DRUG NAME: Dexamethasone

COMMON TRADE NAME(S): DECADRON®, DEXASONE®, HEXADROL®

CLASSIFICATION: steroidal agent

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.1

USES:

Primary uses: Other uses:

*Leukemia2
*Lymphoma2
Acute leukemia, childhood2
Brain tumours4
Cerebral edema related to primary or metastatic brain tumours3
Chemotherapy-induced nausea and vomiting2
Hypersensitivity reactions2

*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.2

Cautions: glucocorticoids should be used with caution in patients5:

- 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.2

SIDE EFFECTS:

<table>
<thead>
<tr>
<th>ORGAN SITE</th>
<th>SIDE EFFECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>dermatology/skin</td>
<td>extravasation hazard: none</td>
</tr>
<tr>
<td>gastrointestinal</td>
<td>emetogenic potential: rare⁵</td>
</tr>
</tbody>
</table>

Adapted from standard reference⁶ unless specified otherwise.
Potential significant side effects include:

- **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. Selected non-medicinal ingredients: lactose. Store at room temperature.

**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.

**SOLUTION PREPARATION AND COMPATIBILITY:**

Dexamethasone can be further diluted with NS or D5W. Diluted solution should be administered within 24 hours.

**PARENTERAL ADMINISTRATION:**

<table>
<thead>
<tr>
<th>Method</th>
<th>BCCA administration guideline noted in <strong>bold, italics</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subcutaneous</strong></td>
<td>has been used</td>
</tr>
<tr>
<td><strong>Intramuscular</strong></td>
<td>has been used</td>
</tr>
<tr>
<td><strong>Direct intravenous</strong></td>
<td>over several minutes</td>
</tr>
<tr>
<td><strong>Intermittent infusion</strong></td>
<td>over 15-30 min</td>
</tr>
<tr>
<td><strong>Continuous infusion</strong></td>
<td>has been used</td>
</tr>
<tr>
<td><strong>Intraperitoneal</strong></td>
<td>no information found</td>
</tr>
<tr>
<td><strong>Intrapleural</strong></td>
<td>no information found</td>
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<tr>
<td><strong>Intrathecal</strong></td>
<td>no information found</td>
</tr>
<tr>
<td><strong>Intra-arterial</strong></td>
<td>no information found</td>
</tr>
<tr>
<td><strong>Intravesical</strong></td>
<td>no information found</td>
</tr>
</tbody>
</table>

**DOSAGE GUIDELINES:**

Doses are highly variable. Refer to protocol by which patient is being treated. Numerous dosing schedules exist and depend on disease, response and concomitant therapy.

**REFERENCES:**