PRODUCT MONOGRAPH

DECADRON PHOSPHATE INJECTION

(dexamethasone sodium phosphate)

Corticosteroid

Merck Sharp & Dohme,
Canada Limited/Limitée,
Kirkland (Montréal), Qué.

DATE OF PREPARATION:
October 13, 1977.

REVISED: January 3, 1978.

1393-G

NAME OF DRUG

DECADRON PHOSPHATE INJECTION

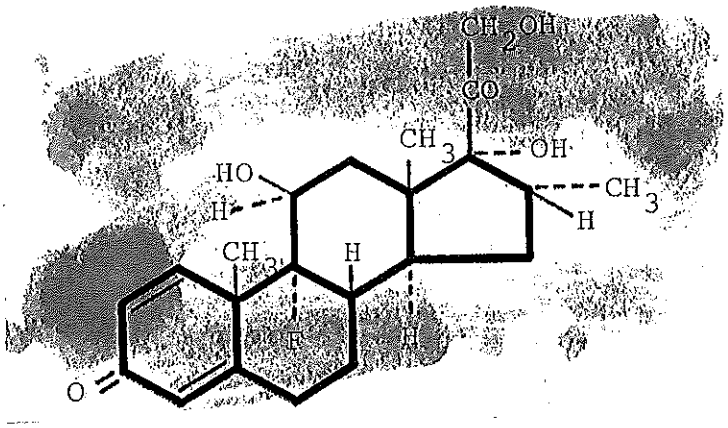
(dexamethasone sodium phosphate)

THERAPEUTIC OR PHARMACOLOGICAL CLASSIFICATION

Corticosteroid

CHEMISTRY

Dexamethasone Sodium Phosphate:



Molecular Formula: $C_{22}H_{28}FNa_2O_8P$ Molecular Weight: 516.42

Chemical Name: 9-Fluoro-11β, 17α, 21-trihydroxy-16α-methyl-pregna-1,4-diene-3, 20-dione 21- (Disodium Phosphate).

Description:

Dexamethasone sodium phosphate is a white or slightly yellow crystalline powder. It is odorless or has a slight odor of alcohol, and is exceedingly hygroscopic. It is freely soluble in water, slightly soluble in alcohol, very slightly soluble in dioxane, and insoluble in chloroform and in ether.

ACTION

Dexamethasone is a synthetic adrenocortical steroid possessing basic glucocorticoid actions and effects. It is among the most active members of its class, being about 25 to 30 times as potent as hydrocortisone. At equipotent anti-inflammatory doses, dexamethasone almost completely lacks the sodium-retaining property of hydrocortisone and closely related derivatives of hydrocortisone.

INDICATIONS

By intravenous or intramuscular injection when oral therapy is not feasible:

1. Adrenocortical Insufficiency

   DECADRON Phosphate Injection has predominantly glucocorticoid activity with low mineralocorticoid activity. Therefore, it does not offer complete replacement therapy, and its use must be supplemented with salt and/or desoxycorticosterone. When so supplemented, DECADRON Phosphate Injection is indicated in the impairment of all adrenocortical activity, as in Addison's disease or following bilateral adrenalectomy that requires replacement of both glucocorticoid and mineralocorticoid activity.

   Relative Adrenocortical Insufficiency

   In the relative adrenocortical insufficiency that may occur following cessation of long-term therapy with suppressive doses of adrenocortical hormones, mineralocorticoid secretion may be unimpaired. Replacement with a hormone that acts predominantly as a glucocorticoid may be sufficient to restore adrenocortical function. When immediate support is mandatory, DECADRON Phosphate Injection may be effective within minutes after administration and can be lifesaving.

2. Preoperative and postoperative support in patients undergoing bilateral adrenalectomy, or hypophysectomy, or any other surgical procedure when adrenocortical reserve is doubtful, and in postoperative shock unresponsive to conventional therapy.

3. Nonsuppurative Thyroiditis

By intravenous or intramuscular injection when oral therapy is not feasible in thyroid crisis.

