The Use of Wound Planimetry to Guide Decisions About Superficial And Perforator Ablations

Methods of Measuring Venous Ulcers

- Description
  - “Healed” or “unhealed”
  - Size with and without measuring
- Length and width
  - Under and/or over estimates by ~45%
- Planimetry

Why Use Planimetry?

- Simple, inexpensive
- Accurate measurements for wound care billing (< 20 sq cm, each additional 20 cm)
- Determines progress in wound care
- Allows comparisons of therapy between large and small ulcers
- Measures impact of interventions
  - E.g. Algorithm for venous ulcers
- Required for most research studies

Wound Planimetry

- NIH planimetry program (free)
- Wound care software program (Wound expert)
  - Simple and allows billing and clinical followup
- Commercial system (Aranz)
  - Can calculate area or volume

Methods of Tracking Ulcer Size

Ulcer decreasing in size after vein ablation
Method of Ulcer Evaluation

- Ulcer growth = +2.66 cm²/mo
- Ulcer closure = -6.08 cm²/mo

Green: Treatment with compression therapy alone
Orange: Ongoing compression after vein ablation

Ulcer Locations

Left: 63
Right: 47

Ablation Procedures

GSV (100%), SSV (95%), PTV (86%)

Healing Rates

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-ablation healing rate (cm²/mo) ± SEM</th>
<th>Post-ablation healing rate (cm²/mo) ± SEM</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healed Ulcers</td>
<td>+1.02 ± 0.11</td>
<td>-4.43 ± 0.11</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Total</td>
<td>+1.18 ± 0.12</td>
<td>-6.44 ± 0.17</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>SSV</td>
<td>+1.66 ± 0.13</td>
<td>-4.82 ± 0.14</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Perforators</td>
<td>+0.89 ± 0.09</td>
<td>-2.35 ± 0.10</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>PTV</td>
<td>+0.50 ± 0.05</td>
<td>- 1.28 ± 0.05</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Conclusions

- Planimetry is the best method to track wound size
- It enables accurate billing
- It allows comparison of interventions and care between large and small venous ulcers
- It is required for accurate venous ulcer and wound care research