

Education and Research Opportunities from a Content-Validated Pressure Ulcer Guideline

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Rationale

Consistent evidence-based care improves pressure ulcer (PU) incidence and outcomes. Current PU guidelines differ in scope, definitions, validation, evidence criteria and procedures recommended, potentially reducing consistency and quality of PU risk assessment, diagnosis, prevention, treatment and outcomes measurement.(1). Clarifying evidence strength and validating PU guideline recommendations may reduce confusion and improve consistency of PU care.

Objective

Compile recommendations from published PU guidelines and compare their content validity and evidence strength to identify strong recommendations and highlight opportunities for education and/or research.

Methods

Guideline Developers

All-Volunteer AAWC-Member Guideline Team: (1)

- 4 CWOCNs
- 3 CWCNs
- 2 Physicians
- 2 Physical Therapists (1 with PhD)
- 2 PhDs

Resources Searched to Compile 380 recommendations for PU management

- 10 National Guideline Clearinghouse PU guidelines
- Wound Healing Society PU guideline
- Draft NPUAP, EPUAP PU guidelines

Content Validation Index (CVI) ≥ 0.75% rated 3 or 4 validated a recommendation

- Online Dec 2008-Feb 2009, surveyed 1700 AAWC members + 40,000 O/W/M readers
- 31 Respondents (26 female/5 male) rated all recommendations on clinical relevance:
 - 1 = Not relevant
 - 2 = Too confusing to decide
 - 3 = Relevant, need to improve
 - 4 = Relevant and succinct

Respondents: (26 female, 5 male) from acute, chronic, home or office settings

- 20 Nurse professionals (10 WOCNs, 1 NP, 1 CWCN)
- 6 Physical Therapists
- 2 Physicians (Physiatrist, Plastic Surgeon)
- 2 Ph. D.
- 1 Podiatric specialist

Strength of Evidence from MEDLINE and EMBASE searches

AHRQ (former AHCPR) criteria for levels of evidence

- Level A: At least 2 human pressure ulcer RCTs
- Level B: ≥ 2 human PU non-randomized CTs or one plus a RCT
- Level C: Less than 2 controlled trials; opinion or case series

United Initiative to Analyze Education & Research Opportunities

Research and Education Evaluators

Volunteer Representatives of Organizations Attending 2009 North American Wound Care Council (NAWCC)

- Assn. for the Advancement of Wound Care (AAWC): Sue Girolami, RN, BSN, CWOCN, Laura Bolton, Ph.D.
 - Canadian Association of Enterostomal Therapists (CAET): Mary Hill, RN, PhD, ET
 - Canadian Assn. of Wound Care (CAWC): M. Gail Woodbury, BSc, BScPT, MSc, PhD.
 - National Pressure Ulcer Advisory Panel (NPUAP): Joyce Black¹ PhD, RN, CPSN, CWCN, Lead Author
 - Wound Healing Society (WHS): Joie Whitney, PhD, RN, CWCN, FAAN and Laura Bolton, Ph.D
- Special Acknowledgment :
Jose Contreras-Ruiz, MD, Former President of AMCICHAC, gracious NAWCC host, who brought us together.

Procedure

Each evaluator analyzed a portion of the 380 content validated, evidence-linked recommendations as opportunities for research or education: using the criteria in Table 1.

Table 1. Criteria for Opportunities for Research or Education

Level of Evidence and Content Validity	Opportunities for Research or Education
A Level Evidence and CVI value ≥ 0.75	Strong evidence & validity: Ready for implementation
<A Level Evidence and CVI value ≥ 0.75	Strong content validity only: Opportunity for research
A- Level evidence and CVI values < 0.75	Strong evidence only: Opportunity for education
<A Level Evidence and CVI value ≤ 0.75	Opportunity for Research and Education

The last row of Table 1 lacks both evidence and content validity and will not be included in the final algorithm submitted to the National Guideline Clearinghouse unless Level A references are found.

