

**HYDROCORTISONE- hydrocortisone tablet**  
**Denton Pharma, Inc. dba Northwind Pharmaceuticals**

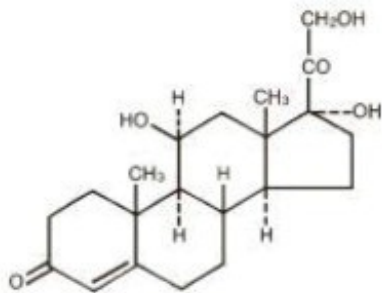
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**Hydrocortisone Tablets, USP**

**5 mg, 10 mg and 20 mg**

**DESCRIPTION**

Hydrocortisone tablets, USP contain hydrocortisone which is a glucocorticoid. Glucocorticoids are adrenocortical steroids, both naturally occurring and synthetic, which are readily absorbed from the gastrointestinal tract. Hydrocortisone USP is white to practically white, odorless, crystalline powder with a melting point of about 215° C. It is very slightly soluble in water and in ether; sparingly soluble in acetone and in alcohol; slightly soluble in chloroform.

The chemical name for hydrocortisone is pregn-4-ene-3,20-dione,11,17,21-trihydroxy-, (11β)-. Its molecular weight is 362.46 and the structural formula is as outlined below.



Hydrocortisone tablets, USP are available for oral administration in three strengths: each tablet contains either 5 mg, 10 mg, or 20 mg of hydrocortisone. Inactive ingredients: colloidal silicon dioxide, lactose monohydrate, magnesium stearate and microcrystalline cellulose.

**ACTIONS**

Naturally occurring glucocorticoids (hydrocortisone and cortisone), which also have salt-retaining properties, are used as replacement therapy in adrenocortical deficiency states. Their synthetic analogs are primarily used for their potent anti-inflammatory effects in disorders of many organ systems.

Glucocorticoids cause profound and varied metabolic effects. In addition, they modify the body's immune responses to diverse stimuli.

**INDICATIONS AND USAGE**

Hydrocortisone tablets are indicated in the following conditions.

**1. Endocrine Disorders**

Primary or secondary adrenocortical insufficiency (hydrocortisone or cortisone is the first choice; synthetic analogs may be used in conjunction with mineralocorticoids where applicable; in infancy mineralocorticoid supplementation is of particular importance)

Congenital adrenal hyperplasia

Non suppurative thyroiditis

Hypercalcemia associated with cancer

## **2. Rheumatic Disorders**

As adjunctive therapy for short-term administration (to tide the patient over an acute episode or exacerbation) in:

- Psoriatic arthritis
- Rheumatoid arthritis, including juvenile rheumatoid arthritis (selected cases may require low-dose maintenance therapy)
- Ankylosing spondylitis
- Acute and subacute bursitis
- Acute nonspecific tenosynovitis
- Acute gouty arthritis
- Post-traumatic osteoarthritis
- Synovitis of osteoarthritis
- Epicondylitis

## **3. Collagen Diseases**

During an exacerbation or as maintenance therapy in selected cases of:

- Systemic lupus erythematosus
- Systemic dermatomyositis (polymyositis)
- Acute rheumatic carditis

## **4. Dermatologic Diseases**

Pemphigus

Bullous dermatitis herpetiformis

Severe erythema multiforme (Stevens-Johnson syndrome)

Exfoliative dermatitis

Mycosis fungoides

Severe psoriasis

Severe seborrheic dermatitis

## **5. Allergic States**

Control of severe or incapacitating allergic conditions intractable to adequate trials of conventional treatment:

- Seasonal or perennial allergic rhinitis
- Serum sickness
- Bronchial asthma
- Contact dermatitis
- Atopic dermatitis
- Drug hypersensitivity reactions

## **6. Ophthalmic Diseases**

Severe acute and chronic allergic and inflammatory processes involving the eye and its adnexa such as:

- Allergic conjunctivitis
- Keratitis
- Allergic corneal marginal ulcers
- Herpes zoster ophthalmicus

