

Systematic reviews of wound care management: (5) beds; (6) compression; (7) laser therapy, therapeutic ultrasound, electrotherapy and electromagnetic therapy

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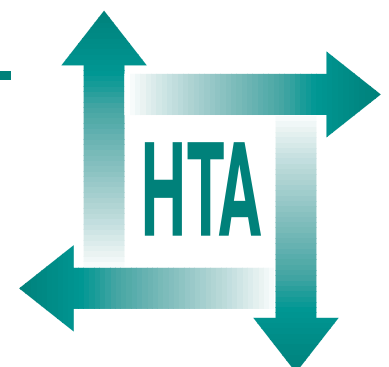
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Executive summary

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Executive summary

Background

Chronic wounds such as leg ulcers, diabetic foot ulcers and pressure sores are common in both acute and community healthcare settings. The prevention and treatment of these wounds involves many strategies: pressure-relieving beds, mattresses and cushions are universally used as measures for the prevention and treatment of pressure sores; compression therapy in a variety of forms is widely used for venous leg ulcer prevention and treatment; and a whole range of therapies involving laser, ultrasound and electricity is also applied to chronic wounds. This report covers the final three reviews from a series of seven.

Aims

To assess the clinical effectiveness and cost-effectiveness of:

1. pressure-relieving beds, mattresses and cushions for pressure sore prevention and treatment
2. compression therapy for the prevention and treatment of leg ulcers
3. low-level laser therapy, therapeutic ultrasound, electrotherapy and electromagnetic therapy for the treatment of chronic wounds.

Methods

Data sources

Nineteen electronic databases, including MEDLINE, CINAHL, EMBASE and the Cochrane Controlled Trials Register (CENTRAL), were searched. Relevant journals, conference proceedings and bibliographies of retrieved papers were handsearched. An expert panel was also consulted.

Study selection

Randomised controlled trials (RCTs) which evaluated these interventions were eligible for inclusion

in this review if they used objective measures of outcome such as wound incidence or healing rates.

Results

Beds, mattresses and cushions for pressure sore prevention and treatment

A total of 45 RCTs were identified, of which 40 compared different mattresses, mattress overlays and beds. Only two trials evaluated cushions, one evaluated the use of sheepskins, and two looked at turning beds/kinetic therapy.

Compression for leg ulcers

A total of 24 trials reporting 26 comparisons were included (two of prevention and 24 of treatment strategies).

Low-level laser therapy, therapeutic ultrasound, electrotherapy and electromagnetic therapy

Four RCTs of laser (for venous leg ulcers), 10 of therapeutic ultrasound (for pressure sores and venous leg ulcers), 12 of electrotherapy (for ischaemic and diabetic ulcers, and chronic wounds generally) and five of electromagnetic therapy (for venous leg ulcers and pressure sores) were included. Studies were generally small, and of poor methodological quality.

Conclusions

- Foam alternatives to the standard hospital foam mattress can reduce the incidence of pressure sores in people at risk, as can pressure-relieving overlays on the operating table. One study suggests that air-fluidised therapy may increase pressure sore healing rates.
- Compression is more effective in healing venous leg ulcers than is no compression, and multi-layered high compression is more effective than single-layer compression. High-compression

hosiery was more effective than moderate compression in preventing ulcer recurrence.

- There is generally insufficient reliable evidence to draw conclusions about the contribution of laser therapy, therapeutic ultrasound, electrotherapy and electromagnetic therapy to chronic wound healing.

Publication

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NHS R&D HTA Programme

The NHS R&D Health Technology Assessment (HTA) Programme was set up in 1993 to ensure that high-quality research information on the costs, effectiveness and broader impact of health technologies is produced in the most efficient way for those who use, manage and provide care in the NHS.

Initially, six HTA panels (pharmaceuticals, acute sector, primary and community care, diagnostics and imaging, population screening, methodology) helped to set the research priorities for the HTA Programme. However, during the past few years there have been a number of changes in and around NHS R&D, such as the establishment of the National Institute for Clinical Excellence (NICE) and the creation of three new research programmes: Service Delivery and Organisation (SDO); New and Emerging Applications of Technology (NEAT); and the Methodology Programme.

This has meant that the HTA panels can now focus more explicitly on health technologies ('health technologies' are broadly defined to include all interventions used to promote health, prevent and treat disease, and improve rehabilitation and long-term care) rather than settings of care. Therefore the panel structure has been redefined and replaced by three new panels: Pharmaceuticals; Therapeutic Procedures (including devices and operations); and Diagnostic Technologies and Screening.

The HTA Programme will continue to commission both primary and secondary research. The HTA Commissioning Board, supported by the National Coordinating Centre for Health Technology Assessment (NCCHTA), will consider and advise the Programme Director on the best research projects to pursue in order to address the research priorities identified by the three HTA panels.

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