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Head shape measurement standards and cranial orthoses in the treatment of infants with deformational plagiocephaly: a systematic review

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The review aims to determine how head shape is measured and describes the use of orthoses in the management of deformational plagiocephaly. A systematic review was conducted and papers published in English up to and including 2006 were sourced from nine databases. Initial screening of papers retrieved was conducted and consensus for inclusion reached according to specified criteria. Twenty papers were included; three literature reviews and 17 original papers. Of the original papers, eight concerned the method of head shape measurement. Measurements are important in determining clinical classification and treatment modality of deformational plagiocephaly. All studies were appraised and assigned a level of evidence according to the Scottish Intercollegiate Guidelines Network. Methodological quality was inadequate. Publications involving the use of cranial orthoses used convenience samples, were not blinded, and used different measurement techniques. No control groups were included and participants were not randomised. Evidence suggests that conservative treatments might reduce skull deformity although the quality is poor. Clinical studies investigating the use of cranial orthoses reported beneficial effects. Further research of appropriate design is required to identify the efficacy of cranial orthoses in the treatment of deformational plagiocephaly based on a standardised measurement technique to facilitate classification of deformational plagiocephaly.