Ribavirin/Pegylated Interferon Combination Therapy for People with Hepatitis C

1. Introduction
   This information sheet is for people who want to know more about the ribavirin/interferon combination treatment for Hepatitis C. For more information on the research behind the treatments, read the detailed fact sheet, Ribavirin/Pegylated Interferon Combination Therapy at http://www.accessinfo.org.au/riba_inter.htm

2. What the treatment does
   The aim of the treatment is to clear the hepatitis C virus from your blood. Taking ribavirin and interferon or ribavirin and pegylated interferon together is currently the most effective treatment for hepatitis C.

3. When to take it
   At present treatment is generally only available for people who have abnormal ALT levels and moderate to severe inflammation and/or scarring of their liver.

   This information is found when the doctor does 2 tests:
   1) Liver biopsy: A very small sample of the liver is taken and examined under a microscope.
   2) A simple blood test provides your ALT levels. These levels are another way of showing how much your liver is inflamed.
The amount of change in your liver is not necessarily determined by how long you have had the hepatitis C virus.

4) What is ribavirin?
Ribavirin is a type of drug that works against some viruses. Ribavirin needs to be taken with interferon to help it to work against the hepatitis C virus. In this combined treatment ribavirin can improve people's liver function tests (blood tests which show how well the liver is working) and improve people's chances of clearing hepatitis C. Ribavirin is taken in tablet form twice a day with food.

5) What is interferon?
Interferons are small proteins made by your body to help it fight viral infections such as colds or hepatitis. Your body makes different types of interferons to fight different infections.

There are two types of artificially made interferons used to fight the hepatitis C virus. They are standard interferon and pegylated interferon. Standard interferon is given as an injection under the skin up to three times a week.

6) What is pegylated interferon?
Pegylated interferon is made when a chemical called polyethylene glycol (PEG) is attached to interferon. PEG helps the interferon to work in your body for longer. It is given once a week as an injection just under the skin.

7) What does the latest research show?
Responding to treatment
People who start treatment will be monitored to see how well the treatment is working (how well they are responding to treatment). There are a number of different strains or types (genotypes) of the hepatitis C virus. People with these different genotypes may respond differently to hepatitis C treatment.

Some people are also more likely to clear the virus than others. These are people who:

- have genotype 2 or 3 (strains 2 or 3) of the virus
- have lower levels of virus in their blood before they start taking the treatments
- are 40 years old or younger when they got the hepatitis C virus
- are female
Table 1 - Treatment results

This table shows the percentage of people from three different research studies who appear to have cleared the virus from their blood after using standard interferon and ribavirin or pegylated interferon and ribavirin.

<table>
<thead>
<tr>
<th>Research Study 1</th>
<th>Research Study 2</th>
<th>Research Study 3</th>
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<tbody>
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<tr>
<td><strong>Percentage of people with Genotype 1 who appear to have cleared the virus.</strong></td>
<td><strong>Percentage of people with Genotype 2 or 3 who appear to have cleared the virus.</strong></td>
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<tr>
<td>Standard Interferon + ribavirin for 48 weeks</td>
<td>Standard Interferon + ribavirin for 24 weeks</td>
<td>Standard Interferon only for 48 weeks</td>
</tr>
<tr>
<td>31%</td>
<td>11%</td>
<td>41%</td>
</tr>
<tr>
<td>64%</td>
<td>33%</td>
<td>78%</td>
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8) Cirrhosis

Combination therapy using pegylated interferon and ribavirin also appears to work better than standard interferon and ribavirin for people with severe scarring of the liver (cirrhosis). More research is occurring in this area.

9) Side Effects

Most people have some side effects when they take ribavirin and interferon. One person could have a number of side-effects and another might have very few or only mild side effects. It is important to contact your liver clinic if you have any side effects.

Side-effects of interferon
The side effects for standard interferon and pegylated interferon are the similar. Some common side-effects with interferon are:

- feeling like you have the flu, such as headaches, muscle aches, joint aches, fevers/chills and feeling sick
- vomiting, loss of appetite, diarrhoea
- dry skin, dry eyes, dry mouth, hair loss
- less energy, feeling tired, difficulty sleeping
- depression, mood swings, poor concentration, vagueness
- A few people also have changes in their blood such as less white blood cells and platelets (clotting blood cells) and thyroid problems

Most of these side-effects are not serious and will go away over time once you stop taking the treatments. Some people have found that by taking interferon at night, they sleep through the flu-like symptoms.

Side-effects of ribavirin
Ribavirin introduces other issues to the picture. Animal studies have found that ribavirin may cause birth defects. Both women and men taking ribavirin need to use effective birth control while they taking the treatments and for six months afterwards. Men need to use condoms during sex as ribavirin has been found in semen.

Ribavirin may cause anaemia (a low number of red blood cells in the blood). Anaemia can cause shortness of breath and feeling light headed and tired. If this happens talk to your doctor as the amount of ribavirin may need to be changed. People who have heart or lung disease or who are over 60 years old may need to have extra tests before taking ribavirin or may not be able to take it at all.

Ribavirin can also cause symptoms such as nausea or vomiting so it should be taken with meals.
10) Lifestyle issues

If you are interested in this combined treatment, it is important to think about how it may affect your lifestyle and relationships.

Taking interferon means giving yourself a small injection into the fat on your stomach up to three times each week. This can hurt and cause bruising.

Some people find that, because of the side effects, taking these treatments affects how they work. You may need to take time off work or talk to your boss about changing your working hours for a time.

Many people find it helps to talk about the treatments and their potential side effects with the important people in their life. If side effects do occur, then partners, family and friends feel better prepared to provide support. You may wish to bring them along to the appointments so they can get more information.

If you are thinking about having children you may choose to have a baby and then start the treatments. Or you might choose to take the treatments, and then wait for 6 months after you have finished before thinking about having a baby.

Thinking about these issues and talking with your doctor is an important part of preparing for treatment. You may also want to talk with a counsellor. For contact details of a hepatitis C counsellor ring your state Hepatitis C Council.

11) Availability of treatment

At present in Victoria you can only get these treatments at specialist liver clinics at major public hospitals.

12) References


**Study 2**: Hadziyannis S et al 2002, 'Peginterferon alfa 2a (40KD) (PEGASYS) in combination with ribavirin: efficacy and safety results from a phase 111, randomised, double blind, multicentre study examining effect and duration of treatment and RBV dose' *European Association for the Study of the Liver (EASL) Meeting*

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