STAMP Out Skin Tears: Skin Tear Assessment, Management, and Prevention

-Assessing Knowledge of Long Term Care Nurses

Joanne L. Davis, MSN, ANP-BC, DNP Student
Leslie Cole, DNP, RN, Faculty Advisor
Disclosure Statement

• The authors of this presentation have no actual or potential conflicts of interest associated with this project or presentation.
Objectives

At the conclusion of the presentation, participant will be able to:

• Discuss the impact of skin tears on the elderly and health care facilities.
• Identify at least 2 intrinsic and 2 extrinsic factors that increase the risk for skin tears in the elderly.
• Discuss the benefit of a skin tear educational program for nurses, patients, and health care facilities.
• Identify important elements of a skin tear prevention program.
Getting started.

- Look at your practice location.
- Identify the problem.
- What evidence is available?
- What processes are already in place?
- What barriers are in the way?
- What does the staff think. What is their level of awareness? What is their level of knowledge?

*** Key: staff buy-in
Problem - Skin Tears

• Definition – per Skin Tear Consensus Panel
  • A wound caused by shear, friction, and/or blunt force resulting in separation of skin layers.
    • It may be partial-thickness (separation of the epidermis from the dermis) or
    • Full-thickness (separation of both the epidermis and dermis from underlying structures).

• A common and painful reality for the elderly.

• LeBlanc & Baranoski (2011)
Skin tear

SKIN: the largest organ of the body
Evidence

- Elderly are vulnerable → aging skin
- Approximately 1.5 million skin tears occur in institutionalized elderly in the U.S. annually.
- Most common skin issue in the elderly?
- More common than pressure ulcers?
- Pressure ulcer prevention → primary focus of long term care (LTC) facilities.

Impact

• ↑ pain and suffering for the resident.
• ↑ risk for infection \(\rightarrow\) sepsis \(\rightarrow\) death
• ↑ workload burden for nursing.
• ↑ cost for healthcare facilities.
• ↑ perception of poor quality of care.

• Rayner et al (2015)
Impact – continued

- Complication: infection $\rightarrow$ sepsis $\rightarrow$ death
- Sepsis affects $>$ 1 million Americans yearly
- 28-50% of those affected die
- Sepsis = most expensive condition in U.S.
- Sepsis occurs most often in people over 65
- 11% of sepsis cases cause by skin infections.

Est. U.S. Population Growth

- Adults 65+ will grow to 89 million by 2050.

[Population 65+ by Age: 1900-2050 chart]

Source: U.S. Bureau of the Census

U.S. Dept. of Health and Human Services – Administration on Aging (2014)
Skin tear **COST** of care

- Difficult to determine
  - Wide variety of options and protocols
- Study by Groom et al (2010)
  - Standard tx: 2 wound closure strips, transparent film changed twice weekly by LPN for 2 weeks. **$22.00** per ST
- Study by Woo et al (2014)
  - Standard tx: Silicone dressing changed weekly by LPN for 2 weeks. **$24.00** per ST
Cost – Study site

Standard tx: Petroleum gauze, non-adherent pad, gauze wrap changed daily by LPN x 2 weeks.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloves 2 pair</td>
<td>$1.52</td>
</tr>
<tr>
<td>1 pack petroleum gauze $0.50 x 14</td>
<td>$7.00</td>
</tr>
<tr>
<td>1 non-adherent pad $0.12 x 14</td>
<td>$1.68</td>
</tr>
<tr>
<td>4x4 gauze pad $0.05 x 14</td>
<td>$0.70</td>
</tr>
<tr>
<td>4 inch rolled gauze $1.00 x 14</td>
<td>$14.00</td>
</tr>
<tr>
<td>Wound cleanser $3.65 x 1 bottle</td>
<td>$3.65</td>
</tr>
<tr>
<td>1 in paper tape $0.53 x 1 roll</td>
<td>$0.53</td>
</tr>
</tbody>
</table>

Dressing supply total cost $29.08

Procedure Time: 15 mins

LPN

Average annual salary $38,426 = 18.50/hr ($4.63 for 15mins) x 14 $64.75

Estimated total cost for uncomplicated skin tear treatment (14 days) $93.83

$93.83 per ST
Barriers

• Misconceptions, Lack of Knowledge, No Uniformity
• International Online Survey – LeBlanc et al (2011)
  • June to December 2010
  • 1127 healthcare professionals – 16 countries
  • 2/3 of participants from U.S.
• Convening of Skin Tear Consensus Panel Jan. 2011
• Purpose to establish evidence-based consensus statements related to skin tears.

