available to the public.*

b. **The Joint Commission (TJC)**. TJC accreditation is nationally-recognized as a symbol of quality and is considered one of VHA's major external quality reviews. **NOTE:** *All VHA healthcare facilities are currently accredited by TJC.* Maintaining TJC accreditation for all VHA facilities is consistent with one of VHA's goals to "Provide Excellence in Healthcare Value." TJC accreditation confers recognition that healthcare organizations meet certain standards of quality and safety and are compliant with health care quality standards of payers, both public (e.g., Medicare) and commercial. The Accreditation Council for Graduate Medical Education requires that healthcare organizations sponsoring or participating in Graduate Medical Education (GME) programs be accredited by TJC or by another recognized body with reasonably-equivalent standards (see TJC website, at: http://vaww.archive.oqp.med.va.gov/oqp_services/accreditation/accreditation.asp for more detailed information). **NOTE:** *This is an internal website and is not available to the public.*

21. OUTCOMES

a. The tracking of patient outcomes is critical to measuring and assessing program effectiveness. Analysis and comparison of outcomes often lead to improved processes in the delivery of care that, in turn foster improved patient outcomes. The following serves as a general

guide for outcome domains that have a strong potential for utility with the amputation population.

(1) **Administrative and Demographic Measures.** Administrative and demographic measures include:

- (a) Amputation surgical procedure (level),
- (b) Number of amputation procedures,
- (c) Cause of amputation,
- (d) Number of referrals,
- (e) Clinic visits (frequency and type),
- (f) Inpatient admission,
- (g) Hospital re-admissions,
- (h) Environment for rehabilitation,
- (i) Telehealth workload,
- (j) Gait laboratory visits,
- (k) Number of in house versus vendor prostheses, and
- (l) Patient demographics.

(2) **Clinical Measures.** Clinical measures include:

(a) Disease or Health Behavior. Disease or health behavior includes:

1. Co-morbidities, to include:

a. Diabetes;

b. Pulmonary, to include: Chronic Obstructive Pulmonary Disease (COPD), asthma, and emphysema;

c. Cardiovascular to include: cardiomyopathy, prior Myocardial Infarction (MI), heart failure, coronary artery disease, and stroke;

d. Renal disease to include chronic renal failure, i.e., dialysis, organ transplant, peripheral neuropathy, and low visual impairment;

e. Liver disease to include: hepatitis, cirrhosis, and liver transplant;

f. Cancer;

g. Hypertension;

h. Previous surgical procedures;

i. Smoking;

j. Alcohol use;

k. Mental Health to include: Post-traumatic Stress Disorder (PTSD), depression, anxiety, Bi-Polar, and Alzheimers;

l. Deep Vein Thrombosis (DVT);

m. Visual impairment;

n. Burns;

o. Traumatic Brain Injury (TBI);

p. Combat injuries;

q. Fractures;

r. Joint replacement (type); and

s. Other musculoskeletal diseases and injuries to include RA, OA, and trauma.

2. Contralateral limb loss and ulceration.

(b) Impairment. Impairment includes:

1. Pain impairment to include:
 - a. Overall pain,
 - b. Residual limb,
 - c. Phantom limb, and
 - d. Other areas.
 2. Psychosocial adjustment.
 3. Depression impairment.
- (c) Activity. Activity, which includes:
1. Mobility (very advanced, advanced, moderate, and limited using mobility device);
 2. Prosthesis specific function; and
 3. Self-care ADLs.
- (d) Participation. Participation, which includes:
1. Prosthetic use,
 2. Social integration, and
 3. Satisfaction with life.
- (e) Quality Measures. Quality measures, which include:
1. Satisfaction with care;
 2. Access Question, i.e., treatment time or geographic;
 3. Timelines of care delivery; and
 4. Intervention meeting patient goals.

22. PREVENTION OF AMPUTATION IN VETERANS EVERYWHERE (PAVE) PROGRAM

a. The VA Preservation Amputation Care and Treatment (PACT) Program was first established in 1993 to meet the changing needs of an aging Veteran population; more amputations due to neuropathic and vascular conditions, and fewer traumatic amputations. It represents a model of care developed to prevent or delay amputation through proactive early identification of patients, such as those facing secondary complications due to diabetes, who are at risk of limb loss. The scope of this program includes care and treatment provided to Veteran patients at risk of primary or secondary limb loss. This program has been re-titled the Prevention of Amputation in Veterans Everywhere (PAVE) Program.

