

# Preventing Medical Device-Related Pressure Injuries (MDRPI)

Recognizing Risk, Taking Action, Protecting Skin Under Devices



## Key Insight

MDRPI is not inevitable—risk drops sharply with systematized protocols for device selection, fit, positioning, and inspection.

## Why This Matters

- Patients with a medical device are **2.4x** more likely to develop a PI of any kind.<sup>1</sup>
- Most MDRPIs are not discovered until later stages; inconsistent monitoring and definitions drive wide prevalence variation and underreporting.<sup>2-4</sup>
- Regulatory consequences: late-stage discovery can trigger reimbursement denials from CMS and other payers.<sup>3</sup>

## Prevention Devices Can Cause Pressure



Heel offloading, positioning, and contracture-management devices may create new pressure points. Assess tissue tolerance and inspect under and around each device at scheduled intervals. Remove, adjust, reposition, or offload when clinically safe; increase monitoring according to patient risk and manufacturer instructions.<sup>5,6</sup>

## Converging Risk Domains

### Device Characteristics

High device burden • Poor fit • Rigid material • Poor positioning • Inadequate securement (shear) • Microclimate under device<sup>1,3,4-6</sup>

### Patient Factors

Fragile skin (pediatric/older adult) • Bariatric status • Edema/fluid shifts • Impaired sensation • Poor nutrition • Poor perfusion • Inability to self-reposition • Darker skin delaying erythema recognition<sup>1,3,4-6</sup>

### Process/System Gaps

No standardized monitoring protocol • Lack of caregiver education • Hesitancy to fully remove device for inspection • Limited access to sized devices • Underreporting<sup>1,3,4-6</sup>

## Trigger » Action

| Trigger                                       | Action                                                                                                                                                                                                                                                      |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New device indicated                          | Select the correct fit and material; minimize contact area; secure with the least tension necessary; inspect under and around the device at defined intervals; reposition or offload when clinically safe; consider a prophylactic dressing. <sup>5,6</sup> |
| Edema or shifting fluid status                | Reassess device fit more frequently; adjust tightness as needed; consider an interface material that accommodates expansion. <sup>1,5</sup>                                                                                                                 |
| Use of urinary catheter                       | Wash entry area with soap and water; secure with adhesive tape; alternate securement to other thigh periodically; cushion securement with a gauze pad. <sup>2</sup>                                                                                         |
| CPAP/BiPAP or other respiratory device in use | Fully remove device to inspect nasal bridge and facial skin at set intervals; at first sign of erythema, apply thin foam dressing cut to contact area; consider topical hyperoxygenated fatty acids. <sup>2,3,6</sup>                                       |

## Education Spotlight



### Remember

Assessment isn't complete until it's documented. Late discovery and inconsistent reporting are among the biggest drivers of both poor outcomes and reimbursement denials.<sup>2-4</sup>

## Mucosal MDRPI

A mucosal PI is associated with a medical device used at the site. Unlike MDRPIs involving skin, it is not staged because mucosal anatomy does not allow reliable assessment of tissue depth. Document the location, associated device, and clinical findings.<sup>5,7</sup>

## Look Beyond Medical Devices

Phones, eyeglasses, call bells, cords, coins, and other objects trapped against the body can also cause PIs, but they are not MDRPIs. Include environmental sweeps in routine monitoring and caregiver education, and stage resulting skin injuries using standard criteria.<sup>4,5</sup>

## SECURE Mnemonic

**S**kin/tissue assessment • **E**ducation for staff and caregivers • **C**ollaboration with multidisciplinary teams • **U**nderstanding of causes and risk factors • **R**eporting and documentation • **E**valuation of opportunities to reduce risk.<sup>6</sup>

## Securement Can Cut Both Ways

A device secured tightly enough to prevent shifting can create a new pressure point at the securement site itself. Padding added to improve fit can also increase bulk and worsen contact pressure elsewhere. Inspect the entire device—not just the primary contact area.<sup>5,6</sup>

## Abbreviations

**MDRPI:** medical device-related pressure injury • **PI:** pressure injury • **CPAP/BiPAP:** continuous/bilevel positive airway pressure

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