• Result → 12 Consensus Statements
## International Skin Tear Survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you believe there is a problem with skin tear assessment and documentation at your healthcare facility?</td>
<td>Yes 69.6%</td>
</tr>
<tr>
<td></td>
<td>No 30.4%</td>
</tr>
<tr>
<td>Would you like a simplistic method of documenting skin tears?</td>
<td>Yes 89.5%</td>
</tr>
<tr>
<td></td>
<td>No 10.5%</td>
</tr>
<tr>
<td>Does your facility/hospital/home care agency use a scale/tool for assessment and documenting skin tears?</td>
<td>Yes 19.1%</td>
</tr>
<tr>
<td></td>
<td>None 80.9%</td>
</tr>
</tbody>
</table>

LeBlanc & Baronski (2011)
STAMP Out Skin Tears: Skin Tear Assessment, Management, and Prevention

- Assessing staff knowledge and awareness
Study - STAMP Out Skin Tears

- Aim: to determine if an educational program would improve the knowledge of LTC nurses related to skin tear risk, assessment, management and prevention.

- Based on Skin Tear Consensus Panel Consensus statements.
<table>
<thead>
<tr>
<th></th>
<th>Intrinsic and extrinsic factors contribute to the occurrence of skin tears; some of these factors are yet to be determined.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Skin tears are more prevalent with, but not limited to, the extremes of age.</td>
</tr>
<tr>
<td>3</td>
<td>Physiological changes related to the aging process affect the skin's ability to resist shear, friction, and/or blunt force.</td>
</tr>
<tr>
<td>4</td>
<td>Physiological characteristics of neonatal/ infant skin may affect the skin's ability to resist shear, friction, and/or blunt force.</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>---</td>
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</tr>
<tr>
<td><strong>5</strong></td>
<td>Individuals with impaired activity, mobility, sensation, or cognition have increased risk of shear, friction, and/or blunt force injury related to the need for increased assistance</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>A comprehensive assessment of risk factors for skin tears should be conducted for all individuals within the context of their environment.</td>
</tr>
<tr>
<td><strong>7</strong></td>
<td>A collaborative multidisciplinary approach should be utilized for skin tear prevention and management.</td>
</tr>
<tr>
<td><strong>8</strong></td>
<td>Skin tears are to be assessed and documented on a regular basis according to healthcare setting practice and policy.</td>
</tr>
<tr>
<td>9</td>
<td>Evidence-based wound care principles should guide treatment of skin tears.</td>
</tr>
<tr>
<td>----</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10</td>
<td>Patients, caregivers, and healthcare providers should be educated regarding prevention and management of skin tears.</td>
</tr>
<tr>
<td>11</td>
<td>Not all skin tears are preventable.</td>
</tr>
<tr>
<td>12</td>
<td>Further research is needed to expand scientific knowledge to determine best practice in skin tear prediction, prevention, assessment, treatment, and documentation.</td>
</tr>
</tbody>
</table>

LeBlanc & Baranoski (2011)
Overview: Educational Intervention

- Approved by UA and VA IRBs.
- Approved for 1 hour CEU
- Pretest – 19 multiple choice test items
- Program – 50 min. PowerPoint presentation
- Posttest – 19 multiple choice test items
- Participants recruited from inpatient LTC staff RNs and LPNs.
  - 35 participants – 10 LPNs, 25 RNs
Key learning elements

• Basic understanding of skin anatomy and changes that occur with aging
• Factors that affect wound healing
• Risk Factors – Intrinsic and extrinsic
• Most common causes of skin tears
• Prevention strategies – Risk reduction
• Assessment of skin tears
• Management of skin tears
• Wound care – Best practices
Key learning elements

Factors that alter wound healing

- Age
- Nutritional Status
- Medications
  - Immunosuppressives
  - Anti-inflammatory agents
  - Anticoagulants
- Smoking
- Underlying disease states
- Local wound conditions

Infection
Diabetes
PVD
## Key learning elements

**Intrinsic Factors that increase the risk for skin tears**

- Age
- Gender – females more susceptible
- Race – Caucasians more susceptible
- Dehydration, poor nutrition
- Cognitive impairment
- Altered mobility
- Decreased sensation
- Visual impairment
- Incontinence
Key learning elements

