### Cyproheptadine Hydrochloride Tablets USP

### Rx only

Cyproheptadine HCI USP, is an antihistaminic and antiserotonergic agent.

Cyproheptadine hydrochloride USP is a white to slightly yellowish crystalline solid, with a molecular weight of 350.89, which is soluble in water, freely soluble in methanol, sparingly soluble in ethanol, soluble in chloroform, and practically insoluble in ether. It is the sesquihydrate of 4-(5*H*-dibenzo/a,*d*/cyclohepten-5-ylidene)-1-methylpiperidine hydrochloride. The molecular formula of the anhydrous salt is  $C_{21}H_{21}N$ +HCl and the structural formula of the anhydrous salt is:



 $C_{\rm 21}H_{\rm 21}N\bullet HCI$  M.W. 350.89 Cyproheptadine hydrochloride USP is available for oral administration in 4 mg tablets. Inactive ingredients include: lactose monohydrate, magnesium stearate, microcrystalline cellulose, and sodium starch glycolate (potato).

**CLINICAL PHARMACOLOGY**Cyproheptadine is a serotonin and histamine antagonist with anticholinergic and sedative effects. Antiserotonin and antihistamine drugs appear to compete with serotonin and histamine, respectively, for receptor sites.

Pharmacokinetics and Metabolism

After a single 4 mg oral dose of 14C-labelled cyproheptadine HCl in normal subjects, given as tablets, 2 to 20% of the radioactivity was excreted in the stools. Only about 34% of the stool radioactivity on unchanged drug, corresponding to less than 5.7% of the dose. At least 40% of the administered radioactivity was excreted in the urine. No detectable amounts of unchanged drug were present in the urine of patients on chronic 12 to 20 mg daily doses. The principle metabolite found in human urine has been identified as a quaternary ammonium glucuronide conjugate of cyproheptadine. Elimination is diminished in renal insufficiency.

### INDICATIONS AND USAGE

Perennial and seasonal allergic rhinitis

Vasomotor rhinitis Allergic conjunctivitis due to inhalant allergens and foods

Mild, uncomplicated allergic skin manifestations of urticaria and angioedema.

Amelioration of allergic reactions to blood or plasma

Cold urticaria Dermatographism

As therapy for anaphylactic reactions  $\it adjunctive$  to epinephrine and other standard measures after the acute manifestations have been controlled.

## CONTRAINDICATIONS

Newborn or Premature Infants
This drug should not be used in newborn or premature infants.
Nursing Mothers
Because of the higher risk of antihistamines for infants generally and for newborns and prematures in particular, antihistamine therapy is contraindicated in nursing mothers.

Other Conditions
Hypersensitivity to cyproheptadine and other drugs of similar chemical structure. Monoamine oxidase inhibitor therapy (See **DRUG INTERACTIONS**.)

Angle-closure glaucoma

Stenosing peptic ulcer

Symptomatic prostatic hypertrophy

Bladder neck obstruction Pvloroduodenal obstruction

### Elderly, debilitated patients

WARNINGS

Pediatric Patients

Overdosage of antihistamines, particularly in infants and young children, may produce hallucinations, central nervous system depression, convulsions, respiratory and cardiac arrest, and useall. Antihistamines may diminish mental alertness; conversely, particularly, in the young child, they may occasionally produce excitation.

Antihistamines may have additive effects with alcohol and other CNS depressants, e.g., hypnotics, sedatives, tranquilizers, antianxiety agents.

Patients should be warned about engaging in activities requiring mental alertness and motor coordination, such as driving a car or operating machinery.

Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients (see **PRECAUTIONS**, **Geriatric Use**).

### PRECAUTIONS

Cyproheptadine has an atropine-like action and, therefore, should be used with caution in patients with:

History of bronchial asthma

Increased intraocular pressure

Hyperthyroidism Cardiovascular disease

Hypertension

# Information for Patients

Anthhistamines may diminish mental alertness; conversely, particularly, in the young child, they may occasionally produce excitation. Patients should be warned about engaging in activities requiring mental alertness and motor coordination, such as driving a car or exercise measurement.

**Drug Interactions**MAO inhibitors prolong and intensify the anticholinergic effects of antihistamines.

Antihistamines may have additive effects with alcohol and other CNS depressants, e.g., hypnotics, sedatives, tranquilizers, antianxiety agents.

# Carcinogenesis , Mutagenesis , Impairment of Fertility Long-term carcinogenic studies have not been done with cyproheptadine.

Cyproheptadine had no effect on fertility in a two-litter study in rats or a two generation study in mice at about 10 times the human dose.

Cyproheptadine did not produce chromosome damage in human lymphocytes or fibroblasts *invitro*; high doses (10-<sup>4</sup> M) were cytotoxic. Cyproheptadine did not have any mutagenic effect in the Ames microbial mutagen test; concentrations of above 500 mcg/plate inhibited

## Pregnancy Category B

Pregnancy Category B
Reproduction studies have been performed in rabbits, mice, and rats at oral or subcutaneous doses up to 32 times the maximum recommended human oral dose and have revealed no evidence of impaired fertility or harm to the fetus due to cyproheptadine. Cyproheptadine has been shown to be fetotoxic in rats when given by intraperitoneal injection in doses four times the maximum recommended human oral dose. Two studies in pregnant women,

however, have not shown that cyproheptadine increases the risk of abnormalities when administered during the first, second and third trimesters of pregnancy. No teratogenic effects were observed in any of the newborns. Nevertheless, because the studies in humans cannot rule out the possibility of harm, cyproheptadine should be used during

Nursing Mothers
It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, and because of the potential for serious adverse reactions in nursing infants from cyproheptadine, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother (see CONTRAINDICATIONS).

