

Best Practices: Evidenced-Based Practice to Improve Patient Outcomes

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Introduction

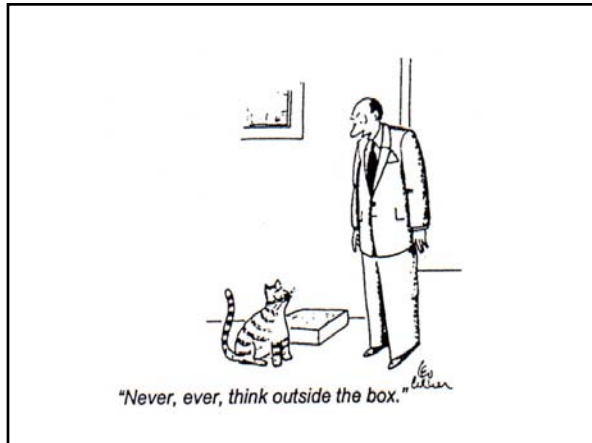
- Incidence of pressure ulcers
 - Long Term Care - 3% to 29%
 - Acute Care - 1% to 21%
 - Home Care - 1% to 11%
 - NPUAP PUs in America (2001)
- Changes
 - F314 Tag - MDS IHI
 - HP 2010 - AHRQ ANE
 - GPRA -MPSIP
- Litigation

Experience & Trial and Error

- Experience may be too limited for the development of generalizations
- The same objective event may be experienced by two individuals differently
- May be haphazard and unsystematic
- May be unrecorded and inaccessible to later problem-solvers

Precedent or Tradition

- Inherited knowledge that is so much a part of us that we rarely demand its verification
- Efficient source of knowledge and facilitates communication
- Most traditions have never been evaluated & may interfere with our ability to challenge customs



Authority

- The use of specialized sources of information
- Not infallible
- Knowledge frequently goes unchallenged

Intuition

- Benner, “unconscious practice”
- Not intuition but practice based on experience
- Rarely subject to external validation

Evidence-Based Practice

- “the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients”
- The integration of the clinician’s expertise with values, patient preferences, and available evidence
- Sackett, Gray, Haynes & Richardson, 1996

What is Evidence-Based Practice?

“...use of current best evidence in making decisions about the care of individual patients.”¹

1. Sackett DL, Rosenberg WM, Gray JM, Haynes RB, Richardson WS. Evidence based medicine: what it is and what it isn't. *BMJ*. 1997;312:71-75.

Why is Evidence-based practice important?

“When health care practice is evidence-based, i.e., practice integrates research evidence with clinical expertise and patient values, practice improves, resulting in better outcomes for patients, their families and the health care system.”¹

1. Clarke HF, Bradley C, Whytock S, Handfield S, Van Der Wal R & C, Gundry S. Pressure ulcers: implementation of evidence-based nursing practice. *Journal of Advanced Nursing*. 2005; 49(6): 578-590.

How does Evidence-Based Practice differ from Traditional Medical Practice?

Traditional

How things have always been done...

Assessment

Example: quarter sized
Example: Stage 4 protocol
Infrequent assessments

Product Selection

Wet-to-dry Gauze
Betadine
Dakin's Solution

Evidence-Based

What the evidence says to do...

Assessment

Length x width (cm)
Assessments every 7 days

Product Selection

Moist wound healing Non-cytotoxic cleansers

Recognizing Good Evidence¹

WEAKEST



STRONGEST

- Case Study/clinical series
- Correlational
- Observational
- Retrospective
- Time Series (e.g. Bolton, Kobza, Mclsaa studies)
- Comparison cohort (e.g. Lyder study)
- Randomized clinical trial

1. Gray M, Beltz J, Colewell J, et al. Evidence-based nursing practice II. *J WOCN* 2004;31(2):53-61.

General Guidelines

- Components of prevention
 - risk assessment
 - skin care
 - pressure reduction
 - friction & shear
 - incontinence/moisture care
 - nutritional assessment & interventions
 - education