4. Shock

Injection DECADRON Phosphate is recommended for the adjunctive treatment of shock where high (pharmacologic) doses of corticosteroids are needed: e.g., severe shock of hemorrhagic, traumatic, surgical, or septic origin. Treatment with Injection DECADRON Phosphate is an adjunct to, and not a substitute for, specific or supportive measures that the patient may require, e.g., restoration of circulating blood volume, correction of fluid and electrolyte balance, oxygen, surgical measures and antibiotics.

5. Rheumatic Disorders

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

Post-traumatic osteoarthritis

Synovitis of osteoarthritis

Rheumatoid arthritis

Acute and subacute bursitis

Epicondylitis

Acute nonspecific tenosynovitis

Acute gouty arthritis

Psoriatic arthritis

Ankylosing spondylitis

Juvenile rheumatoid arthritis

6. Collagen Diseases

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

Systemic lupus erythematosus

Acute rheumatic carditis

7. Dermatologic Diseases

Pemphigus

Severe erythema multiforme (Stevens-Johnson syndrome)

Exfoliative dermatitis

Bullous dermatitis herpetiformis

Severe seborrheic dermatitis

Severe psoriasis

Mycosis fungoides

8. Allergic States

Initial control of severe allergic conditions:

Bronchial asthma, including status asthmaticus

Contact dermatitis

Atopic dermatitis

Serum sickness

Seasonal or perennial allergic rhinitis

Drug hypersensitivity reactions

Urticarial transfusion reactions

Acute noninfectious laryngeal edema
(epinephrine is the drug of first choice)

Angioedema as an adjunct to epinephrine in anaphylaxis

9. 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, iridocyclitis

Chorioretinitis

Diffuse posterior uveitus and choroiditis

Optic neuritis

Retrobulbar neuritis

Sympathetic ophthalmia

Anterior segment inflammation

10. Gastrointestinal Diseases

To support the patient during a critical period of disease in:

Ulcerative colitis (Systemic therapy)

Regional enteritis (Systemic therapy)

11. Respiratory Diseases

Loeffler's syndrome not manageable by other means

Sarcoidosis

Berylliosis

Fulminating or disseminated pulmonary tuberculosis when concurrently accompanied by appropriate antituberculous chemotherapy

Aspiration pneumonitis

Pulmonary emphysema where bronchospasm or bronchial edema plays a significant role

Diffuse interstitial pulmonary fibrosis (Hamman-Rich syndrome)

12. Hematologic Disorders

Acquired (autoimmune) hemolytic anemia

Idiopathic and secondary thrombocytopenic purpura in adults (I.V. only; I.M. administration is contraindicated)

Erythroblastopenia (RBC anemia)

Congenital (erythroid) hypoplastic anemia

13. Neoplastic Disorders

For palliative management of:

Hypercalcemia associated with cancer

Leukemias and lymphomas in adults

Acute leukemia of childhood

14. Edematous States

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

In conjunction with diuretic agents, to induce a diuresis in:

Cirrhosis of the liver with refractory ascites

Refractory congestive heart failure

15. Cerebral Edema

DECADRON Phosphate Injection may be used to treat patients with cerebral edema from various causes:

1. associated with primary or metastatic brain tumors.

2. associated with cerebral vascular accident (acute stroke) involving the cerebral cortex.

3. associated with neurosurgery.

4. associated with head injury or pseudotumor cerebri.

It may be used also in the preoperative preparation of patients with increased intracranial pressure secondary to brain tumors or for palliation of patients with inoperable or recurrent brain neoplasms. Use of DECADRON Phosphate Injection in cerebral edema is not a substitute for careful neurological evaluation and definitive management such as neurosurgery or other specific therapy.

16. By intrasynovial or soft tissue injection. As adjunctive therapy for short-term administration (to support patient during an acute episode or exacerbation) in:

Synovitis of osteoarthritis

Rheumatoid arthritis

Acute and subacute bursitis

Acute gouty arthritis

Epicondylitis

Acute nonspecific tenosynovitis

Post-traumatic osteoarthritis

Traumatic arthritis

Dupuytren's contracture

Fibromyositis

Heloma

Intercostal neuritis and neuralgia

Tendinitis

Peritendinitis

deQuervain's disease

Trigger finger

17. Miscellaneous

Tuberculous meningitis with subarachnoid block or impending block when concurrently accompanied by appropriate antituberculous chemotherapy.

