

VA CENTER OF EXCELLENCE



FOR LIMB LOSS PREVENTION
& PROSTHETIC ENGINEERING



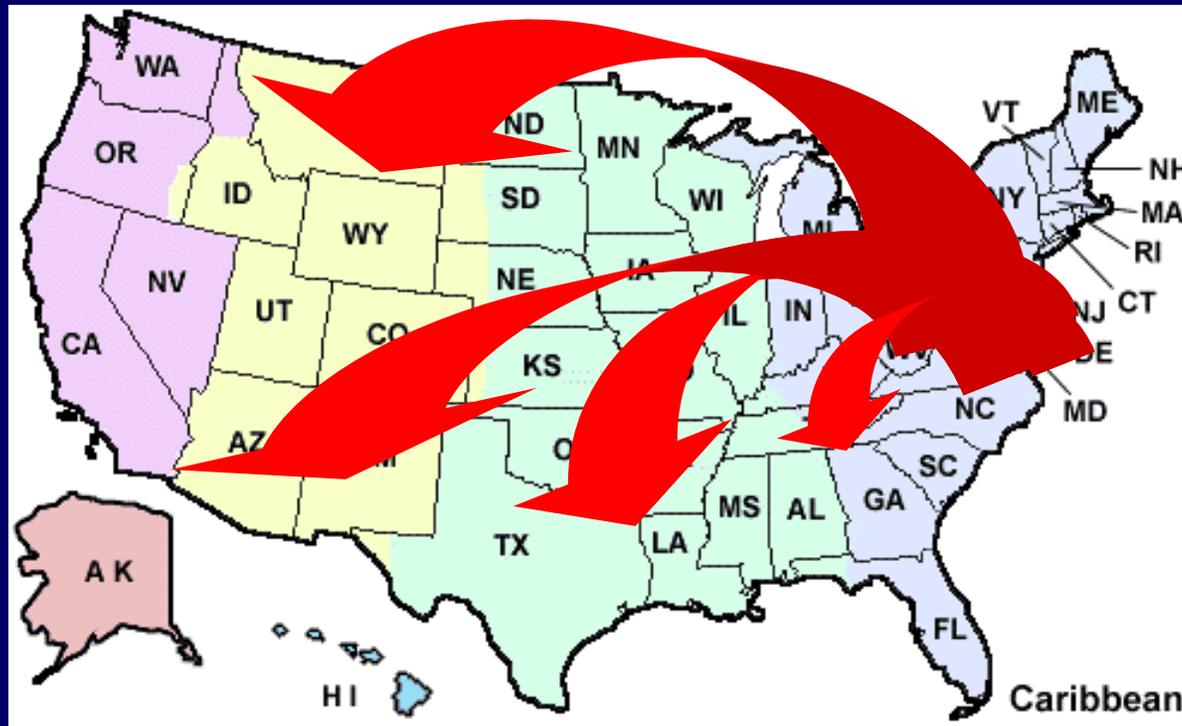
Access to Care

The Role of the VHA in the Care of the Combat Injured Amputee

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Amputee Access to Care



Where, When, and How are the Combat Injured Transferred?

Access: What is it?

Being able to provide:

- The right care
- In the right place
- At the right time

The Role of the VA Health Care System

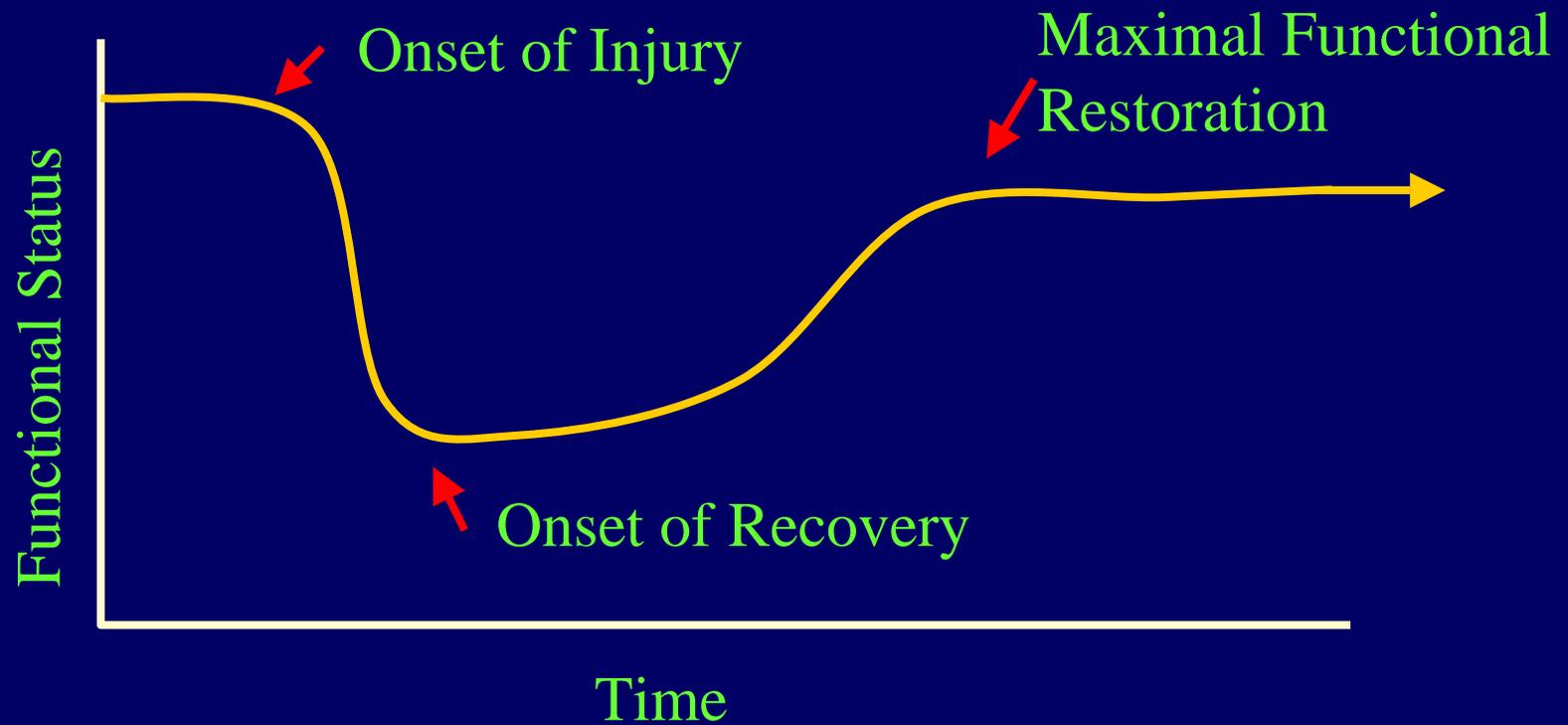
- Need to create a fit between health care needs of the individual patient and the health care resources of the institution.



