

# Device-related pressure injuries



# Medical device-related pressure injuries (MDR PU/PI)



1 *in* 3

pressure injuries  
in hospitalised adult patients  
are related to medical devices<sup>1</sup>

2.4  
times

Patients with medical devices  
are 2.4 times more likely to develop  
a pressure injury of any kind<sup>1</sup>



# 1 cause of pressure  
injuries in children<sup>2</sup>

75% of MDR PIs  
are facility-acquired<sup>3</sup>

3 days  
sooner MDR PIs develop  
3 days sooner  
than non-MDRPIs<sup>3</sup>

<sup>1</sup>. Black J, Cuddigan J, et al. Medical device related pressure ulcers in hospitalized patients. *International Wound Journal*. 2010,Vol7(5) 358-365. <sup>2</sup>. The Joint Commission of Healthcare Improvement. Issue 43. July 2018. <sup>3</sup>. Delmore et al. Pressure Injuries in the Pediatric Population: A National Pressure Ulcer Advisory Panel White Paper. *Advances in Skin and Wound*. 2019;32(9): 394-408. <sup>3</sup>. Kayser S, et al. Prevalence and analysis of Medical Device Related Pressure Injuries: Results from the international pressure ulcer prevalence survey. *Advances in Skin & Wound Care*; 31(6):276-285.

# Medical device-related pressure injuries

## Most common locations

### Most common locations

#### Head and face

**51%**

Ears 29%

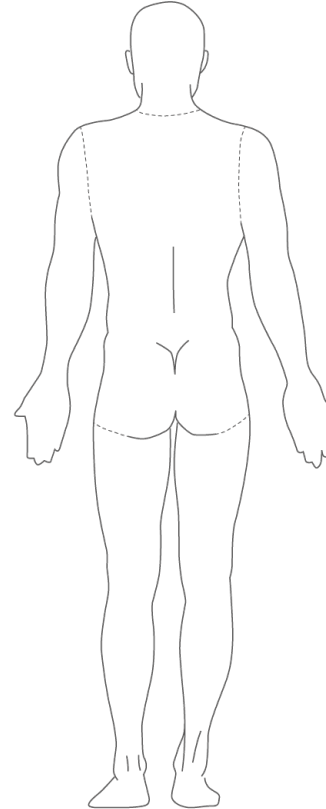
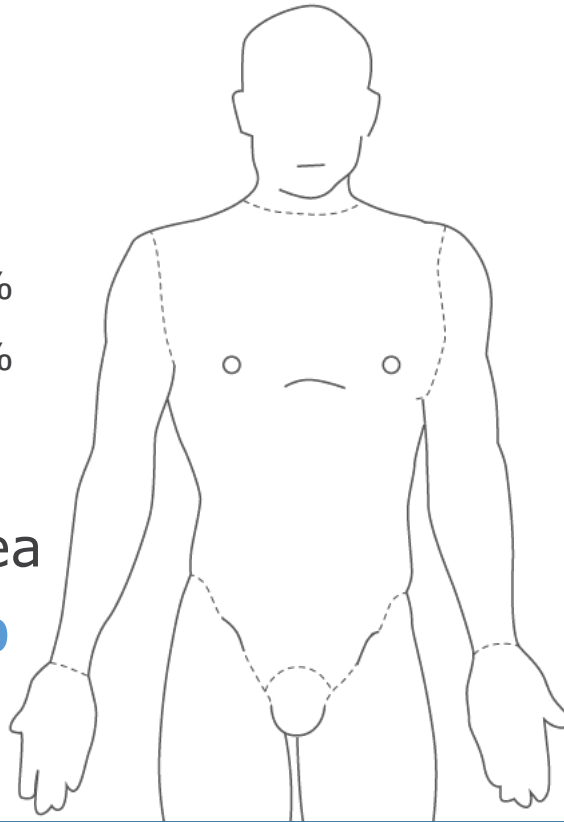
Nose 10%

Neck 5.1%

Cheeks 3.1%

#### Pelvic area

**7.5%**



#### Upper extremities

**3%**

#### Lower extremities

**27%**

Feet 12%

Legs 10%

Heels 4.5%

# Medical device-related pressure injuries



## Devices which contribute to pressure injuries

- Percutaneous endothelial gastrostomy tubes
- Endotracheal tubes
- Nasogastric tubes
- Nasal cannulas
- Cervical collars
- CPAP/BiPAP
- Urinary catheters
- Tracheostomy tubes
- Intravenous catheters/tubing
- Negative pressure wound therapy pump/tubing

# Preventing device related pressure injuries

- To reduce the risk of medical device-related pressure injuries, review and select medical devices with consideration to:
  - The device's ability to minimise tissue damage
  - Correct sizing/shape of the device for the individual
  - Ability to correctly apply the device according to manufacturer's instruction
  - Ability to correctly secure the device

