Severity Scores used in the assessment of Bronchiolitis: A systematic review

**Abstract**

**Background:** Bronchiolitis is the commonest cause of hospitalisation in young children. There are several bronchiolitis severity scores currently being used for patient assessment, risk stratification and research purposes.

**Aims:** To systematically review similarities and differences between severity scores in use for children with acute bronchiolitis.

**Methods:** The systematic review protocol was registered with PROSPERO (ID CRD42020218816). MEDLINE, CINAHL, PubMed and EMBASE databases were searched using relevant terms. Titles, abstracts and full texts were screened using pre-set inclusion/exclusion criteria. The primary outcome was identification of bronchiolitis severity scores. Secondary outcomes included extraction of key parameters, assessment of these and overall markers of validity of the scores.

**Results:** Fifty-two eligible scores were identified and analysed. Most scores originated from the USA. The 5 most assessed parameters were respiratory rate (84% of scores), wheeze (82%), retractions (73%), nasal flaring (39%) and oxygen saturation (33%). Wheeze and retractions were frequently sub-divided based on location and severity. Twenty scores (38%) were validated for use in the Emergency department. Three duplicate variations of scores were found in 8 papers. Evidence of score validation was limited. No score was assessed fully according to FDA criteria. Inter-rater reliability was most frequently assessed (10/52 scores; 19%).

**Conclusion:** Many severity scores for bronchiolitis have been developed. Most are poorly validated. The commonest parameters within these scores were respiratory rate, wheeze and retractions. There is a need for the development of a well validated severity score for bronchiolitis.