- Iritis and iridocyclitis
- Chorioretinitis
- Anterior segment inflammation
- Diffuse posterior uveitis and choroiditis
- Optic neuritis
- Sympathetic ophthalmia

## **7. Respiratory Diseases**

Symptomatic sarcoidosis

Loeffler's syndrome not manageable by other means

Berylliosis

Fulminating or disseminated pulmonary tuberculosis when used concurrently with appropriate antituberculous chemotherapy

Aspiration pneumonitis

## **8. Hematologic Disorders**

Idiopathic thrombocytopenic purpura in adults

Secondary thrombocytopenia in adults

Acquired (autoimmune) hemolytic anemia

Erythroblastopenia (RBC anemia)

Congenital (erythroid) hypoplastic anemia

## **9. Neoplastic Diseases**

For palliative management of:

- Leukemias and lymphomas in adults
- Acute leukemia of childhood

## **10. Edematous States**

To induce a diuresis or remission of proteinuria in the nephrotic syndrome, without uremia, of the idiopathic type or that due to lupus erythematosus.

## **11. Gastrointestinal Diseases**

To tide the patient over a critical period of the disease in:

- Ulcerative colitis
- Regional enteritis

## **12. Miscellaneous**

Tuberculous meningitis with subarachnoid block or impending block when used concurrently with appropriate antituberculous chemotherapy

Trichinosis with neurologic or myocardial involvement

## **CONTRAINDICATIONS**

Systemic fungal infections and known hypersensitivity to components

## WARNINGS

In patients on corticosteroid therapy subjected to unusual stress, increased dosage of rapidly acting corticosteroids before, during, and after the stressful situation is indicated.

Corticosteroids may mask some signs of infection, and new infections may appear during their use. Infections with any pathogen including viral, bacterial, fungal, protozoan or helminthic infections, in any location of the body, may be associated with the use of corticosteroids alone or in combination with other immunosuppressive agents that affect cellular immunity, humoral immunity, or neutrophil function.<sup>1</sup>

These infections may be mild, but can be severe and at times fatal. With increasing doses of corticosteroids, the rate of occurrence of infectious complications increases.<sup>2</sup> There may be decreased resistance and inability to localize infection when corticosteroids are used.

Prolonged use of corticosteroids may produce posterior subcapsular cataracts, glaucoma with possible damage to the optic nerves, and may enhance the establishment of secondary ocular infections due to fungi or viruses.

**Usage in pregnancy:** Since adequate human reproduction studies have not been done with corticosteroids, the use of these drugs in pregnancy, nursing mothers or women of childbearing potential requires that the possible benefits of the drug be weighed against the potential hazards to the mother and embryo or fetus. Infants born of mothers who have received substantial doses of corticosteroids during pregnancy, should be carefully observed for signs of hypoadrenalism.

Corticosteroids have been shown to impair fertility in male rats.

Average and large doses of hydrocortisone or cortisone can cause elevation of blood pressure, salt and water retention, and increased excretion of potassium. These effects are less likely to occur with the synthetic derivatives except when used in large doses. Dietary salt restriction and potassium supplementation may be necessary. All corticosteroids increase calcium excretion.

Administration of live or live, attenuated vaccines is contraindicated in patients receiving immunosuppressive doses of corticosteroids. Killed or inactivated vaccines may be administered to patients receiving immunosuppressive doses of corticosteroids; however, the response to such vaccines may be diminished. Indicated immunization procedures may be undertaken in patients receiving nonimmunosuppressive doses of corticosteroids.

The use of hydrocortisone tablets in active tuberculosis should be restricted to those cases of fulminating or disseminated tuberculosis in which the corticosteroid is used for the management of the disease in conjunction with an appropriate antituberculous regimen.

If corticosteroids are indicated in patients with latent tuberculosis or tuberculin reactivity, close observation is necessary as reactivation of the disease may occur. During prolonged corticosteroid therapy, these patients should receive chemoprophylaxis.