# Preventing device related pressure injuries

- Regularly monitor the tension of the medical device securements
- Seek the individual's feedback about comfort when possible
- Use a prophylactic dressing under a medical device to reduce the risk of pressure injuries\*
- If appropriate and safe, alternate the oxygen delivery device between correctly fitting mask and nasal prongs to reduce the severity of nasal and facial pressure injuries for neonates receiving oxygen therapy (also consider for adults)



\*ALLEVYN Gentle Border Heel is normally used on the heel. However the intended use is common throughout the ALLEVYN Gentle Border range and allows for use as part of a pressure injury prevention protocol

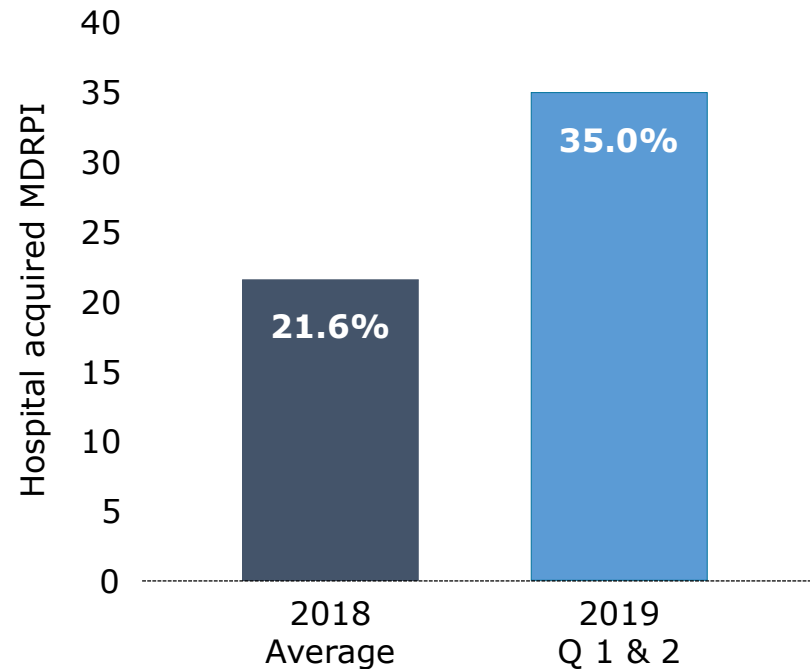
# Medical device-related pressure injuries

## Quality improvement project



### The challenge

Hospital-acquired MDRPIs increased from 21.6% (2018) to an average 35% (Q1 & 2, 2019)



### Action: prevention bundle

- Interventions specific to most frequently used of MDRPI
- Multidisciplinary training approach – all hospital departments and staff
  - Nursing
  - Trauma
  - Respiratory
  - Rehab
  - Critical care medicine
  - Dieticians
  - Emergency department
  - Perioperative services

# Medical device-related pressure injuries

*“After initiation of the prevention initiative, hospital-acquired MDRPI have decreased to 0%”*

Results  
0%

\* Fiscal year 2019 Q4 reporting of MDRPI



# Medical device-related pressure injury prevention bundle



## ▶ Cervical collar

- ALLEVYN<sup>◇</sup> Gentle Border Wound Dressings to chin, jaw bone, and occiput
- Skin assessment under foam each shift - reassess proper fit of collar with changes in patient status

**Size:** 10 x10cm, Heel **Device:** cervical collar (front) **Area at Risk:** chin, jaw, clavicle, occiput



## ▶ Endotracheal tubes (ETT)

- Rotate ETT tube every 2 hours
- ALLEVYN Gentle Border Foam Wound Dressing to upper lip or lower lip based on assessments\*
- Secura Skin barrier wipe application to skin that can not be protected with silicone foam

**Size:** 10x10cm **Device:** trach flange **Area at Risk:** neck



## ▶ Cast/splints/TED hose

- Skin assessment every shift at splint/cast edges
- ALLEVYN Gentle Border Wound Dressing to sites of potential pressure or friction - collaborate with orthopedics and rehab staff (change in edema/fit)

**Size:** 10x10cm Heel **Device:** multi-podus boot **Area at Risk:** top/bottom foot, heel, calf



\*ALLEVYN Life and ALLEVYN Gentle Border are intended for pressure injury prevention when used as part of a pressure ulcer prevention protocol, in accordance with the IFU. Care should be taken when using the dressing under medical devices near the nose and mouth, where moisture can buildup and affect adherence.

