

Title	Non-operative management of pectus carinatum with orthotic bracing
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Aim

To assess the safety and effectiveness of non-invasive treatment of PC using conventional and dynamic compression brace systems on children and adolescents.

Conclusions and results

- In general, treatment of PC is aesthetic in nature, and patients and/or family relatives must be thoroughly informed of existing therapeutic options and the risk/benefit balance, particularly in surgical treatment. Non-invasive orthosis-based treatment is long-term and, moreover, requires the brace to be used practically 24 hours a day.
- While the conventional and dynamic orthoses display similar designs, the dynamic system features an electronic device that is fitted to the prosthesis and enables the pressure to be monitored.
- Both systems display a similar effectiveness, not only achieving optimal correction of the protrusion in the majority of cases, but also improving the quality of life and self-esteem of those patients who comply with the treatment.
- The key factors of success in non-invasive treatment are the patient's adherence to therapy, age, degree of thoracic malleability and type of deformity.
- The adverse effects, which are similar with both systems, are mild in nature, with cutaneous lesions predominating. Pressure monitoring does not seem to prevent the complications arising from the conventional compression system.
- The cost of the dynamic compression system (brace plus electronic pressure-measurement device) is approximately 12 times higher than that of the conventional system.

Methods

We conducted a systematic review of the literature, with a search in January 2015 that targeted: databases specialised in systematic reviews, such as Health Technology Assessment (HTA), Database of Abstracts of Reviews of Effectiveness (DARE), Economic Evaluation Database of the National Health Service (NHS EED) and the Cochrane Library Plus; and general databases, such as Medline, Embase and the ISI Web of Science. The studies retrieved were selected in accordance with a set of pre-defined criteria and reviewed by two independent reviewers.

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