HEPATITIS C TREATMENT

KEY FACTS ABOUT HEPATITIS C VIRUS (HCV)

Hepatitis C is a liver disease caused by the hepatitis C virus.

The remaining 55%–85% will develop **chronic HCV infection**. The risk of cirrhosis in people with chronic HCV is 15%-30% over the course of 20 years

HCV is curable. The modern antiviral medicines can cure approximately in 95% of people living with HCV.

There is currently no vaccine for hepatitis C; however, **research** in this area **is ongoing**.

HCV is transmitted through blood.
The most common transmission routes include unsafe injection practice, use of non-sterile medical equipment, and transfusion of unscreened blood and blood products

When and in whom initiate HCV therapy

All people with HCV should receive antiviral therapy

Treatment is indicated

- People with significant fibrosis (F3) or cirrhosis (F4), including decompensated cirrhosis
- People with HCV/HIV coinfection
- People with HCV/HBV coinfection
- People awaiting liver transplantation
- People with HCV relapse after liver transplantation
- People with clinically significant extra-hepatic manifestations
- People at risk of transmitting HCV (active injection drug users, men who have sex with men with high-risk sexual practices, women of child-bearing age who wish to get pregnant, haemodialysis patients, incarcerated individuals)

Treatment is justified

- People with moderate fibrosis (F2)

Treatment should be provided when there is a possibility

People with no or mild disease (F0-F1) and none of the extrahepatic manifestations

ANTIVIRAL DRUGS FOR HCV TREATMENT

Direct-Acting Antivirals (DAAs)

Drug, INN (TN)	Product form	Dosage	Dosage and administration, adults**
Asunaprevir (Sunvepra)		100 mg	1 pill twice a day; used in combination with other drugs
Daclatasvir (Daklinza), generics available*		30 mg, 60 mg, 90 mg	1 pill 60 mg once a day or 2 pills 30 mg once a day; in combination with certain ARVs dosage correction is required; used in combination with other drugs
Ledipasvir/sofosbuvir (Harvoni), generics available		ledipasvir 90 mg, sofosbuvir 400 mg	1 pill once a day
Simeprevir (Olysio, Sovriad), generics available		150 mg	1 pill once a day; used in combination with other drugs
Sofosbuvir (Sovaldi), generics available		400 mg	1 pill once a day; used in combination with other drugs
Sofosbuvir/velpatasvir (Epclusa), generics available		sofosbuvir 400 mg, velpatasvir 100 mg	1 pill once a day
Ombitasvir/paritaprevir/ritonavir + dasabuvir (Viekira Pak)		ombitasvir 12.5 mg, paritaprevir 75 mg, ritonavir 50 mg, dasabuvir 250 mg	2 pills of ombitasvir/paritaprevir/ritonavir once a day + 1 pill of dasabuvir twice a day
Elbasvir/grazoprevir (Zepatier)		elbasvir 50 mg, grazoprevir 100 mg	1 pill once a day

First-Generation DAAs

Boceprevir (Victrelis)		200 mg	4 pills 3 times a day; no longer recommended
Telaprevir (Incivo)		375 mg	2 pills 3 times a day; no longer recommended

Other Drugs

Pegylated interferon alfa-2a (Pegasys), biosimilars available***		135 mcg, 180 mcg/0.5 mL in a pre-filled syringe	180 mcg per week; used in combination with other drugs
Pegylated interferon alfa-2b (PegIntron), biosimilars available		50 mcg, 80 mcg, 120 mcg, 150 mcg/0.5 mL in a pre-filled syringe	1.5 mcg/kg per week; used in combination with other drugs
Cepeginterferon alfa-2b (Algeron)		200 mcg/ml, solution	1.5 mcg/kg per week; used in combination with other drugs
Ribavirin (Rebetol, Copegus), generics available*		200 mg, 400 mg	weight-based; used in combination with other drugs

RECOMMENDED REGIMENS FOR THE TREATMENT OF PERSONS WITH CHRONIC HCV

Guidelines for the screening, care and treatment of persons with chronic hepatitis C infection, WHO, 2016

Recommended preferred regimens for the treatment of persons with or without cirrhosis

