

Steroids (corticosteroids):

Prednisone, Hydrocortisone, Budesonide (Entocort EC)

What are Steroids? Steroids are manufactured drugs similar to cortisone, which is made in the adrenal glands. These drugs reduce inflammation, tissue damage and diarrhea.

What is it used for? Steroids are used to treat a wide range of disorders such as asthma and arthritis. In gastroenterology, it is effective in the treatment of several inflammatory conditions such as non-infectious colitis, Crohn's disease and autoimmune hepatitis.

How do I take it? Follow your physician's instructions carefully. These drugs can be taken with or without food. Prednisone and hydrocortisone may be crushed and mixed with food. Budesonide should not be crushed, broken or chewed; it should be swallowed whole. Keep all medications away from children. Never share your medications with anyone else.

What do I do for a missed dose? If you take the drug once a day, take it as soon as you remember that day. If you do not remember until the next day, skip the missed dose and do not double up. If you take the drug twice or more daily, take the missed dose as soon as you remember that day. If you don't remember until the next morning, then double just that dose. **DO NOT DOUBLE UP BUDESONIDE.** If you are on alternate day treatment, take the dose whenever you remember and adjust your schedule to every other day afterwards.

Are there interactions with food or beverages? Grapefruit and grapefruit juice should be avoided with budesonide. There are no known interactions between the other steroids and any foods or beverages. However, steroids may cause retention of sodium (salt), so keep your sodium intake to a minimum.

Are there interactions with other drugs? An interaction generally means that one drug may increase or decrease the effect of another drug. Also, the more medications a person takes, the more likely there will be a drug interaction. Interactions with this drug may occur with the following:

- AIDS drugs
- Antibiotics: erythromycin (E-mycin) and rifampin (Rifadin)
- Antifungal drugs: amphotericin B (Fungizone), ketoconazole (Nizoral) and itraconazole (Sporanox)
- Anti-seizure drugs: phenytoin (Dilantin) and carbamazepine (Tegretol)
- Aspirin or blood thinners (Coumadin)
- Barbiturates (phenobarbital, Donnatal)
- Cyclosporine (Sandimmune, Neoral)
- Hormones: estrogen (Premarin), birth control pills/patch/shots

Is there a problem if I have another disorder or disease? At times, a drug may have a different or enhanced effect when other diseases are present. At other times, the drug may worsen or effect another disease. With this drug, the following disorders may be a problem:

- Osteoporosis
- Tuberculosis or a positive TB skin test
- Diabetes mellitus
- Chronic liver disease (hepatitis)
- Serious bacterial, viral or fungal infections

- Seizures or convulsions
- Hypertension (High blood pressure)
- Glaucoma or cataracts

What about allergies? People who have known allergies or asthma may be at an increased risk for a reaction (skin rash, hives and itching) from any new medication. However, steroids often decrease allergic responses. You should not take steroids if there has been a previous reaction to this or a similar drug.

What if I'm pregnant, considering pregnancy or breast-feeding? Any drug taken during pregnancy is potentially dangerous to a fetus. The FDA has a grading system for each drug which reflects what is known medically. Steroids are ranked C. This means that it is not known whether steroids will harm an unborn baby. Also, steroids do pass into breast milk. Always consult your physician before taking any drug during or when planning pregnancy, and when breast feeding.

Are there other precautions?

- If you take the drug long-term, carry a drug alert card or neckwear
- Do not stop taking this drug suddenly without your doctor's permission
- Avoid people with infections such as flu, chicken pox or measles.
- Avoid live vaccinations. Let your doctor know if you have recently been vaccinated
- Watch your weight. Control your salt and calorie intake carefully. Call your doctor if you have more than a 5 lb weight gain in one week.
- Get weekly blood pressure check-ups. If you develop a severe headache or blurred vision, have your blood pressure checked immediately.

How long is it safe to take prednisone? Long term side effects are a significant concern. Your physician will always use the lowest dose and for the shortest time possible. Still, there are instances where long-term, indefinite prednisone therapy is needed. You just have to be followed carefully.

How about side effects? Adverse reactions can occur with any drug, even over-the-counter medications. Some of these are mild such as a stomach upset, which may be avoided by taking the medication with food. Minor reactions may go away on their own but if they persist, contact the physician. For major reactions, the patient should contact the physician immediately.

With steroids, the most annoying side effects are the puffiness in the face and neck, weight gain due to increased appetite, and mental changes. While major side effects are unusual, a serious one is a condition called osteonecrosis. This causes weakness and even fracture of the hip or shoulder which would require major orthopedic surgery. Unlike prednisone and cortisone, Budesonide may cause fewer of the severe side effects. For steroids, the following are the observed side effects:

Minor:

Weight gain, swelling (face, hands, feet and ankles), nervousness, acne, rash, increased hair growth, thinning of skin and easy bruising, sore muscles

Major:

Depression, unusual fatigue or weakness, blurred vision, abdominal pain, bloody or black stools, infections, painful hips or shoulders, osteoporosis.