The Health Care Needs of the Combat Injured

The Right Care

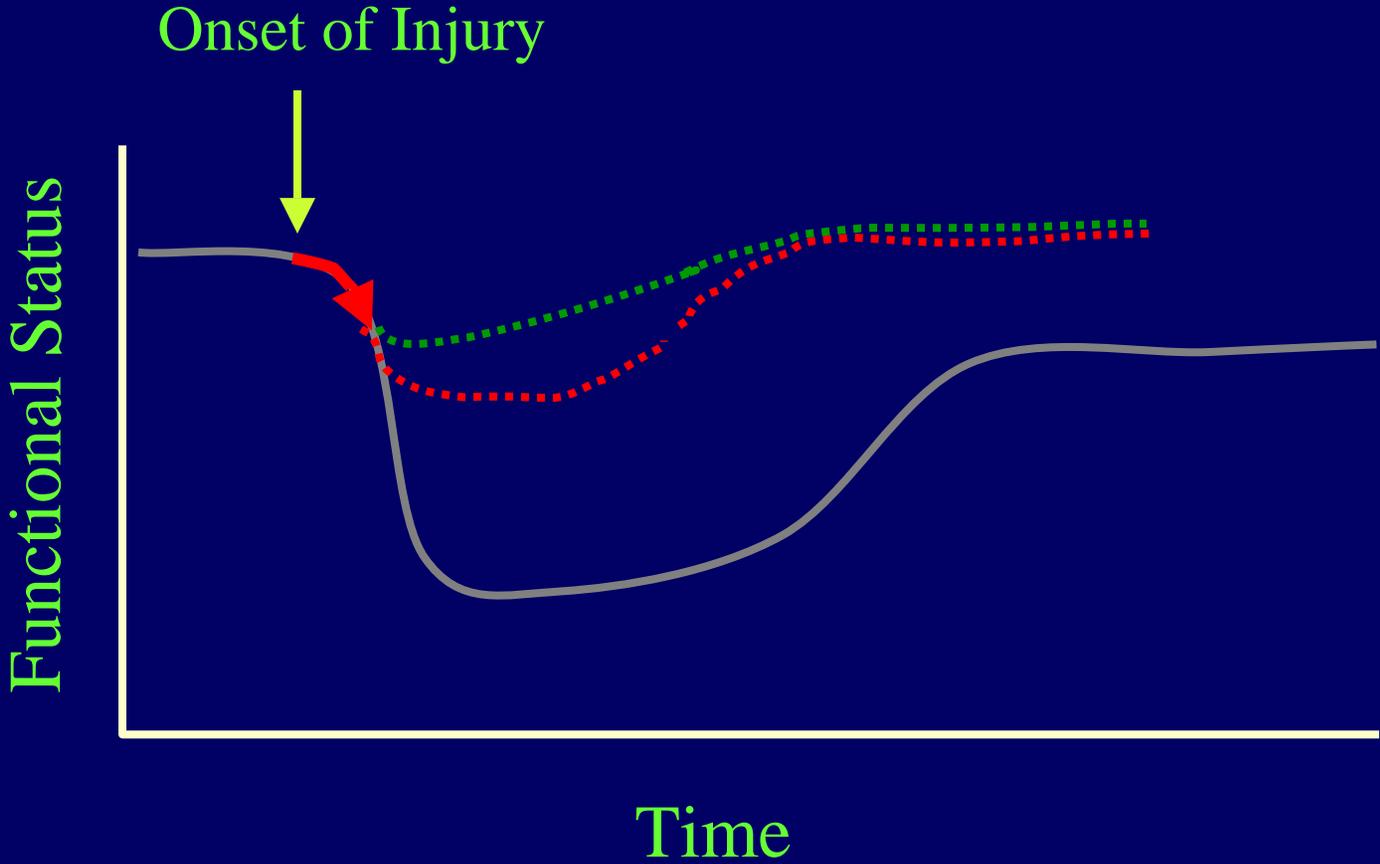
General Model of Functional Recovery after Illness or Injury



