

**DRUG NAME: Dexamethasone****COMMON TRADE NAME(S):** DECADRON®, DEXASONE®, HEXADROL®**CLASSIFICATION:** steroidal agent, noncytotoxic<sup>1</sup>*Special pediatric considerations are noted when applicable, otherwise adult provisions apply.***MECHANISM OF ACTION:**

Dexamethasone is a synthetic glucocorticoid devoid of mineralocorticoid effects. Glucocorticoids are cytotoxic to leukemia, myeloma, and lymphoma cells, probably via induction of apoptosis. Dexamethasone does not appear to be cell-cycle phase specific.<sup>2</sup>

**USES:****Primary uses:**

- \*Leukemia<sup>3</sup>
- \*Lymphoma<sup>3</sup>
- Acute leukemia, childhood<sup>3</sup>
- Brain tumours<sup>4</sup>
- Cerebral edema related to primary or metastatic brain tumours<sup>4</sup>
- Chemotherapy-induced nausea and vomiting<sup>3</sup>
- Hypersensitivity reactions<sup>3</sup>

**Other uses:**

\*Health Canada approved indication

**SPECIAL PRECAUTIONS:**

**Contraindications:** dexamethasone is contraindicated in patients with systemic fungal infections. Live virus vaccines should not be given to patients receiving immunosuppressive glucocorticoid doses.<sup>3</sup>

**Cautions:** glucocorticoids should be used with caution in patients<sup>5</sup>:

- with hypothyroidism, cirrhosis, hypertension, congestive heart failure, or thromboembolic disorders
- with diabetes, glaucoma, cataracts, or tuberculosis
- at risk for osteoporosis
- with gastrointestinal diseases (diverticulitis, peptic ulcer, ulcerative colitis) due to perforation risk
- following acute myocardial infarction
- renal and hepatic impairment

**Adrenal suppression:** following prolonged therapy, abrupt discontinuation may result in a withdrawal syndrome and secondary adrenocortical insufficiency.<sup>3</sup>

**SIDE EFFECTS:**

ORGAN SITE	SIDE EFFECT
dermatology/skin	<i>extravasation hazard: none</i>
gastrointestinal	<i>emetogenic potential: rare<sup>6</sup></i>

Adapted from standard reference<sup>7</sup> unless specified otherwise.

Potential significant side effects include<sup>8</sup>:

- *acute*: sodium and fluid retention, hypokalemia, hyperglycemia, hypertension, increased susceptibility to and masked symptoms of infection, psychosis
- *delayed*: osteoporosis, thrombocytopenia, Cushing's syndrome, muscle weakness, loss of muscle mass, peptic ulcers

### SUPPLY AND STORAGE:

**Oral:** Apotex and Pharmascience supply 0.5 mg and 4 mg tablets.<sup>9,10</sup> Selected non-medicinal ingredients: lactose. Store at room temperature.<sup>9,10</sup>

**Injection:** Sandoz supplies multi-dose 20 mg vial (4 mg/mL) and single-use 10 mg vial (10 mg/mL). Store at room temperature; protect from light.<sup>7</sup>

### SOLUTION PREPARATION AND COMPATIBILITY:

Dexamethasone can be further diluted with NS or D5W. Diluted solution should be administered within 24 hours.<sup>7</sup>

### PARENTERAL ADMINISTRATION:

BCCA administration guideline noted in ***bold, italics***

Subcutaneous <sup>8,11</sup>	has been used
Intramuscular <sup>7,8,11</sup>	has been used
<b><i>Direct intravenous</i></b> <sup>7,8</sup>	<b><i>over several minutes</i></b>
<b><i>Intermittent infusion</i></b> <sup>8,11</sup>	<b><i>over 15-30 min</i></b>
Continuous infusion <sup>7</sup>	has been used
Intraperitoneal	no information found
Intrapleural	no information found
Intrathecal	no information found
Intra-arterial	no information found
Intravesical	no information found

### DOSAGE GUIDELINES:

Doses are highly variable.<sup>4,12-17</sup> Refer to protocol by which patient is being treated. Numerous dosing schedules exist and depend on disease, response and concomitant therapy.

### REFERENCES:

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