

Side effects of treatment can vary from person to person. Information in this section discusses the more common side effects related to treatment. Some of the treatment side effects are similar to the symptoms of hepatitis C and the same approaches may be used to control both. For more information download the **Hepatitis C: managing symptoms factsheet** on this site. This information is only a guide—it should not be used to replace the advice of qualified health care professionals.

### Side effects of interferon

Side effects from pegylated interferon will vary for each person. Some people report no side effects. Others may have flu-like symptoms, such as fever, chills, lethargy, muscle pain, depression and mood swings. Some people may experience loss of appetite, insomnia, nausea, vomiting, skin dryness and itching, dry throat and/or weight loss. Less common side-effects can include mild, temporary hair loss, blood disorders, thyroid disorders, skin lesions and worsening of psoriasis (a skin disorder). Fortunately, most side effects disappear once treatment has stopped. Life threatening complications from treatment with pegylated interferon are rare.

It is difficult to predict how you might respond to the treatment, and what side effects you might experience. Before starting treatment, ask your doctor and treatment specialist about all the possible side effects you may experience. The length of treatment will vary depending on your tolerance to the drugs, response to the treatment, and your genotype (strain of virus).

### Side effects of ribavirin

Ribavirin can temporarily lower your red blood cell count and platelet count. This may cause tiredness, shortness of breath and less energy. Doctors will closely monitor your blood count and iron levels during the first few weeks of combination therapy to avoid any serious side effects, such as anaemia.

Ribavirin can cause birth defects, so pregnancy should be avoided during treatment. Ribavirin is not available to women who are pregnant and/or breastfeeding. Men and women must use adequate contraception during treatment, and for six months after treatment.

You should always talk to your specialist or health professional at your treatment centre about the possible side effects of combination therapy and how to manage them.

### Anaemia

A common side effect of ribavirin is anaemia. This means your red blood count needs to be monitored closely by your doctor, especially during the first few weeks of treatment. The anaemia due to ribavirin is caused by a destruction of red blood cells and the release of haemoglobin. It is often experienced or manifests as reduced energy, feelings of lethargy, shortness of breath and sometimes weakness.

Ribavirin-induced anaemia responds to a reduction in the dose of ribavirin, and it usually settles down within a number of weeks of completing treatment.

### Brain fog and cognitive changes

Brain fog or feeling 'foggy' is often described as not being able to think straight, having a shorter attention span or decreased alertness, short term memory problems such as forgetfulness and losing track of thoughts. This should lessen after treatment has finished and within one month, you should feel your normal self again. If it persists, discuss the symptoms with your doctor. For more information on how to help manage brain fog download the **Hepatitis C: managing symptoms factsheet** on this site.

### Depression, anxiety and irritability

Interferon has been associated with depression and suicide in some patients. Some people who experience mood changes or cognitive side effects are instructed to 'pace' themselves or alter their demanding work and recreational schedules to help maintain some reasonable amount of participation in normal activities. In some patients, these recommendations to 'slow down' are viewed as 'giving in to the virus', causing frustration.

The actual rate of interferon-induced depression is unknown. However, while on treatment, some people may experience psychological symptoms typical of major depression, anhedonia (lack of pleasure with previously pleasurable acts) and helplessness. Symptoms may become more difficult over time or with dose escalations, leading to dose modifications or temporary discontinuation.

Medications to address interferon-induced depression have not been formally studied in clinical trials. However, a number of medications are currently used, and the lessening of negative psychological side effects appears to be a realistic goal. Talk with your GP or liver specialist about what options you have in relation to medication, counselling and other support mechanisms you can put in place to reduce possible psychological side effects.

Evidence of current or past depression does not automatically exclude someone from treatment, but does suggest that the person would be at higher risk of experiencing psychological side effects.

People with hepatitis C are sometimes irritable during treatment. Reducing feelings of stress through relaxation techniques including exercise, meditation and deep breathing can help some people.

### Eyesight

Some people with hepatitis C report being more sensitive to light and after starting treatment experience an even greater sensitivity to light. Many people find that they need to wear sunglasses more often which can help reduce the amount of light exposed to the eyes.