Assessment

- **Identify conditions that may place resident at risk for development of pressure ulcer:**
- Hip fractures
- Decreased sensory
- CVA
- History of previous pressure ulcers
- Diabetes
- Limited mobility
- PVD
- Unintended weight loss
- COPD
- Incontinence
- Terminal disease
- Physical restraints
- Use of Risk Assessment tools

Skin Care

- Routine skin inspections
 - daily or q.o.d can decrease progression
- Skin cleansing
- Minimize drying & cracking
- Minimize excess moisture
- Avoid massage

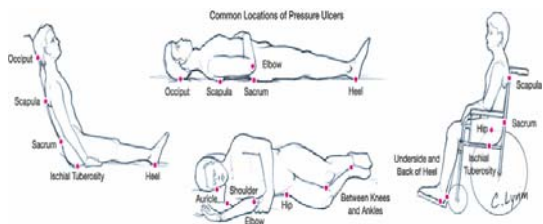
Pressure Redistribution

- Rehabilitation to improve mobility
- Repositioning schedule (individualized)
 - **minimum turn Q2 hours!!!!**
 - Heel relief!!!
- Positioning
- Pressure reduction devices
 - Group 1
 - Group 2
 - Group 3

Pressure Reduction Helpful Hints Cont'd

- Key to selection
 - Inability to assume variety of positions without bearing weight on pressure ulcer
 - “Bottoming out”
 - Absence of healing (wide variance on stages)
 - Resident has Stage IIIs and Stage IVs on multiple turning surfaces
 - Check Heels!

Friction and Shear



Comprehensive Prevention

- AHCPR
- AMDA
- CMS
 - Xakellis, Frantz, et al 1999
 - Osterbrink, et al 2000
 - Lyder, et al, 2001
 - Baier, et al, 2002
 - Lyder, et al, 2003
 - Abel, et al, (in press)

Monitor Nutritional Status

- Track percent meals consumed
- Monitor changes in weight
- Monitor protein intake (< 90% RDA)
- Consider laboratory tests

Nutritional Interventions

- Supplements
- Feeding assistance programs
- Feeding assistance devices
- Vitamins & minerals

• Management of Pressure Ulcers

Management of Pressure Ulcers

- *Address underline Cause(s)
- Staging of Ulcers
- Wound Care
 - cleansing
 - debridement
 - dressings
 - adjunctive therapies
- Contenance care
- Nutritional improvement
- Pain control
- Prevent infections
- Refer for operative repair
- Pressure redistribution

Stage I

- Appears as a defined area of persistent redness in lightly pigmented skin, in darker skin tones, may appear with persistent red, blue, purple hues.

Stage II

- Superficial ulcer, abrasion, blister or shallow crater.

Stage III

- Deep crater with or without undermining of adjacent tissue.

Stage IV

- Full thickness skin loss with extensive destruction, tissue necrosis or damage to muscle, bone, or supporting structures (e.g. tendon, joint capsule, etc.)

Wound Bed Preparation

- Concept developed in late 1990s
 - Drs. Falanga, Sibbald, Harding
- Advance wound care required clean wound beds
 - Platelet-derived growth factors
 - Bio-engineered skin
 - Newer dressings (hyuronic acid)
- Increased knowledge of acute vs. chronic wounds

What is Wound Bed Preparation

- Not just DEBRIDEMENT
- Place the wound bed in its optimal environment for healing
- Comprehensive approach
 - Debridement
 - Decreasing bacterial burden
 - Eliminating edema
 - Maximizing moist wound environment
 - Managing local and systemic factors

Wounds Won't Heal with Necrotic Tissue Present

Debridement

- Removal of devitalized tissue and foreign matter from a wound

Debridement Techniques

- Sharp
 - s/s cellulitis or sepsis
- Laser
- Mechanical (including dextranomers)
 - initial form of debridement
- Enzymatic
 - Can't tolerate surgery or ulcers do not appear infected
- Autolytic
 - Can't tolerate other forms of debridement
- Biosurgery