b. The PAVE program provides a model of care for those patients “at-risk” for primary amputation (patients with diabetes, end-stage renal disease and peripheral vascular disease), and for those who have already suffered an amputation (whether traumatic or as a complication of another disease process) and are at risk for a second amputation. Utilizing a Team Coordinator, PAVE incorporates interdisciplinary management of care utilizing available resources including those on the prevention side and rehabilitation side including, but not limited to: primary care, infectious disease, diabetes teams, nurse, podiatrist, vascular surgeon, rehabilitation physician, therapists (physical, occupational, recreational, etc), social worker, mental health care, and prosthetic and/or orthotic personnel. PAVE tracks every patient with amputation, or those at risk of limb loss, from day of entry into the VA health care system, through all appropriate care levels. The PAVE program and the ASoC programs are closely linked and coordinate efforts in order to address the prevention of first amputation, rehabilitation needs of patients who suffer an amputation, and prevention of a second amputation in those patients with an amputation.

23. EXTERNAL COLLABORATIONS

a. The ASoC works collaboratively with various external partners in an effort to enhance the care and services provided to Veteran with amputations. These collaborations may meet a specific need for the Veteran with an amputation or serve more general supportive and informational roles. These collaborations help to facilitate communication to both educate external partners on the value and services provided through the VA ASoC, as well as educate VA providers and Veterans on the services available outside of VA.

b. The VA ASoC works closely with DOD in order to ensure a seamless transition for Servicemembers with amputations who are transferring their care to VHA. This involves clear communication and appropriate information sharing between the two systems. It also requires a close working relationship between VA ASoC and the Military Advanced Training Centers (MATCs). The Amputation Rehabilitation Coordinators (ARCs) for the ASoC serve as the primary points of contact for this transition and information sharing. The ARCs work closely with the Military Case Managers and Military Care Coordinators, as well as the VA Healthcare Liaisons, who are located at Military Treatment Facilities.

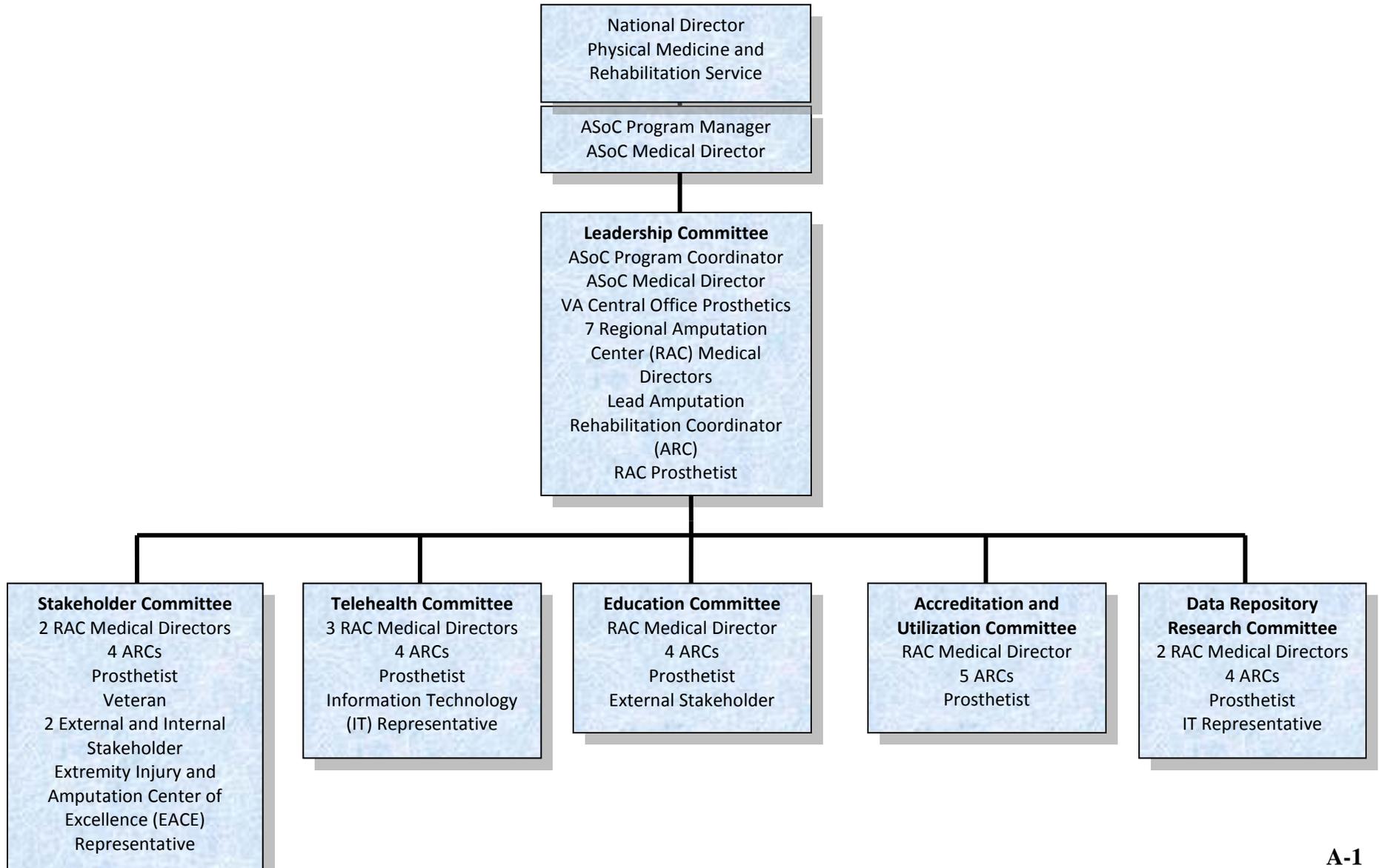
c. Since the beginning stages of development, the ASoC has also worked closely with the Amputee Coalition (AC). VA and the Amputee Coalition have partnered in the development of

