Contraindications, risk factors, adverse events in venous leg ulcer compression therapy – review of clinical practice guidelines

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Introduction: The adequate use of compression in venous leg ulcer treatment is equally important to patients as well as clinicians. Currently there is a lack of clarity on contra-indications, risk factors, adverse events and complications, when applying compression therapy for venous leg ulcer patients.

Methods: The project was conceived as a mechanism to optimize prevention, treatment and maintenance approaches by recognizing complications, risk factors, adverse events and conditions, when applying compression therapy for venous leg ulcer patients. The project is an initiative of the Patient Outcome Group of the European Wound Management Association in collaboration with the International Compression Club.

A literature review was conducted of current guidelines on venous leg ulcer prevention, management and maintenance, randomized controlled studies, systematic reviews, meta-analysis and well-designed cohort studies (Fig 1).

Fig 1: literature review

References

Table 1: Type of publications

<table>
<thead>
<tr>
<th>Type of publications</th>
<th>Publication dates</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidelines and consensus</td>
<td>2008 until 2016</td>
<td>18</td>
</tr>
<tr>
<td>Papers on venous leg ulcers</td>
<td>2010 until 2011</td>
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<tr>
<td>Guidelines and consensus papers on lymphedema</td>
<td>2010 until 2011</td>
<td>1</td>
</tr>
<tr>
<td>Guidelines and consensus papers on thromboembolism prophylaxis and treatment</td>
<td>2005 updated 2010</td>
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<tr>
<td>Intermittent compression</td>
<td>2011</td>
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<td>Varicose veins</td>
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Table 2: Contraindications

<table>
<thead>
<tr>
<th>Absolute contraindications</th>
<th>No</th>
<th>Relative contraindications</th>
<th>No</th>
<th>Contraindication without classification</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Arterial occlusive disease</td>
<td>18</td>
<td>Diabetes mellitus; peripheral neuropathy</td>
<td>18</td>
<td>Heart failure</td>
<td>3</td>
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<tr>
<td>Heart failure</td>
<td>18</td>
<td>Heart failure</td>
<td>8</td>
<td>Neuropathy</td>
<td>3</td>
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<tr>
<td>ABPI &lt; 0.5-0.8</td>
<td>18</td>
<td>Compensated peripheral arterial occlusive disease</td>
<td>6</td>
<td>Extensive thromboembolitis, thrombosis or suspected thrombosis</td>
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<tr>
<td>Extensive thromboembolitis, thrombosis or suspected thrombosis</td>
<td>7</td>
<td>Intolerance to dressing material</td>
<td>7</td>
<td>Extensive thromboembolitis, thrombosis or suspected thrombosis</td>
<td>2</td>
</tr>
<tr>
<td>Phlegmasia coerulea dolens</td>
<td>6</td>
<td>Skin diseases</td>
<td>6</td>
<td>Erysipelas</td>
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<td>4</td>
<td>Malignant diseases</td>
<td>5</td>
<td>Serious non-controlled hypertension</td>
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<tr>
<td>Serious non-controlled hypertension</td>
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<td>ABPI &lt; 0.5-0.8</td>
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</table>

Table 3: Risks and Adverse Events

<table>
<thead>
<tr>
<th>Risk &amp; adverse effects</th>
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<th>Complications</th>
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</thead>
<tbody>
<tr>
<td>Pressure marks; necrosis; friction; leg ulcer</td>
<td>18</td>
<td>Tissue damage; necrosis; friction; leg ulcer; gangrene</td>
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<tr>
<td>Injury to the skin</td>
<td>12</td>
<td>Allergy; skin irritation</td>
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<tr>
<td>Pain</td>
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<td>Pain</td>
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<tr>
<td>Local damage on the peroneous nerve</td>
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<td>Constrictions</td>
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<td>Painful peripheral nerves</td>
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<tr>
<td>Wrong compression pressure</td>
<td>4</td>
<td>Arterial complication</td>
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</tr>
<tr>
<td>Allergic reaction; skin irritation</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Lack of medical efficacy</td>
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<tr>
<td>General lymphedema</td>
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<td></td>
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<tr>
<td>Limb shape</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deterioration of wounds; skin</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constriction</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombosis</td>
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