2011 Military Health System Conference

Critical Advances in Wound Care

The Quadruple Aim: Working Together, Achieving Success

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Complex Wound and Limb Salvage Program
NNMC / WRAMC
**Critical Advances in Wound Care**

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• **Proving ground** for emerging wound care technologies and treatments in support of wounded warriors
• **Bio-banking:** Collection and storage of blood, wound fluid and tissue for translational research to advance complex wound care
• **Personalized medicine:** Development of predictive models to advance individualized wound therapy through clinical decision support
• **State-of-the-art care:** Complex Wound and Limb Salvage Center
• **Strategic private-public partnerships** to enhance the quality of care for wounded personnel
Background: Un-met need for comprehensive, centralized, outpatient complex wound care and limb salvage within the Military Health System

Driving policy: Integrated state-of-the-art care for wounded warriors and beneficiaries with acute and chronic wounds

Benchmarks: Multi-disciplinary team established and clinic launched at WRAMC and NNMC March 2008
Needs assessment, supportive data:
- Search period: 6 months
- Complex wound & limb salvage – specific ICD9 codes
- 10,280 visits across 33 outpatient clinics (1,713 / month)
- 1,587 patients: 6.5 visits/patient over 6–month period
- Average 50 patients/month leak to network across 40 clinics

Analysis:
- 1 visit / month inappropriate for most complex wound patients
- Visit frequency inadequate to meet rehabilitation needs
- Variable wound care presently spread over numerous clinics

Conclusion: Efficient, centralized, evidence-based, inter-disciplinary care team represents an un-met need
Complex Wound And Limb Salvage Center

Strategic Connection

- **Readiness**: Reduced time to rehabilitation, return to duty
- **Research**: Translational Research program: Combat Wound Initiative Program (Private-Public National and International partnership)
- **Quality care**: Multi-disciplinary team, evidence-informed best practice protocols
- **Cost-effective care**: Reduced emergency room visits and hospital re-admissions, focused management
- **Graduate Medical Education**: Resident and staff education; recapture of patients lost to network and multi-service consultation supports GME mission
Complex Wound And Limb Salvage Center

Multi-Disciplinary CWLSC Team

- Wound specialist M.D.
- Vascular surgeon
- Prosthetist
- Nutritionist
- Administrator
- Nurse practitioner
- Case manager
- Podiatrist
- Receptionist
- Photographer
- Data manager
- General surgeon
- Plastic surgeon
- Trauma surgeon
- Infectious disease specialist
- Physical and occupational therapist
- Wound clinic manager
- Wound care nurse
- Healthcare specialist
- Medical records specialist/coder
- Clinical research nurse
- Research study assistant
- Orthopaedist
- Pedorthetist
- Diabetologist
Complex Wound And Limb Salvage Center

Physical Plant

- Military Advanced Training Center
- Easy patient access
- Proximity to radiology, vascular testing, physical therapy, orthotic and prosthetic lab
- Multiple exam rooms with adequate lighting, exam tables, and surgical instruments
- Proximity to Operating Room for surgical wound débridement
Complex Wound And Limb Salvage Center

TRI CARE Payment of Wound Care Dollars NCA: 2007-2009

Pre CWLSC | Post CWLSC
---|---
ANDREWS | $26,832 | $44,511
FT. BELVOIR | $147,902 | $170,175
NNMC | $62,329 | $77,992
WRAMC | $84,681 | $27,740

Net reduction in purchased care with CWLSC in-place
Complex Wound And Limb Salvage Center

CWLSC Patient Visits 3/08 - 8/10

2008
2009
2010

5 38 28 46 68 44 62 66 48 60 52 68 83 88 58 49 58 81 108 114 151 155 173 182 220 272 283 306 370 375 306
Complex Wound Limb Salvage Program
WRAMC/NNMC

Inpatient Care
Wound and Ostomy
NNMC and WRAMC

Outpatient Care
2 Clinics over 400 complex encounters
NNMC and WRAMC

DoD Level
Operational wound care formulary
NPWT standardization
NPWT purchase
SME / legal advisor

Equipment Management / Contracts
Wound VACs
Specialty beds
HBOT program (under construction)

