

ORAL CORTICOSTEROID MEDROL OR PREDNISONE

Why Are Oral Steroids Used: Oral steroids are most often used to reduce pain and inflammation. However, corticosteroids also increase the production of red blood cells which can improve athletic performance. Oral Steroids are more potent (stronger) anti-inflammatory medications than Non-steroidal anti-inflammatory medications (NSAIDs).

Description: A group of hormones produced by the body and/or synthesized in a laboratory which have many different effects on protein, carbohydrate and fat metabolism, as well as the body's response to both mental and physical stress and illness.

Potential Adverse Effects include Obesity (with weight redistributed to face, neck, trunk, and abdomen), High blood pressure, Mood changes (usually depression), Thinning of skin, Easy bruising, Poor wound healing and weakening of tendon tissue, Acne, Immune suppression (difficulty fighting infections), Muscle wasting leading to muscle weakness, Decreased growth velocity in children, Facial hair growth in women, thinning of bone with increased risk of fractures when used long term, stretch marks in the abdomen), and Diabetes mellitus.

Adverse effects are increased with increasing length of use and dosing.

Pharmacology: Corticosteroids are known for their ability to stimulate the formation of carbohydrate from protein. This process takes place in the liver but amino acids from muscle are made available to the liver to assist the process. Corticosteroids also reduce glucose metabolism in many tissues in the body, resulting in higher blood sugar levels. The breakdown of amino acids reduces protein stores in the body in all organs except the liver. In addition, transport of amino acids to muscle and other tissues besides the liver is reduced, so protein synthesis decreases.

Corticosteroids also increase the amount of fatty acids in the blood, probably because they decrease the amount of glucose going to fat cells. The combination of increased fatty acids available to the body and the decrease in glucose increases the body's use of fatty acids for energy. It also increases deposition of fat in the trunk face, abdomen and neck, producing a "buffalo hump," and "moon face."

Infections, trauma, surgery, intense heat and cold, and some injections will increase corticosteroid levels in the body. This response to various forms of stress is not well understood, but is thought to affect the rapid mobilization of amino acids and fats, making them available at the time of injury.

Corticosteroids have multiple effects on inflammatory cells; including stabilizing their membranes so they cannot discharge anti-inflammatory enzymes, decreasing reproduction and movement of some anti-inflammatory cells, and reducing the ability of anti-inflammatory cells to leave blood vessels. They also reduce the absolute number of anti-inflammatory cells in the blood. These effects can reduce inflammation within hours of the time they are given.

A final important effect of steroids on the body is the increase in red blood cells. This increases the oxygen carrying capacity of red blood cells.



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