

# Hydrocortisone

## Classification

Systemic corticosteroid

## Indications

- CCP: Severe septic shock unresponsive to fluid and vasopressor therapy

## Contraindications

- Hypersensitivity to hydrocortisone or other corticosteroids
- Systemic fungal infections

## Adult dosages

- CCP: Severe septic shock unresponsive to fluid and vasopressor therapy

- 100 mg IV/IO. Do not repeat dose.

## Pediatric Considerations And Dosing

Caution: Limited data available. Consultation with CiniCall is required.

## Mechanism Of Action

Decreases inflammation by suppressing migration of polymorphonuclear leukocytes and reversing increased capillary membrane permeability.

## Pharmacokinetics

Following intravenous administration:

- Onset: 1 hour
- Half-life: 2-3 hours
- Metabolism: hepatic
- Excretion: urine

## Adverse Effects

Cardiovascular: Atheromatous embolism, bradycardia, cardiac arrhythmia, cardiac failure (especially in susceptible patients), cardiomegaly, circulatory shock, hypertension, hypertrophic cardiomyopathy (premature infants), myocardial rupture (post-myocardial infarction), syncope, tachycardia, thromboembolism, thrombophlebitis, vasculitis

Central nervous system: Arachnoiditis (intrathecal administration), depression, emotional lability, euphoria, headache, increased intracranial pressure (with pseudotumor cerebri; usually following discontinuation), insomnia, malaise, meningitis (intrathecal administration), myasthenia, neuritis, neuropathy, paraplegia (intrathecal administration), paresthesia, personality changes, psychic disorder, seizure, sensory disturbance (intrathecal administration), tingling of skin (especially in the perineal area after IV injection), vertigo

**Dermatologic:** Acne vulgaris, allergic dermatitis, alopecia, atrophic striae, burning sensation of skin (especially in the perineal area after IV injection), diaphoresis, ecchymosis, erythema (including facial), exfoliation of skin, hyperpigmentation, hypertrichosis, hypopigmentation, skin atrophy, skin rash, suppression of skin test reaction, urticaria, xeroderma

**Endocrine & metabolic:** Adrenal suppression, Cushing syndrome, diabetes mellitus (latent), fluid retention, glycosuria, growth suppression, hirsutism, HPA-axis suppression, hypercalcemia (associated with cancers), hyperglycemia (including increased requirements for insulin or oral hypoglycemic agents in diabetes mellitus), hypokalemia, hypokalemic alkalosis, impaired glucose tolerance, lipodystrophy, lipomatosis (epidural), menstrual disease (menstrual irregularities), moon face, negative nitrogen balance, protein catabolism, sodium retention, weight gain

**Gastrointestinal:** Abdominal distention, carbohydrate intolerance, dyspepsia, gastrointestinal disease (intrathecal administration), gastrointestinal perforation (small and large intestine, particularly in patients with inflammatory bowel disease), hiccups, increased appetite, nausea, pancreatitis, peptic ulcer (with possible perforation and hemorrhage), ulcerative esophagitis, vomiting

**Genitourinary:** Asthenospermia, bladder dysfunction (intrathecal administration)

**Hematologic & oncologic:** Leukocytosis, petechia

**Hepatic:** Hepatomegaly, increased serum transaminases (usually mild elevations and reversible on discontinuation)

**Hypersensitivity:** Anaphylaxis, angioedema, hypersensitivity reaction

**Infection:** Increased susceptibility to infection, infection, sterile abscess

**Local:** Atrophy at injection site (cutaneous and subcutaneous), postinjection flare (intra-articular use), skin edema

**Neuromuscular & skeletal:** Amyotrophy, Charcot-like arthropathy, lower extremity weakness (intrathecal administration), osteonecrosis (aseptic necrosis of femoral and humeral heads), osteoporosis, pathological fracture (long bones), rupture of tendon (particularly Achilles tendon), steroid myopathy, vertebral compression fracture

**Ophthalmic:** Cataract (posterior subcapsular), exophthalmos, glaucoma, increased intraocular pressure, retinopathy (central serous chorioretinopathy)

**Respiratory:** Pulmonary edema

**Miscellaneous:** Wound healing impairment

Source: Hydrocortisone. 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.

Use with caution in patients with heart failure or hypertension: corticosteroids has been associated with fluid retention and electrolyte disturbance.

Corticosteroids have been associated with myocardial rupture when used in acute myocardial infarction.

Corticosteroids should not be administered for sepsis in the absence of shock.

## 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.