Research / EBP
Pressure ulcer protocol
CPG development
Wound education research grant
WRNMMC wound care formulary

Education
DoD Wound Course
WOCN Course and precept Emory Univ,
Orientation, SWAT,
Nurse intern program
Iraqi PT Program

Standardization
Ostomy
Wound care
Skin Care
Cleansers
## Development Of The Program

<table>
<thead>
<tr>
<th>CWLSC Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Care</td>
<td>Outpatient Care</td>
</tr>
<tr>
<td></td>
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<tr>
<td>Standardization of Products/Equipment</td>
<td></td>
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<tr>
<td>Equipment/Management Contracts</td>
<td>Education</td>
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<tr>
<td>Expansion</td>
<td></td>
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<tr>
<td>DoD Level Impact</td>
<td>Research/EBP</td>
</tr>
</tbody>
</table>
Sequence of Molecular and Cellular Events in Skin Wound Healing

Four Phases of Healing
- Hemostasis
- Inflammation
- Repair
- Remodeling

1. Clotting
2. Vascular Response
3. Inflammation
4. Scar Formation
5. Epithelial Healing
6. Contraction
7. Scar Remodeling
Person with a chronic ulcer

Treat cause

Local wound Care

Patient-centred concerns

Tissue-debridement Of devitalized tissue

Superficial Infection/Chronic Inflammation

Moisture balance

Edge – non healing wound
Biological agents
Growth factors
Skin substitutes/Acellular matrix
Skin grafts
Adjunctive Therapies


2011 MHS Conference
Identify Problem Wounds Early And Transition To Advanced Therapy

- **“Good” Wound Care**
  - History
  - Assessment
  - Debridement
  - Warm, Moist Environment
  - Offloading
  - Topical Care

- **Advanced Wound Care**
  - Hyperbaric Medicine
  - Growth Factors
  - Bioengineered Alternative Tissues
  - Negative Pressure Therapy
  - Biologic Dressings
  - Active Topicals
  - Plastic Surgery
  - Curative Surgery

Key Factors Leading To Failure to Heal

- Underlying pathophysiology: venous and/or arterial insufficiency, diabetes and neuropathy, prolonged immobilization
- Infection or high bacterial colonization
- Immunosuppression
- Concomitant disorders
- Nutritional deficits
- Adverse effects of medications on the healing process
Current status

- Parallel Clinics at NNMC and WRAMC
  - Dedicated clinical space and personnel
  - Integrated SOPs / Clinical Practice Guidelines
  - Common supply chain
- Forging relationship with multi-disciplinary team throughout the National Capitol Area
- Outreach program: On-campus, ER, in-patient services, other DoD facilities
Inpatient Care- NNMC, WRAMC

All aspects of treatment- ostomy care, war wounded, intraoperative consults, pressure ulcers, acute and chronic wounds

Collaboration with inpatient teams is essential

Education for the inpatient staff also critical for improved outcomes

Procedures/care done at bedside, in the PACU or in the OR
Outpatient Care

- **Outpatient Care-NNMC/WRAMC**
  - Over 400 patient visits monthly
  - Co-treatment with PT/OT in the MATC
  - Advanced wound care treatments and modalities used
  - Standardization of wound care, ostomy, skin care and cleansers is key
  - Major improvement in the “standard of care”- i.e. wet to dry is NOT standard anymore
Advanced Wound Care Products And Modalities

- Silver based dressings
- Honey dressings
- Atraumatic dressings
- MIST Ultrasound
- Qoustic Debridement
- Ultraviolet-C Therapy
- Scar Treatment
- Lymphedema care
1 of the greatest and most confusing challenges in wound care
Over 3000 wound dressing products
Over 30 different dressing categories
Inappropriate dressings can lead to a delay in wound healing
Many dressing choice strategies exist and have merit; the clinician must choose which to use.