Croup

DECADRON Phosphate Injection may relieve laryngospasm, edema, cough and stridor within a few hours and usually produces sustained improvement within 12 hours of the initial dose. Conventional croup therapy, including antibiotics, should be given concomitantly.

18. Diagnostic testing of adrenocortical hyperfunction.

CONTRAINDICATIONS

Systemic fungal infections. (See PRECAUTIONS re amphotericin B)
Hypersensitivity to any component of this medication.

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.

While on corticosteroid therapy patients should not be vaccinated against smallpox because of potential complications. Conversely, patients with vaccinia should not receive corticosteroid therapy. Other immunization procedures should not be undertaken in patients who are on corticosteroids, especially on high doses, because of possible hazards of neurological complications and a lack of antibody response. However, immunization procedures may be undertaken in patients who are receiving corticosteroids as replacement therapy, e.g., for Addison's disease.

Use In Pregnancy and the Nursing Mother

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 child-bearing potential requires that the possible benefits of the drug be weighed against the possible 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.

In the Nursing Mother

Corticosteroids appear in breast milk and could suppress growth, interfere with endogenous corticosteroid production, or cause other unwanted effects. Mothers taking pharmacologic doses of corticosteroids should be advised not to nurse.

The use of DECADRON Injection 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.

Corticosteroids may mask some signs of infection and new infections may appear during their use. There may be decreased resistance and inability to localize infection when corticosteroids are used. Moreover, corticosteroids may affect the nitroblue-tetrazolium test for bacterial infection and produce false negative results. If corticosteroids have to be used in the presence of bacterial infections, appropriate vigorous anti-infectious therapy must be instituted.

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

PRECAUTIONS

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.

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.

When corticosteroids are administered concomitantly with potassium-depleting diuretics, patients should be observed closely for development of hypokalemia.

When large doses are given, some authorities advise that antacids be administered between meals to help to prevent peptic ulcer.

The slower rate of absorption by intramuscular administration should be recognized.

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 reinstituted. If the patient is receiving steroids already, the dosage may have to be increased. Since mineralocorticoid secretion may be impaired, salt and/or a mineralocorticoid should be administered concurrently.

Because rare instances of anaphylactoid reactions have occurred in patients receiving parenteral corticosteroid therapy, appropriate precautionary measures should be taken prior to administration, especially when the patient has a history of allergy to any drug.

Corticosteroids may suppress reactions to skin tests.

The prothrombin time should be checked frequently in patients who are receiving corticosteroids and coumarin anticoagulants at the same time because of reports that corticosteroids have altered the response to these anticoagulants. Studies have shown that the usual effect produced by adding corticosteroids is inhibition of response to coumarins, although there have been some conflicting reports of potentiation not substantiated by studies.

Acetylsalicylic acid should be used cautiously in conjunction with corticosteroids in hypoprothrombinemia.

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 anastomosis; active or latent peptic ulcer; renal insufficiency; hypertension; osteoporosis; and myasthenia gravis. Systemic fat embolism has been reported as a possible complication of hypercortisonism.

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

Steroids may increase or decrease motility and number of spermatozoa in some patients.

Diphenylhydantoin (phenytoin), phenobarbital, and ephedrine may enhance the metabolic clearance of corticosteroids, resulting in decreased blood levels and lessened physiologic activity, thus requiring adjustment in corticosteroid dosage. This interaction may interfere with the dexamethasone suppression test which should be interpreted with caution during administration of these drugs.

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 instability or psychotic tendencies may be aggravated by corticosteroids.

Psychological and/or physiological dependency may develop with long-term use of corticosteroids. Withdrawal symptoms, including anorexia, vague pains, weakness and lethargy may occur.

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

Patients should be advised to inform subsequent physicians of the prior use of corticosteroids.

Intra-articular injection of a corticosteroid may produce systemic as well as local effects.

Appropriate examination of any joint fluid present is necessary to exclude a septic process.

A marked increase in pain accompanied by local swelling, further restriction of joint motion, fever, and malaise are suggestive of septic arthritis. If this complication occurs and the diagnosis of sepsis is confirmed, appropriate anti-microbial therapy should be instituted.