Results: 380 Recommendations From 12 Guidelines

Figure 1. Most Recommendations Had C-Level Evidence

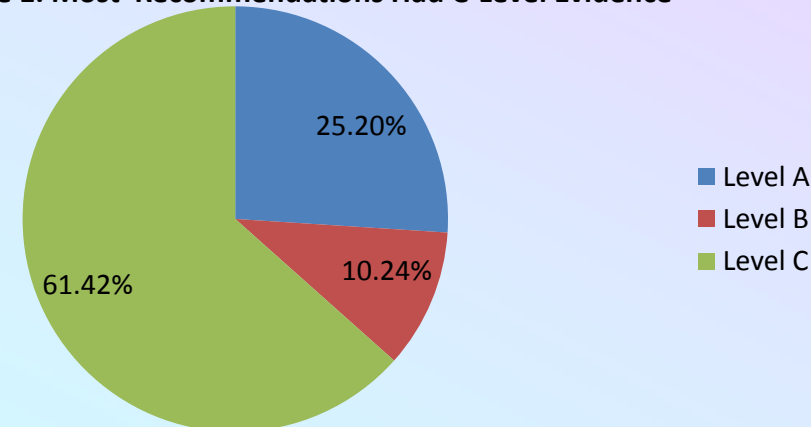
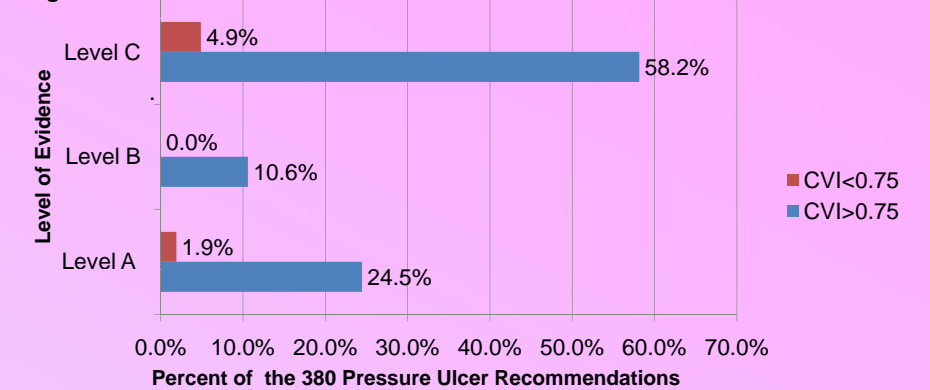


Figure 2. Most Recommendations Had C Level Evidence and CVI>0.75



Areas needing research

- Patient and pressure ulcer assessment**
 - Physical exam and diagnostic testing
- Pressure ulcer prevention or prevention of recurrence**
 - Skin Inspection and maintenance
 - Nutrition and hydration interventions, for pressure ulcer prevention and treatment
 - Mobility, exercise and pressure relieving interventions and equipment
 - Interdisciplinary approach, consults and educational initiatives
- Pressure ulcer treatment**
 - Preventive interventions and support surfaces
 - Mechanical and surgical debridement interventions
 - Antimicrobial cleansing or dressing products
 - Filling ulcer dead space, hydrating ulcers or stabilizing temperature
 - Preventing and managing pain and palliative care
 - Compare advanced /adjunctive treatments (e.g. growth factors) to A-level non-gauze controls
 - Surgical interventions such as closing or grafting the pressure ulcer

Areas needing education

- Patient and pressure ulcer assessment**
 - Assess patient body mass index, culture/ethnicity, longest ulcer length & width for area change
- Pressure ulcer treatment**
 - Enzymatic debridement, hydrocolloid dressings, monochromatic light stimulation

Areas lacking both evidence and content validity for pressure ulcers

- Pressure ulcer assessment**
 - Using halogen lamp to assess PU or anatomic length and width to assess ulcer area change
- Pressure ulcer treatment**
 - Surgical or sharp as the first choice of debridement, laser or pulsatile lavage debridement
 - Topical phenytoin, estrogen or skin equivalents

Conclusions

- Many elements of pressure ulcer management still require research.
- A few evidence-based elements of pressure ulcer care are not yet recognized.
- A few pressure ulcer guideline recommendations lack both research and content validity.

References

- Bolton LL, Girolami S, Slayton S, Berger TM, Foster L, Whittington KT, Merkle D and the Association for the Advancement of Wound Care Guideline Department. Assessing the need for developing a comprehensive content-validated pressure ulcer guideline. *Ostomy Wound Management* 2008; 54(11):22-30.