**Extrinsic factors that increase the risk for skin tears**

- Dependence or assistance needed for ADLs
- Dependence or assistance needed for transfer
- Need for Assistive devices/prosthetic devices
- Soap – reduces skin natural lubrication
  - Frequent bathing in the elderly causes dry skin
  - Dry skin – more susceptible to friction and shearing
- Long term corticosteroid use (oral & topical)
- Other: blood draws, dressing changes, tape, improper use of skin sealants.
**Key learning elements**

**Aging Skin**

- Decreased sebum production.
- Thinning and flattening of the dermal–epidermis junction.
  - Dermal thickness decreases as much as 20% (paper–thin appearance)
- Reduced function of sweat glands
- Impaired vascularity of dermis/hypodermis.
- Decreased inflammatory/immune response

**More susceptible to dryness**
**Bathing removes natural oils**
**Use of alkaline soaps**
**Centrally heated homes.**
Key learning elements

**Most common causes of skin tears**

- LeBlanc et al (2011)
- Blunt trauma
- During activities of daily living
- Dressing (treatment related – tape)
- Falls
- Equipment: wheelchair, side-rail, bed etc...
- During transfer: friction and shear
Key learning elements

Prevention Strategies

- Risk assessment: on admission and any time, condition changes. **One time is NOT enough.**
- Long sleeves, long pants, knee high socks
- Shin guards
- Safe patient handling techniques
- Keep skin lubricated: apply hypoallergenic moisturizers at least twice daily
- Protect high risk individuals from trauma during routine care and from self-injury.
International Skin Tear Panel Classification

- Type 1 Linear or no flap loss
  - Flap can be repositioned to cover wound bed

- Type 2 Partial flap loss
  - Flap cannot be repositioned to cover wound bed

- Type 3 Total flap loss
Best Practices

• Same principles used to manage other wounds should guide treatment of skin tears.

• Plus:
  • Approximate skin flap if possible
  • Indicate flap position and direction to remove dressing
Study Results

• Mean pretest score - 42.43%
• Mean posttest score - 88.86%

• Pretest score range: 11% to 74%
• Posttest score range: 58% to 100%

• Lowest pretest score =11%
  • Female, age 51-60. LPN, 26+ years experience
  • Posttest score: 89% - most improved of participants

• Highest pretest score = 74%
  • Female, age 20-30, BSN, 6-10 years experience.
## Test Question Analysis

Number of participants with the correct answer.

<table>
<thead>
<tr>
<th>Question content</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin tear definition</td>
<td>24</td>
<td>32</td>
<td>+22%</td>
</tr>
<tr>
<td>Intrinsic factors</td>
<td>15</td>
<td>34</td>
<td>+54%</td>
</tr>
<tr>
<td>Extrinsic factors</td>
<td>11</td>
<td>30</td>
<td>+55%</td>
</tr>
<tr>
<td>Factors contributing to dry skin</td>
<td>4</td>
<td>20</td>
<td>+46%</td>
</tr>
<tr>
<td>Age changes contributing to STs</td>
<td>24</td>
<td>35</td>
<td>+31%</td>
</tr>
<tr>
<td>Best practices</td>
<td>10</td>
<td>24</td>
<td>+40%</td>
</tr>
<tr>
<td>Skin Tear type 1</td>
<td>15</td>
<td>34</td>
<td>+54%</td>
</tr>
<tr>
<td>Skin Tear type 2</td>
<td>13</td>
<td>30</td>
<td>+49%</td>
</tr>
<tr>
<td>Skin Tear type 3</td>
<td>22</td>
<td>35</td>
<td>+37%</td>
</tr>
</tbody>
</table>
Implications for practice

• Research alternate treatments / dressings.
  • Compare current ST treatment w/ alternate
  • Cost effective, nurse and patient friendly.

• Skin Tear Prevention/Management Program
  • Steps to implementation
    • Educate → Prevent → Assess and Manage
Future Skin Tear Program

• Establish the interprofessional team.
• Development policies, procedures
• Development documentation tools to assure consistency
• Approval by the Medical Records Committee.
  • Computerized Patient Record Templates
    • Skin Tear Risk Assessment Note
    • Skin Tear Prevention Plan
    • Skin Tear Assessment Note to include treatment algorithm/decision tree
Key elements

• Risk and prevention components
  • Risk assessment and reassessment
  • Admission, annually, significant change.
  • Prevention strategies in care plan.

