

Dexamethasone

Classification

Anti-inflammatory agent, systemic corticosteroid

Indications

■ CCP: Adjunctive treatment for anaphylaxis, croup, and bronchospasm secondary to asthma or chronic obstructive pulmonary disease

Contraindications

Systemic fungal infections

Hypersensitivity to dexamethasone or other corticosteroids

Adult dosages

■ All indications: 8 mg IV/IO/IM/PO

Pediatric Considerations And Dosing

[Follow weight-based dosing](#)

■ All indications: 0.15-0.3 mg/kg IV/IO/IM/PO

Mechanism Of Action

Suppresses neutrophil migration, decreasing production of inflammatory mediators, and reversing increased capillary permeability.

Pharmacokinetics

Following intravenous administration:

- Onset of action: rapid
- Duration: short
- Half-life, pediatrics: 4-8 hours
- Half-life, adults: 4-5 hours

Adverse Effects

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

Central nervous system: Depression, emotional lability, euphoria, headache, increased intracranial pressure, insomnia, malaise, myasthenia, neuritis, neuropathy, paresthesia, personality changes, pseudotumor cerebri (usually following discontinuation), psychic 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 injection), petechiae, skin atrophy, skin rash, subcutaneous atrophy, suppression of skin test reaction, urticaria, xeroderma

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 hemorrhage, gastrointestinal perforation, hiccups, increased appetite, nausea, pancreatitis, peptic ulcer, pruritus ani (following IV injection), ulcerative esophagitis

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

Local: Postinjection flare (intra-articular use)

Neuromuscular & skeletal: Amyotrophy, aseptic necrosis of bones (femoral and humeral 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

Miscellaneous: Wound healing impairment

Source: Dexamethasone. In: Lexicomp Online, UpToDate, Waltham, MA. (Accessed November 20, 2020.)

Warning And Precautions

May cause hypercortisolism, particularly in younger children or when used for long periods of time at higher doses.

Dexamethasone should not generally be used for adrenal insufficiency, as it does not provide any mineralocorticoid activity.

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.

Dexamethasone crosses the placenta. Some studies have found an association between corticosteroid use in the first trimester and oral clefts and decreased birth weights.

Drug Interactions

Corticosteroids may enhance the adverse or toxic effects of non-steroidal 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.