amputee peer visitor programs at the ASoC medical facilities. Pilot programs for the implementation of a caregiver peer visitor program and providing Promoting Amputee Life Skills (PALS) courses to Veterans have also been initiated. The ASoC RAC and PANS medical facilities have obtained corporate memberships in AC, which has allowed them to use and disseminate AC patient education materials.

24. REFERENCES

- a. Peake, JB, "Beyond the purple heart continuity of care for the wounded in Iraq," New England Journal of Medicine. 2005 Jan 20; 352(3): 219-222.
- b. Rehabilitation Accreditation Commission (CARF), Medical Rehabilitation Standards Manual.
- c. Veterans Health Initiatives: Caring for War Wounded, Hearing Impairment, PTSD, Spinal Cord Injury, Traumatic Amputation, Traumatic Brain Injury, Visual Impairment, <http://vaww1.va.gov/vhi/> **NOTE:** *This is an internal web site and is not available to the public.*

**AMPUTATION SYSTEM OF CARE
COMMITTEE ORGANIZATIONAL STRUCTURE**



**AMPUTATION SYSTEM OF CARE (ASoC)
REGIONAL DISTRIBUTION**

Regional Centers	Veterans Integrated Service Networks	Network Site	Amputation Clinic Team	Points of Contact
Tampa	8	Tampa San Juan	Bay Pines	West Palm
			Gainesville	
			Orlando	
			Miami	
	7	Augusta	Columbia	
			Charleston	
			Atlanta	
			Birmingham	
			Tuscaloosa	
			Dublin	
			Central Alabama Health Care System (Tuskegee & Montgomery)	
	16	Houston	Alexandria	Fayetteville
			Jackson	
			Little Rock	
			Muskogee	
			Shreveport	
Biloxi				
New Orleans				
Oklahoma City				
Seattle	20	Seattle	Portland	American Lake
			Boise	WallaWalla
			White City	Anchorage
				Spokane
				Roseburg
	18	Tucson	Albuquerque	West Texas Health Care System
			Amarillo	
			El Paso	
			Northern Arizona Health Care System	
			Phoenix	

Denver	19	Denver	Salt Lake City	Sheridan
			Cheyenne	
			Grand Junction	
			Fort Harrison	
	17	Dallas	Temple	Waco
			San Antonio	Austin
	15	St Louis	Kansas City	Poplar Bluff
			Wichita	Marion
			Columbia, MO	
			Topeka	
Minneapolis	23	Minneapolis	Sioux Falls	Black Hills
			Iowa City	St Cloud
			Des Moines	Grand Island
			Nebraska and Western Iowa Health Care System	Fargo
			(Omaha and Lincoln)	
	11	Indianapolis	Detroit	Saginaw
			Danville	
			Ann Arbor	
			Battle Creek	
			Northern Indiana Health Care System (Fort Wayne and Marion)	
	12	Hines	Milwaukee	Iron Mountain
			North Chicago	
			Madison	
Tomah				
10	Cleveland	Chicago - Jesse Brown		
		Cincinnati	Chillicothe	
		Dayton		
			Columbus	

