

# THE "INFO"-HALER



TAKE IN THE INFORMATION

An easy to understand, informative newsletter for our patients of all ages from the *Allergy & Asthma Associates of Michigan, P. C.*

## STERIODS

Steroids have become very valuable agents in the treatment of moderate to severe allergic and asthmatic conditions. They are man-made replications of substances occurring naturally within the body. The pituitary gland in the brain is the body's control center. It regulates the release of a chemical called ACTH (adrenocorticotropic hormone) which stimulates the adrenal glands, located next to the kidneys, to release steroids. The brain, before ordering the release of ACTH, determines the amount of steroid already present in the circulation and adjusts its orders accordingly to maintain a perfect balance in the body. The brain generally releases ACTH in a daily cycle with the largest amount released in the early morning, followed by a gradual reduction throughout the day to its lowest level around midnight. This pattern corresponds to most people's sleep patterns. In addition to this daily steroid production, the brain can signal for increased steroid release at any time during periods of stress as a protective mechanism for the body.

The steroids released by the adrenal glands are called corticosteroids. There are three types of corticosteroids, and each type serves an entirely different purpose. The first type of corticosteroids are the mineralcorticosteroids (aldosterone) which are responsible for regulating the body's salt balance. When sodium is retained, water is retained, and potassium is excreted. Mineralcorticosteroids are not the steroids used for management of asthma and other allergic conditions.

The second type of corticosteroids are the anabolic steroids which control muscle mass and sexual features. They are identical to the sex hormones secreted by the male sex glands. These are the steroids athletes have illegally used to increase muscle mass and improve athletic performance. These steroids are very dangerous and produce serious side effects such as growth retardation, hepatitis, liver tumors, hardening of the arteries, coronary artery disease, and psychological problems. Anabolic steroids are not the steroids used for management of asthma and other allergic conditions.

The third type of corticosteroids are the glucocorticosteroids (cortisone) which control the level of sugars, fats, and proteins in the body and decrease inflammation. The glucocorticosteroids are the drugs used to treat asthma and other allergic conditions, and they do not have any anabolic effects. They will not alter hair growth, muscle mass, and have little effect on the body's salt balance. The glucocorticosteroids are effective in asthma and allergy management because they work to reduce secretions in the lungs and nose and reverse swelling and inflammation in the bronchial tubes.

Steroid drugs used to manage asthma and allergies can be given by three methods: injection, ingestion (tablets or syrup), and inhalation. Steroid injections are only given during serious asthma flare-ups or allergic emergencies in a clinical setting. Ingested steroids are added to a routine asthma program only as a last resort since prolonged use may cause long term side effects. Routine use of oral steroids should be reserved for patients with very severe asthma. Oral steroids should always be regulated by a physician and taken only as directed. In general, when taking oral steroids it is best to take the medication for the shortest length of time possible (short bursts of the drug or alternate day dosing rather than prolonged daily use), to take the medication in one early morning dose rather than in several doses throughout the day, and to gradually wean off the drug rather than stop abruptly (so the brain will not be confused by the drastic change in steroid levels in the blood stream). Oral steroids are best taken with food as they can irritate the

stomach. Steroids given by injection or ingestion require the medication to perform systemically (i.e. the drug must be injected or absorbed into the blood stream to work). Therefore, these drugs have potential to cause serious side effects. Inhaled medications, however, are site specific. They deliver the medication directly to the site of the inflammation and do not enter the body's blood stream unless taken in large doses. They do not, therefore, produce systemic side effects and are excellent long term controller medications.

The oral glucocorticosteroids include prednisone, prednisolone, and methylprednisolone. The potential systemic side effects of the oral or injected glucocorticosteroids when used over a long period of time are increased appetite, weight gain, indigestion, mood changes, cataract formation, high blood pressure, edema, osteoporosis (brittle bones), susceptibility to bruising, growth retardation in children, slow wound healing, adrenal gland failure, menstrual irregularity, acne flare-ups, muscle cramps, elevated blood sugar levels, roundness of the face, thinning of the skin, insomnia, changes in fat distribution, ulcers, muscle weakness, and decreased resistance to infection. The inhaled oral glucocorticosteroids include Beclovent, Vanceril, Flovent, Aerobid, Qvar, Pulmicort, Asmanex, and Azmacort. The inhaled nasal glucocorticosteroids are Beconase, Vancenase, Nasacort, Nasonex, Rhinocort, Flonase, and Nasalide.

The potential side effects of the inhaled glucocorticosteroids include hoarseness, sneezing, and yeast infections in the back of the throat (prevented by rinsing mouth with warm water then expectorating after each dose, and/or using a spacer device). The potential side effects of the inhaled nasal glucocorticosteroids include bloody noses, nasal irritation, pharyngitis, and cough.

Steroids are marvelous drugs that can produce miraculous results in asthma and allergy patients with minimal side effects when taken as directed under the close supervision of a physician. Remember, take only the prescribed amount of medicine at the prescribed time, and seek medical attention early during an asthma attack or allergic reaction, since prevention and early intervention are always the best treatment.

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