MAGNUS PHARMACEUTICALS

Clenbuterol

Clenbuterol Hydrochloride 40mcg

Read all of this leaflet carefully before you start taking this medicine because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor, pharmacist or nurse.
- This medicine has been prescribed for you only. Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours.
- If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet.

About

Clenbuterol hydrochloride is an anti-asthma medication that belongs to a broad group of drugs knows as sympathomimetics. These drugs affect that sympathetic nervous system in a wide number of ways, largely mediated by the distribution of adrenoceptors. There are actually nine different types of these receptors in the body, which are classified as either alpha or beta and further subcategorized by type number. Depending on the specific affinities of these agents for the various receptors, they can potentially be used in the treatment of conditions such as asthma, hypertension, cardiovascular shock, arrhythmias, migraine headaches and anaphylactic shock. The text Goodman and Gillman's The Pharmacological Basis of Therapeutics 9th edition does a good job of describing the diverse nature in which these drugs affect the body:

Most of the actions of catecholamines and sympathomimetic agents can be classified into seven broad types: (1) peripheral excitatory action on certain types of smooth muscles such as those in blood vessels supplying the skin, kidney, and mucous membranes, and on the gland cells, such as those of the salivary and sweat glands; (2) a peripheral inhibitory action on certain other types of smooth muscle, such as those in the wall of the gut, in the bronchial tree, and in blood vessels supplying skeletal muscle; (3) a cardiac excitatory action, responsible for an increase in heart rate and force of contraction; (4) metabolic actions, such as an increase in the rate of glycogenolysis in liver and muscle and liberation of free fatty acids from adipose tissue; (5) endocrine actions, such as modulation of the secretion of insulin, rennin, and pituitary hormones; (6) CNS actions, such as respiratory stimulation and, with some of the drugs, an increase in wakefulness and psychomotor activity and a reduction in appetite; and (7) presynaptic actions that result in either inhibition or facilitation of the release of the neurotransmitters such as such as norepinephrine and acetylcholine.

Clenbuterol hydrochloride is specifically a selective beta-2 sympathomimetic, primarily affecting only one of the three subsets of beta-receptors. Of particular interest is the fact that this drug has little beta-1 stimulating activity. Since beta-1 receptors are closely tied to the cardiac effects of these agents, this allows clenbuterol hydrochloride to reduce reversible airway obstruction (an effect of beta-2 stimulation) with much less cardiovascular side effects compared to non-selective beta agonists. Clinical studies with this drug show it is extremely effective as a bronchodilator, with a low level of user complaints and high patient compliance . Clenbuterol hydrochloride also exhibits an extremely long half-life in the body, which is measured to be approximately 34 hours long . This makes steady blood levels easy to achieve, requiring only a single or twice daily dosing schedule at most . This of course makes it much easier for the patient to use, and may tie in to its high compliance rate.

In animal studies clenbuterol hydrochloride is shown to exhibit anabolic activity, obviously an attractive trait to a bodybuilder or athlete. This compound is additionally a known thermogenic , with beta-2 agonists like clenbuterol hydrochloride shown to directly stimulate thermogenic , with beta-2 agonists like clenbuterol hydrochloride shown to directly stimulate fat cells and accelerate

the breakdown of triglycerides to form free fatty acids. Its efficacy in this area makes clenbuterol hydrochloride a very popular fat loss drug among the bodybuilding community. Those interested in this drug are often hoping it will produce a little of both benefits, promoting the loss of body fat while imparting increases in strength and muscle mass. But as was well pointed out by a review published in the August 1995 issue of Medicine and Science in Sports and Exercise, the possible anabolic results in humans are very questionable, and based only on animal data using much larger doses than would be required for bronchodilation. With such reports there has been a lot of debate as to whether or not clenbuterol hydrochloride is really anabolic in humans at all. Some seem to swear by the fact that it builds muscle, and use clenbuterol hydrochloride regularly as an off-season or adjunct anabolic. To others, the MSSE report is confirmation that athletes have wasted valuable time and money on drugs that do not build muscle. The debate over clenbuterol hydrochloride's potential anabolic activity continues today.

Side Effects

The possible side effects of clenbuterol hydrochloride include those of other CNS stimulants, and include such occurrences as shaky hands, insomnia, sweating, increased blood pressure, and nausea. These side effects will generally subside after a week or so of use, once the user becomes accustomed to the drug. Clenbuterol hydrochloride is a CNS stimulant with potential for fatal overdose. Signs of overdose may include rapid breathing, blood pressure irregularities, irregular heartbeat, unconsciousness, trembling, shaking, panic, extreme restlessness, and severe nausea, vomiting, or diarrhea.

Administration

When used for the management of asthma, the most common clinical dose for adults is 20mcg (1 tablet) twice per day. Some patients require up to 40mcg (2 tablets) twice per day.

When using the drug (off-label) for physique- or performance-enhancing purposes, bodybuilders and athletes generally tailor their dosage and cycling of this product based on personal sensitivity to its benefits and side effects. To accomplish this, one often begins a cycle by taking one or two tablets per day, and gradually increasing the dosage every third day by one half to 1 tablet until a desired dosage range is established. At peak therapy some users can tolerate as many as 6-8 tablets per day (120-160mcg). Given the potency and potential for serious side effects, however, any dosage outside of the normal therapeutic range should be approached with an even greater level of caution.

The drug will usually elevate the body temperature shortly after therapy is initiated. The rise in temperature is commonly .5 to 1 degree, sometimes a little more. This elevation is due to temperature is commonly .5 to 1 degree, sometimes a little more. This elevation is due to one's body burning excess energy (largely from fat), and is usually not uncomfortable. The number of consecutive days clenbuterol hydrochloride is now used is usually dependent on the response of the individual.To be clear, the athletic benefits of this drug will only last for a limited time and then diminish, largely due to beta-receptor downregulation. By most accounts clenbuterol hydrochloride seems to work well for approximately 4 to 6 weeks. During this period, users generally monitor their body temperature on a regular basis. We are given some level of assurance that clenbuterol hydrochloride is working by the temperature elevation. Once the temperature drops back to normal, receptor downregulation has probably diminished the efficacy of the drug. At this point increasing the dosage is usually not regarded as effective, and instead clenbuterol hydrochloride is discontinued for a period of no less than 4-6 weeks.

Many bodybuilding competitors enhance the fat burning effect of clenbuterol hydrochloride with the use of additional substances. Many have commented that when the drug is combined with thyroid hormones, specifically the powerful Cytomel, the thermogenic effect can become extremely dramatic. Such a mix is often further used during a steroid cycle, helping the individual elicit a much more toned physique from the drugs. A clenbuterol/thyroid mix is also common when using growth hormone, which is believed to enhance the thermogenic and anabolic effect of HGH therapy. Lastly, ketotifen has also been a popular adjunct to clenbuterol hydrochloride,

which is an antihistamine that upregulates beta-2 receptor density. It seems capable of not only increasing the potency of each dose of clenbuterol hydrochloride (allowing the user to take less clenbuterol), but also of perhaps even slowing receptor downregulation (see the Ketotifen profile for a more comprehensive discussion).