Patients who have suffered a spinal cord injury (SCI) are at high risk for multiple complications due to prolonged periods of immobilization, altered sensorium, and neurological deficits.\(^1\)\(^\text{1-5}\)

A prospective cohort study assessed the records of 1,361 adults with SCI, and found a history of chronic pressure ulcers and hospitalization within the past year were 2 of five conditions predictive of mortality and decreased life expectancy.\(^1\)

Due to the increased risk of patients with SCI developing pressure-related breakdown, there is a clinical need for evidence-based, tailored interventions to ensure appropriate off-loading of bony prominences.\(^6\)

The following case history describes how a facility tailored their interventions for a SCI patient and describes the therapeutic and preventive approach associated with this patient's wounds.
**METHODS**

**Clinical setting:** Adult intensive care unit.

**Timeline of patient care:** The patient was admitted October 2014 and hospitalized for 3.5 months.

**Clinical presentation:** A 65-year-old male presenting with a SCI due to a fall with C2 fractures, and suspected deep tissue injury (SDTI) on both heels.

**Initial wound care consultation:** The Adult Intensive Care Unit Tissue Viability Nurse assessed the patient on admission, and noted severe SDTI to both heels with underlying necrotic tissue. Sharp debridement was conducted to expose the necrotic tissue and a honey dressing was applied to the necrotic areas on both heels. The dressings were changed every 48-72 hours, and a heel protector* was placed to off-load pressure from the heels 24 hours per day.

**Heel protector:** The heel protector utilized for this intervention is clinically documented to off-load the heels, maintain grip of the limb, and prevent lateral rotation, maintaining the foot at 90° without risk of device-related pressure injury.

**RESULTS**

**Timeline of Wound Healing**

<table>
<thead>
<tr>
<th>1 week: (05/11)</th>
<th>1 month: (24/11)</th>
<th>1.5 months: (10/12)</th>
<th>2.5 months: (07/03)</th>
<th>3.5 months: (11/2)</th>
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<tbody>
<tr>
<td>Necrotic areas had reduced in size and softened, and surrounding areas showed signs of granulating tissue and improvement.</td>
<td>Necrotic areas were significantly smaller and surrounding skin had begun to granulate and heal. Both heels were sharply debrided by the podiatry team to enhance healing. Honey dressings were applied to necrotic areas.</td>
<td>No residual necrotic tissue. The wounds were smaller and wound beds were sloughy. Both heels received sharp debridement by the podiatry team once per week and honey dressings were continued.</td>
<td>There was 50% granulation tissue and 50% slough, with wounds healing well; surrounding tissue was completely healed.</td>
<td>Both heels had completely healed.</td>
</tr>
</tbody>
</table>

**DISCUSSION**

The challenges associated with SCI are substantial and clinical sequelae depend on the severity of the injury. Preventing secondary complications associated with prolonged immobility and an impaired physiologic status is an important aspect of caring for patients with SCI. Pressure ulcer prevention is complex and must be tailored for each patient’s clinical scenario. The utilization of a pressure off-loading boot, in conjunction with evidence-based therapy, led to complete healing of pre-existing SDTI on bilateral heels within 3.5 months.

**CONCLUSION**

This tailored, evidence-based therapeutic approach was successful in healing this patient’s wounds.