

Strengths and limitations of the review

A key strength of this review is a comprehensive literature search including most English and Chinese databases without any publication restrictions. There are several limitations to this review. Firstly, potential studies may have been missed despite extensive literature searching, since diagnostic accuracy studies are poorly tagged in databases. Secondly, only the pH index test was subjected to meta-analysis with a small number of heterogeneous studies. The heterogeneity is likely to have contributed to the marked variability in sensitivity and specificity and may undermine the reliability of the summary estimates. Thirdly, criteria for high and low diagnostic performance of index tests were not pre-determined as there were no well-recognized and established criteria. This may lead to challenges in the interpretation of diagnostic performance of index tests included in the review. Lastly, results could not be presented for neonates, infants and children separately as most studies included a range of ages and data could not be separated for each age group. Thus, recommendations concerning the diagnostic accuracy of methods for gastric tube position verification in different populations of neonates, infants, and children, could not be made.