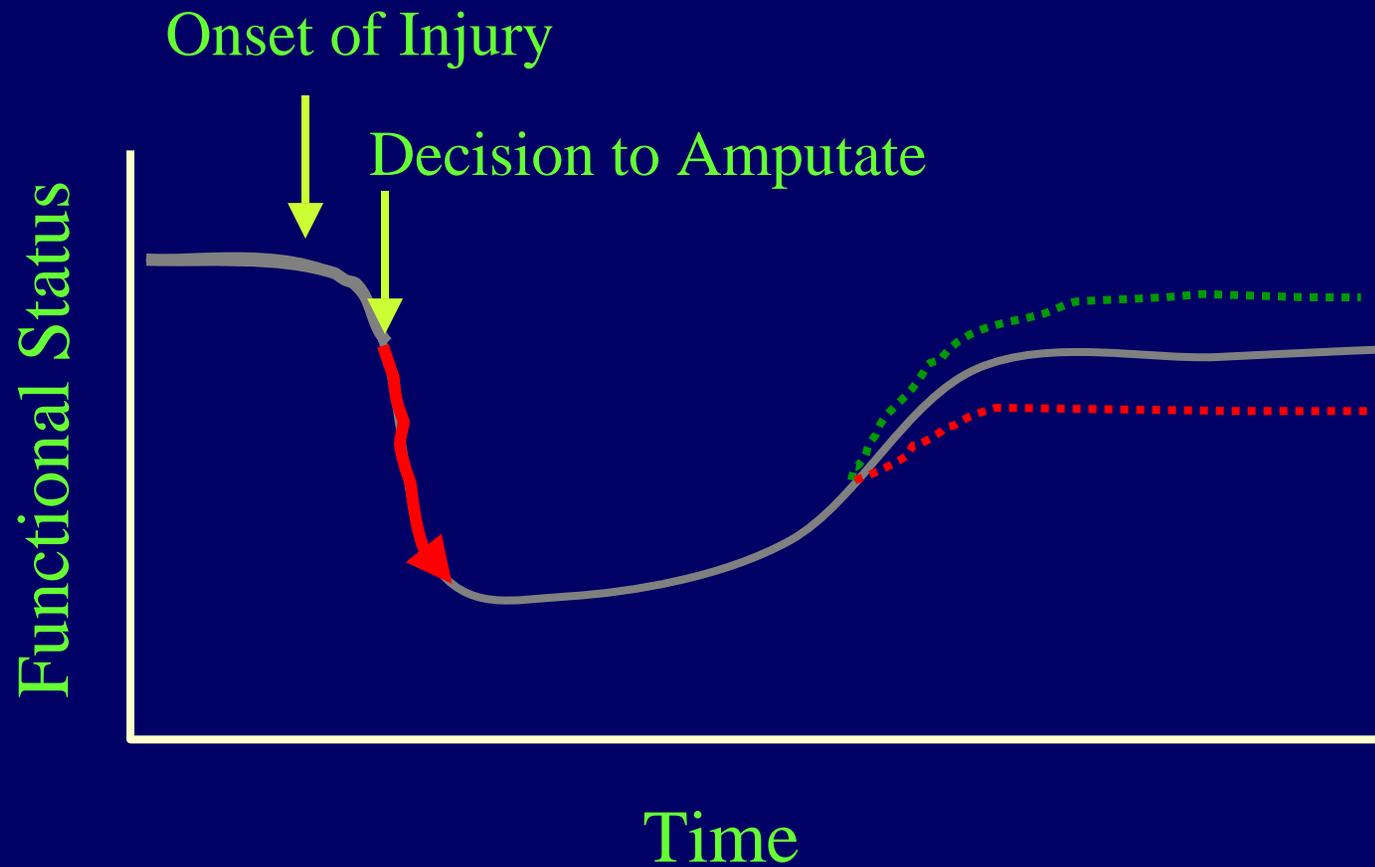
The Right Care

- Minimize the functional decline associated with illness or injury.
- Prevent additional disability.
- Shorten the time course of recovery.
- Enhance the functional outcome.
- Preserve the functional status across the lifespan of the individual.