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Which One Is Best?
Standardization

- Ostomy Supplies
- Wound Care
- Cleansers
- Skin Care
- Developed with SME and contracts established with wound companies
- Education to the inpatient units commenced
Complex Wound And Limb Salvage Center

Product Standardization

- Wound care
- Ostomy
- Skin care
- Devices
- Beds and support services
- Operational Wound care products

### NNMC & WRAMC Wound Dressing Selection Guide

<table>
<thead>
<tr>
<th>Wound Appearance</th>
<th>Description</th>
<th>Depth</th>
<th>Treatment Objective</th>
<th>Suggested Products and Change Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>Moderate to None</td>
<td>Deep</td>
<td>Debride*</td>
<td>Carressyn Gel or Collagenase (needs Rx) (daily)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deep/Shallow</td>
<td>Cleanse, Debride, Absorb, Fill Dead Space</td>
<td>Iodosorb Gel (daily) or Melogel® (up to 4 days) or Aquecol®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deep/Shallow</td>
<td>Protect, Hydrate, Fill Dead Space</td>
<td>Moderate Exudate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shallow</td>
<td>Protect</td>
<td>Melogel® Border Lite or Comfeel Plus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shallow</td>
<td>Protect</td>
<td>Melogel® Border Lite or Comfeel Plus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closed</td>
<td>Protect</td>
<td>Melogel® Border Lite or Comfeel Plus</td>
</tr>
</tbody>
</table>

### Notations

- Use secondary dressing over Mepitel® or Mepilex® Border Lite or Comfeel Plus
- Use Mepilex Tape on fragile skin. Secure dressings with Tubfast of roll gauze.
- For complex wounds consult the Wound Care Team
- Date and time ALL dressings
- Consider using Mepilex®Ag or Aquecol®Ag or Melogel®Ag when antimicrobial effect is desired
- Utilize Mepiplax Heat or Mepiplax Border as needed for heel wounds and/or protection from shearing.
- Time for each dressing is up to 7 days unless otherwise noted.
- Clear all wounds with normal saline or wound cleanser, then each dressing change.
- DRESSINGS with Safetac® technology DO NOT require use of skin barrier products.

2011 MHS Co
2000 year history

- Smith Papyrus (the world’s oldest known medical document, 4,000 yrs old)
  - honey mixed with grease and lint to keep it on the wound
- Aristotle 2 millennia ago
  - some honeys are better than others for use in wound treatment
- Usage declined at the introduction of penicillin in 1940’s

Has been well re-established in wound care in the UK, other parts of Europe, Australia, New Zealand over the past 2-3 years.
The Use Of Silver- A Historical Perspective

Similar History with Honey

• Romans used silver nitrate therapeutically

• People of ancient Greece and Rome used silver containers for keeping liquids fresh

• Silver foil dressings were used for dressing wounds until just after WWII (when antibiotics became widespread).

Has been well re-established in wound care over the past decade.
Silver Modes Of Action

- blocks breathing of cell
- changes DNA
- destroys proteins and enzymes
Wounds Of War - Straightforward
Anterior Thigh Donor Sites
Antimicrobials And Absorptives
Left Lower Extremity
Dressings - Mepilex Ag And Acticoat
Final Dressings
MIST Ultrasound Healing Therapy

- MIST Ultrasound Generator
- MIST Applicator Kit
  - Applicator
  - Normal saline
  - Antiseptic wipes
  - Absorbent pad
How Is MIST Therapy Different?

- Low frequency, low intensity ultrasound
  - 40kHz
- Noncontact
- The only ultrasound device cleared by the FDA to promote wound healing

**FDA Indication**

The MIST Therapy System produces a low energy ultrasound-generated mist used to **promote wound healing** through wound cleansing and gentle debridement by the removal of yellow slough, fibrin, tissue exudates and bacteria.
Bioengineered tissues

- Acell
  - Rebuilding of severed digits
- Apligraf/Dermagraft
  - Grafts from neonatal tissue
- Integra
  - Tissue scaffold, collagen matrices
Advancing the science of wound healing within the military healthcare system requires more than a multidisciplinary team using advanced technology. It is requisite that we collaborate, employing a Joint effort throughout the continuum of care, that we disseminate knowledge through education, and that clinicians and researchers collaborate in translational research.
Advancing The Science

- Evidence-Based Protocols, Performance Improvement, and Research
  - Development of clinical practice guidelines
  - Trialing and evaluating promising wound healing therapies
  - Donor site management research project
  - Close relationship with researchers
  - Wound education research grant proposal
Recent injuries