Persons who are on drugs which suppress the immune system are more susceptible to infections than healthy individuals. Chicken pox and measles, for example, can have a more serious or even fatal course in non-immune children or adults on corticosteroids. In such children or adults who have not had these diseases, particular care should be taken to avoid exposure. How the dose, route and duration of corticosteroid administration affects the risk of developing a disseminated infection is not known. The contribution of the underlying disease and/or prior corticosteroid treatment to the risk is also not known. If exposed to chicken pox, prophylaxis with varicella zoster immune globulin (VZIG) may be indicated. If exposed to measles, prophylaxis with pooled intramuscular immunoglobulin (IG) may be indicated. (See the respective package inserts for complete VZIG and IG prescribing information.) If chicken pox develops, treatment with antiviral agents may be considered. Similarly, corticosteroids should be used with great care in patients with known or suspected *Strongyloides* (threadworm) infestation. In such patients, corticosteroid-induced immunosuppression may lead to *Strongyloides* hyperinfection and dissemination with widespread larval migration, often accompanied by severe enterocolitis and

potentially fatal gram-negative septicemia.

## **PRECAUTIONS**

### **General Precautions**

Drug-induced secondary adrenocortical insufficiency may be minimized by gradual reduction of dosage. This type of relative insufficiency may persist for months after discontinuation of therapy; therefore, in any situation of stress occurring during that period, hormone therapy should be reinstated.

There is an enhanced effect of corticosteroids on patients with hypothyroidism and in those with cirrhosis.

Corticosteroids should be used cautiously in patients with ocular herpes simplex because of possible corneal perforation.

The lowest possible dose of corticosteroid should be used to control the condition under treatment, and when reduction in dosage is possible, the reduction should be gradual.

Psychic derangements may appear when corticosteroids are used, ranging from euphoria, insomnia, mood swings, personality changes, and severe depression, to frank psychotic manifestations. Also, existing emotional instability or psychotic tendencies may be aggravated by corticosteroids.

Steroids should be used with caution in nonspecific ulcerative colitis, if there is a probability of impending perforation, abscess or other pyogenic infection; diverticulitis; fresh intestinal anastomoses; active or latent peptic ulcer; renal insufficiency; hypertension; osteoporosis; and myasthenia gravis.

Growth and development of infants and children on prolonged corticosteroid therapy should be carefully observed.

Kaposi's sarcoma has been reported to occur in patients receiving corticosteroid therapy. Discontinuation of corticosteroids may result in clinical remission.

Since complications of treatment with glucocorticoids are dependent on the size of the dose and the duration of treatment, a risk/benefit decision must be made in each individual case as to dose and duration of treatment and as to whether daily or intermittent therapy should be used.

Pheochromocytoma crisis, which can be fatal, has been reported after administration of systemic corticosteroids. In patients with suspected pheochromocytoma, consider the risk of pheochromocytoma crisis prior to administering corticosteroids.

### **Drug Interactions**

The pharmacokinetic interactions listed below are potentially clinically important. Drugs that induce hepatic enzymes such as phenobarbital, phenytoin and rifampin may increase the clearance of corticosteroids and may require increases in corticosteroid dose to achieve the desired response. Drugs such as troleandomycin and ketoconazole may inhibit the metabolism of corticosteroids and thus decrease their clearance. Therefore, the dose of corticosteroid should be titrated to avoid steroid toxicity. Corticosteroids may increase the clearance of chronic high dose aspirin. This could lead to decreased salicylate serum levels or increase the risk of salicylate toxicity when corticosteroid is withdrawn. Aspirin should be used cautiously in conjunction with corticosteroids in patients suffering from hypoprothrombinemia. The effect of corticosteroids on oral anticoagulants is variable. There are reports of enhanced as well as diminished effects of anticoagulants when given concurrently with corticosteroids. Therefore, coagulation indices should be monitored to maintain the desired anticoagulant effect.

### **Information for the Patient**

Persons who are on immunosuppressant doses of corticosteroids should be warned to avoid exposure to chicken pox or measles. Patients should also be advised that if they are exposed, medical advice should be sought without delay.