Onset of Injury



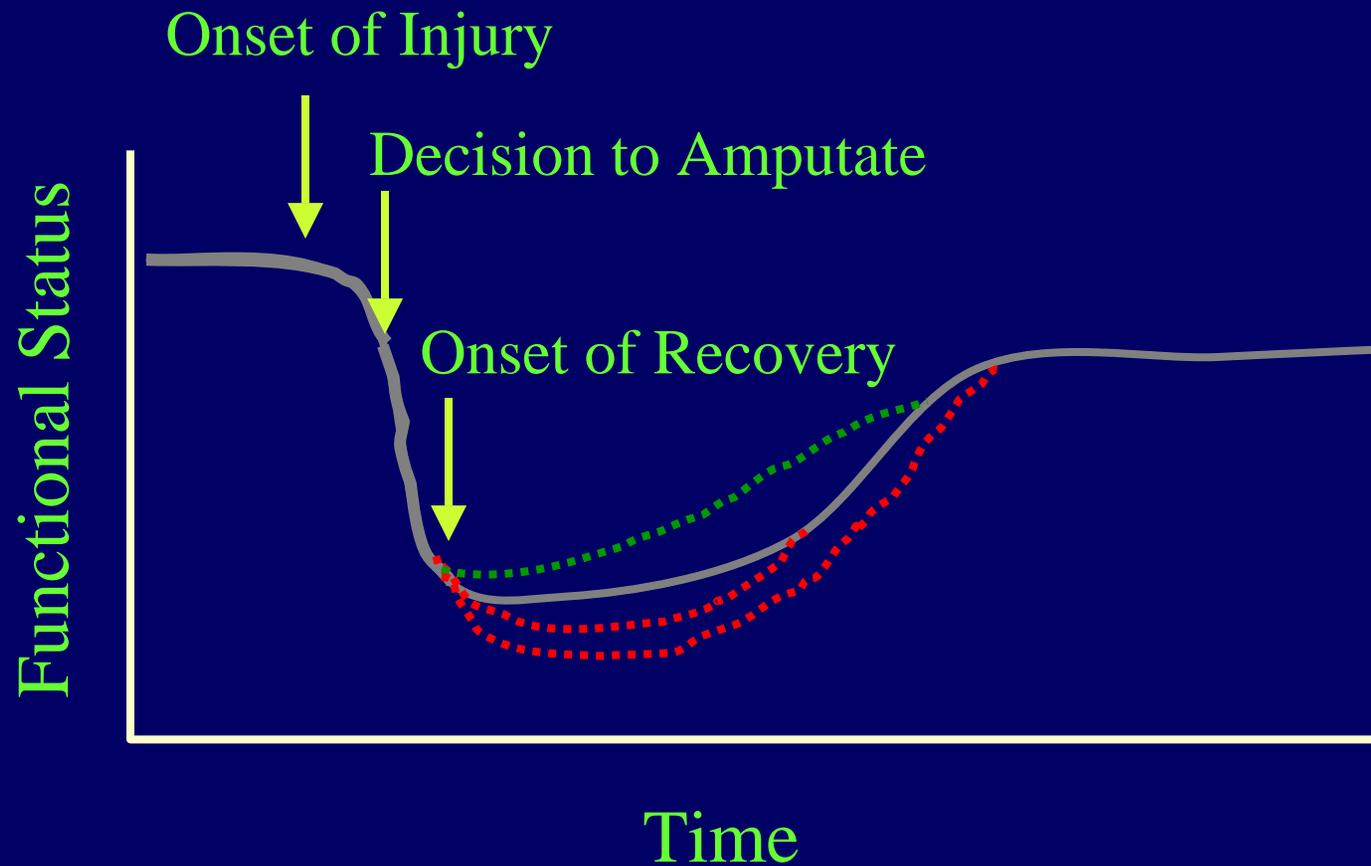
Amputation Decision Making



Amputation Decision Making

- Majority of decisions made prior to arrival at Walter Reed.
- Initial salvage attempt
 - When to stop,
 - when will salvage have a better outcome than amputation?
 - Amputation at what level?
 - Interaction between amputation and other neuro, musculoskeletal, soft tissue

