Managing worsening asthma symptoms in children 1–5 years

See also

- Initial asthma treatment for children 1–5 years after diagnosis of preschool asthma
- Managing acute asthma in children 1–5 years in primary care
- Asthma exacerbations and acute asthma

Recommendation

Manage worsening asthma symptoms in preschool children with salbutamol as needed, with prompt escalation to acute care when needed.

Provide clear instructions to parents/carers about salbutamol doses when symptoms do not rapidly resolve or recur within hours.

Educate parents on how to recognise an asthma emergency.

Ensure the child's asthma action plan is kept up to date.

Sources & rationale

Recommendation type: Consensus recommendation

Notes

For more information see guidance on assessing and managing acute asthma in primary care or emergency departments.

Recommendation

Advise parents/carers that children taking a preventer medicine should continue taking it during wheezing episodes.

Sources & rationale

Recommendation type: Consensus

Recommendation

Do not prescribe short-term high-dose ICS treatment to manage worsening asthma symptoms in children.

For children not taking regular ICS treatment (ICS or ICS-LABA), do not prescribe short-term high-dose ICS to manage worsening asthma symptoms or as part of a written asthma action plan.

For children treated with maintenance low-dose ICS, do not prescribe short-term high-dose ICS to manage worsening asthma symptoms or as part of a written asthma action plan.

Sources & rationale

Recommendation type: Consensus recommendation

For preschool children with clinically significant wheezing episodes triggered by respiratory tract infections, but no signs/symptoms between exacerbations, maintenance treatment with a low dose of ICS is recommended based on overall efficacy and safety in this age group.

Short courses of high doses of ICS, commenced at the onset of emerging respiratory tract infections, have sometimes been recommended for children aged 1–5 years with wheezing episodes triggered by infections.[Jackson 2021, NAEPP 2020]

However, the evidence that this strategy may be effective in preventing symptoms progressing to a severe exacerbation requiring systemic corticosteroid treatment is from studies using daily doses far exceeding recommended doses for this age group and/or a non-recommended delivery device (nebuliser).[Jackson 2021, NAEPP 2020]

High doses should be avoided in young children, except under specialist supervision.

References

Jackson DJ, Bacharier LB. Inhaled corticosteroids for the prevention of asthma exacerbations. Ann Allergy Asthma Immunol 2021; 127: 524-529.

NAEPPCoordinating Committee Expert Panel Working Group. 2020 focused updates to the asthma management guidelines. National Asthma Education and Prevention Program**,** US National Heart, Lung and Blood Institute, Department of Health and Human Services: 2020.

Recommendation

For children with acute asthma/wheezing that is associated with increased work of breathing and is severe enough to require hospital admission, consider a short course of oral corticosteroids.

In children aged 1–5 years, the use of oral corticosteroids should generally be restricted to acute care services.

The usual dose for children aged 1–5 years is 1 mg/kg prednisolone (maximum 50 mg) each morning for up to 3 days.

Alert Systemic corticosteroids should be avoided except when necessary to manage a severe exacerbation or life-threatening acute asthma

Sources & rationale

Recommendation type: Consensus recommendation

Notes

Prescribers should avoid supplying parents with more prednisone/prednisolone than needed for the course. Prescribers may write PBS scripts for less than the maximum quantity and number of repeats permitted if a lesser quantity is sufficient for the patient's requirements.

Recommendation

Do not recommend parent-initiated courses of oral corticosteroids.

For children aged 1–5 years, do not routinely instruct parents/carers to start a course of oral corticosteroids at their own discretion.

Do not routinely prescribe or recommend oral corticosteroids to be started at home as part of the child's written asthma action plan.

Alert Systemic corticosteroids should be avoided except when necessary to manage clinically significant exacerbations

Sources & rationale

Consensus recommendation

The use of short courses of oral corticosteroids initiated by parents to prevent worsening of asthma exacerbations in children is not adequately supported by clinical trial evidence.[Ganaie 2016]

The use of multiple short courses of oral corticosteroids to manage asthma exacerbations in children is associated with a dose-dependent reduction in bone mineral accretion and increased risk for osteopenia.[Kelly 2008] In adults, short courses of oral corticosteroids to manage asthma exacerbations are associated with increased lifetime risk of osteoporosis, pneumonia, cardiovascular or cerebrovascular diseases, cataract, sleep apnoea, renal impairment, depression/anxiety, type 2 diabetes, and weight gain.[Price 2018]

Anecdotal evidence suggests widespread overuse of oral corticosteroids in children in Australia, administered by parents in the belief that oral medicines are unlikely to be harmful.

References

Ganaie MB, Munavvar M, Gordon M, et al. Patient- and parent-initiated oral steroids for asthma exacerbations. Cochrane Database Syst Rev 2016; 12: CD012195.

Kelly HW, Van Natta ML, Covar RA, et al. Effect of long-term corticosteroid use on bone mineral density in children: a prospective longitudinal assessment in the childhood Asthma Management Program (CAMP) study. Pediatrics 2008; 122: e53-e61.

Price DB, Trudo F, Voorham J, et al. Adverse outcomes from initiation of systemic corticosteroids for asthma: long-term observational study. J Asthma Allergy 2018; 11: 193-204.

Resources

Victoria: Victorian Virtual Emergency Department

NSW: virtualKIDS Urgent Care Service via Healthdirect 1800 022 222

Queensland: Virtual Emergency Care Service - Queensland Virtual Hospital

Notes

Instruct parents to contact a health professional before starting a course of oral corticosteroid for their child. If the child's GP or usual asthma clinician is unavailable, parents should contact the online or phone urgent care service in their state or territory.

Some asthma action plan templates include a checkbox for oral corticosteroid with typical dosing instructions. Strike out these instructions to avoid misunderstanding.

For children with severe asthma managed in specialist care, clinicians might instruct parents when to start oral corticosteroids.

Prescribers should avoid supplying parents with more prednisone/prednisolone than needed for the course. Prescribers may write PBS scripts for less than the maximum quantity and number of repeats permitted if a lesser quantity is sufficient for the patient's requirements.

Consideration

In regions where there are significant delays to acute care, consider providing a short course of oral corticosteroids to be initiated by parents if indicated.

Provide clear instructions on the child's written asthma action plan on when to start oral corticosteroids.

Instruct parents to report if oral corticosteroids are used.

When writing scripts for oral corticosteroids, do not allow repeats.

Alert Systemic corticosteroids should be avoided except when necessary to manage a severe exacerbation or life-threatening acute asthma

Sources & rationale

Recommendation type: Consensus recommendation

Notes

If feasible, instruct parents to get medical advice before starting the course of prednisone/prednisolone tablets or oral liquid.

Explain that this medicine is intended for emergencies, when the child has worsening breathing difficulty that is not resolved by salbutamol given as instructed in the child's asthma action plan. Explain that it should not be started for day-to-day wheezing or given to another child.

Prescribers should avoid supplying parents with more prednisone/prednisolone than needed for the course. Prescribers may write PBS scripts for less than the maximum quantity and number of repeats permitted if a lesser quantity is sufficient for the patient's requirements.

Practice point

Educate parents on responsible use of oral corticosteroids and discourage overuse. If a child has been prescribed prednisone/prednisolone tablets or liquid during a severe asthma exacerbation, explain that this medicine should not be used after the course is completed, unless instructed by a doctor or nurse.