## **ADVERSE REACTIONS**

### **Fluid and Electrolyte Disturbances**

Sodium retention

Fluid retention

Congestive heart failure in susceptible patients

Potassium loss

Hypokalemic alkalosis

Hypertension

### **Musculoskeletal**

Muscle weakness

Steroid myopathy

Loss of muscle mass

Osteoporosis

Tendon rupture, particularly of the Achilles tendon

Vertebral compression fractures

Aseptic necrosis of femoral and humeral heads

Pathologic fracture of long bones

### **Gastrointestinal**

Peptic ulcer with possible perforation and hemorrhage

Pancreatitis

Abdominal distention

Ulcerative esophagitis

Increases in alanine transaminase (ALT, SGPT), aspartate transaminase (AST, SGOT) and alkaline phosphatase have been observed following corticosteroid treatment. These changes are usually small, not associated with any clinical syndrome and are reversible upon discontinuation.

### **Dermatologic**

Impaired wound healing

Thin fragile skin

Petechiae and ecchymoses

Facial erythema

Increased sweating

May suppress reactions to skin tests

### **Neurological**

Increased intracranial pressure with papilledema (pseudotumor cerebri) usually after treatment

Convulsions

Vertigo

Headache

Epidural lipomatosis

### **Endocrine**

Development of Cushingoid state

Suppression of growth in children

Secondary adrenocortical and pituitary unresponsiveness, particularly in times of stress, as in trauma, surgery or illness

Menstrual irregularities

Decreased carbohydrate tolerance

Manifestations of latent diabetes mellitus

Increased requirements for insulin or oral hypoglycemic agents in diabetics

### **Ophthalmic**

Central serous chorioretinopathy

Posterior subcapsular cataracts

Increased intraocular pressure

Glaucoma

Exophthalmos

### **Metabolic**

Negative nitrogen balance due to protein catabolism

### **Blood and lymphatic system disorders**

Leukocytosis

## **DOSAGE AND ADMINISTRATION**

The initial dosage of hydrocortisone tablets may vary from 20 mg to 240 mg of hydrocortisone per day depending on the specific disease entity being treated. In situations of less severity lower doses will generally suffice while in selected patients higher initial doses may be required. The initial dosage should be maintained or adjusted until a satisfactory response is noted. If after a reasonable period of time there is a lack of satisfactory clinical response, hydrocortisone tablets should be discontinued and the patient transferred to other appropriate therapy. IT SHOULD BE EMPHASIZED THAT DOSAGE REQUIREMENTS ARE VARIABLE AND MUST BE INDIVIDUALIZED ON THE BASIS OF THE DISEASE UNDER TREATMENT AND THE RESPONSE OF THE PATIENT. After a favorable response is noted, the proper maintenance dosage should be determined by decreasing the initial drug dosage in small decrements at appropriate time intervals until the lowest dosage which will maintain an adequate clinical response is reached. It should be kept in mind that constant monitoring is needed in regard to drug dosage. Included in the situations which may make dosage adjustments necessary are changes in clinical status secondary to remissions or exacerbations in the disease process, the patient's individual drug responsiveness, and the effect of patient exposure to stressful situations not directly related to the disease entity under treatment; in this latter situation it may be necessary to increase the dosage of hydrocortisone tablets for a period of time consistent with the patient's condition. If after long-term therapy the drug is to be stopped, it is recommended that it be withdrawn gradually, rather

than abruptly.

## HOW SUPPLIED

Hydrocortisone tablets, USP are available in the following strengths and package sizes:

10 mg

White to off-white oval tablets debossed on one side with a bisect and other side with "P10".

NDC 70934-350-30: Bottles of 30 tablets

Store at 20° to 25°C (68° to 77°F) [See USP Controlled Room Temperature].

