



British Society for
Paediatric Endocrinology
and Diabetes

STEROID TREATMENT FOR INFLAMMATORY DISORDERS

Steroid is an abbreviation for "adrenal corticosteroid" a group of chemicals secreted into the blood (hormones) by the adrenals, two small glands which lie in the abdomen just above the kidneys. Steroids have important functions in the body including in part regulating the control of blood sugar and resistance to stress.

Indications for treatment:

Treatment with steroids can be needed either be needed for replacement of the natural chemicals if the adrenal glands for some reason fail to work normally (usually referred to as steroid replacement, see the sheet on this) or, in larger doses, they have extremely useful properties in reducing inflammation. They are therefore widely used in the treatment of inflammatory diseases such as arthritis and asthma and in diseases in which the immune system is at fault such as nephrotic syndrome.

Steroid drugs:

For replacement the naturally secreted hormone hydrocortisone, given twice or three times a day, is generally used but for treatment of inflammation the more potent synthetic steroid, prednisolone, given once a day or on alternate days, is preferred. The dose required varies greatly but doses of hydrocortisone greater than 20mg daily and doses of prednisolone greater than 5mg daily give blood levels higher than the normal secretion of the adrenals and have the effect of turning off the secretion of steroids from the adrenal glands.

Side effects:

The beneficial effects of steroids are unfortunately associated with a wide variety of possible side effects. In children one of the most important is slowing of growth, fortunately there is "catch-up" growth when the treatment is stopped. There is also an increase in appetite and gain in weight with most of the weight distributed around the middle and especially visible in the cheeks, which can eventually cause the typical "moon face".

Most children on steroids show some change in mood, they often become rather "high" initially but this usually improves quickly.

Steroids may also cause indigestion by irritating the stomach, increase the blood pressure and in the longer term cause thinning of the bones. There are many other possible side effects but fortunately these are only seldom seen in children.



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Dosage schedules:

The tablets should be taken during or after eating to reduce the irritant effect. In children, if it proves sufficient to control the disease, it is preferable to give steroids in a single dose on alternate days only, i.e. with a 48 hour gap between doses. This allows the adrenal glands to recover between doses and prevents their becoming suppressed. However, with more acute illness it is often necessary to give twice daily dosage. When it is possible to reduce the dose of steroid this should be done slowly over a matter of weeks, if necessary reducing the dose by only 1 or 2.5mg each week.

Precautions:

The most important instruction is not to stop the tablets suddenly at any time. The dose should be doubled to cover any serious illness, stress, or accident. Most important of all, if the steroid dose is repeatedly vomited, it must be given by injection since failure to do so may leave the child extremely vulnerable to stress. Each family with a child on steroids should have an injection of hydrocortisone available and know how to give it. Chicken pox infection may be more severe in children on steroids so, if your child has not had chicken pox, you should inform your doctor of close contact or the appearance of the rash. Children who require steroid treatment for any prolonged period should have either a bracelet or necklace indicating that they are on treatment and should carry a card with the details.

Conclusion:

Although the potential side effects of prednisolone are concerning this is an extremely powerful and useful drug and certainly should not be avoided when there is a clear medical indication for its use.