

**Online Appendix**

Management of Asthma in Childhood: Study Protocol of a Systematic Evidence Update by the  
Pediatric Asthma in Real Life (PeARL) Think Tank.

## Search Strategies

### 1. Overview of SRs evaluating stable asthma treatment

- #1 Asthma [MH]
- #2 Respiratory Sounds[MH]
- #3 Bronchial spasm [MH]
- #4 Bronchial Hyperreactivity [MH]
- #5 Respiratory Hypersensitivity [MH]
- #6 Anti-asthmatic agents[MH]
- #7 Asthma [tiab]
- #8 Wheez\* [tiab]
- #9 Bronchospas\* [tiab]
- #10 Bronchoconstrict\* [tiab]
- #11 Bronch\* [tiab] and (constrict\* [tiab])
- #12 (bronchial\* [tiab] or (respiratory[tiab]) or (airway\* [tiab]) or (lung\* [tiab])) and (hypersensitiv\* [tiab] or (hyperreactiv\* [tiab]) or (allerg\* [tiab]))
- #13 OR / 1-12
  
- #14 (Steroid\* [tiab] or (corticosteroid\* [tiab]) or (glucocorticoid\* [tiab])) and (inhal\* [tiab])
- #15 Beclomethasone [MH]
- #16 Budesonide [MH]
- #17 Fluticasone [MH]
- #18 Mometasone Furoate [MH]
- #19 Triamcinolone [MH]
- #20 Beclomethasone [tiab]
- #21 Beclometasone [tiab]
- #22 Budesonide [tiab]
- #23 Fluticasone [tiab]
- #24 Ciclesonide [tiab]
- #25 Mometasone [tiab]
- #26 Flunisolide [tiab]
- #27 Triamcinolone [tiab]

- #28 ICS [tiab]
- #29 OR/ 14-28
  
- #30 Adrenergic beta-2 receptor Agonists [MH] and (inhal\* [tiab])
- #31 Beta-agonist\* [tiab] and (inhal\* [tiab])
- #32 Salmeterol Xinafoate [MH]
- #33 Formoterol Fumarate [MH]
- #34 Clenbuterol [MH]
- #35 Salmeterol [tiab]
- #36 Formoterol [tiab]
- #37 Vilanterol [tiab]
- #38 Indacaterol [tiab]
- #39 Clenbuterol [tiab]
- #40 Olodaterol [tiab]
- #41 Bambuterol [tiab]
- #42 \*formoterol [tiab]
- #43 LABA [tiab]
- #44 OR/ 30-43
  
- #45 Muscarinic antagonists [MH] and (inhal\* [tiab])
- #46 Tiotropium Bromide [MH]
- #47 Tiotropium [tiab]
- #48 Umeclidinium [tiab]
- #49 GSK573719 [tiab]
- #50 Aclidinium [tiab]
- #51 LAS34273 [tiab]
- #52 Glycopyrronium [tiab]
- #53 NVA237 [tiab]
- #54 LAMA [tiab]
- #55 Muscarinic\* [tiab] and (Antagonist\* [tiab]) and (inhal\* [tiab])
- #56 Antimuscarinic\* [tiab]

- #57 OR/ 45-56
- #58 Leukotriene Antagonists[MH]
- #59 Leukotriene\* [tiab] AND (Antagonist\* [tiab])
- #60 Anti-leukotriene\* [tiab]
- #61 Anti-leucotriene [tiab]
- #62 Montelukast [tiab]
- #63 Zafirlukast [tiab]
- #64 Pranlukast [tiab]
- #65 LTRA [tiab]
- #66 OR/ 58-65
- #67 Biological Factors [MH]
- #68 Omalizumab [MH]
- #69 Omalizumab [tiab]
- #70 Mepolizumab [tiab]
- #71 Benralizumab [tiab]
- #72 Reslizumab [tiab]
- #73 Dupilumab [tiab]
- #74 OR/ 67-73
- #75 meta-analysis [Publication type] *HIRU Filter for Systematic Reviews*
- #76 meta-analysis [MH]
- #77 meta-analysis [tiab]
- #78 review [Publication type]
- #79 search\*[tiab]
- #80 OR/ 75-79
- #81 #28 OR #44 OR #57 OR #66 OR #74
- #82 #13 AND #80 AND #81

