




Monograph Updates

| Category | Current | Proposed |
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| Classification | Anti-inflammatory agent, systemic corticosteroid | Corticosteroid |
| Indication | <ul style="list-style-type: none"> Adjunctive treatment for croup and bronchospasm secondary to asthma or chronic obstructive pulmonary disease | <ul style="list-style-type: none"> Management of Croup in pediatrics over the age of 6 months Adjunctive treatment for exacerbation of asthma or chronic obstructive pulmonary in patients with a known diagnosis of these conditions <ul style="list-style-type: none"> Diagnosis can be established by <ul style="list-style-type: none"> Patient identification of condition Availability of an action plan Regular inhaler use Adjunctive treatment should be considered when there is a lack of improvement in symptoms despite use of ipratropium and salbutamol |
| Contraindications | <ul style="list-style-type: none"> Systemic fungal infections Hypersensitivity to dexamethasone or other corticosteroids | <ul style="list-style-type: none"> Hypersensitivity to dexamethasone or other corticosteroids Active systemic fungal infections |
| Adult Dosages | <p>⚠ PCP and ACP: requires BCEHS-specific education</p> | <ul style="list-style-type: none"> Remove IM and IO routes |

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| | <ul style="list-style-type: none"> All indications: 8 mg IV/IO/IM/PO. PO preferred. <ul style="list-style-type: none">  CliniCall consultation required prior to administration for care planning. | |
| Pediatric dosing considerations | <p>Follow weight-based dosing</p> <ul style="list-style-type: none"> All indications: 0.5 mg/kg IV/IO/IM/PO, to a maximum of 16 mg. PO preferred. May combine with juice to improve palatability. <ul style="list-style-type: none">  CliniCall consultation required prior to administration for care planning. | <p>Follow weight-based dosing</p> <ul style="list-style-type: none"> All indications: 0.5 mg/kg PO/IV, to a maximum of 16 mg. PO preferred. May combine with juice to improve palatability. <ul style="list-style-type: none"> Round dose to the nearest 0.5mg  CliniCall consultation required prior to administration for care planning. |

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| Mechanism of Action | Suppresses neutrophil migration, decreasing production of inflammatory mediators, and reversing increased capillary permeability | <ul style="list-style-type: none"> Decreases production of inflammatory mediators |
| Pharmacokinetics | <p>Onset minutes to hours; dependant on indication and route of administration</p> <p>Peak 8 hours (IM) 1-2 hours (PO)</p> <p>Duration Short (IV)</p> | <p>Onset Based on Clinical Effect:</p> <p>IV: up to 2 hours Oral: 2-6 hours</p> <p>Peak:</p> <p>6-12 hours</p> <p>Duration of Action: 36-72 hours</p> |
| Side Effects | <ul style="list-style-type: none"> Cardiovascular: Bradycardia, cardiac arrhythmia, cardiac failure, cardiomegaly, circulatory shock, edema, embolism (fat), hypertension, hypertrophic cardiomyopathy (premature infants), myocardial rupture (post-MI), syncope, tachycardia, thromboembolism, thrombophlebitis, vasculitis | <p>This list includes the side effects most likely to impact the patient with short term use of systemic corticosteroids and does not consider side effects associated with long term use.</p> <ul style="list-style-type: none"> Cardiac: Worsening heart failure and edema (including pulmonary), hypertension Central Nervous System: Emotional lability, personality or mood changes, insomnia, dizziness, headache Derm: Injection site reaction GI: Nausea, stomach upset, increased appetite, reflux Endo: Increased blood sugars Hypersensitivity: rare Infection: immunosuppression with long term use, impaired wound healing |

