

## **Isotretinoin (Sotret, Accutane)**

### **What is Isotretinoin?**

Isotretinoin or 13-cis retinoic acid is very effective medication for the treatment of acne. It is a retinoid; this means it is derived from vitamin-A (retinoic acid). The liver naturally makes small quantities of isotretinoin from vitamin-A, but the drug we prescribe is made synthetically.

Most people receive a course of isotretinoin for 20 weeks, but some require it for longer.

If you are prescribed isotretinoin it is very important you are fully informed about the medication. You are required to enroll in the FDA mandated iPledge program to receive your medication. The iPledge website also has a full listing of side effects. An informative video will describe your treatment course. Find the Isotretinoin Video and iPledge website under Quick Links on your dermatology provider's homepage. A patient instruction sheet entitled *Tips on Navigating iPledge* is also available under Quick Links under Patient Instructions.

Ask your provider to explain anything you do not understand.

You will need to see your dermatologist monthly during your treatment. Keep your appointment. You will also need to get lab work prior to your appointments. Please refer to the Isotretinoin checklist for information on how and when to obtain lab work, schedule appointments and get your Isotretinoin prescription filled. Do not hesitate to phone your doctor or dermatologist if you have any concerns about your treatment.

### **How does Isotretinoin work?**

- Isotretinoin markedly reduces sebum oil production and shrinks the sebaceous oil glands.
- It gets rid of comedones and prevents new ones forming.
- Treated skin is dry, inhibiting the growth of acne bacteria.
- It has anti-inflammatory properties.

### **When is Isotretinoin prescribed?**

Dermatologists prescribe isotretinoin for patients with acne in the following circumstances:

- Nodular or nodulocystic acne (i.e. where there are large deep lumps).
- Severe disfiguring inflammatory acne vulgaris.
- Acne which has failed to respond to other treatments.
- Isotretinoin can also be useful for patients severely affected by other follicular conditions.

### How should I take Isotretinoin?

- You will get 1 month supply of isotretinoin at a time.
- The amount of Isotretinoin you take has been specially chosen for you and may change during treatment.
- You will take Isotretinoin 2 times a day with food, unless your doctor tells you otherwise.
- If you miss a dose, just skip that dose. Do **not** take 2 doses the next time.

### What should I avoid while taking Isotretinoin?

- Do not get pregnant while taking Isotretinoin.
- Do not breast feed while taking Isotretinoin and for 1 month after stopping Isotretinoin.
- Do not give blood while you take Isotretinoin and for 1 month after stopping Isotretinoin.
- Do not take vitamin A supplements. Vitamin A in high doses has many of the same side effects as Isotretinoin. Taking both together may increase your chance of getting side effects.
- Do not have cosmetic procedures to smooth your skin, including waxing, dermabrasion, or laser procedures, while you are using Isotretinoin and for at least 6 months after you stop. Isotretinoin can increase your chance of scarring from these procedures. Check with your provider for advice about when you can have cosmetic procedures.
- Avoid sunlight and ultraviolet lights as much as possible. Tanning machines use ultraviolet lights. Isotretinoin may make your skin more sensitive to light.
- Do not use birth control pills that have a low dose of progesterone (minipills). They may not work while you take Isotretinoin.
- Do not share Isotretinoin with other people. It can cause birth defects and other serious health problems.
- Do not take antibiotics with Isotretinoin unless you talk to a provider. For some antibiotics, you may have to stop taking Isotretinoin until the antibiotic treatment is finished. Use of both drugs together can increase the chances of getting increased pressure in the brain.

### Pregnancy

Isotretinoin **must not** be taken in pregnancy because of a very high risk of serious growth abnormalities in the baby.

It should not be taken during breast-feeding as it enters the breast milk and might affect the baby.

You must tell your dermatologist if you think you may be pregnant before you start on isotretinoin. If you intend getting pregnant within the next six months or so, you should not take isotretinoin.

All females who could biologically have a child should take the precautions during treatment with isotretinoin and for four weeks after the medication has been discontinued:

- Abstinence. The most reliable method of avoiding pregnancy is not to have sex. No method of contraception is completely reliable.