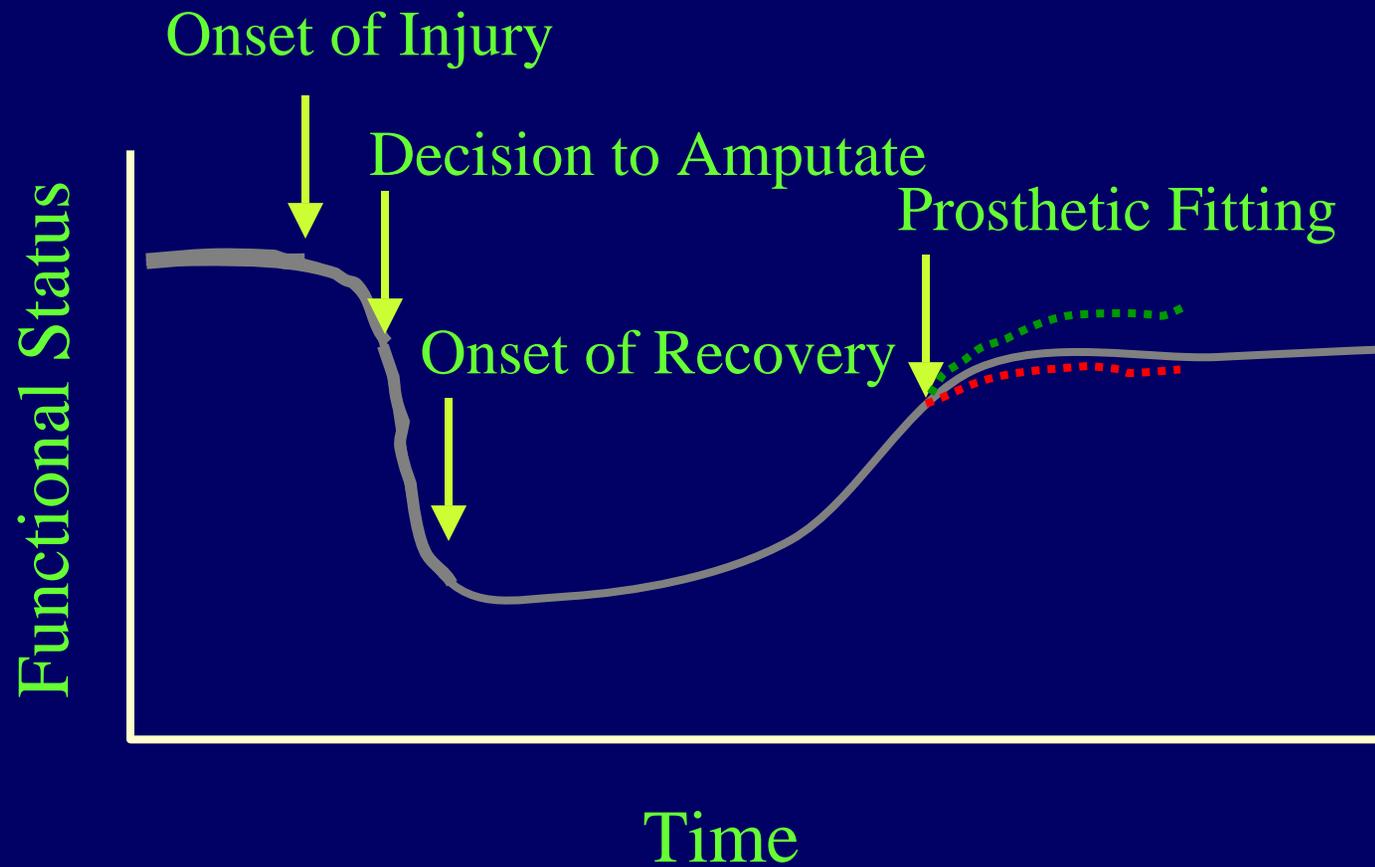
Early Post Amputation Rehabilitation



Early Post Amputation Rehabilitation

- Prevent Complications
 - Disuse atrophy
 - Joint contracture
 - CV deconditioning
 - DVT
 - Education
- Pain management
- Psychological adaptation
- Coordinate D/C to an optimum environment based upon needs at the earliest post op time.

Prosthetic Fitting



Prosthetic Fitting

- Provide the right prosthesis at the right time to optimize function.
 - Select appropriate components to optimize function.
 - Ensure regular followup :
 - Evaluate the quality of prosthetic fit.
 - Efficacy of components
- Provide optimum training and education

