Wound Care and the Renal Patient
Our Patient

• Kelly
Wounds are gross. Is this my job?

- End stage renal disease has recently been identified as an independent risk factor for foot ulceration\(^1\)

- The risk of foot ulceration for a person with end stage renal disease is 10 times greater than that of a person with only diabetes\(^2,3\)

- Based on the International Working Group for the Diabetic Foot risk categories 95% of dialysis patients are classed as high risk\(^4\)
You better believe it’s your job

• Risk factors for foot ulceration are present at all stages of nephropathy. For every 10 mL/min increase in eGFR the risk for foot ulceration decreases by 30%\(^5\)

• 23% of patients who underwent amputations were on dialysis\(^6\)

• One and five year survival rates [post amputation] were 50.8% and 17.2% respectively in hemodialysis subjects\(^7\)
Identify and treat the cause… for the renal patient the cause is usually:
- Diabetes
- Vascular supply
- Pressure

If we cannot treat the cause of the wound we should do our best to optimize the patient's condition and maintain the current state of the wound. A.K.A. Maintenance Wound.

Address patient-centered concerns…
- The high symptom burden of dialysis patients leads to neglect of other aspects of care, particularly foot care (Richbourg, M.J., Ndip, A.).
- Although a wound may be physiologically healable, the patient and their decisions may cause us to classify a wound as maintenance.

**Table 5: MEASURE: A Pocket Guide for Clinicians**

<table>
<thead>
<tr>
<th>Measurement Parameter</th>
<th>Clinical Observation</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure</td>
<td>Length, width, depth, area</td>
<td>Reduction or increase in wound surface area and/or depth</td>
</tr>
<tr>
<td>Exudate</td>
<td>Amount, quality</td>
<td>• Decreased or increased amount • Decreased or increased purulence</td>
</tr>
<tr>
<td>Appearance</td>
<td>Wound bed appearance; tissue type and amount</td>
<td>• Increased or decreased percentage of granulation tissue • Increased or decreased percentage of necrotic tissue • Failure of granulation tissue</td>
</tr>
<tr>
<td>Suffering</td>
<td>Patient pain level using validated pain scale</td>
<td>Improved or worsening wound-related pain</td>
</tr>
<tr>
<td>Undermining</td>
<td>Presence or absence</td>
<td>Decreased or increased amount</td>
</tr>
<tr>
<td>Re-evaluate</td>
<td>Monitor all parameters on regular basis—every one to four weeks</td>
<td>Parameters sequentially documented in patient record</td>
</tr>
<tr>
<td>Edge</td>
<td>Condition of wound edge and surrounding skin</td>
<td>• Presence or absence of attached edge with advancing border of epithelium • Presence or absence of erythema and/or induration • Presence or absence of maceration</td>
</tr>
</tbody>
</table>

Treatment Strategies for Chronic Wounds (DIMES®)

Modern Classes of Dressing

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
<th>Tissue Debridement</th>
<th>Infection</th>
<th>Moisture Balance</th>
<th>Indications / Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Films/membranes</td>
<td>Semi-permeable adhesive sheet, impermeable to H2O molecules and bacteria.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>May contain agents that facilitate re-epithelialisation.</td>
</tr>
<tr>
<td>2. Non-adherent</td>
<td>Sheets of low adherence to tissue, non-adherent tulle.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Allow drainage to seep to secondary dressing.</td>
</tr>
<tr>
<td>3. Hydrogels</td>
<td>Alginate or similar gel, available in rolls or impregnated gauze.</td>
<td>++</td>
<td>-</td>
<td>-</td>
<td>Should be used only on dry wounds.</td>
</tr>
<tr>
<td>4. Hydrocolloids</td>
<td>May contain petrolatum, sodium hydroxyethylcellulose, other hydroxyethylcellulose, and/or petrolatum.</td>
<td>+++</td>
<td>-/-</td>
<td>++</td>
<td>Should be used only on dry wounds.</td>
</tr>
</tbody>
</table>

- Additional classes of dressings include hydrocolloids, hydrogels, and non-adherent dressings.
- Care considerations include monitoring for infection, moisture balance, and tissue debridement.
- Indications and contraindications vary depending on the specific dressing type.
Wound Resources

• Canadian Association of Wound Care (CAWC)
  ▫ Quick Reference Guides
  ▫ Best Practice Guidelines

• Registered Nurses of Ontario
  Best Practice Guidelines
  ▫ Assessment and Management of Foot Ulcers for People with Diabetes
  ▫ Risk Assessment and Prevention of Pressure Ulcers
  ▫ Assessment and Management of Stage I to IV Pressure Ulcers
  ▫ Assessment and Management of Venous Leg Ulcers

• International Working Group on the Diabetic Foot
Wound Care Must be a Part of Nephrology

- Dialysis patients often lack the vision, dexterity and flexibility to perform their own foot care\(^{10}\)

- Neuropathy is the number one risk factor for developing a diabetic foot ulcer and ESRD patients also develop uremic neuropathy\(^{1}\)

- Articles as far back as at least 1999 highlight the importance of foot and wound care being integrated into nephrology care\(^{11,12}\)
• Implementation of diabetic foot management best practice guidelines (BPG’s) in hemodialysis units (Prentice, D) published in CANNT 2009, Vol 19, Issue 4
Why We Need to Care

“… His kids and I would not have to watch him suffer during the last five months of his life while he had both heels amputated, a month later both legs below the knees amputated and a month after that both legs mid thigh amputated. Finally, the kids wouldn’t have lost their Dad and I my husband at such a early age due to diabetic foot ulcers.”\textsuperscript{13}
References