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| | <ul style="list-style-type: none">• Central nervous system: Depression, emotional lability, euphoria, headache, increased intracranial pressure, insomnia, malaise, myasthenia, neuritis, neuropathy, paresthesia, personality changes, pseudotumor cerebri (usually following discontinuation), psychiatric disorder, seizure, vertigo• Dermatologic: Acne vulgaris, allergic dermatitis, alopecia, atrophic striae, diaphoresis, ecchymoses, erythema, facial erythema, fragile skin, hyperpigmentation, hypertrichosis, hypopigmentation, perianal skin irritation (itching, burning, tingling; following IV | |
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| | <p>injection), petechiae, skin atrophy, skin rash, subcutaneous atrophy, suppression of skin test reaction, urticaria, xeroderma</p> <ul style="list-style-type: none">• Endocrine & metabolic: Adrenal suppression, carbohydrate intolerance, Cushing syndrome, decreased glucose tolerance, decreased serum potassium, diabetes mellitus, fluid retention, glycosuria, growth suppression (children), hirsutism, HPA-axis suppression, hyperglycemia, hypokalemic alkalosis, menstrual disease, moon face, negative nitrogen balance, protein catabolism, redistribution of body fat, sodium retention, weight gain• Gastrointestinal: Abdominal distention, gastrointestinal | |
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| | <p>hemorrhage, gastrointestinal perforation, hiccups, increased appetite, nausea, pancreatitis, peptic ulcer, pruritus ani (following IV injection), ulcerative esophagitis</p> <ul style="list-style-type: none">• Genitourinary: Defective (increased or decreased) spermatogenesis• Hematologic & oncologic: Kaposi sarcoma, petechial, tumor lysis syndrome• Hepatic: Hepatomegaly, increased serum transaminases• Hypersensitivity: Anaphylactoid reaction, anaphylaxis, angioedema, hypersensitivity• Infection: Infection, sterile abscess | |
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| | <ul style="list-style-type: none">• Local: Postinjection flare (intra-articular use)• Neuromuscular & skeletal: Amyotrophy, aseptic necrosis of bones (femoral and humoral heads), bone fractures, Charcot-like arthropathy, myasthenia, myopathy (particularly in conjunction with neuromuscular disease or neuromuscular-blocking agents), osteoporosis, rupture of tendon, steroid myopathy, vertebral compression fracture• Ophthalmic: Exophthalmos, glaucoma, increased intraocular pressure, subcapsular posterior cataract• Respiratory: Pulmonary edema | |
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| | <ul style="list-style-type: none"> Miscellaneous: Wound healing impairment <p>Source: Dexamethasone. In: Lexicomp Online, UpToDate, Waltham, MA. (Accessed November 20, 2020.)</p> | |
| Warnings and precautions | <ul style="list-style-type: none"> May cause hypercortisolism, particularly in younger children or when used for long periods of time at higher doses. Use with caution in patients with heart failure or hypertension: dexamethasone has been associated with fluid retention and electrolyte disturbance. Corticosteroids have been associated with myocardial rupture when used in acute myocardial infarction. | <ul style="list-style-type: none"> Dexamethasone is not effective for management of adrenal insufficiency as it does not provide any mineralocorticoid activity Use with caution if decompensated heart failure or significantly uncontrolled hypertension Pregnancy in the first trimester – weigh the risks and benefits Corticosteroids have been associated with myocardial rupture when used in acute myocardial infarction |

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| | <ul style="list-style-type: none"> Dexamethasone crosses the placenta. Some studies have found an association between corticosteroid use in the first trimester with oral clefts and decreased birth weights. | |
| Drug interactions | <ul style="list-style-type: none"> Corticosteroids may enhance the adverse or toxic effects of nonsteroidal anti-inflammatory agents and salicylates (including gastrointestinal ulceration and bleeding). They may also reduce the serum concentration of salicylates. May decrease the serum concentration of phenytoin. May enhance the anticoagulant properties of warfarin. | <ul style="list-style-type: none"> If there are concerns related to the adverse effects of steroids and the following drug interactions, the risk of administering steroids likely outweighs the benefit. NSAIDs: May enhance the risk of gastrointestinal ulceration Phenytoin: may decrease serum concentrations of phenytoin Warfarin: increases the INR and bleeding risk |