Sharp/Surgical/Laser

- Large amounts of devitalized tissue
- Thick/adherent tissue
- Suspect cellulitis, sepsis
- Quick to perform
- Conversion of chronic wound to acute state

Mechanical

- Use of external substance to remove devitalized tissue
 - Wet/dry gauze
 - Irrigation
 - Hydrotherapy
- Slow process
- Must be applied correctly
- Painful

Autolytic

- Uses body's own processes to remove devitalized tissue
- Transport Systems
 - Transparent film dressings (good for dry eschar)
 - Hydrocolloids (good for moist wounds)
 - Hydrogels
- Key – Should see progress in one week

Enzymatic

- Commercially prepared enzymes that aggressively digest devitalized tissue by proteolytic and other exogenous enzymes
- Best Environment
 - Eschar must be cross-hatched
 - Wound surface kept moist
 - Most require specific pH range to be effective
 - Can be inactivated by heavy metals
 - Can be used with moisture retentive dressings

Biosurgery



Decreasing Bacterial Load

- Bacterial loads above 10^5 or 10^6
- Bacteria war
 - Aerobes
 - Anaerobes
- Swabs
 - Semi/quantitative
- Culture
 - Punch biopsy

Signs/Symptoms

- | | |
|--------------------|---------------------------------------|
| • Pain | • Discoloration of granulation tissue |
| • Erythema | • Friable granulation tissue |
| • Edema | • Foul odor |
| • Heat | • Bleeding |
| • Purulent exudate | |
| • Delayed healing | |

Managing Bacterial Load

- Antimicrobial dressings
 - Iodine
 - Iodosorb/Iodoflex
 - Ag
 - Aquacel Ag
 - Acticoat
 - Flamazine
 - Systemic Abx

Managing Edema

- Managing heart failure
- Managing venous insufficiency
- Use of compression therapy
- Use of negative pressure therapy

Managing a Moist Wound Environment

- Right Dressing
- Right Patient
- Right Frequency
- Wound Should NOT
 - Show signs of maceration
 - Show signs of dry wound bed

Manage local/Systemic Problems

- Perfusion
- Edema
- Nutrition
- ETOH
- Smoking
- Steroids (e.g. corticosteroids)

Key to Dressings/Healing

MOIST WOUND HEALING

Dressing Selection Procedure

- Primary
- Secondary
- Skin Treatment
- Tape
- Must think about wound depth/drainage

Dry Wound

- Gauze
 - Woven
 - Nonwoven
 - impregnated - NACL
 - impregnated -other
- Hydrogels
 - DuoDerm gel
 - Vigilon
 - Gentell
 - CarraSorb M

Dry Wounds Cont'd

- Hydrocolloids
 - Duoderm
 - Restore
 - Tegasorb

Light/Moderate Drainage

- Hydrocolloids
- Tansparent Film (with absorb dsg)
 - Tegaderm
 - Opsite
 - ClearCell
- Composites
 - Combiderm
 - Alldress

Heavy Drainage

- Alginates
 - Kaltostat
 - Sorbsan
 - Cutinova alginate
 - Hydrofiber
 - Aquacel
 - Foam
 - Allevyn
 - Cutinova Foam
 - Lyofoam

Wound Fillers

- Multidex
- OsmsocYTE Pillow Wound Dsg
- Bard Absorption Drs
- Flexigel Strand
- Aquacel

Adjunctive Modalities

- Electrical stimulation
- Therapeutic ultrasound
- Hyperbaric oxygen
- Normo therapy
- Vacuum-assisted closure
- Off loading

Photography



- Use of digital cameras common
- Download photos into computer systems
- Use computers
 - Store records
 - Analyze photos
 - Communicate



Final Thoughts

- Evidenced based or evidenced linked?
- Expert opinion guides practice
- Many opportunities for research

Thank you for your attention.....