- MOI: Dismounted IED
- High bilateral lower extremity amputations +/- vascular injuries
- Associated open pelvic ring injuries
- Associated pelvic floor/perineal ST injuries
- Associated UG injuries
- High risk of intra-pelvic DVT / PE
- **Negative Pressure Wound Therapy (NPWT)**
  - Increasing blood flow through reduction of interstitial edema
  - Removal of inflammatory cytokines and management of exudate
  - Mechanical deformation of cells
  - Other benefits
    - Reduces need for frequent changes
    - Contains effluent
  - Research
  - Infection

• Negative Pressure Wound Therapy (NPWT)
  – 2008 in-flight feasibility study LRMC to CONUS
  – 2009 Challenge; NPWT units available for in-flight care
    • Air Force purchased units placing into PMI
  – 2010 significant increase in MEDEVAC Wounded receiving NPWT
Advancing The Science

- Developing solutions to complex problems
  - Increasing incidence of high AKA amputations with accompanying fungal infections
  - Need for local therapy
    - Wound VAC™ Instill® therapy
    - Dakin’s irrigation solution

- Optimized Stabilized Hypochlorous Solution
  - Decrease bacteria at all time points after initiation of treatment (p=0.0002)

Bacteria Quantity In Open Fracture Model

Pressure ulcer prevention program

- Incidence of pressure ulcer formation among Wounded
- FMEA, chart review, EBP project

Development if an Evidence-Based Pressure Ulcer Prevention Program at the National Naval Medical Center: Crumbley, D, and Kane, M., "Nurses' Role in Risk Factor Assessment, Prevention, and Intervention Among Young Service Members from OIF/OEF", Nursing Clinics of North America Volume 45, 2, Jun 2010.
# Pressure Ulcer Prevention & Management

## OP AIM: TAKING AIM AT PRESSURE ULCER PREVENTION

### Optimize Nutrition and Hydration
- Consider Nutrition Consult

### Pressure Reduction
- Turn every 2 hrs – Place Turn Clock in Room
- Elevate heels off bed
- Do not place patient on affected side
- Reduce friction/shear

### Assessment
- Monitor and reassess Braden Score on admission and q shift

### Inspect Skin Daily

### Moisture Management
- Keep patient clean and dry
- Moisture barrier on incontinent patients
- No diapers/plastic-lined chux pads

## PRESSURE ULCER CLASSIFICATION AND MANAGEMENT

### STAGE I
- Good Skin Care
- Off-Load Pressure/Reposition
- OP AIM
- No dressing required

### STAGE II
- Off-Load Pressure/Reposition
- OP AIM
- Hydrocolloid/Foam Dressing for Protection from Shear/Friction

### STAGE III
- Consult Wound Care Nurse
- Off-Load Pressure/Reposition
- OP AIM
- Consider Specialty Mattress

### STAGE IV
- Consult Wound Care Nurse
- Off-Load Pressure/Reposition
- OP AIM
- Consider Specialty Mattress

### UNSTAGEABLE
- Consult Wound Care Nurse
- Off-Load Pressure/Reposition
- OP AIM
- Consider Specialty Mattress

### SUSPECTED DEEP TISSUE INJURY
- Wound Care Nurse
- OP AIM
- Consider Mattress
- Reposition

## HIGH RISK PATIENTS:
- Braden Scale ≤12
- Elderly & Frail
- Immobile
- Spinal Cord Injury
- TBI
- Ventilator Dependent
- Sensory Deficit ( Epidural/Nerve Block)
- Sensory Neuropathy (Diabetic)
**National Naval Medical Center Therapeutic Support Surface Algorithm**

**OP AIMS:** Key Factors to Prevention and Treatment of Pressure Ulcers for All Patients

1. **Optimize Nutrition and Hydration**
2. **Pressure Reduction**
   a. Patients should be turned/repositioned EVERY 2 HOURS unless clinically contraindicated, even when using specialty mattresses.
   b. Heels should be floated off the bed when indicated even when using specialty mattresses.
   c. Minimize injury related to shearing and friction forces – Lift, don’t drag, patient up in bed.
3. **Assessment - Admission and Daily Braden Risk Assessments.**
4. **Inspect Skin Daily**
5. **Moisture Management**
   a. Keep skin dry and clean of bodily fluids
   b. Moisturize dry skin and protect moist/wet skin