Bronx	3	Bronx	Montrose	Albans
			Castlepoint	
			East Orange	
			Lyons	
			New York	
			Brooklyn	
	2	Syracuse	Albany	
			Canandaigua	
			Bath	
			Buffalo	
	1	Boston	West Haven	
			Togus	
			White River	
Manchester				
Bedford				
North Hampton				
4	Philadelphia	Providence		
		Pittsburg	Altoona	
		Wilmington	Butler	
		Lebanon		
		Wilkes-Barre		
		Erie		
		Coatesville		
Clarksburg				
Richmond	6	Richmond	Hampton	
			Ashville	
			Salisbury	
			Durham	
			Fayetteville	
			Beckley	
			Salem	
	5	Washington DC	Baltimore	
			Martinsburg	
	9	Lexington	Huntington	
			Louisville	
			Memphis	
			Nashville	
Murfreesboro				
Mountain Home				

Palo Alto	21	Palo Alto	San Francisco	Manila, Philippines
			Reno	
			Honolulu	
			Sacramento	
			Fresno	
	22	West LA	Long Beach	
			San Diego	
			Loma Linda	
			Southern Nevada Health Care System	
			Sepulveda	

**LEVELS OF SERVICES FOR EACH COMPONENT OF THE
AMPUTATION SYSTEM OF CARE (ASoC)**

Each component of the Amputation System of Care (ASoC) is designed to provide certain services and a certain level of care. Although there is expected to be variations in the type of services available at each facility, the following table serves as a guide for the types of services that should be available at each level of care across the ASoC.

General Services within the Facility	Regional Amputation Centers (RAC)	Polytrauma Amputation Network Site (PANS)	Amputation Clinic Teams (ACT)	Amputation Points of Contact (APOC)
Surgical Services	x	x	-	-
Physical Medicine and Rehabilitation (PM&R) Service	x	x		-
Peri-Operative Consultation by PM&R	x	x	-	-
Prosthetic and Orthotics Accredited Lab	x	x	-	-
Amputation Clinic Team	x	x	x	-
Commission on Accreditation of Rehabilitation Facilities (CARF) Inpatient Rehab Unit	x	x	-	-
CARF accredited Amputation Specialty Program	x	x	-	-
Outpatient Rehabilitation Services	x	x	x	-
Basic Prosthetic Prescription and Fitting	x	x	x	-
High Tech Prosthetic Prescription and Fitting	x	x	-	-
Follow-up Care	x	x	x	-
Care Coordination	x	x	x	x
Mental Health or Psychiatric Evaluation and Treatment	x	x	x	-
Primary Care	x	x	x	x
Prosthetic and Sensory Aids Service	x	x	x	-

General Services within the Facility	RACs	PANS	ACTs	APOCs
Podiatry and Foot Care	x	x	x	-
Amputee Coalition Peer Visitation Program	x	x		-
Collection of Outcome Measures	x	x	x	-
Telehealth Amputation Clinics	x	x	x	x
Accessibility to pain, wound care and orthopedic specialists	x	x	x	

Specialized Services within PM&R and Prosthetics and Sensory Aids Service Scope of Practice	RACs	PANS	ACTs	APOCs
Wound Care				
Complex	x	x	-	-
Basic	x	x	x	-
Pain Management				
Complex	x	x	-	-
Basic	x	x	x	-
Prosthetic Fitting				
Complex	x	x	-	-
Basic	x	x	x	-
Gait Analysis				
Complex	x	x	-	-
Basic	x	x	x	-
Cardiopulmonary Training	x	x	-	-
Musculoskeletal Reconditioning	x	x	x	-
Contralateral Limb Preservation	x	x	x	x
Prosthetic Repairs and Adjustments	x	x	x	-
Gait Training	x	x	x	-
Mobility Training	x	x	x	-
Transfer Training	x	x	x	-
Adaptive Equipment	x	x	x	-
Activities of Daily Living (ADL) and Instrumental ADL (IADL) Training	x	x	x	-

Specialized Services within PM&R and Prosthetics and Sensory Aids Service Scope of Practice	RACs	PANS	ACTs	APOCs
Driver Rehabilitation	x	x	-	-
Home Assessment and Equipment	x	x	x	-
Cognitive Assessment	x	x	-	-
Leisure and Recreation Assessment	x	x	x	-
Care Coordination	x	x	x	x
Patient Education	x	x	x	x
Vocational Assessment and Retraining	x	x	-	-