- If sexually active, two reliable methods of contraception must be used. Discuss contraception with your doctor.
- Call your doctor immediately if unprotected sexual intercourse has occurred for emergency contraception advise.
- If your contraception fails, termination of pregnancy (an abortion) may be advised if pregnancy arises during treatment with isotretinoin or within a month of discontinuing it. Do not put yourself in this situation!

Isotretinoin has a very high chance of resulting in a spontaneous miscarriage or a severe birth deformity if a fetus is exposed to it during the first half of pregnancy. The deformities affect the growth of tissues developing at the time of exposure to the drug:

- Cranium (skull and brain)
- Cardiac (heart)
- Eye, ear
- Limbs

Males and females. Do not give blood while you are on isotretinoin or for further four weeks after you have discontinued it, in case your blood is used for a pregnant woman.

Males. Isotretinoin has no effect on sperm or male fertility and has not been shown to cause birth defects in children fathered by men taking it. No specific contraceptive precautions are necessary for men.

### **What are the side effects of Isotretinoin?**

Unfortunately isotretinoin can make acne worse at first. Usually the flare-up lasts only a couple of weeks, but in some people the flare-up can be very severe and occur for several months. If you have a severe flare-up of your skin condition, let your dermatologist know right away.

All treated patients suffer from some side effects. The range and severity of the side effects depends on the disease being treated, the dose of isotretinoin and personal factors.

Contact lens wearers have more problem with dry eyes; those with a history of eczema may find isotretinoin aggravates it; fair skinned people burn more easily. Active individuals may have more problems with muscles and joints aching.

If you experience side effects discuss them with your dermatologist or the dermatology nurse.

### **The majority of side effects affect the skin and mucous membranes:**

- Dry and cracked lips (cheilitis) affect all treated patients. Apply a lip balm frequently and liberally. Petroleum jelly can be applied indoors or at night. A lip preparation with a sunscreen is preferred during the day.

- Dry skin: especially on exposed skin (face, neck, arms, and hands). Apply an emollient cream such as Eucerin or Cetaphil frequently and liberally to dry skin, especially after bathing.
- Dry eyes: severely dry eyes are sore and red. There is a risk of conjunctivitis and/or keratitis, an inflammatory condition of the cornea. Rarely, this scars. Stop your isotretinoin and contact your dermatologist if you have sore red eyes that fail to improve with “artificial tears” (eye drops). Sometimes, paradoxically, patients complain of watery eyes. Do not start wearing contact lenses for the first time while you are taking isotretinoin.
- Dry genitals and anal mucosa: bleeding at the time of a bowel motion may occur from a split anus. Sexual intercourse may be uncomfortable: use plenty of suitable lubrication such as K-Y Jelly or Silk.
- Fragile skin: minor injuries such as grazes occur more readily and heal more slowly. Do not wax: the top layer of your skin may strip off as well with the hairs! Do not get any piercings, tattoos or other cosmetic procedures.
- Increased sweating: keep cool.
- Facial erythema (redness) and/or flushing: most noticeable in fair skinned people.
- Sunburn: a particular problem for fair skinned people. Careful sun protection is most important. All the year round, make sure you apply a cream-based sunscreen before going outdoors. Apply it frequently and liberally if you are skiing in the spring at high altitude, or if outside during the summer months between 11 am and 5 pm. Do not expose your skin to a sun bed or sun lamp.
- Eczema: red itchy patches may appear on the dry skin. A topical steroid may be required for a few days to clear the rash: obtain a prescription from your doctor or dermatologist. Apply emollients liberally and frequently.
- Impetigo: a secondary infection with *Staphylococcus aureus* and/or *Streptococcus pyogenes* bacteria. Impetigo is also known as “school sores”; there are yellowish crusted patches, most often around the lips and nostrils or affecting the acne spots. See your doctor for a course of topical and/or oral antibiotics.
- Pyogenic granuloma: red juicy lumps may rarely appear around acne nodules or elsewhere. See your dermatologist for treatment (topical steroids and cautery).
- Paronychia: an infection of one or more nail folds, usually with *Staphylococcus aureus*. It is especially common in ingrowing toenails or nails that are chewed or picked. Paronychia can be particularly stubborn and resistant to treatment but settles once the isotretinoin has been discontinued.
- Hair loss: some hair may fall out temporarily, and the hair may lose condition. It grows normally once the isotretinoin has been stopped. Normal shampoo and conditioners may be used but won't influence the hair fall. If the scalp is scaly, an anti-dandruff shampoo twice weekly may help.
- Nail changes: the nails may become brittle and slow growing. They recover when treatment has been discontinued, but it will take several months for the new healthy nail grow out.

