



Dexamethasone

4mg/mL inj

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What is Dexamethasone?

- Corticosteroid
- Anti-inflammatory agent



What is it indicated for?

2017 EMS Collaborative Protocols:

- Acute Asthma
 - Adult and Pediatric
- Allergic Reaction and Anaphylaxis
 - Adult and Pediatric
- COPD Exacerbation/Bronchospasm
- Shock/Hypoperfusion
- Pediatric Stridor

(and many other conditions not treated by EMS)

Pathophysiology

- Decreased inflammation by suppression of neutrophil migration
- Decreased production of inflammatory mediators
- Reversal of increased capillary permeability
- Suppresses normal immune response

Pharmacokinetics

- Absorption/Distribution
 - Absorption: 61%-86%
 - Onset: prompt (IV)
- Metabolism/Excretion
 - Half life: ~4 hours (PO), ~1-5 hours (IV)
 - Metabolism: hepatic
 - Metabolic effects can last for 72 hours

Precautions/Contraindications

- Hypersensitivity to dexamethasone or any component of the formulation, such as sulfites
- Pregnancy Category C
- Pre-existing psychiatric conditions may be exacerbated by corticosteroid use.

Adverse Effects

- Cardiovascular:
 - bradycardia, cardiac arrhythmia, edema, hypertension
- CNS:
 - Headache, insomnia , psychiatric disturbances (depression, mood swings, euphoria, insomnia, personality changes)
- Dermatologic:
 - Allergic dermatitis, skin rash
- Endocrine & Metabolic:
 - Fluid retention, hyperglycemia
- Gastrointestinal:
 - Abdominal distention, gastrointestinal hemorrhage
- Hypersensitivity:
 - Anaphylaxis (rare)
- Respiratory:
 - pulmonary edema
- Miscellaneous:
 - Impaired wound healing
 - Acute Myopathy has been reported with high dose corticosteroids, especially in patients with neuromuscular transmission disorders. This may involve ocular and/or respiratory muscles. Recovery may be delayed.
 - Perineal irritation (burning, tingling, pain & pruritus) have been reported with IV administration. May occur more commonly in females, with higher doses, and rapid administration. Symptom onset is sudden and usually resolves in <1 minute.

Dosage, Routes & Administration

- Usual dose: 10mg PO, IM, IV for patients \geq 2 years old
- $<$ 2 years old **w/ medical control order:** 0.6mg/kg PO, IM, IV

Dexamethasone for injection may be given by oral route, if oral formulation is not readily available or convenient to give

How Supplied?

- Dexamethasone 4mg/ml vial (1 mL + 5 mL vials)
- Cost: \$0.71 per vial

Monitoring

- Blood pressure
- Heart rate
- Blood glucose level
- Skin rash

References

- Clinical Pharmacology. Dexamethasone. In: Elsevier/Gold Standard (Accessed on February 20, 2017.)
- UpToDate. Dexamethasone. In: Wolters Kluwer (Accessed on February 20, 2017)