

LOCALLY ACTING CORTICOSTEROIDS

The adrenal glands, which lie on the top of the kidneys, produce a number of important hormones. Among these are the corticosteroids, so named because they are made in the outer part (cortex) of the glands. The corticosteroids play an important role, influencing the immune system and regulating the carbohydrate and mineral metabolism of the body. A number of drugs that mimic the natural corticosteroids have been developed.

These drugs have many uses and are discussed in detail under Corticosteroids (p.99). This section concentrates on those corticosteroids injected into an affected site to treat joint disorders.

Why they are used

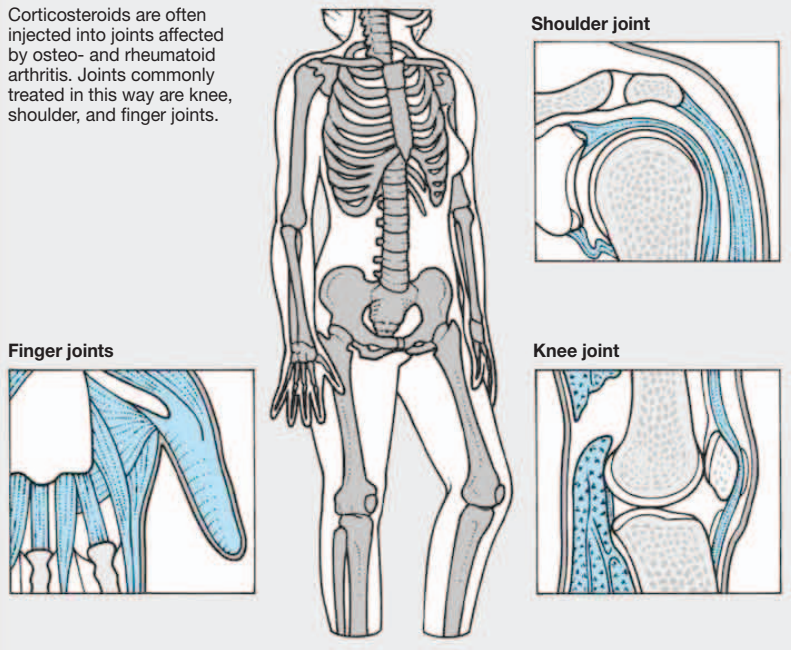
Corticosteroids given by injection are particularly useful for treating joint disorders – notably rheumatoid arthritis and osteoarthritis – when one or only a few joints are involved, and when pain and inflammation have not been relieved by other drugs. In such cases, it is possible to relieve symptoms by injecting each of the affected joints individually. Corticosteroids may also be injected to relieve pain and inflammation caused by strained or contracted muscles, ligaments, and/or tendons – for example, in frozen shoulder or tennis elbow. They may also be given for bursitis, tendinitis, or swelling that is compressing a nerve. Corticosteroid injections are sometimes used in order to relieve pain and stiffness sufficiently to permit physiotherapy.

How they work

Corticosteroid drugs have two important actions that are believed to account for their effectiveness. They block the production of prostaglandins – chemicals responsible for triggering inflammation and pain – and

COMMON INJECTION SITES

Corticosteroids are often injected into joints affected by osteo- and rheumatoid arthritis. Joints commonly treated in this way are knee, shoulder, and finger joints.



depress the accumulation and activity of the white blood cells that cause the inflammation (below). Injection concentrates the corticosteroids, and their effects, at the site of the problem, thus giving the maximum benefit where it is most needed.

How they affect you

Corticosteroids usually produce dramatic relief from symptoms when the drug is

injected into a joint. Often a single injection is sufficient to relieve pain and swelling, and to improve mobility. When used to treat muscle or tendon pain, they may not always be effective because it is difficult to position the needle so that the drug reaches the right spot. In some cases, repeated injections are necessary.

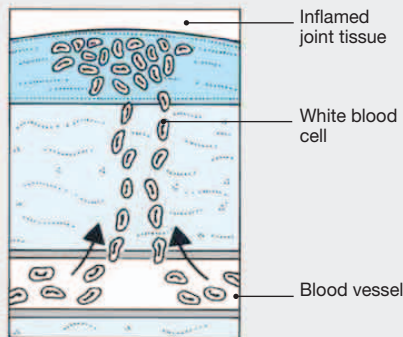
Because these drugs are concentrated in the affected area, rather than being dispersed in significant amounts in the body, the generalized adverse effects that sometimes occur when corticosteroids are taken by mouth are unlikely. Minor side effects, such as loss of skin pigment at the injection site, are uncommon. Occasionally, a temporary increase in pain (steroid flare) may occur. In such cases, rest, local application of ice, and analgesic medication may relieve the condition. Sterile injection technique is critically important.

COMMON DRUGS

- Dexamethasone *
- Hydrocortisone *
- Methylprednisolone
- Prednisolone *
- Triamcinolone

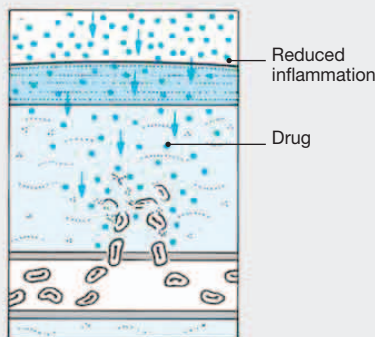
* See Part 3

ACTION OF CORTICOSTEROIDS ON INFLAMED JOINTS



Inflamed tissue

Inflammation occurs when disease or injury causes large numbers of white blood cells to accumulate in the affected area. In joints this leads to swelling and stiffness.



Action of corticosteroids

Corticosteroids, when injected into the area, permeate the joint lining (synovial membrane), blocking prostaglandin production and preventing white blood cells accumulating.