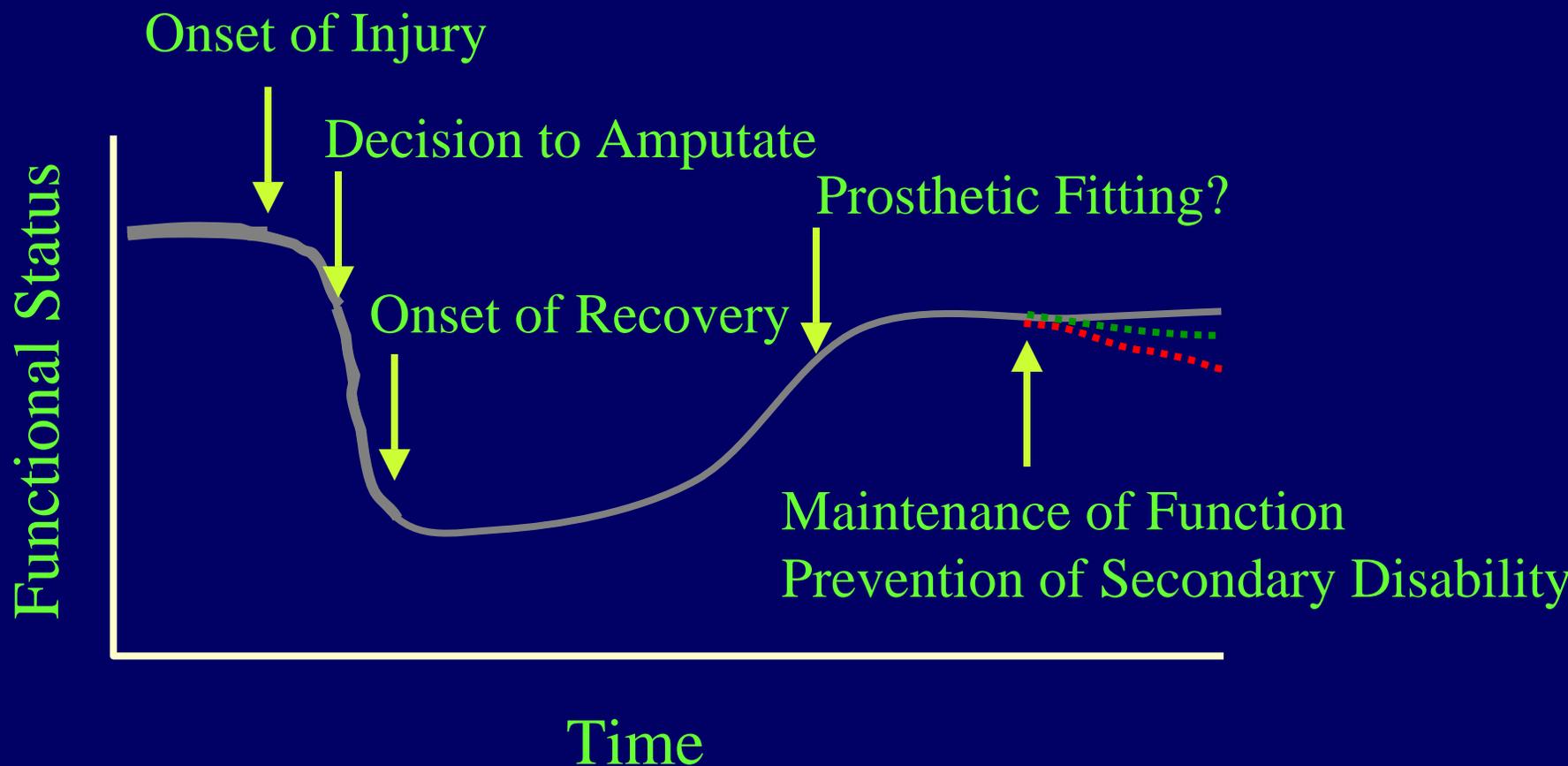
This may not mean one prosthesis



Provide adaptive equipment to enhance and enable greater participation in the breadth of life experiences.



Prevention of Secondary Disability



Maintenance of Function

- Evaluate prosthetic fit and function.
 - Changes in vocational or avocational needs.
 - Changes in prosthetic socket fit.
- Evaluate potential benefit of new prosthetic developments.
- Lifelong evaluation and management of the interaction between amputation:
 - medical, surgical, psychological disorders

Secondary Disability

- **Low Back Pain**
 - 52% (Ehde et al. 1999), 76% (Smith et al. 1999).
 - 50% mod to severely bothersome (Ehde et al. 1999)
- **Knee Degenerative Arthritis**
 - 63% TF, 41% TT, 21% Control (Hungerford and Cockin 1975)
- **Knee Pain**
 - 3 times increased risk in TF,
 - 2 times increased risk in intact limb TT amputees,
 - 5 times **reduced** risk in prosthetic limbs of TT amputees
(Norvell et al 2003)
- **Cardiovascular Disease**

Access to optimum care in the VA

At what point in the continuum of care will the transition occur?

Need to Define the Transition of Care

- The resource needs will be vastly different depending on when the transfer of care occurs.
 - Early post op period?
 - Prosthetic fitting and early rehabilitation?
 - Maintenance of function and prevention/management of secondary disability.

The Needs of the Combat Injured Amputee

- Early post amputation period
 - Surgical support to manage residual limb complications.
 - Expertise in the management of concomitant injuries and psychological adaptation.
 - Plastic and Reconstructive surgery
 - Vascular surgery
 - Neurosurgery
 - Infectious disease
 - Mental Health
 - Comprehensive inpatient rehabilitation and interim prosthetic care.

The Needs of the Combat Injured Amputee

- Early prosthetic fitting and rehabilitation
 - Comprehensive IP/OP therapy.
 - The Team Approach
 - PT, OT, SW, Rehab Psychology, PM&R, Vocational Rehab, Recreation Therapy.
 - Prosthetic services
 - In-house? Contract providers?
 - Additional competencies

The Needs of the Combat Injured Amputee

- Lifelong evaluation and maintenance of function.
 - Prosthetics services, amputee clinic team with complete spectrum of expertise.
 - Not just basic skill set to accomplish ADL's and basic mobility.
 - Sophisticated knowledge of components their application.
 - Ongoing education to keep up with novel procedures and techniques.
 - Interaction between prosthetic issues and concomitant medical/surgical issues throughout the lifespan.

At what point in the continuum will transfer of care occur?