- #83 children [MH] or (adolescents [MH])
- #84 adults [MH] NOT #75
- #85 Editorial [publication type]
- #86 Letter [publication type]
- #87 #82 NOT (#84 OR #85 OR #86)

## 2. Severe asthma exacerbations treatment: Broad systematic review

- #1 Asthma [MH]
- #2 Severe asthma [MH]
- #3 Brittle asthma [MH]
- #4 Asthma [tiab]
- #5 OR/ 1-4
  
- #6 Disease Exacerbation [MH]
- #7 Exacerbation [tiab]
- #8 Exacerbation\* [tiab]
- #9 Attack [tiab]
- #10 Acute [tiab]
- #11 OR/ 6-10
  
- #12 Intensive care [MH]
- #13 Emergency Service, Hospital[MH]
- #14 Severe [tiab]
- #15 Refractory [tiab]
- #16 Near fatal [tiab]
- #17 Life-threatening [tiab]
- #18 Difficult-to-treat [tiab]
- #19 Therapy resistant [tiab]
- #20 Intensive care[tiab]
- #21 Critically ill [tiab]
- #22 ICU [tiab]

- #23 Emergency presentation [tiab]
- #24 Emergency admission [tiab]
- #25 Emergency department [tiab]
- #26 OR/ 12-25
- #27 (#5 AND #11 AND #26)
  
- #28 Status asthmaticus[MH]
- #29 Status asthmaticus[tiab]
- #30 (#27 OR #28 OR #29)
  
- #31 (animals [mh] NOT humans [mh])
- #32 children [MH] or (adolescents [MH])
- #33 adults [MH] NOT #32
- #34 Review [publication type]
- #35 Systematic review [publication type]
- #36 Meta-analysis[publication type]
- #37 (#34 NOT (#35 or #36))
- #38 Letter [publication type]
- #39 Editorial [publication type]
- #40 (#30 NOT (#31 OR #33 OR #37 OR #38 OR #39))

### 3. Severe asthma exacerbations treatment: Individual medication meta-analyses

- #1 Asthma [MH]
- #2 Respiratory Sounds[MH]
- #3 Bronchial spasm [MH]
- #4 Bronchial Hyperreactivity [MH]
- #5 Respiratory Hypersensitivity [MH]
- #6 Anti-asthmatic agents[MH]
- #7 Asthma [tiab]
- #8 Wheez\* [tiab]
- #9 Bronchospas\* [tiab]

- #10 Bronchoconstrict\* [tiab]
- #11 Bronch\* [tiab] and (constrict\* [tiab])
- #12 (bronchial\* [tiab] or (respiratory[tiab]) or (airway\* [tiab]) or (lung\* [tiab])) and (hypersensitiv\* [tiab] or (hyperreactiv\* [tiab]) or (allerg\* [tiab]))
- #13 OR / 1-12
  
- #14 Search terms related to the medication under investigation, including MeSH terms and free search terms.
  
- #15 children [MH]
- #16 paediatric\*[tiab]
- #17 pediatric\* [tiab]
- #18 child\* [tiab]
- #19 adolescen\* [tiab]
- #20 infant\* [tiab]
- #21 toddler\* [tiab]
- #22 preschool\* [tiab]
- #23 OR/ 16-22
- #24 #13 AND #14 AND #23
  
- #25 (animals [mh] NOT humans [mh])
- #26 children [MH] or (adolescents [MH])
- #27 adults [MH] NOT #26
- #28 Review [publication type]
- #29 Systematic review [publication type]
- #30 Meta-analysis[publication type]
- #31 (#28 NOT (#29 OR #30))
- #32 Letter [publication type]
- #33 Editorial [publication type]
- #34 (#24 NOT (#25 OR #27 OR #31 OR #32 OR #33))