**High Risk Patients:**
- Braden Scale ≤ 12
- Elderly & Frail
- Immobile
- Spinal Cord Injury or TBI
- Ventilator Dependent
- Sensory Deficit (Epidural/Nerve Block)
- Sensory Neuropathy (Diabetic)

**Helpful Hints:**
1. The algorithm is only intended to be a guide for appropriate bed selection. The final selection should not be based solely on Braden Score and staging of a current pressure ulcer. Clinical judgment should be used to assess entire patient picture, such as location of ulcer and why/why the pressure ulcer occurred.
   a. Example 1: A patient who developed a Stage IV pressure ulcer when they were sedated and unable to move, who is now ambulatory generally does not need a specialty surface.
   b. Example 2: Pressure ulcers located on the heels can be treated by floating the heels off the bed. Unless the patient is at a high risk for further skin breakdown, a specialty mattress may not be indicated.
2. Only use Dry-Flo pads under patients on low air loss mattresses.
3. The turn-assist function found on several of the beds is not to be used as a replacement for manually repositioning a patient q2h.

**To Order a KCI Therapeutic Support Surface:**
1. Determine which therapeutic surface is appropriate.
2. Obtain physician order for specialty bed you are ordering.
3. Call KCI Customer Support at 1-800-275-4524, 24 hours/day, 7 days/week.
   a. National Naval Medical Center's Account ID: 2021
   b. National Naval Medical Center's PO# M00150-05-0080
   c. Patient’s name
   d. Name of product being ordered
   e. Location of delivery (unit name, patient room #)
4. When therapeutic surface arrives from KCI, Biomed must be notified.
   e. 295-5515
   f. After hours: 301-442-2076
   g. Pager system: 1-800-759-8888
   h. Pager: 1418011

**To Order a KCI Therapeutic Support Surface:**
- HIGH FALLS risk Patient
- Can be used in combination with First Step Select Overlay
- Weight limit: 250 lbs w/ First Step Select Overlay
- Weight range: 38-350 lbs
- Weight limit: 141B101
- Weight limit: 500 lbs w/ Atmos Air 9000
## Competencies for Deploying Nurses

<table>
<thead>
<tr>
<th>Complex wound management</th>
<th>Evaluating traumatic large, complex soft tissue injuries related to blasts and projectiles</th>
</tr>
</thead>
</table>
| • Large soft tissue injuries
• Amputations
• Disarticulations
• Fasciotomies
• Open abdomen |                                                                                                                                 |
| Obtaining ABIs and assessing for compartment syndrome | Management of infected wounds and abscesses, and wound pain |
| Preventive skin care | Burn wound care |
| NPWT application and management | Wound assessment and documentation |
| Ostomy and fistula care | Wound cleansing |
Education / Knowledge Transfer

- **DoD / VA Wound Care Course**
  - Established in 2008
    - Extensive 5-day course with skills training
    - Open to DoD and VA
      - Physicians, Nurses, Physical Therapists, Corpsmen/Medics
    - Future WOCN approved course with credentials

