THORACIC SOCIETY OF AUSTRALIA AND NEW ZEALAND (PAEDIATRIC)

The Thoracic Society of Australia and New Zealand (TSANZ) is the only health peak body representing a range of professions (medical specialists, scientists, researchers, academics, nurses, physiotherapists, students and others) across various disciplines within the respiratory/sleep medicine field in Australia and New Zealand. The Paediatric Special Interest Group (SIG) of the society takes a special interest in respiratory medicine as applied to paediatric patients.

1. Do not prescribe combination therapy (inhaled corticosteroids with long-acting beta2 agonist) as initial therapy in mild to moderate asthma before a trial of inhaled corticosteroids alone.

Even for children with persistent asthma, the most recent evidence suggests that adding long-acting beta2 agonists (LABA) to inhaled corticosteroids (ICS) does not result in a statistically significant reduction in exacerbations. However, there is some evidence that LABA/ICS combination therapy increases the risk of hospital admissions and severe asthma-associated adverse events, particularly among asthmatic children aged 4 to 11 years old. Due to the limited paediatric evidence on the safety and efficacy of long-acting beta2 agonists, the use of ICS alone is therefore recommended for the initial preventative therapy and the only therapy for children with mild to moderate asthma.

Supporting Evidence

- Canadian Agency for Drugs and Technologies in Health (CADTH). Long-Acting Beta2-Agonist and Inhaled Corticosteroid Combination Therapy for Adult Persistent Asthma: Systematic Review of Clinical Outcomes and Economic Evaluation. CADTH Technology Overviews. 2010;1(3):e0120.
- Chauhan BF, Chartrand C, Ni Chroinin M, et al. Addition of long-acting beta2-agonists to inhaled corticosteroids for chronic asthma in children. Cochrane Database Syst Rev. 2015 24;(11):CD007949.
- McMahon AW, Levenson MS, McEvoy BW, et al. Age and Risks of FDA-Approved Long-Acting β2-Adrenergic Receptor Agonists. Pediatrics. 2011;128(5):e1147-54.
- van Asperen PP, Mellis CM, Sly PD, Robertson C. The role of corticosteroids in the management of childhood asthma. The Thoracic Society of Australia and New Zealand, 2010.

2. Do not prescribe antibiotics for exacerbation of asthma

The most recent Global Initiative for Asthma (GINA) report does not recommend a role for antibiotics in management of asthma exacerbation unless there is strong evidence of lung infection, such as fever and purulent sputum or radiographic evidence of pneumonia. This is supported by recent trials involving azithromycin (a commonly prescribed antibiotic for management of asthma), which found that this drug had no statistically significant impacts on severity of symptoms during an exacerbation. One small randomised controlled trial (RCT) in young children with recurrent asthma-like symptoms showed that azithromycin reduced the duration of asthma-like symptoms. No RCT has been conducted in children who have a diagnosis of asthma to determine if the rate of severe asthma exacerbation or the severity of asthma symptoms or duration of an asthma exacerbation is reduced by azithromycin. A potential role for azithromycin in reducing the duration of an episode of asthma-like symptoms in children less than 3 years of age requires further investigation. Antibiotic treatment in addition to its lack of efficacy also increases the risk of bacteria resistance for those on long term treatment regimes.

Supporting Evidence

- Brusselle GG, Vanderstichele C, Jordens P, et al. Azithromycin for prevention of exacerbations in severe asthma (AZISAST): a multicentre randomised double-blind placebo-controlled trial. Thorax. 2013;68(4):322-9.
- 2018 GINA Report, Global Strategy for Asthma Management and Prevention.
- Li H, Liu DH, Chen LL, et al. Meta-analysis of the adverse effects of long-term azithromycin use in patients with chronic lung diseases. Antimicrob Agents Chemother. 2014;58(1):511-7.
- Johnston SL, Szigeti M, Cross M, et al. Azithromycin for Acute Exacerbations of Asthma The AZALEA

Randomized Clinical Trial. JAMA Intern Med. 2016;176(11):1630–1637.

- Stokholm J, Chawes BL, Vissing NH, et al. Azithromycin for episodes with asthma-like symptoms in young children aged 1-3 years: a randomised, double-blind, placebo-controlled trial. Lancet Respir Med. 2016;4(1):19-26.

