

## Pegylated Interferon and Ribavirin Therapy

Hepatitis C virus (HCV) infection is the most common chronic blood-borne infection in the United States, with an estimated 3.8 million persons exposed and 2.7 million persons chronically infected.

The incidence of new infections was greatest from the 1960s through the 1980s, peaking at around 250,000 new cases annually, and has now dropped to 30,000 to 40,000 new cases annually.

If symptoms do develop, they often are nonspecific (e.g., nausea, fatigue, vague abdominal discomfort).

About 10 to 20 percent of chronically infected persons progress to cirrhosis over an average of 20 years. Faster rates of progression are seen in persons who are infected at an older age, or who have modifying risk factors such as moderate or heavy alcohol consumption, human immunodeficiency virus (HIV), or other coexistent liver diseases.

### Dosing of Pegylated Interferon and Ribavirin

<i>Drug</i>	<i>Form</i>	<i>Recommended treatment regimen</i>
Pegylated interferon alfa-2b (PEG-Intron)	Pen injection system	1.5 mcg per kg subcutaneously once weekly
Pegylated interferon alfa-2a (Pegasys)	Prefilled syringe	180 mcg subcutaneously once weekly
Ribavirin (Rebetol)	Capsule	Viral genotype 1: Weight 75 kg (165 lb) or greater: three 200-mg capsules twice daily (total daily dose of 1,200 mg) Weight less than 75 kg: two 200-mg capsules every morning and three 200-mg capsules every evening (total daily dose of 1,000 mg) Viral genotypes 2 and 3: All weights: two 200 mg capsules twice daily (total daily dose of 800 mg)

### Side Effects of Treatment of HCV Infection with Pegylated Interferon and Ribavirin Therapy

<i>Side effect</i>	<i>Comments or initial management</i>
Alopecia	May worsen over the course of treatment but reverses after treatment.
Anorexia	Weight should be monitored throughout treatment; eating small, frequent meals and controlling nausea can help.
Cough	Not usually severe, but more serious side effects such as reduced pulmonary function and pneumonia or pneumonitis can occur and may need to be investigated.
Depression	Conduct baseline and routine assessments for depression.  Counseling and support groups can help; formal psychiatric consultation and use of antidepressants sometimes are necessary.
Erythema at injection site	Apply ice to skin before the injection; the injection site should not be massaged; rotate injection site.
Fatigue	Advise patient to continue a mild exercise routine when possible; strenuous activities and responsibilities should be avoided on the day after injection; may require cutting back on pretreatment activities.
Myalgia	Use OTC analgesics such as acetaminophen or NSAIDs to relieve myalgia; warm soaks, compresses, mild exercise, and mild massage may help.
Nausea	Advise patient to maintain adequate hydration, eat small, frequent meals, and avoid unpleasant sights, tastes, and smells; prescription antiemetics can be used if necessary.
Pruritus	Instruct patient to follow general practices for preventing dry skin; avoiding hot baths and showers may help; liver and renal function may need to be checked; the patient may need to be assessed for autoimmune skin conditions such as psoriasis; use of a mild steroid preparation may be required.

### Dosing Reductions for Pegylated Interferon and Ribavirin in Response to Treatment-

## Induced Hematologic Abnormalities\*

<i>Laboratory parameter</i>	<i>Criteria for dose reduction</i>	<i>Criteria for treatment discontinuation</i>
Hemoglobin (in patients with no cardiac history)	If hemoglobin drops below 10 g per dL (100 g per L): reduce ribavirin (Rebetol) dose by 200 to 400 mg per day	Hemoglobin less than 8.5 g per dL (85 g per L)
Hemoglobin (in patients with known cardiac history)	Any hemoglobin decrease greater than 2 g per dL (20 g per L) during any four-week period of treatment: reduce ribavirin dose by 200 to 400 mg per day and pegylated interferon (PEG-Intron) dose by 25 to 50 percent	Hemoglobin less than 12 g per dL (120 g per L) after four weeks on reduced dose
White blood cell count (WBC)	If WBC drops below 3000: reduce pegylated interferon dose 25 to 50 percent	WBC count less than 1000
Absolute neutrophil count	If neutrophils drop below 750: reduce pegylated interferon dose by 25 to 50 percent	Neutrophil count less than 500
Platelet count‡	If platelets drop below 50,000 to 80,000: reduce pegylated interferon dose by 25 to 50 percent‡	Platelet count less than 25,000 to 50,000 per $\mu\text{L}$ ( $25$ to $50 \times 10^3$ per L)†