- **Emory University Wound Care Specialty Course Preceptor Program**
  - MOU with Emory at NNMC and WRAMC
  - Military and civilian students
<table>
<thead>
<tr>
<th>Wound Description</th>
<th>Eschar* (Colors may vary)</th>
<th>Predominantly Slough (Infection may be present)</th>
<th>Granulating/Mixed Wound Tissue</th>
<th>Fibrin (Appears yellow)</th>
<th>Granulating and/or Epithelializing</th>
<th>Skin Tear</th>
<th>Epithelializing</th>
<th>Healed Wounds, Skin at Risk or Closed Surgical Incisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate Exudate</td>
<td>A</td>
<td>A to Moderate</td>
<td>Moderate</td>
<td>A</td>
<td>Moderate</td>
<td>Deep</td>
<td>Shallow</td>
<td>None</td>
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<tr>
<td>Low / Minimal Exudate</td>
<td>A</td>
<td>A to Moderate</td>
<td>Moderate</td>
<td>A</td>
<td>Moderate</td>
<td>Deep</td>
<td>Shallow</td>
<td>None</td>
</tr>
<tr>
<td>None</td>
<td>A</td>
<td>A to Moderate</td>
<td>Moderate</td>
<td>A</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Shallow</td>
<td>None</td>
</tr>
<tr>
<td>Depth</td>
<td>Unknown</td>
<td>Deep</td>
<td>Deep/ Shallow</td>
<td>Shallow</td>
<td>Shallow</td>
<td>Shallow</td>
<td>Shallow</td>
<td>Closed</td>
</tr>
<tr>
<td>Treatment Objective</td>
<td>Debride*</td>
<td>Cleanse, Debride, Absorb, Fill Dead Space</td>
<td>Protect, Hydrate, Fill Dead Space</td>
<td>Protect</td>
<td>Protect</td>
<td>Protect</td>
<td>Protect</td>
<td>Protect</td>
</tr>
<tr>
<td>Suggested Products and Change Rates</td>
<td>Carrsaryn V Gel or Collagenase (wounds Rx) (Daily)</td>
<td>Cover choices: Aldress® or Mepilex® Border or Mepilex® Border Lite</td>
<td>Consider using Mepilex® Ag or Aquacel Ag or Melgrid Ag when antimicrobial effect is desired</td>
<td></td>
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</tr>
<tr>
<td>Notations</td>
<td>Use secondary dressing over Mepilex®</td>
<td>Use Mepitec® tape on fragile skin</td>
<td>Secure dressings with Tubifast® of roll gauze</td>
<td>Cleanse wounds with normal saline or wound cleanser with each dressing change</td>
<td>Use Mepilex® Heel or Mepilex® Border as needed for heel wounds and/or protection from shearing</td>
<td>Wear time for each dressing is up to 7 days unless otherwise noted</td>
<td>Date and time ALL dressings</td>
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Notations:
- Use secondary dressing over Mepilex®.
- Use Mepitec® tape on fragile skin. Secure dressings with Tubifast® of roll gauze.
- For complex wounds consult the Wound Care Team.
- Date and time ALL dressings.

Consider using Mepilex® Ag or Aquacel Ag or Melgrid Ag when antimicrobial effect is desired.

Individuals with wound infection or those at high risk for infection may require more frequent changes as well as adjunctive antibiotic therapy. Before any dressing changes begin, new critical steps must be taken as part of a well-defined management protocol:
1. The wound assessment and management of exudates and contributing factors including undermined granules, slough and necrotic tissue must be determined.
2. The exudate may be categorized in terms of wound status, such as dry, leaky, stable exudate. The decision is based on signs and symptoms of infection as present.
3. The exudate may be treated as described in the care plan. The wound dressing should be applied over the wound bed, and the appropriate choice of dressing should be selected based on the type of exudate and the site of the wound.

This tool has been provided by M. Molinex Care for use in the management of wounds. It is not intended to replace the care of a trained healthcare professional. This tool was designed to provide a guide to wound management and to assist in the selection of appropriate dressings. This tool is not intended to replace the care of a trained healthcare professional. This tool was designed to provide a guide to wound management and to assist in the selection of appropriate dressings.
NNMC and WRAMC wound education programs and policy development

– NPWT
  • Standard
  • Instill™ VAC® therapy
– Institutional wound care education
  • Departmental training
  • Orientation
  • Policy education
Specialty bed and support surface management

- $1 million dollar + per year
  - NNMC $450,000 in 2007
  - WRAMC $950,000 in 2009
- Collaborative effort to establish WRNMMC contract and algorithm
  - Enhance care
  - Efficient operations
Wound VAC® / Negative Pressure Wound Therapy (NPWT)

- Over $2 million per year between NNMC / WRAMC
- Recent purchase of 20 units at NNMC
  - $450,000
  - One year return on investment
- In-house tracking program to reduce waste
Business Operations

- **Wound care supplies**
  - Standardize throughout the NCA
  - Establish product availability
  - Future: mail order supplies

- **Ostomy supply distribution**
  - Transfer to a mail-order process
    - Reduce MTF expenditures for outpatient supplies
    - Reduce storage space required
    - Provide broader range products
    - Convenient delivery
DoD Level Activities