Some people report a rapid deterioration in their eyesight during and after treatment. This is because of changes to the muscles within the eyes that allow us to focus. People on treatment who already have weak eyesight are at a higher risk of this side effect. Persisting eye problems usually require permanent corrective devices like glasses or contact lenses. It is important to report any changes in your eyesight with your doctor and ophthalmologist.

### Fatigue

Fatigue can be described as a sense of excessive tiredness and lack of energy and is a symptom that can be associated with hepatitis C treatment. Fatigue can impact on work, family relations and other activities. It can cause you to be withdrawn, moody, cranky and irritable, experience outbursts of anger and a lack of energy or feelings of physical weakness. A good night's rest will not always help you overcome fatigue. Fatigue may also be linked to other factors, such as depression.

General lifestyle practices can impact on fatigue and sleeping patterns. Therefore, you should try to:

- eat a well-balanced diet. For more information on eating a well-balanced diet download the **Hepatitis C: eat well factsheet** on this website;
- drink alcohol in moderation or not at all and stop or reduce smoking. For more information download the **Hepatitis C: Smoking, alcohol and other drugs factsheet** on this site; and
- do regular moderate exercise. For more information on regular activity download the **Hepatitis C: be active factsheet** on this site.

Making adjustments to your day-to-day life may allow you to manage fatigue. Have realistic expectations what you are able to do. Don't beat yourself up over feeling tired and lethargic.

- plan the day's activities to avoid the times that your tiredness and fatigue normally appear. When energy is higher complete extra tasks (e.g. cook food in batches and freeze to eat later);
- sit down to iron clothes or shower, so you don't have to support yourself;
- use equipment that helps you conserve energy. For example, use a washing trolley instead of carrying the washing to the line;
- pace yourself during the day and allow yourself regular breaks; and
- take short naps during the day. However, be aware that excessive sleep can cause people to feel more tired and may cause sleep difficulties at night.

For more information on improving sleep patterns download the **Hepatitis C: sleep well factsheet** on this site.

### Hair loss

Hair loss, also known as alopecia, is a potential side effect of combination treatment and it can be worse for the first few weeks following the commencement of treatment. Patchy hair loss may continue for a number of months after treatment, but it is temporary and hair will slowly grow back, although this may take up to 18 months after treatment has stopped.

If you had long hair before treatment, you may be concerned about others noticing your hair loss or thinning hair. A shorter haircut can make hair loss less noticeable.

### Headache

Headaches and migraines are common during treatment. Many people use paracetamol to relieve headache symptoms, but it is advisable to talk to your doctor about managing headaches, the safe dosage level of paracetamol for you and the effects of paracetamol on your liver. For information on paracetamol and pain management download the **Hepatitis C: managing symptoms factsheet** on this site.

Within a month after starting treatment, headaches usually become less frequent and less severe. Generally, there is no lingering headache or migraine by six months after treatment. Complementary and alternative therapy practitioners can also provide advice about managing headache symptoms.

### Joint and muscle pain

Muscle and joint pain can persist during treatment. Common sites of joint pain are the hips, knees, fingers, and spine, although any joint can be a source of pain. Aches and pains in the muscles are usually experienced as a generalised feeling. However, some people report having pain in only one area of the body.

It is generally considered acceptable to take anti-inflammatory medication for muscle and joint pain (following the instructions on the packet), however, you should first consult your doctor about the use of anti-inflammatory drugs.

Some people find mild physical activity can help manage muscle and joint pain. Mild physical activity increases blood flow to joints and muscles and can reduce stiffness. Heat packs on the sore area, warm baths and massage may also provide temporary relief.

Some people find benefit in complementary and alternative therapies, such as herbal products or massage. You may like to consider the use of Glucosamine sulphate to help reduce joint pain and improve mobility. If you pursue complementary and alternative therapies it is important that you tell your liver specialist and GP of any therapies that you have recently used, are using, or plan to use.

### **Pain or discomfort of the liver**

People with hepatitis C may experience episodes of abdominal pain. Pain or soreness on the right side just below the ribs could be from the liver.

Before attempting to treat pain or discomfort of the liver it is important to discuss symptoms and pain management with your doctor. For some people reducing alcohol consumption to below the levels recommended for the general community or abstaining from alcohol altogether, may bring relief. Using a heat pack over the liver, particularly at night, may also relieve liver pain or discomfort.