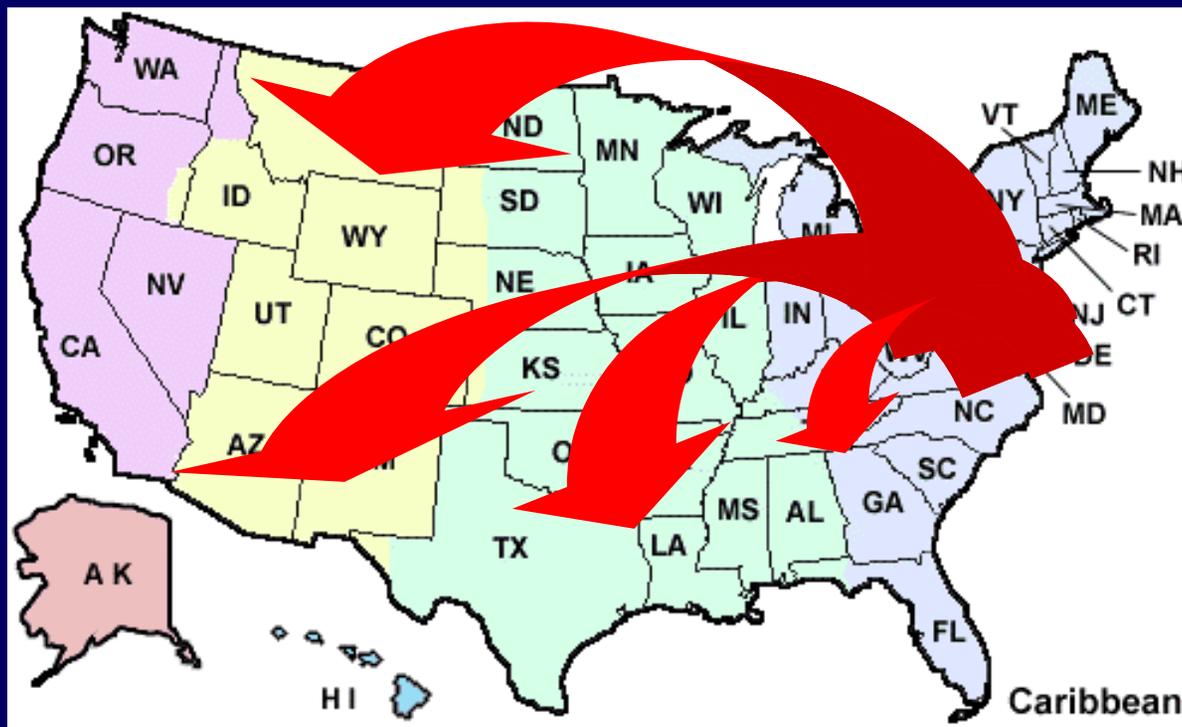
- Importance of administratively defining a transition point of care from DoD to VA.
 - Formal discussions between DoD and VA?
 - Each medical system can develop resources to provide most cost effective, efficient health care.
 - Need for flexibility.

The Right Place to Provide Care?

Where in the VA Health Care System?

Nationwide Health Care System

23 VISN's, 163 Medical Centers



Available Resources at each Medical Center

- Individual medical centers assign resources based upon local/regional competing needs and priorities.
 - Creates differences in resource availability
- Little readily accessible data to be able to determine the extent and quality of the resources.
- The VA provides the role of a national resource.
 - Military to VA transition
 - Creates challenges in determining what is available and what the quality is.

Amputation Resource Availability at VA Centers

- CARF Accredited Rehab Unit
- In-house Prosthetic Services
 - ABC certified prosthetic labs (VA Prosthetics Service)
 - ABC certified prosthetists (VA Prosthetics Service)
 - Additional training in specialized techniques or components. (C-leg, Ottobock Industries)
- In-house Orthopedic Surgery (Office of the Director of Surgery)
- Number of Amputations per year (VA Austin database)
- Affiliation with Academic Institution (VA Central Office)
- Mental Health (PTSD), SCI, TBI (VA Central Office)

Problems₍₁₎

- VISN's without CARF Accredited Rehab Unit
 - Geographical challenges in transferring patients close to their home.
- Prosthetic facilities
 - Few certified labs 4-6,
 - Few certified prosthetists
 - Great variability in extent of prosthetic services provided.
 - Many use contract community prosthetists for limbs
 - Little data on the quality of prosthetic services
 - No good data on additional qualifications.

Problems₍₂₎

- Orthopedic Surgical services
 - Variation in only in-house, only contract, mixture with a portion of an FTEE administrative.
 - ?measure of quality, availability special expertise
- Number of amputations/year
 - Austin data base, ? Measure of quality
- Many amputees have other concomitant injuries
 - Presence of SCI, TBI, PTSD
 - Need Plastic Surgery, ?Blind rehab

Amputation Clinic Teams

- Amputee clinic teams
 - Administration of a Self Assessment Survey
 - Frequency, membership, use of outcome tools, research activities.
 - Define current characteristics.
- Great variability in composition of teams and function.