Corticosteroids may exacerbate systemic fungal infections and therefore should not be used in the presence of such infections unless they are needed to control drug reactions due to amphotericin B. Moreover, there have been cases reported in which concomitant use of amphotericin B and hydrocortisone was followed by cardiac enlargement and congestive failure.

Local injection of a steroid into an infected site is to be avoided.

Corticosteroids should not be injected into unstable joints.

Overdistention of the joint capsule and deposition of steroid along the needle track should be avoided in intra-articular injection, since this may lead to tissue atrophy.

Frequent intra-articular injection may result in damage to joint tissues.

In intercostal neuritis and neuralgia, guard against entering the pleura.

Injection in the deltoid muscle should be avoided because of high incidence of tissue atrophy.

Patients should be impressed strongly with the importance of not overusing joints in which symptomatic benefit has been obtained as long as the inflammatory process remains active.

ADVERSE REACTIONS

Fluid and Electrolyte Disturbances

Sodium retention
Fluid retention
Congestive heart failure in susceptible patients
Potassium loss
Hypokalemic alkalosis
Hypertension
Hypotension or shock-like reaction

Musculoskeletal

Muscle weakness
Steroid myopathy
Loss of muscle mass
Osteoporosis
Vertebral compression fractures
Aseptic necrosis of femoral and humeral heads
Pathologic fracture of long bones

Gastrointestinal

Peptic ulcer and possible subsequent perforation and hemorrhage
Pancreatitis
Abdominal distention
Ulcerative esophagitis

Dermatologic

Impaired wound healing
Thin fragile skin
Petechiae and ecchymoses
Erythema
Increased sweating
May suppress reactions to skin tests
Burning or tingling, especially in the perineal area (after I.V. injection)
Other cutaneous reactions, such as allergic dermatitis, urticaria, angioneurotic edema.

Neurologic

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

Endocrine

Menstrual irregularities
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
Decreased carbohydrate tolerance
Manifestations of latent diabetes mellitus
Increased requirements for insulin or oral hypoglycemic agents in diabetes

Ophthalmic

Posterior subcapsular cataracts
Increased intraocular pressure
Glaucoma
Exophthalmos

Metabolic

Negative nitrogen balance due to protein catabolism

Other

Anaphylactoid or hypersensitivity reactions
Thromboembolism
Weight gain
Increased appetite
Nausea
Malaise
Psychological and physiological dependency

The following additional adverse reactions are related to parenteral corticosteroid therapy

Rare instances of blindness associated with intralesional therapy around the face and head
Hyperpigmentation or hypopigmentation
Subcutaneous and cutaneous atrophy
Sterile abscess
Postinjection flare (following intra-articular use)
Charcot-like arthropathy

SYMPTOMS AND TREATMENT OF OVERDOSAGE

The principal manifestations of overdosage are hypertension and edema.

Anaphylactic and hypersensitivity reactions may be treated with epinephrine, positive-pressure artificial respiration, and aminophylline. The patient should be kept warm and quiet.

Treatment probably is not indicated for reactions due to chronic overdosage.

PHARMACOLOGY

DECADRON (dexamethasone, MSD Std.) is a synthetic adrenocortical steroid with the basic actions and effects of other glucocorticoids, but in different degrees. While its anti-inflammatory activity is marked, even with low doses, its effect on electrolyte metabolism is slight. Therefore, electrolyte imbalance is not ordinarily a therapeutic problem with dexamethasone as it has been with some of its predecessors. In low or average doses, dexamethasone usually does not cause elevation of blood pressure, salt and water retention or excessive potassium excretion.

Dexamethasone possesses the actions and effects of other basic glucocorticoids, and is among the most active members of its class.

Glucocorticoids are adrenocortical steroids, both naturally occurring and synthetic, which are readily absorbed from the gastrointestinal tract. They cause profound and varied metabolic effects and, in addition, they modify the body's immune responses to diverse stimuli.

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

Dexamethasone has predominant glucocorticoid activity with little propensity to promote renal retention of sodium and water. Therefore, it does not offer complete replacement therapy, and must be supplemented with salt and/or desoxycorticosterone. Cortisone and hydrocortisone also act predominantly as glucocorticoids, although their mineralocorticoid action is greater than that of dexamethasone.