- Make advanced wound care supplies available to the operational end user
- Develop a standardized advanced wound care pictorial formulary and educational guide
  - Evidence-based wound care practices
  - Provide the user with all necessary ordering information
    - NSN’s and Prime Vendor Numbers
    - Provide all six possible product identifiers
DoD Level Activities

- Established a Joint wound care advisory team
  - Army, Navy, Air-Force, Marines, Canadian AF, civilian and military wound care experts, and DoD logisticians (DMMPO)
- Defined current advanced wound care needs for the operational environment
  - Acute and chronic
CONTACT LAYERS

Indications for Use:
- Primary dressing intended for direct use on wound
- Superficial wounds and skin tears
- Partial and full thickness skin grafts
- Skin abrasions and lacerations
- Second degree burns
- Silver form (Acticoat Flex) used underneath wound VAC foam for antimicrobial effect

Advantages:
- Silver form available
- Minimizes pain and trauma during dressing changes
  - Will not adhere to moist wound beds
  - Prevents secondary dressing from adhering to wound
- Conforms well
- Dressings are generally porous and allow fluid to be pulled through to the secondary dressing
- Can remain in place when changing secondary dressing – does not need to be removed with each dressing change

Disadvantages:
- Must use with a secondary dressing to absorb drainage
- Can’t be used on wounds with tunneling, stage I pressure ulcers, or third-degree burns

Products Available

Mepitel® One 4”x7”; 6.8”x10”
- Transparent for easy wound inspection
- Silicone based
- May stay in place for up to 14 days
- Tacky side is placed on wound
- Quantity: 70 pieces per case (4”x7”); 40 pieces per case (6.8”x10”)
- Manufacturer: Mölnlycke Healthcare
- NSN: 6510015883378 (4”x7”); NSN: 6510015883349 (6.8”x10”)
- Nomenclature: Dressing, Specialty, Wound, 4”x7”; Dressing, Silicone, Non-Adherent, 6.8”x10”
- Part Number: 289500 (4”x7”); 289700 (6.8”x10”)
- O&M Prime Vendor Part Number: 0158289500 (4”x7”); 0158289700 (6.8”x10”)
- Cardinal Health Prime Vendor Number: MHC289500 (4”x7”); 289700 (6.8”x10”)

Xeroform™ Sterile White 9”x5”
- Petroleum mesh gauze
- Quantity: 50 pieces per box; 100 pieces per case
- Manufacturer: Covidien
- NSN: 6510013060898
- Nomenclature: Dressing, Petroleum, Mesh Gauze, 9”x5”
- Part Number: 433605
- O&M Prime Vendor Part Number: 3583843605
- Cardinal Health Prime Vendor Number: 433605
CONTACT LAYERS

Instructions for Use

Mepitel® One, Xeroform™, Adaptic™
- Contact layer should be placed directly on wound or skin graft
- Contact layer should be cut to overlap wound edges by at least 2 cm. Allow for more overlap with large wounds
- If used to secure skin grafts, dressing should not be changed for the first 5 days following application.
- Contact layer should always be used between a new skin graft recipient site and wound vac foam to prevent loss of graft when vac foam is removed (see example below)
- Mepitel® One can remain in place for a maximum of 14 days
- Contact layers should be changed if pores become clogged with drainage
- Use a secondary dressing to secure contact layer.

Commonly used on:
- Skin tears, abrasions, surgical incisions, second degree burns, lacerations, diabetic ulcers, venous and arterial ulcers, partial and full thickness grafts

Example of contact layer used over a new split thickness skin graft and under a wound vac

Acticoat™ Flex 3
- Moisten dressing with water if wound is dry or has minimal exudate. Do not need to moisten if there is a high level of exudate. Do not moisten with normal saline as this will prevent silver ion release.
- Cut dressing to wound size and apply to wound bed without stretching.
- When covering a joint, apply Flex with the direction of the stretch running along the limb to allow movement.
- Dressing may remain in place for up to 3 days

References:
DoD Level Activities

- SME for advanced wound care
  - NPWT standardization
  - AMAL configuration
    - AMAL for Advanced Wound Care