LEVERAGING TECHNOLOGY TO PREVENT HOSPITAL ACQUIRED PRESSURE INJURIES:
A 24-MONTH QUALITY IMPROVEMENT INITIATIVE

Cathy Ohnstad, RN, MSN, Chief Nursing Officer & Alla Levin, RN, WOCN
Cedars-Sinai Marina Del Rey Hospital

PURPOSE
In alignment with CALNOC’s mission to advance outcomes using actionable data, hospital leadership implemented a novel technology to monitor patients most at risk for pressure ulcers.

➢ The main goal was to reduce incidence of hospital-acquired pressure injuries (HAPIs) through visual reminders for optimal turning.

BACKGROUND
Research demonstrates that turning and repositioning patients helps prevent HAPIs. Although well accepted as the standard of care, two-hour turning protocols have proven difficult to maintain, and compliance remains suboptimal with reports ranging from 38% to 66%.

Many reasons are theorized for lack of adherence to turning protocols and HAPI incidence despite routine repositioning. Complex nursing workloads and a lack of tools to assure quality can lead to immense variability in offloading tissues vulnerable to pressure injuries.

METHODS
A wireless patient-monitoring system was deployed across three nursing units – ICU, and two med surg/telemetry units.

➢ Wearable sensors relay real-time patient movement and position

• Patient turning data and HAPI incidence were collected during a 24-month period.
• Turn protocol adherence was calculated based on timeliness and adequacy of turns.

• A user interface provides visual repositioning cues

RESULTS
Enrollment Data: Apr 2016-Mar 2018

<table>
<thead>
<tr>
<th>Number of Patients</th>
<th>1,270</th>
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<tbody>
<tr>
<td>Total Monitoring Hours</td>
<td>116,536</td>
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<tr>
<td>Average Turn Adherence</td>
<td>89%</td>
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- Average turn protocol adherence exceeded documented literature benchmarks by almost 2x

- Incidence of sacrococcygeal HAPIs was reduced by 68% compared to 24 months prior to implementation, from 19 to 6

CONCLUSIONS
Frequent, good quality patient turning can significantly reduce hospital-acquired pressure injuries. Wearable technology makes it possible to have a sustainable patient repositioning program without the need of additional staff.

➢ The majority of staff reported increased teamwork and efficiency with the intervention.

REFERENCES

Sensor criteria: Braden score ≤18
Parameters: 2-hour turn period, minimum 20° turn angle and 15-min tissue recovery time between turns

CALNOC 2016 & 2017 Reports for HAPI 3+ per 1000 patient days

California Hospitals .10
All CALNOC Hospitals .10
Magnet Hospitals .15
Cedars-Sinai MDR 0

Cedars-Sinai MDR outperformed other hospitals in HAPI 3+ incidence

Do you believe the monitoring technology helps prioritize workflow and improve staff efficiency?

Yes No

0% 20% 40% 60% 80% 100%

Do you believe the monitoring technology facilitates better teamwork?

Yes No

0% 20% 40% 60% 80% 100%

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