### Pediatric Use

Safety and effectiveness in pediatric patients below the age of two have not been established (see CONTRAINDICATIONS, Newborn or Premature Infants, and WARNINGS, Pediatric

Clinical studies of cyproheptadine HCl tablets did not include sufficient numbers of subjects clinical studies of cyprohepitatine Pol tablets of not inclinical estinicial infinites of souplets aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences in responses between the elderly and younger patients. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy (see WARNINGS, Activities Requiring Mental Alertness).

### ADVERSE REACTIONS

hich have been reported with the use of antihistamines are as follows:

Central Nervous System
Sedation and sleepiness (often transient), dizziness, disturbed coordination, confusion, restlessness, excitation, nervousness, tremor, irritability, insomnia, paresthesias, neuritis, convulsions, euphoria, hallucinations, hysteria, faintness.

**Integumentary** Allergic manifestation of rash and edema, excessive perspiration, urticaria, photosensitivity.

Special Senses Acute labyrinthitis, blurred vision, diplopia, vertigo, tinnitus.

**Cardiovascular**Hypotension, palpitation, tachycardia, extrasystoles, anaphylactic shock.

# **Hematologic** Hemolytic anemia, leukopenia, agranulocytosis, thrombocytopenia.

Digestive System
Cholestasis, hepatic failure, hepatitis, hepatic function abnormality, dryness of mouth,

# Urinary frequency, difficult urination, urinary retention, early menses.

Respiratory
Dryness of nose and throat, thickening of bronchial secretions, tightness of chest and wheezing, nasal stuffiness.

## Miscellaneous

Fatigue, chills, headache, increased appetite/weight gain.

Call your doctor for medical advice about side effects. You may report side effects to Strides Pharma Inc at 1-877-244-9825 or go to www.stridesshasun.com or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch

Antihistamine overdosage reactions may vary from central nervous system depression to stimulation especially in pediatric patients. Also, atropine-like signs and symptoms (dry mouth; fixed, dilated pupils; flushing, etc.) as well as gastrointestinal symptoms may occur.

If vomiting has not occurred spontaneously, the patient should be induced to vomit with

If patient is unable to vomit, perform gastric lavage followed by activated charcoal. Isotonic or  $\frac{1}{2}$  isotonic saline is the lavage of choice. Precautions against aspiration must be taken especially in infants and children.

When life threatening CNS signs and symptoms are present, intravenous physostigmine salicylate may be considered. Dosage and frequency of administration are dependent on age, clinical response, and recurrence after response. (See package circulars for the contraverse proposed to th physostigmine products.)

Saline cathartics, as milk of magnesia, by osmosis draw water into the bowel and, therefore, are valuable for their action in rapid dilution of bowel content.

### Stimulants should not be used. Vasopressors may be used to treat hypotension.

The oral  $LD_{50}$  of cyproheptadine is 123 mg/kg, and 295 mg/kg in the mouse and rat,

DOSAGE AND ADMINISTRATION
DOSAGE SHOULD BE INDIVIDUALIZED ACCORDING TO THE NEEDS AND THE RESPONSE
OF THE PATIENT.

Each tablet contains 4 mg of cyproheptadine hydrochloride.

### **Pediatric Patients**

The total daily dosage for pediatric patients may be calculated on the basis of body weight or body area using approximately 0.25 mg/kg/day or 8 mg per square meter of body surface (8 mg/m²).

The usual dose is 2 mg (½ tablet) two or three times a day, adjusted as necessary to the size and response of the patient. The dose is not to exceed 12 mg a day.

**Age 7 to 14 years**The usual dose is 4 mg (1 tablet) two or three times a day adjusted as necessary to the size and response of the patient. The dose is not to exceed 16 mg a day.

Adults
The total daily dose for adults should not exceed 0.5 mg/kg/day. The therapeutic range is
4 to 20 mg a day, with the majority of patients requiring 12 to 16 mg a day. An occasional
patient may require as much as 32 mg a day for adequate relief. It is suggested that
dosage be initiated with 4 mg (1 tablet) three times a day and adjusted according to the
size and response of the patient.

Cyproheptadine Hydrochloride Tablets USP, 4 mg are available as white to off white, round, flat faced, bevelled edged tablets debossed "C4" on one side and score on the other side, containing 4 mg of cyproheptadine HCl packaged in Bottles of 100 tablets with NDC code - NDC 64380-795-06, Bottles of 1000 tablets with NDC code - NDC 64380-795-08

PHARMACIST: Dispense in a well-closed container as defined in the USP, with a child-resistant closure (as required).

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

# Manufactured by: Strides Shasun Limited

## Bengaluru, India

# Strides Pharma Inc. East Brunswick, NJ 08816

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180 x 200mm

Same size

Same size

180 x 200mm

Front Side



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**Back Side** 

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