Their use in patients with total adrenocortical insufficiency also may require supplemental salt, or desoxycorticosterone, or both. Fluorocortisone, on the other hand, has the tendency to retain more salt; however, in doses that provide adequate glucocorticoid activity, it may induce edema.

DOSAGE AND ADMINISTRATION

Each millilitre contains dexamethasone sodium phosphate equivalent to 4 mg dexamethasone phosphate (equal to 3.33 mg of dexamethasone or roughly about 100 mg of hydrocortisone). Inactive ingredients per ml: 8 mg creatinine, 10 mg sodium citrate, sodium hydroxide to adjust pH, and Water for Injection, q.s. 1 ml, with 1.0 mg sodium bisulfite, 1.5 mg methylparaben and 0.2 mg propylparaben added as preservatives.

This product, like many other steroid formulations, is sensitive to heat. Therefore, it should not be autoclaved when sterilization of the exterior of the vial is desired. Protect from freezing.

This preparation can be given directly from the vial without mixing or dilution. If preferred, it can be added to Sodium Chloride Injection, or Dextrose Injection, or compatible blood for transfusion, without loss of potency, and administered by intravenous drip.

When DECADRON Phosphate Injection is added to an infusion solution, the mixture must be used within 24 hours since infusion solutions do not contain preservatives.

The usual aseptic techniques governing injections should be observed.

Intravenous and Intramuscular Injection

The usual initial dosage of DECADRON Phosphate Injection may vary from 0.5 mg to 20 mg 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. Usually the parenteral dosage ranges are one-third to one-half the oral dose given every 12 hours. However, in certain overwhelming, acute, life-threatening situations, administration in dosages exceeding the usual dosages may be justified and may be in multiples of the oral dosages. In these circumstances, the slower rate of absorption by intramuscular administration should be recognized.

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, DECADRON Phosphate Injection 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 amounts 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 DECADRON Phosphate Injection for a period of time consistent with the patient's condition. If the drug is to be stopped after it has been given for more than a few days, it is recommended that it be withdrawn gradually rather than stopped abruptly.

Whenever possible, use intravenous route for the initial and for as many subsequent doses as are given while patient is in shock (because of the irregular rate of absorption of any medicament administered by any other route in such patients). When the blood pressure responds, use the intramuscular route until oral therapy can be substituted. For the comfort of the patient, not more than 2 ml should be injected intramuscularly at any one site.

In emergencies, the usual dose of DECADRON Phosphate Injection by intravenous or intramuscular injection is 1 ml to 5 ml (4 mg to 20 mg), depending on the severity of the condition. (See also Shock). This dose may be repeated until adequate response is discernible.

After initial improvement, single doses of 0.5 ml to 1 ml (2 mg to 4 mg) repeated as necessary, may be sufficient. The total daily dosage usually need not exceed 20 ml (80 mg) even in severe conditions.

When constant maximal effect is desired, dosage must be repeated at three-hour or four-hour intervals or maintained by slow intravenous drip.

Intravenous and intramuscular injections are advised in acute illness. When the acute stage has passed, substitute oral steroid therapy as soon as feasible.

Shock (of hemorrhagic, traumatic, surgical or septic origin)

The usual dose is 2 to 6 mg/kg body weight given as a single intravenous injection. This may be repeated in 2-6 hours, if shock persists. As an alternative, Injection DECADRON Phosphate, 2 to 6 mg/kg body weight is given as a single intravenous injection followed immediately by the same dose in an intravenous infusion. Therapy with Injection DECADRON Phosphate is an adjunct to, and not a replacement for conventional therapy (see PRECAUTIONS). These recommendations reflect the tendency in current medical practice to use high (pharmacologic) doses of corticosteroids in the treatment of shock.

The following dosages of DECADRON Phosphate Injection have been suggested by various authors:

Author	Dosage
Cavanagh[1]	3 mg/kg of body weight per 24 hours by constant intravenous infusion after an initial intravenous injection of 20 mg.
Dietzman[2]	2 to 6 mg/kg of body weight as a single intravenous injection.
Frank[3]	40 mg initially followed by repeat intravenous injection every 4 to 6 hours while shock persists.
Oaks[4]	40 mg initially followed by repeat intravenous injection every 2 to 6 hours while shock persists.
Schumer[5]	1 mg/kg of body weight as a single intravenous injection.