# Medical device-related pressure injury prevention bundle



## ▶ Tracheostomy

- ALLEVYN Gentle Border Wound Dressing at time of tracheostomy creation
- ALLEVYN Gentle Border Foam Wound Dressing as soon as possible after placement - monitor patients with large neck circumference or chronic tilt to one side or other

**Size:** 10x10cm **Device:** trach flange **Area at Risk:** neck



## ▶ Urinary catheter

- Consider GENTLE BORDER Advanced Foam Wound Dressing about penile shaft based on assessment
- Consider also under leg straps if skin vulnerable

**Size:** 10x10cm **Device:** trach flange **Area at Risk:** penis, stomach area, legs



## ▶ Ear probes or forehead probes

- Move probes every two hours - attempt to move when patient condition permits
- Skin barrier wipe application to areas exposed to device

\*ALLEVYN Life and ALLEVYN Gentle Border are intended for pressure injury prevention when used as part of a pressure ulcer prevention protocol, in accordance with the IFU. Care should be taken when using the dressing under medical devices near the nose and mouth, where moisture can buildup and affect adherence.

Austin M. Implementation of a Medical Device Related Pressure Injury Prevention Bundle: A multidisciplinary approach. Poster presented at SAWC Fall 2019; Oct 12-15, 2019, Las Vegas, NV, USA.

# Medical device-related pressure injury prevention bundle



## ▶ O<sub>2</sub>/BiPAP

- ALLEVYN Gentle Border Advanced Foam Wound Dressing under mask (nose, face, forehead, chin) - shift skin assessment\*
- ALLEVYN GENTLE BORDER Advanced Foam Wound Dressing to ear cartilage if skin assessment warrants
- Application of skin barrier wipe to exposed skin

**Size:** 7.5x7.5cm, Sacrum **Device:** (NIPPV) non-invasive positive pressure ventilation/ CPAP  
**Area at Risk:** forehead, nose, cheek, chin



## ▶ Nasogastric tubes/nasal enteral feeding tubes

- Always reposition and re-tape when patient admitted to unit after surgery - remove tape and assess skin every 24 hours
- ALLEVYN LIFE/GENTLE BORDER Advanced Foam Wound Dressing at nares if possible\*

**Size:** 7.5x7.5cm, **Device:** nasogastric tubes/ (hi flo) nasal cannulas **Area at Risk:** nose, upper lip, cheek, ear



\*ALLEVYN Life and ALLEVYN Gentle Border are intended for pressure injury prevention when used as part of a pressure ulcer prevention protocol, in accordance with the IFU. Care should be taken when using the dressing under medical devices near the nose and mouth, where moisture can buildup and affect adherence.

# Medical device-related pressure injury prevention bundle



## Restraints

- ALLEVYN Gentle Border Foam Wound Dressing at restraint sites (wrist, ankles)



## Fecal management systems

- Assess site and reposition every 2 hours
- Application of skin barrier wipe to exposed skin

## Female external urine containment devices

- Consider ALLEVYN Gentle Border Foam Wound Dressing on mons pubis, pannus based on clinical assessment



\*ALLEVYN Life and ALLEVYN Gentle Border are intended for pressure injury prevention when used as part of a pressure ulcer prevention protocol, in accordance with the IFU. Care should be taken when using the dressing under medical devices near the nose and mouth, where moisture can buildup and affect adherence.

Austin M. Implementation of a Medical Device Related Pressure Injury Prevention Bundle: A multidisciplinary approach. Poster presented at SAWC Fall 2019; Oct 12-15, 2019, Las Vegas, NV, USA.

# Pressure injury prevention in practice

## Important for success



Organisations with ongoing quality improvement initiatives  
have lower pressure injury incidence



- For best results ensure
  - Adequate level of qualified staff
  - Access to the equipment and resources
  - Knowledgeable staff with preventive culture attitude
- Develop and implement a structured quality improvement program, tailored to the organization to prevent pressure injuries
- Involve all stakeholders in pressure injury prevention
- Use evidence-based policies, procedures, protocols, clinical decision support tools and standardized documentation systems
- Provide clinical leadership
  - Wound team/specialist
  - Unit champions/clinical educators
- Monitor performance against quality indicators
- Ensure patient and informal caregivers are educated about pressure injuries and their role in prevention

# Pressure injury prevention

## Summary




- Pressure injuries impact patients, their families and the healthcare system
- Identify those at risk and develop a comprehensive prevention plan to include:
  - Preventive skin care
  - Nutritional assessment and interventions
  - Repositioning & early mobilisation
  - Special attention to heels
  - Use of appropriate support surfaces
  - Attention to medical devices

**“Individually, we are one drop. Together, we are an ocean.”**

Ryunosuke Satoro

A large, solid red abstract shape that starts as a rounded curve at the top right and tapers down towards the bottom left, occupying the right side of the slide.



For detailed product information, including indications for use, contraindications, precautions and warnings, please consult the product's applicable Instructions for Use (IFU) prior to use.

Smith & Nephew Pty Ltd Australia T +61 2 9857 3999 F +61 2 9857 3900 [www.smith-nephew.com/australia](http://www.smith-nephew.com/australia)  
Smith & Nephew Ltd New Zealand T +64 9 820 2840 F +64 9 820 2841 [www.smith-nephew.com/new-zealand](http://www.smith-nephew.com/new-zealand)

®Trademark of Smith & Nephew. All Trademarks acknowledged. SN14867

**Smith+Nephew**