Patterns of Care of Amputees in Rural Locations

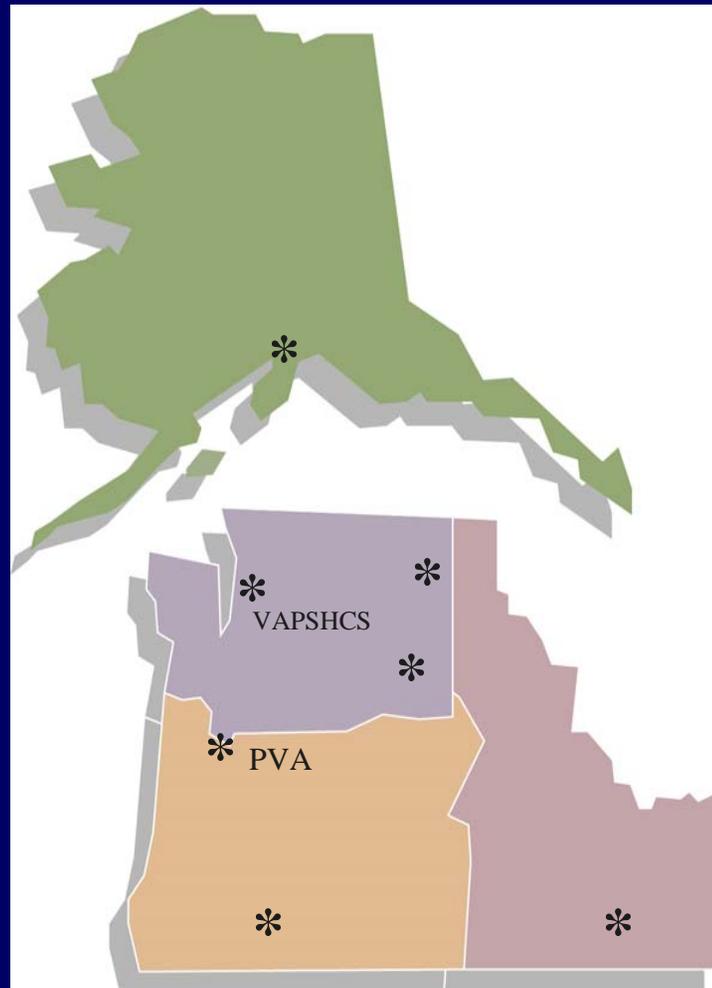
Is there equity in quality of Health Care?

Does this affect Outcomes?

Are there systems of care that enhance outcomes?

VISN 20 VA Medical Centers

The challenge of geography and health care accessibility



Possible Solutions to Improving Access

- Develop a National Database of available resources in different VA Medical Centers.
 - Surgical specialties, Medical specialties, Mental Health, Rehabilitation, Prosthetic services
- ? Searchable data base
 - geography, university affiliation, availability of different types of care
- Develop measures to identify the quality of amputation care provided.
 - Satisfaction with services,
 - Satisfaction with prosthesis
 - Other outcome measures. QoL, Mobility?

Determine the VA Health Care Facility that can best provide those needs.

Alternative Strategy? (SCI model)

- Establish criteria for designation as a regional amputation centers.
 - Space, facilities, personnel, qualifications.
 - CARF Accreditation, Prosthetic facility and prosthetist certification, clinic team structures.
 - Utilization of outcome measures, that reflect quality of , and satisfaction with care.
 - Availability of specialty resources.

Summary

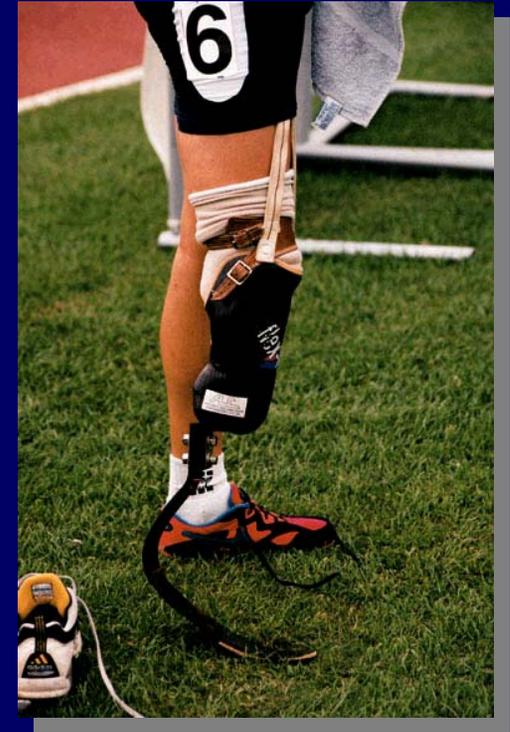
- The Rehabilitation of the combat injured amputee is a life long continuum of care.
- The resource and expertise needs change throughout the continuum.
- Important to administratively define the transition so that the VA can effectively prepare.
- The transition of patients requires a knowledge of the types of resources available in each medical center of each VISN.

Summary

- Utilize quality, satisfaction and outcome measures
 - Define quality that is medical center specific.
 - Determine if specific patterns of care are beneficial.
- ? Establish/designate centers of excellence
 - Encompass adequate geographical needs of patients.
 - Require certain criteria to be fulfilled.
 - No evidence to support a relationship between certain criteria and enhanced outcome.



Can we do better?



Event	Class	Time
Men's 100 m	A2	12:86
	A4	11:33
Men's 200 m	A2	27:39
	A4	22.85
Men's 1500 m	A 4	5:50.88