1. Cavanagh, D.; Singh, K.B.: Endotoxin shock in pregnancy and abortion in: "Corticosteroids in the Treatment of Shock", Schumer, W.; Nyhus, L.M., Editors, Urbana, University of Illinois Press, 1970, pp. 86-96.

2. Dietzman, R.H.; Ersek, R.A.; Bloch, J.M.; Lillehie, R.C.: High-output, low resistance gram-negative septic shock in man, Angiology 20:691-700, Dec. 1969.

3. Frank, E.: Clinical observations in shock and management (in: Shields, T.F., ed.: Symposium on current concepts and management of shock), J. Maine Med. Ass. 59:195-200, Oct. 1968.

4. Oaks, W.W.; Cohen, H.E.: Endotoxin shock in the geriatric patient, Geriat. 22:120-130, Mar. 1967.

5. Schumer, W.; Nyhus, L.M.: Corticosteroid effect on biochemical parameters of human oligenic shock, Arch. Surg. 100:406-408, Apr. 1970.

These doses are large in comparison with the usual recommended doses of Injection DECADRON but they are for emergency use in acute conditions needing high pharmacologic doses. Administration of high dose corticosteroid therapy should be continued only until the patient's condition has stabilized and usually no longer than 48 to 72 hours. Avoid prolonged therapy at such high doses to prevent possible complications such as adrenal suppression or gastrointestinal ulcer.

Injection DECADRON Phosphate can be added to Sodium Chloride Injection or Dextrose Injection, and administered by intravenous drip without loss of potency. When Injection DECADRON Phosphate is added to an infusion solution, the mixture must be used within 24 hours since infusion solutions do not contain preservatives.

Cerebral Edema

Associated with primary or metastatic brain tumor, neurosurgery, head injury, pseudotumor cerebri or preoperative preparation of patients with increased intracranial pressure secondary to brain tumor: Initially 10 mg (2.5 ml) DECADRON Phosphate Injection intravenously followed by 4 mg (1 ml) intramuscularly every 6 hours until symptoms of cerebral edema subside. Response is usually noted within 12 to 24 hours: dosage may be reduced after two to four days and gradually discontinued over a period of 5 to 7 days.

High doses of Injection DECADRON Phosphate are recommended for initiating short-term intensive therapy for acute life-threatening cerebral edema. Following the high loading dose schedule of the first day of therapy, the dose is scaled down over the 7-10 day period of intensive therapy and subsequently reduced to zero over the next 7-10 days. When maintenance therapy is required this should be changed to oral DECADRON as soon as possible.

Suggested high dose schedule:

Adults

Initial Dose	50 mg, I.V.
1st day	8 mg, I.V. every 2 hours
2nd day	8 mg, I.V. every 2 hours
3rd day	8 mg, I.V. every 2 hours
4th day	4 mg, I.V. every 2 hours
5th-8th day	4 mg, I.V. every 4 hours
Thereafter	decrease by daily reduction of 4 mg

Children (35 kg and over)

Initial Dose	25 mg, I.V.
1st day	4 mg, I.V. every 2 hours
2nd day	4 mg, I.V. every 2 hours
3rd day	4 mg, I.V. every 2 hours
4th day	4 mg, I.V. every 4 hours
5th-8th day	4 mg, I.V. every 6 hours
Thereafter	decrease by daily reduction of 2 mg

Children (below 35 kg)

Initial Dose	20 mg, I.V.
1st day	4 mg, I.V. every 3 hours
2nd day	4 mg, I.V. every 3 hours
3rd day	4 mg, I.V. every 3 hours
4th day	4 mg, I.V. every 6 hours
5th-8th day	2 mg, I.V. every 6 hours
Thereafter	decrease by daily reduction of 1 mg

For palliative management of patients with recurrent or inoperable brain tumors:

Maintenance therapy should be individualized with DECADRON Phosphate Injection or DECADRON Tablets.

A dosage of 2 mg 2 or 3 times a day may be effective.

Associated with acute stroke:

Initially 10 mg (2.5 ml) DECADRON Phosphate Injection intravenously followed by 4 mg (1 ml) intramuscularly every 6 hours for 10 days. The dose should then be tapered to zero on the ensuing 7 days.