Pain relief medication, both over-the-counter and on prescription, is generally considered acceptable for temporarily treating liver pain—but there are exceptions. The use of pain medication in people with chronic hepatitis C should first be discussed with your doctor.

People who have undergone treatment and are PCR negative six months after treatment ceases should find a noticeable decrease in their symptom. For others, there is usually a decrease in the discomfort after completing treatment.

### **Dry mouth and mouth ulcers**

Symptoms of a dry mouth can include bad breath, cracked lips, sore mouth and throat, difficulty eating and swallowing, mouth ulcers, tooth decay and tooth sensitivity.

Some hints to relieve dry mouth and manage mouth ulcers to consider include:

- maintain good oral hygiene with regular brushing and flossing particularly after meals and before bed;
- visit a dentist regularly;
- keep the mouth moist by sipping water regularly;
- chewing sugar-free gum can stimulate saliva;
- use lip balm;
- avoid hot or spicy foods, which can irritate a dry mouth;
- if eating is painful choose soft, mashed or minced foods;
- try pharmacy oral health products that are designed to ease the discomfort of a dry mouth, such as mouthwash and moisturiser gel;
- consider rinsing the mouth with salty water and gargling with mild mouthwash;
- gels and creams available from your pharmacy may reduce discomfort and aid healing of ulcers; and
- speak with a doctor about these symptoms - there may be a prescription medication that could help.

### **Weight loss and muscle tone**

Some people lose weight and/or muscle tone while on treatment. Besides the treatment itself, many factors can contribute to weight loss, including taste changes, nausea, vomiting, diarrhoea, depression, or an overactive thyroid.

A healthy diet combined with regular exercise and slowly building-up to strenuous exercise or physical activity may help you regain muscle tone and bulk, although this can take weeks or months. Remember to take it easy at first and aim not to over-do exercise, as this can be harmful.

### Dry skin

A common side effect of combination therapy is dry skin, which in some cases can blister or develop sores. Dry skin can become itchy and develop into a rash. Talk to your doctor about the best treatment for dry skin. This side effect usually decreases soon after treatment has finished.

As pegylated interferon affects the immune system, it can also aggravate pre-existing skin conditions such as psoriasis. If this is the case, talk to your doctor about appropriate treatment.

### Thyroid

A rare side effect of treatment with pegylated interferon is disturbance of thyroid function. During treatment, your doctor can do thyroid function tests to monitor for this effect. Your doctor can recommend treatment should this occur.

### Tinnitus

Tinnitus may be experienced as a severe and constant ringing in the ears (when no other sound is present) during treatment. Many people find that the severity of tinnitus has decreased by six weeks after treatment, although over the next few months they may still experience periods of dull ringing. Reports suggest that this side effect has usually stopped between three to six months post-treatment. If not, seek medical advice.

### For more information

For further information on hepatitis C please contact the national infoline 1300 HEP ABC (1300 437 222). The infoline diverts to information and support lines at your local state or territory hepatitis council.

Some of the information on hepatitis C above has been abridged from various resources, these resources include:

**Thinking about Treatment for Hepatitis C** (Hepatitis Australia)—can be ordered from your local Hepatitis Council (ph. 1300 437 222) or download PDF from [www.hepatitisaustralia.com](http://www.hepatitisaustralia.com)

**Moving on After Treatment** (Hepatitis Australia)—can be ordered from your local Hepatitis Council (ph. 1300 437 222) or download PDF from [www.hepatitisaustralia.com](http://www.hepatitisaustralia.com)

**Treatment side effects factsheet** (Hepatitis C Council of NSW)—Download PDF from [www.hepatitisc.org.au/quickref/factsheet.html](http://www.hepatitisc.org.au/quickref/factsheet.html)

**A Guide to Hepatitis C: Treatment Side Effect Management** (HCV Advocate)—Download PDF from [www.hcvadvocate.org/hepatitis/factsheets\\_pdf/Treatment\\_Side\\_effect\\_Guide.pdf](http://www.hcvadvocate.org/hepatitis/factsheets_pdf/Treatment_Side_effect_Guide.pdf)