Salbutamol Vs. Placebo/Nebulised Therapy Table of Results

Key to methodological quality section of table:
RQ = randomisation quality, AC = Allocation Concealment, B = Blinding, MD = Missing Data, SOR = Selective Outcome Reporting,
L= low risk of bias, H = high risk of bias, U = Unclear from published information.

Trial	Population Intervention and Comparison Outcomes	Results	Methodological quality
Bogie 2007	46 patients, aged 2-17 years with moderate/ severe asthma, failed standard acute asthma treatment with nebulisers and required admission to PICU. 2 groups: IV terbutaline group (n=25) loading dose of 10mcg/kg/min 10-20mins then infusion at 1-4mcg/kg/min depending on response; placebo group (n=21) Outcomes: Primary Outcome - improvement in modified clinical asthma severity score (CASS) at any point. Secondary Outcomes - hours on continuous nebulised albuterol, duration of stay in the pediatric intensive care unit.	Clinical Severity Score: No significant difference observed. Mean improvement in CASS over 24 hours 6.5 points terbutaline compared with 4.8 points in the placebo group (95% CI,0.2 – 3.5) (P=0.073) Lung Function: Not assessed Admission to PICU: N/A PICU length of stay; terbutaline 43.9 and placebo 56.85 hours respectively (P = 0.345; SD, 24.75 and 55.88) Adverse Effects: one patient receiving IV terbutaline developed a significant cardiac arrhythmia and was withdrawn from the study, 6 patients from the terbutaline group had elevated Troponin I values at 12 or 24 hours.	Risk of Bias: Low -RQ: L -AC: L -B: L -MD: L -SOR: L Precision: The CASS was a modified version of the Pulmonary Index score which has been correlated with measures of pulmonary function using spirometry. Sample Size: Did not recruit enough participants to meet calculated power requirement Adverse Effects: Some attempt to assess pre-specified adverse effects in a systematic way

Trial	Population Intervention and Comparison Outcomes	Results	Methodological quality
Browne 1997	29 patients with severe asthma, 1-12 years attending AED. 2 groups; IV salbutamol 15 mcg/kg over 10 minutes (n=15); Placebo (n=14) Outcomes: Primary Outcomes - Mean recovery time (time to no longer needing nebulised salbutamol of a given frequency); the odds of patients having moderate to severe asthma 2 h after randomisation (based on clinical severity score). Secondary Outcomes - odds of patients experiencing salbutamol-related side effects; mean respiratory rate, pulse rate, plasma potassium and glucose.	Clinical severity score: At 2h; 5 (36%) of 14 patients in the IV salbutamol group had persistent moderate to severe asthma compared with 14 (93%) of 15 control patients ($p<0.002$). Lung function: Not reported Admission to PICU: not reported Time to discharge: Patients in the IV salbutamol group were discharged from the ED 9.7 h earlier than controls ($p<0.05$) Adverse Effects: Differences in side-effects were not statistically or clinically significant except higher proportion of tremor at 2 h in the IV salbutamol group ($p<0.02$).	Risk of Bias: Low -RQ: L -AC: L -B: L -MD: L -SOR: L Precision: Clinical severity score based on descriptive table published in National Asthma Guideline. Not clear if systematically validated. Sample Size: Calculations completed but the study was terminated when an independent assessor calculated significant differences between the groups Adverse Effects: Some attempt to assess adverse effects in a systematic way

Trial	Population Intervention and Comparison Outcomes	Results	Methodological quality
Browne 2002	55 patients, 1-14 yrs, attending ED with severe acute asthma 3 groups - single 15mcg/kg bolus of IV salbutamol + saline nebs (n=21, Group IS), IV saline and nebulised ipratropium bromide 250mcg/20 mins (n=19, Group IB), IV salbutamol and nebulised ipratropium (n=15, Group IS+IB) Outcomes: Primary Outcomes - Time to no longer needing nebulised therapy of a given frequency, mean discharge time from the emergency department (on hourly nebs) and hospital (on 3 hourly nebs). Secondary Outcomes - Clinical signs of moderate to severe asthma 2 hrs after randomization; number of patients experiencing side effects; means of respiratory rate, pulse rate, plasma potassium, plasma glucose.	Clinical Severity Scores: Results at 2 hours not published. Lung Function: Not assessed PICU Admission: Not recorded Time to discharge: Children in group IS were ready for discharge from the hospital 28.0 hrs earlier than those children in group IB (48.3 hrs vs. 76.3 hrs, p = .005). There were no other significant differences between groups Adverse Effects: None reported	Risk of Bias: Low -RQ: L -AC: L -B: L -MD: L -SOR: H, clinical severity score data not published Precision: Primary outcome measures related to recording of timings. Sample Size: No documentation regarding SS calculations Adverse Effects: Attempts made to record adverse effects systematically