The smallest dosage necessary to control cerebral edema should be utilized.

The usual precautions associated with corticosteroid therapy should be kept in mind. Antacids, anticholinergic drugs, and dietary measures to prevent gastrointestinal ulcer or hemorrhage should be considered.

Croup

The usual single dose is 0.5 ml to 1.25 ml (2 mg to 5 mg) depending on the age and weight of the child. Conventional croup therapy must be used concomitantly, including antibiotics in adequate dosage. In particularly severe cases, steroid therapy may be continued in small doses for two or three days as a precaution against further development of acute attacks.

Dual Therapy

In acute self-limited allergic disorders or acute exacerbations of chronic allergic disorders (e.g., acute allergic rhinitis, acute attacks of seasonal allergic bronchial asthma, urticaria medicamentosa, angioneurotic edema and contact dermatoses), the following dosage schedule combining parenteral and oral therapy is suggested:

		Total Daily Dosage
1st day	1 or 2 ml, intramuscularly, of Injection DECADRON Phosphate (4 mg/ml)	4 mg or 8 mg
2nd day	Two Tablets DECADRON (0.75 mg) twice a day	4 tablets
3rd day	Two Tablets DECADRON (0.75 mg) twice a day	4 tablets
4th day	One Tablet DECADRON (0.75 mg) twice a day	2 tablets
5th day	One Tablet DECADRON (0.75 mg) per day	1 tablet
6th day	One Tablet DECADRON (0.75 mg) per day	1 tablet
7th day	No treatment	
8th day	Follow-up visit	

This schedule is designed to provide adequate therapy during acute episodes, with minimizing the risk of overdosage in chronic cases. In some patients, this is all that will be needed to control the condition. Other patients will require further treatment, such as topical steroids, antihistamines, or bronchodilators. A few may require further systemic steroid therapy. By noting the dosage on the day before symptoms reappear in the latter group, the physician can decide more easily on any necessary additional therapy.

When acute exacerbations of asthma are accompanied by signs of infection, concomitant administration of antibiotics is recommended.

Intra-articular, intralesional, and Soft-Tissue Injection

Intra-articular, intralesional, and soft-tissue injections generally are employed when affected joints or areas are limited to one or two sites.

Some of the usual single doses are:

Site of Injection	Volume of Injection (ml)	Amount of Dexamethasone Phosphate (mg)
Large Joints (e.g., knee)	0.5 to 1	2 to 4
Small Joints (e.g., Interphalangeal, Temporomandibular)	0.2 to 0.25	0.8 to 1
Bursae (Including Bunion)	0.5 to 0.75	2 to 3
Tendon Sheaths	0.1 to 0.25	0.4 to 1
Helomata (Corns)	0.05 to 0.25	0.2 to 1
Plantar	0.1 to 0.25	0.4 to 1
Digital	0.05 to 0.2	0.2 to 0.8
Soft-tissue Infiltration	0.5 to 1.5	2 to 6
Ganglia	0.25 to 0.5	1 to 2

In the treatment of tendon and tendon sheath inflammations, inject into the tendon sheath rather than into the tendon.

In radiculitis, inject about the involved nerve root near its exit from the spine. Do not inject the steroid directly into the nerve. In intercostal neuritis and neuralgia, pass the needle under the inner edge of the rib, letting it ride over

one ridge to a second ridge. Inject the steroid under the rib and infiltrate the painful area. Guard against piercing the pleura. Sudden, sharp pain during injection may mean the pleura has been penetrated.

In ganglia, inject directly into the cyst cavity after complete evacuation of its contents with a 16-gauge needle. Seal the puncture wound with a compression bandage for several days.

Repeat injections at appropriate intervals. The frequency of injection varies from patient to patient and ranges from once every three to five days to once every two to three weeks.

AVAILABILITY

Ca 7628X - DECADRON Phosphate Injection is a clear, colourless solution and is available in 2 ml, 5 ml, and 25 ml multiple dose vials.

Each millilitre contains dexamethasone sodium phosphate equivalent to 4 mg dexamethasone phosphate.

BIBLIOGRAPHY

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