**Other side effects:**

- Headache: generally mild and responding to paracetamol. Severe headache associated with blurred vision could indicate raised intracranial pressure, a rare but severe side effect. Contact your dermatologist or general practitioner if this occurs to you.
- Muscle aches (myalgia) especially after exercise. Low backache is not uncommon. Joint aches (arthralgia) especially after exercise can sometimes be debilitating. These symptoms respond to

nonsteroidal anti-inflammatory drugs such as ibuprofen. Muscle aching usually improves after the first few weeks.

- Tiredness (lethargy and drowsiness) is common; it responds to a good night's sleep.
- Mood changes and depression (rarely). If this occurs, seek help immediately from your dermatologist or general practitioner. Severe depression is rare but may require the isotretinoin to be discontinued. Antidepressant medications may be helpful.
- Eye problems: night blindness and slow adaptation to the dark. This arises because isotretinoin replaces retinoic acid on receptors on the rods, the cells in the retina that enable us to see in poor light. Drivers may experience increased glare from car headlights at night. If you have eye problems, do not drive or pilot a plane after dark. Discuss your visual problems with your dermatologist; a lower dose of isotretinoin may be advised or you may need to consult an ophthalmologist. Cataracts have rarely been reported.
- Hypertriglyceridaemia (high blood fats) can result in pancreatitis, a painful and dangerous condition. Make sure you follow a low-fat diet while you are on isotretinoin and avoid simple carbohydrates (sugar, sweet drinks, lollies etc). Have blood tests as advised by your dermatologist and make sure you have found out whether the results are normal or not. If your blood fats rise significantly on isotretinoin you may have to reduce the dose or discontinue the treatment.
- Diarrhea or bleeding from the bowel may rarely occur, especially in those with colitis.
- Irregular or heavier menstrual periods may sometimes occur. This is not harmful. If you miss a period, make sure you are not pregnant by having a blood test or urine test.
- Allergy to isotretinoin. This is rare but may include liver disease and a febrile illness. High-tone deafness, vasculitis and urticaria have rarely been reported.

### **Blood test monitoring (Refer to the Isotretinoin checklist)**

Patients need to have blood tests before beginning Isotretinoin and then monthly. Patients with certain serious health problems may be advised against taking isotretinoin, or may be treated with a lower dose than usual. Such health problems include severe liver and kidney disease, high blood fats, diabetes and depression.

### **The tests may include:**

- Pregnancy test (beta-HCG) for women and girls of childbearing potential (you will probably be asked to have this performed even if you tell your dermatologist you are not sexually active, still a teenager, or your partner has been sterilized). Please do not be offended.
- Blood fats (cholesterol and triglyceride levels). These are most reliable if measured on a fasting sample, i.e. no food for some hours (perhaps first thing in the morning, eating your breakfast after the test has been completed).
- Liver function tests. Occasionally, isotretinoin may disturb liver function; this requires monitoring but if the reaction is mild the can usually be continued. Rarely, it causes a symptomatic hepatitis: the drug must then be discontinued. Drink no alcohol while taking isotretinoin, as alcohol also affects the liver.
- Blood count: this is to check for anemia and to monitor white cell count and platelets (clotting cells).

**Slow responders and the treatment of relapses.**

Some patients with acne respond unexpectedly slowly and incompletely to isotretinoin. These patients may need a prolonged course of treatment or additional treatment with antibiotics.

At least fifty per cent of patients with acne are lucky enough to have a permanent cure after a single course of isotretinoin. Unfortunately, in some patients, acne recurs few months to a few years after the medication has been discontinued.

If indicated, these patients may receive one or more further courses of isotretinoin. This may be at a similar dose and duration as before, or it may differ from previously.