• Assessment and management component
  • Skin Tear Assessment - use of validated tools
  • Skin Tear Management – based on evidence-based wound care principles. Standing orders
ISTAP Risk Assessment Tool

**General Health**
Chronic/critical disease, polypharmacy, cognitive, sensory, visual and auditory impairment, and nutritional status

**Mobility**
History of falls, impaired mobility, dependent for ADL, mechanical trauma.

**Skin**
Extremes of age, fragile skin, previous skin tears.

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**At risk:** 1 or more of the risk factors listed above

**High risk:** Visual impairment, impaired mobility, dependent ADLs, extremes of age, fragile skin and previous skin tears.

Implement skin tear reduction program

Reassess with change of status

No risk

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Adapted from ISAP (2017)
# Prevention Strategies

<table>
<thead>
<tr>
<th>Risk</th>
<th>Caregiver Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensory, auditory, visual impairment</td>
<td>Ensure safe environment (OT consult)</td>
</tr>
<tr>
<td></td>
<td>Falls assessment/reduction program</td>
</tr>
<tr>
<td></td>
<td>Assess foot ware</td>
</tr>
<tr>
<td></td>
<td>Assess sensation especially those w/ DM</td>
</tr>
<tr>
<td></td>
<td>Assess clothing</td>
</tr>
<tr>
<td>Nutritional concerns</td>
<td>Consult Dietitian</td>
</tr>
<tr>
<td></td>
<td>Promote and monitor intake</td>
</tr>
<tr>
<td></td>
<td>Weigh frequently</td>
</tr>
<tr>
<td>Mobility and patient handling related</td>
<td>Consult PT/KT to promote stability.</td>
</tr>
<tr>
<td>issues</td>
<td>Ensure safe handling techniques/equipment.</td>
</tr>
<tr>
<td></td>
<td>Use repositioning slings/sliders</td>
</tr>
<tr>
<td></td>
<td>Use transfer belt to avoid gripping arms.</td>
</tr>
<tr>
<td></td>
<td>Be aware of fragile skin.</td>
</tr>
<tr>
<td></td>
<td>Pad devices and hard objects.</td>
</tr>
<tr>
<td></td>
<td>Provide shin/elbow pads – Geri sleeves.</td>
</tr>
</tbody>
</table>
### Prevention Strategies – cont

<table>
<thead>
<tr>
<th>Risk</th>
<th>Care Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistance w/ ADL</td>
<td>Provide protection from trauma during routine care and ADLs.</td>
</tr>
<tr>
<td>History or risk for falls</td>
<td>Remove clutter, maintain well lit environment</td>
</tr>
<tr>
<td>Skin changes related to aging</td>
<td>Exercise caution for those with tubes. Use hypoallergenic moisturizers after bathing. Apply while skin still damp. Use soap less, no-rinse and/or pH-neutral cleansers Avoid suing adhesive products Use silicone dressings when appropriate Avoid patient ID armbands w/ sharp edges of hard plastic or metal material. Keep fingernails/toenails cut short and filed Staff/caregiver to keep fingernails cut short and do not wear rings or jewelry that could harm skin.</td>
</tr>
</tbody>
</table>
Quality Improvement

• 4 key principles – Institute of Medicine
  • QI work as systems and processes.
  • Focus on patients
  • Focus on being part of a team
  • Focus on use of data
    • Incidence
    • Documentation compliance rate
    • Cost studies -retrospective/prospective

Health Resources and Services Administration n.d.
Resources

• www.skintears.org

• Skin Integrity Assessment Tool
  • http://www.ddsn.sc.gov/providers/manualsandguidelines/Documents/HealthCareGuidelines/SkinIntegrity.pdf

• Skin Tear Decision Algorithm
  • http://www.skintears.org/Skin-Tear-Algorithm/

• Best Practice Recommendations for the Prevention and Management of Skin Tears
Resources

• Aged Care Skin Tear Prevention Program

• Wound healing video
  • https://youtu.be/TLVwELDMDWs

• Best practices for skin tear management video
  • https://youtu.be/vaTFd5EDKEY

• Health Resources and Services Administration. Quality Improvement.
  • https://www.hrsa.gov/quality/toolbox/methodology/qualityimprovement/
References


References (cont)

• Hebert, G. (2016). No more skin tears: Learn how to prevent, assess, and treat these common injuries. *Wound Care Advisor*, 5, 14-18.


The End!

Questions/Comments?