Strategies to Help Prevent Medical Device Related Pressure Injuries (MDRPI) to Head, Face and Neck

2018 Non-CE Program
Learning Objectives

- Describe the pressure injury etiology known as medical device related pressure injury (MDRPI)
- Identify patients who are at risk for medical device related pressure injury (MDRPI), specifically to the head, face and neck
- Identify prevention strategies for key affected areas
What are Medical Device Related Pressure Injuries (MDRPIs)?

- Pressure injuries that result from use of devices designed and applied for diagnostic or therapeutic purposes.
- Generally conforms to pattern or shape of device.
- Injury should be staged using the NPUAP staging system.
- May develop quickly and present with full thickness severity because sites often associated with these injuries lack subcutaneous tissue.

The Joint Commission 2016. Preventing Pressure Injuries. Issue 25, July 2016 Pg 1
Location, Location, Location

- Limited data – but suggestive this is a significant problem.
- Potentially serious injuries - risk of pain, infection, scarring
- Almost always preventable

<table>
<thead>
<tr>
<th>Location</th>
<th>Device</th>
<th>Non Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head/face/neck</td>
<td>70.3%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Other multiple</td>
<td>21.9%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Heel/ankle/foot</td>
<td>20.3%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Coccyx/buttocks</td>
<td>7.8%</td>
<td>67.5%</td>
</tr>
<tr>
<td>Sacrum</td>
<td>1.6%</td>
<td>16.9%</td>
</tr>
</tbody>
</table>

Adapted from Apold and Rydrych (2012)
Incidence of Pressure Injuries

- Critical Care – Head/Face/Neck

  Medical Device related pressure injuries → 70%
  Non- medical device related pressure injuries →7.8%
MDRPI Pathology

- Localized pressure (impact is enhanced by edema)
- Maceration
- Friction (especially if device fits poorly)

Used with permission NPUAP
Medical Device Related Pressure Injuries: Documentation

- MDRPI-on the Skin should be Staged according to the NPUAP Staging Classification System
- Stage 1, Stage 2, Stage 3, Stage 4, Unstageable, Deep Tissue Pressure Injury (DTPI)
Medical Device Related Pressure Injury

Examples

- **Stage 1**
- **Stage 2**
- **Stage 3**
- **Stage 4**
- **Unstageable**
- Deep Tissue Pressure Injury
MDRPI-on Mucosal Membranes should not be staged because the anatomy of mucous membranes is different than that of skin – they should be measured and described:

- There is no epidermis or dermis in this tissue
  - Upper layer is epithelium
  - Columnar cells produce mucus
  - Laminar layer provides support
Classification/Documentation ALERT!

![Tongue Injury from Endotracheal Tube](image1)

![Lip Injury from Endotracheal Tube](image2)
Who is at risk?

- Neonatal and ICU patients highest risk populations
- Specific risk factors (in all populations)
  - Sensory impairment
  - Compromised ability to communicate pain/discomfort
  - Morbid obesity
  - Edema in area of device
  - Incorrectly sized device
  - Inadequate preventive care/monitoring
High-risk Devices/Common Sites
Head and Neck

- **Cervical collars**
  Injuries found on the neck, occiput, clavicle, chin, mandible

- **Respiratory devices**
  ET tube, face masks, oxygen tubing, tracheostomy
  Injuries found on the lips, tongue, nose, face, ears, neck

Used with permission NPUAP
Medical Device Related Pressure Injuries: Evidence Based Prevention Strategies (Device Specific)

**Respiratory Devices**

- **ET tube**: Commercial stabilizers to protect face and lips
  - Reposition within mouth without changing depth
  - Combine skin inspection/tube care with oral care

- **NG tube**: Liquid skin barriers and commercial stabilization devices to provide tension-free securement
  - Skin assessment at least daily

- **Oxygen masks**: Collaborate with respiratory therapy to fit correctly
  - Apply protective dressings to bridge of nose, top of ear
  - Use the least tension required to assure proper function
  - Inspect skin under mask each shift or more often


Medical Device Related Pressure Injuries

**Providers as Advocates**

- We each have a role to communicate regarding products that present a risk to our patients
- Collaborate with members of the intraprofessional team (e.g., Nurses, respiratory therapists, intensivists, nursing assistants/techs)
- Use channels defined by your organization: Value Stream, Patient Care Value Analysis Committees, other
- Work with manufacturer representatives
- Educate all team members as well as patient and family members about the potential for MDRPI
Quality Improvement

- Monitoring
- Training
- Leadership Support
Test your knowledge

1. Does your facility track Pressure Injuries?

2. Do you know those numbers?

3. How do you use the scores to improve patient outcomes?
It’s never too late!

Pressure injuries may lead to:

- Pain
- Infection
- Premature mortality
- Longer hospital stay
- Regulatory scrutiny
- Decrease reimbursement

Cuddigan J. 2012. Pressure Ulcers: Prevalence, Incidence and Implications for the Future. pg 15
Medical Device Related Pressure Injuries

- They are not “the cost of doing business”. These injuries are nearly always preventable.
- Documentation and Reporting of MDRPIs is essential
- Just Culture practices provide the environment for learning from our mistakes, removes punitive outcome from previous “incident reports”
- It’s important to track and trend injuries so that we can do better at preventing them (Root Cause Analysis, QI initiatives)
Posters for Peer Education Regarding MDRPI

Available for free download at www.npuap.org

- Critical Care
- Long Term Care
- Pediatric
- All
References

7. Fletcher J 2012. Device Related Pressure Ulcers Made Easy. Wounds UK 8 (2). Table 2