3. Do not use oral beta2-agonists as bronchodilators in asthma, wheeze or bronchiolitis

The weight of evidence does not support the use of oral beta2 agonists as bronchodilators in children with asthma, wheeze or bronchiolitis. In the case of asthma, oral beta2-agonists have not been shown to have a significant impact on symptom score or length of hospital stay for acute asthma in infancy when compared to placebo. For wheeze inhalation is the recommended route for delivering relievers for all children and adults. For bronchiolitis, according to the latest evidence, oral bronchodilators are no better than placebo at reducing the time to resolution of illness among infants treated at home or affecting the probability or rates of hospital admission after treatment.

Supporting Evidence

- British Thoracic Society. British guideline on the management of asthma. Thorax 2014;69(Suppl 1):1–192.
- Gadomski AM, Scribani MB. Bronchodilators for bronchiolitis. Cochrane Database of Systematic Reviews 2014, Issue 6. Art. No.: CD001266. DOI: 10.1002/14651858.CD001266.pub4

4. For children with bronchiolitis without other co-morbidities, do not delay discharge from an inpatient admission based on oxygen saturations alone if saturations are ≥90%

Clinical guidelines and recent evidence indicate that oxygen supplementation need only be commenced for children with uncomplicated bronchiolitis (i.e. bronchitis without other co-morbidities) if oxygen saturation levels fall below percentage levels around the early 90s. While one guideline cites 92% as the minimum acceptable level, other research shows that management of infants with bronchiolitis to an oxygen saturation target of 90% or higher is as safe and clinically effective as one of 94% or higher. On the balance of evidence, we recommend that children with bronchiolitis without other co-morbidities can be safely discharged if oxygen saturation levels are 90% or higher.

Supporting Evidence

- American Academy of Pediatrics Subcommittee on Diagnosis and Management of Bronchiolitis. Diagnosis and management of bronchiolitis. Pediatrics. 2006 Oct;118(4):1774-93
- Cunningham S, Rodriguez A, Adams T, et al. Oxygen saturation targets in infants with bronchiolitis (BIDS): a double-blind, randomised, equivalence trial. Lancet (London, England). 2015;386(9998):1041-1048
- PREDICT Australasian Bronchiolitis Guideline 31 August 2016.

5. Do not delay immunization/s based on presence of mild respiratory symptoms in the absence of fever

Major guidelines on immunisation/vaccination do not cite the presence of minor or moderate acute illness (including mild respiratory symptoms), whether with or without fever, as a contraindication for immunisation. Australian immunisation guidelines explicitly state that 'mild illness without fever' is not a contraindication while US guidelines state that mild acute illness 'with or without fever' are 'commonly misperceived' as contraindications. Failure to immunise children with minor illnesses can reduce the effectiveness of immunisation campaigns. Given these considerations we adopt the conservative formulation that at least in the absence of fever, immunisation should not be delayed due to the mere presence of mild respiratory symptoms.

Supporting Evidence

- Australian Immunisation Handbook 10th edition 2015.
- Canadian Immunization Guide 2016.
- Centres for Disease Control and Prevention General Best Practice Guidelines for Immunization: Best Practices Guidance of the Advisory Committee on Immunization Practices (ACIP).

How was this list created?

The Royal Australasian College of Physicians worked with a Lead Fellow nominated by TSANZ to review evidence for 12 paediatric thoracic recommendations on low-value care in paediatric thoracic medicine. These recommendations were the subject of email discussions and deliberation by members of the Paediatric Special Interest Group (SIG) of the TSANZ. They were further discussed at a workshop held at a meeting of the Asia Pacific Society of Respirology in 2017, which included TSANZ members. Based on the feedback provided at this workshop and through email discussions with members of the SIG, four were removed and two of the original 12 were considered for inclusion in the final recommendations with overwhelming support. Members of the Paediatric SIG were then invited to choose three out of the remaining six through an email-based poll. This served as the basis for final recommendations, which were further refined and developed through successive drafts based on the input of the Lead Fellow, the results of consultation with other specialty groups and the views of the TSANZ Board.

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