

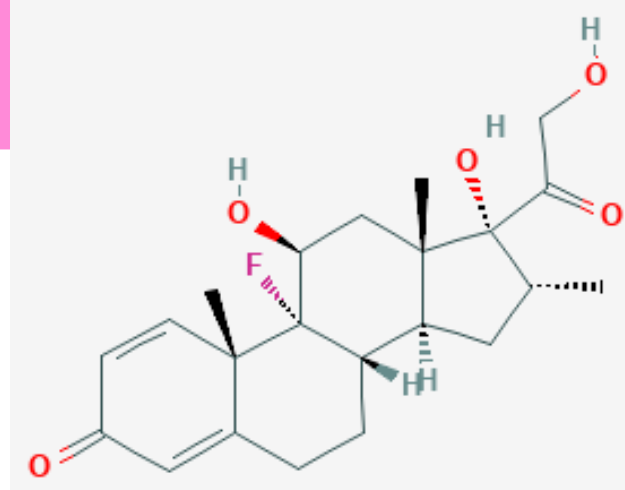
DEXAMETHASONE

(9 α -fluoro-16 α -methylprednisolone)

Decadron[®], DexPak[®], DoubleDex[®]

MOA

- Synthetic glucocorticoid, no mineralocorticoid activity
- Fluorinated methylprednisolone
- Pleiotropic effects



Relative Potencies of Common Corticosteroids

AGENT	GLUCOCORTICOID ACTIVITY	MINERALOCORTICOID ACTIVITY	EQUIVALENT DOSE
Dexamethasone	25	0	0.75
Hydrocortisone	1	1	20
Prednisone	4	0.8	5
Methylprednisolone	5	0.5	4

Dosing

Varies based on indication

- PONV: 4-5 mg IV¹
- Emetogenic chemotherapy (off-label): 4-20 mg PO/IV
- Postop analgesia doses range between 0.1-0.2 mg/kg IV^{2,3,4,5}. We recommend a standard dose of 8 mg.

Perioperative Use

- Single perioperative dose has shown reduced pain scores and opioid use for up to 24 hours postop²
- Intermediate dose 0.1-0.2 mg/kg may offer best opioid sparing benefit³
- May prolong time to first analgesic request after spinal anesthesia⁴
- IV may similarly prolong analgesic effect as perineural injection for nerve blocks⁵

Pharmacokinetics (IV)

- Rapid conversion of prodrug with max plasma levels in 10 minutes
- Terminal half life: 4.6 hours
- Binds to albumin; hepatically cleared
- 1-20% renal clearance of unbound drug



Decreased protein binding in uremia leads to reduced half life in renal failure. Chronic liver disease has opposite effect of reduced clearance and increased half life



Use with caution in elderly patients at high risk for delirium

References

1. De Oliveira, Jr. et al., *Anesth & Analg.* 2013
2. Waldron et al., *Brit J Anesth.* 2013
3. De Oliveira, Jr. et al., *Anesthesiology.* 2011
4. Heesen et al., *Anesthesia.* 2019
5. Hussain et al., *Can J Anesth.* 2018