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What you need to know about Corticosteroids: Prednisone, Prednisolone, and Methylprednisolone

What are corticosteroids?

Corticosteroids are man-made drugs that closely resemble cortisol, a hormone that your adrenal glands produce naturally. Corticosteroids are often referred to by the shortened term "steroids." Corticosteroids are different from the male hormone-related steroid compounds that some athletes abuse.

What are some types of steroids?

Some corticosteroid medicines include cortisone, prednisone, and methylprednisolone. Prednisone is the most commonly used type of steroid to treat certain inflammatory bowel diseases, asthma, and rheumatologic diseases.

How are steroids given?

Steroid medications are available in several forms that vary in how easily they dissolve or how long they stay in the body. Steroids might be given locally, to the precise place where a problem exists, or systemically, which means throughout the "system" or body.

Examples of local steroid treatments include skin creams and rectal enemas. Systemic steroid treatments include oral medicines (given by mouth) or medicine that is delivered directly into a vein (intravenously or IV) or muscle (intramuscularly). Systemic steroids circulate through the bloodstream to various body sites.

Local steroid treatments typically will have fewer side effects.

How do steroids work?

Steroids work by decreasing inflammation and reducing the activity of the immune system. Inflammation is a process in which the body's white blood cells and chemicals can protect against infection and foreign substances such as bacteria and viruses. In certain diseases, however, the body's defense system (immune system) doesn't function properly. This might cause inflammation to work against the body's tissues and cause damage. Inflammation is characterized by redness, warmth, swelling, and pain.

Steroids reduce the production of inflammatory chemicals in order to minimize tissue damage. Steroids also reduce the activity of the immune system by affecting the function of white blood cells.

When are steroids given?

Steroids are used to treat a variety of conditions in which the body's defense system malfunctions and causes tissue damage. Steroids are the main therapy for certain diseases. For other conditions, steroids might only be used sparingly or when other measures have not been successful.

Steroids, which work quickly, are used to control inflammatory bowel disease and flare-ups until other medications can work.

How will my doctor decide if steroids are the right treatment?

The decision to prescribe steroids is always made on an individual basis. Your doctor will consider your disease activity and other medicines you are taking. Your doctor will also make sure you understand the potential benefits and risks of steroids before you start taking them.

The potential benefits and risks of steroids vary with:

- The nature and severity of the disease being treated
- The presence or absence of other treatment alternatives
- The presence or absence of other significant medical problems

What are the possible side effects of steroids?

The occurrence of side effects depends on the dose, type of steroid, and length of treatment. Some side effects are more serious than others. Common side effects of systemic steroids include:

- Increased appetite, weight gain
- Poor growth (not getting taller)
- Sudden mood swings
- Muscle weakness
- Blurred vision
- Increased growth of body hair
- Easy bruising
- Lower resistance to infection
- Swollen, "puffy" face
- Acne
- Osteoporosis (bone weakening disease)
- Osteonecrosis (bone damage)
- Worsening of diabetes
- High blood pressure
- Stomach irritation
- Nervousness, restlessness
- Having difficulty sleeping
- Cataracts or glaucoma
- Water retention, swelling

Please note: These side effects are the most common side effects. All possible side effects are not included. Always contact your doctor if you have questions about your personal situation. Complications may occur even when treatment is properly monitored.

Alternative drugs should be used when feasible

It is important to recognize that long term treatment of inflammatory bowel disease with steroids is considered more dangerous than the use of immunomodulators (eg. azathiopurine, 6-mercaptopurine, and

methotrexate) as well as biologic therapy (eg.infliximab, adalimumab, certolizumab). Studies have shown that prolonged steroids and narcotics are associated with the most complications.

Does everyone have side effects?

Not all patients will develop side effects. How often any side effect occurs varies from patient to patient.

If steroid use is brief (from a few days to a few weeks), it is possible that none of the listed side effects will occur. However, if steroid use involves high doses and is prolonged (more than a few months), an increase in the number of side effects might occur. The prolonged use of high dose steroids is justified only for severe illnesses that represent serious risks to the patient.

How can the side effects of steroids be minimized?

To minimize the side effects of steroids, doctors follow several guidelines:

- Use steroids only when necessary.
- Use alternative medications if feasible.
- Monitor the patient closely to detect the development of serious side effects.
- If possible, use local steroids for local problems.
- Use the minimal dose required to gain control of the disease.
- Reduce the dose gradually as long as the disease remains under control.

Adapted from the Cleveland Clinic website, accessed 12/7/11

http://my.clevelandclinic.org/drugs/corticosteroids/hic_corticosteroids.aspx

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