## REFERENCES

<sup>1</sup>Fekety R. Infections associated with corticosteroids and immunosuppressive therapy. In: Gorbach SL, Bartlett JG, Blacklow NR, eds. *Infectious Diseases*. Philadelphia: WB Saunders Company 1992:1050-1.

<sup>2</sup>Stuck AE, Minder CE, Frey FJ. Risk of infectious complications in patients taking glucocorticoids. *Rev Infect Dis* 1989;11(6):954-63.

## Rx only

Manufactured for:

**Vensun Pharmaceuticals, Inc.**

Yardley, PA 19067

Manufactured by

**Pharmaceutics International, Inc.**

Hunt Valley, MD 21031

Rev. 03, February 2020

## Principal Display Panel

**NDC: 70934-350-30**

**NDC: 70934-350-30**  
**Hydrocortisone**  
**Tablets, USP**  
**10mg**  
**30 Tablets**  
**Rx Only**  
Dosage: See package insert  
Store at 20° - 25°C (68° - 77°F) (See USP Controlled Room Temperature)  
Keep out of the reach of children  
Store in original container  
Warning - This potent drug must be used only under the direct supervision of a physician.

LCN# 00  
Rev. A 05/19

Each tablet contains: Hydrocortisone 10mg  
Repackaged From: 42543-141-01  
Vensun Pharmaceuticals, Inc., Lot  
0000000000

Repackaged By: Northwind Pharmaceuticals  
North Blenheim, NY 12131  
GTIN: 00370934350305  
SIN: 0000000000000000  
EXP: 00/00/0000  
LOT: 0000000000

Hydrocortisone Tablets, USP 10mg  
30 Tablets  
NDC: 70934-350-30 MFG: 42543-141-01  
Lot #: 0000000000 Exp Date: 0000000000

Hydrocortisone Tablets, USP 10mg  
30 Tablets  
NDC: 70934-350-30 MFG: 42543-141-01  
Lot #: 0000000000 Exp Date: 0000000000

Hydrocortisone Tablets, USP 10mg  
30 Tablets  
NDC: 70934-350-30 MFG: 42543-141-01  
Lot #: 0000000000 Exp Date: 0000000000

Hydrocortisone Tablets, USP 10mg  
30 Tablets  
NDC: 70934-350-30 MFG: 42543-141-01  
Lot #: 0000000000 Exp Date: 0000000000

## HYDROCORTISONE

hydrocortisone tablet



**Product Information**

<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:70934-350(NDC:42543-141)
<b>Route of Administration</b>	ORAL		

**Active Ingredient/Active Moiety**

<b>Ingredient Name</b>	<b>Basis of Strength</b>	<b>Strength</b>
HYDROCORTISONE (UNII: WI4X0X7BPJ) (HYDROCORTISONE - UNII:WI4X0X7BPJ)	HYDROCORTISONE	10 mg

**Inactive Ingredients**

<b>Ingredient Name</b>	<b>Strength</b>
LACTOSE MONOHYDRATE (UNII: EWQ57Q8I5X)	
CELLULOSE, MICROCRYSTALLINE (UNII: OP1R32D61U)	
SILICON DIOXIDE (UNII: ETJ7Z6XBU4)	
MAGNESIUM STEARATE (UNII: 70097M6I30)	

**Product Characteristics**

<b>Color</b>	white (to off White)	<b>Score</b>	2 pieces
<b>Shape</b>	OVAL (OVAL)	<b>Size</b>	9mm
<b>Flavor</b>		<b>Imprint Code</b>	P;10
<b>Contains</b>			

**Packaging**

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:70934-350-30	30 in 1 BOTTLE, PLASTIC; Type 0: Not a Combination Product	05/07/2019	

**Marketing Information**

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA207029	05/07/2019	

**Labeler** - Denton Pharma, Inc. dba Northwind Pharmaceuticals (080355546)**Registrant** - Denton Pharma, Inc. dba Northwind Pharmaceuticals (080355546)**Establishment**

Name	Address	ID/FEI	Business Operations
Denton Pharma, Inc. dba Northwind Pharmaceuticals		080355546	repack(70934-350)