The Role of OT on a Burn Unit
Lehigh Valley Health Network
Allentown, PA
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LVHN Burn Unit
- Regional Burn Center
- 18 Bed Unit located in Kasych Building
- Critical and non-critical beds on the unit
- 3 Burn Surgeons, 6 Physician Assistants
- 1 Dedicated OT/PT and trained support therapy staff

Burn Unit Regulations
- Locked Isolation Unit
- Gown and Gloves are required at bedside by staff and visitors
- If dressings are down, additionally, staff is required hat and mask
Regional Burn Center

Total Burn patients seen for FY 15: 729
Total Non-burn patients seen: 110

Types of Burn Injuries

- Thermal
- Scald
- Electrical
- Chemical
- Friction
- Frost Bite

Other diagnoses:
- Snake/Spider bite
- Necrotizing Fasciitis
- Stevens Johnson Syndrome (SJS)
- TENS or Toxic Epidermal Necrotizing Syndrome

Thermal Burn Injury

- First, second and third degree burns
- First – Sunburn
- Second – blister and blanching
- Third – no blanching, hair loss
  - Second Degree Burn Intervention?
  - Biobrane: Role of OT?
Thermal Burn Injury

- This patient, a 17-year-old male, fell into a fire pit.
- 1% TBSA, 2nd degree thermal burn injury.

Role of OT?

Treatment

- HEP (Home Exercise Program)
- Encourage function during the day
- Provide necessary assistive device to perform usual ADL tasks

- Splint with wear and care schedule
  - For this patient, I had him wear a resting splint at night to preserve palmar/thenar crease and extension of arches

Deep Second Degree Burns

- [Image of a splint]
- [Image of a burn on a hand]
Third Degree Burns

- Intervention depends on TBSA
- STSG
  - Mesh
  - Sheet
- FTSG
- Skin Substitute

Third Degree Burns

- Difficult to determine depth of a burn
- Chemical and electrical burns will progress up to 72 hours from injury
- The higher the TBSA, less donor sites available for auto grafting

Split–Thickness Skin Graft

Necessary to achieve wound closure

Mesh and Sheet

Location is considered Mesh vs sheet
Split-Thickness Skin Graft

OT Intervention: ACUTE PHASE
- Splinting/positioning with wear schedule
- Patient/family/nursing education
- ROM – attend dressing changes to progress appropriately
- Edema/scar management

POST-OP POSITIONING

STSG with significant edema; UE positioning and suspension

POST-OP POSITIONING

- Pt is 68 y/o male s/p syncopal episode in kitchen. Pt sustained flank, axilla and UE thermal burns with compartment syndrome.
Significant Wound to Consider

- Will not heal on its own
- Too deep for graft
- Needs time to granulate to accept STSG
- Wound Vac

Biological Skin Substitutes

**Integra - Dermal Regeneration Template**

- 2 layers: (1) outer silicone layer
- (2) thick inner matrix comprised of collagen from bovine tendon and cartilage and glycosaminoglycan (GAG) derived from shark cartilage

Integra

- Inspires granulation tissue to prepare for final grafting
Pt is 31 year old male s/p MVA rollover
- Road Rash or Friction
- Distal Radial/Ulnar fractures

Role of OT with Integra
- Provide splint for protection
- NO ROM active or passive for up to 3 weeks
- Pt education

ENHANCE FUNCTION
- 34 year old male
- Electrical injury to lt rt hands
- Delayed surgical intervention to demarcate
- Integra with wound VAC
- STSG with splint and VAC
ATTEND DRESSING CHANGES

- Performed bedside with sterile precautions
- Never blindly handle, range, or progress without seeing how graft reacts to ROM

Biological Skin Substitutes

EPICEL

**CEA - Cultured Epidermal Autografts**

- full-thickness biopsy (2cm x 6cm)
- indicated for ≥ 30% TBSA
Role of OT in the Management of a Burn Patient With CEA

Management of CEA

Scar Management Of UE Burn
- Pre- and Post- operatively
- Especially crossing /adjacent to a joint or orifice
- Open wound and s/p closure
  - splinting/positioning
    - Non-friction/friction scar massage
    - graded compression
    - ROM/mobility/ dynamic splinting
Splinting and Positioning

Edema/Scar Management

ROM and Graded Compression
- Dynamic Flexion Glove/Isotoner
- Custom Compression Garment
Facial Burn: Acute Phase
Oral Commissure
Contracture
Prevention Efforts
Pre and Post-op

Facial Burn: Rehab Phase

 STATIC
DYNAMIC

Occupational Therapy
- Mobility
- Self-care
- Cognitive
- Work
- Leisure
- Patient/Family education
- Pediatric, Geriatric, Baseline limitations
Taking It To The Next Level: Specializing in Burn Rehabilitation

“Basics” of traditional OT knowledge and treatment initiatives; must be enhanced with extensive knowledge of:

- Wound healing process
  - Different types of grafts
  - Positioning/splinting
  - Scar maturation process

Empower Patients With Resources to Optimize Regained Function

- Psych-Social Aspect of care – personal motivation, cultural factors, baseline psych issues
- Burn Support Groups are available; patients and families should be encouraged to utilize
- Burn Camp for Kids
- SOAR program where current patients/families are thoughtfully matched with former burn patients
- Christmas Party – psych-social worker arranges for our patients
- Annual Dodgeball Tournament

THANK YOU

QUESTIONS?