CPG Updates

| | Current | Recommended |
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| Asthma | <ul style="list-style-type: none"> • Salbutamol <ul style="list-style-type: none"> ○ In patients without influenza-like illness (ILI), nebulers are preferred. In patients with ILI or other infectious respiratory conditions, MDI and spacer use is strongly recommended. •  Requires completion of PCP scope expansion education or BCEHS Respiratory Assessment course: <ul style="list-style-type: none"> ○ Salbutamol with ipratropium (Both salbutamol and ipratropium can be combined in the same nebulizer for co-administration purposes. Note: ipratropium is a single dose administration, while salbutamol may be repeated). ○ For severe disease or imminent respiratory failure: administer intramuscular epinephrine <ul style="list-style-type: none"> ▪ Epinephrine via intramuscular injection should be considered for a patient with SpO₂ < 90% and/or moderate to severe symptoms of bronchospasm that are unresolved with the use of salbutamol administered by MDIs or nebulizer treatment | <ul style="list-style-type: none"> • Salbutamol <ul style="list-style-type: none"> ○ In patients without influenza-like illness (ILI), nebulers are preferred. In patients with ILI or other infectious respiratory conditions, MDI and spacer use is strongly recommended. •  Requires completion of PCP scope expansion education or BCEHS Respiratory Assessment course: <ul style="list-style-type: none"> ○ Salbutamol with ipratropium (Both salbutamol and ipratropium can be combined in the same nebulizer for co-administration purposes. Note: ipratropium is a single dose administration, while salbutamol may be repeated). ○ Consider dexamethasone if no improvement from salbutamol and ipratropium ( Clinical consultation required prior to administration of dexamethasone) ○ For severe disease or imminent respiratory failure: administer intramuscular epinephrine |

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| | <ul style="list-style-type: none"> <ul style="list-style-type: none"> ◦ 📞 CliniCall consultation recommended to discuss care planning options. • <ul style="list-style-type: none"> ◦ Consider dexamethasone (📞 Clinical consultation required prior to administration of dexamethasone) • Consider CPAP <ul style="list-style-type: none"> ◦ → PR09: Continuous Positive Airway Pressure | <ul style="list-style-type: none"> ▪ Epinephrine via intramuscular injection should be considered for a patient with SpO₂ < 90% and/or moderate to severe symptoms of bronchospasm that are unresolved with the use of salbutamol administered by MDIs or nebulizer treatment ◦ 📞 CliniCall consultation recommended to discuss care planning options. • Consider CPAP <ul style="list-style-type: none"> ◦ → PR09: Continuous Positive Airway Pressure |
| Croup | <ul style="list-style-type: none"> • For croup: EPINEPHrine via nebulizer over 15 minutes <ul style="list-style-type: none"> ◦ CliniCall consultation recommended to discuss care planning options. ◦ ⚠ Requires completion of PCP scope expansion education: <ul style="list-style-type: none"> ▪ Consider dexamethasone PO, IM IV, IO for significant stridor without marked improvement from inhaled EPINEPHrine <ul style="list-style-type: none"> ▪ CliniCall consultation required prior to administration of dexamethasone | <p>For croup with stridor: Epinephrine via nebulizer over 15 minutes</p> <ul style="list-style-type: none"> • CliniCall consultation recommended ⚠ Requires completion of PCP scope expansion education: <ul style="list-style-type: none"> ◦ Consider dexamethasone PO (preferred) or IV for mild to severe Croup • CliniCall consultation required prior to administration of dexamethasone |

COPD

- [Salbutamol](#)
- ⚠ **Requires completion of PCP scope expansion education:**
 - Salbutamol and [ipratropium](#)
 - MDI and spacer use is strongly recommended for patients with signs of influenza-like illness, or other infectious respiratory conditions
 - Consider [dexamethasone](#) ([CliniCall consultation required](#) prior to administration of dexamethasone)
- Consider CPAP
 - → [PR09: Continuous Positive Airway Pressure](#)

- [Salbutamol](#)
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 - MDI and spacer use is strongly recommended for patients with signs of influenza-like illness, or other infectious respiratory conditions
 - Consider [dexamethasone](#) if no improvement following ipratropium and salbutamol ([CliniCall consultation required](#) prior to administration of dexamethasone)
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