	Patients/ regimen	Daclatasvir/ sofosbuvir	Ledipasvir/ sofosbuvir	Sofosbuvir/ ribavirin	Daclatasvir/ sofosbuvir/ ribavirin	Ledipasvir/ sofosbuvir/ ribavirin
Genotype 1	Without cirrhosis	12 weeks	12 weeks [a]			
	With cirrhosis	24 weeks	24 weeks		12 weeks	12 weeks [b]
Genotype 2	Without cirrhosis			12 weeks		
	With cirrhosis			16 weeks		
Genotype 3	Without cirrhosis	12 weeks		24 weeks		
	With cirrhosis				24 weeks	
Genotype 4	Without cirrhosis	12 weeks	12 weeks			
	With cirrhosis	24 weeks	24 weeks		12 weeks	12 weeks [b]
Genotype 5	Without cirrhosis		12 weeks			
	With cirrhosis		24 weeks			12 weeks [b]
Genotype 6	Without cirrhosis		12 weeks			
	With cirrhosis		24 weeks			12 weeks[b]

Recommended alternative regimens for the treatment of persons with or without cirrhosis

	Patients/ regimen	Simeprevir/ sofosbuvir [2]	Daclatasvir/ sofosbuvir [1]	Ombitasvir/ paritaprevir/ ritonavir/ dasabuvir [2]	Ombitasvir/ paritaprevir/ ritonavir/ ribavirin [2]	Sofosbuvir/ pegylated interferon/ ribavirin [2]	Simeprevir/ sofosbuvir/ ribavirin [2]
Genotype 1	Without cirrhosis	12 weeks [c]		12 weeks [d]			
	With cirrhosis	24 weeks [c]		24 weeks [e]			
Genotype 2	Without cirrhosis		12 weeks				
	With cirrhosis		12 weeks				
Genotype 3	Without cirrhosis						
	With cirrhosis					12 weeks	
Genotype 4	Without cirrhosis	12 weeks			12 weeks		
	With cirrhosis	24 weeks			24 weeks		12 weeks
Genotype 5	Without cirrhosis					12 weeks	
	With cirrhosis					12 weeks	
Genotype 6	Without cirrhosis					12 weeks	
	With cirrhosis					12 weeks	

HCV AND HIV DRUGS INTERACTION

DAAs/ARV	3TC	ABC	ATV	D4T	DDI	DRV	DTG	EFV	ETV	FPV	FTC
Daclatasvir	●	●	■	●	●	●	●	■	■	■	●
Ombitasvir/ paritaprevir/ ritonavir/ dasabuvir	●	●	■	●	●	■	●	▲	▲	■	●
Simeprevir	●	●	▲	●	●	▲	●	▲	▲	▲	●
Sofosbuvir	●	●	●	●	●	●	●	●	●	●	●
Ledipasvir/sofosbuvir	●	●	●	●	●	●	●	■	●	●	●
Sofosbuvir/velpatasvir	●	●	●	●	●	●	●	▲	▲	●	●
Elbasvir/grazoprevir	●	●	▲	●	●	▲	●	▲	▲	▲	●

DAAs/ARV	LPV	MVC	NVP	RAL	RPV	RTV	SQV	TDF	TPV	ZDV
Daclatasvir	●	●	■	●	●	■	■	●	■	●
Ombitasvir/ paritaprevir/ ritonavir/ dasabuvir	▲	■	▲	●	■	▲	▲	●	▲	●
Simeprevir	▲	●	▲	●	●	▲	▲	●	▲	●
Sofosbuvir	●	●	●	●	●	●	●	●	▲	●
Ledipasvir/sofosbuvir	●	■	●	●	●	●	●	■	▲	●
Sofosbuvir/velpatasvir	●	●	▲	●	●	●	●	■	▲	●
Elbasvir/grazoprevir	▲	●	▲	●	●	▲	▲	●	▲	●

● no interaction expected ■ potential interaction ▲ do not coadminister

[a] Treatment may be shortened to 8 weeks in treatment-naive persons without cirrhosis if their baseline HCV RNA level is below 6 million (6.8 log) IU/mL. The duration of treatment should be shortened with caution.
[b] If the platelet count is <75 x 103/μL, then 24 weeks' treatment with ribavirin should be given
[c] If genotype 1a-infected patient is positive for Q80K variant, should not choose simeprevir/sofosbuvir regimen
[d] For genotype 1a-infected patient, treat with ombitasvir/paritaprevir/ritonavir/dasabuvir and ribavirin; for genotype 1b-infected patient treat with ombitasvir/paritaprevir/ritonavir/dasabuvir
[e] For genotype 1a-infected patients, treat with ombitasvir/paritaprevir/ritonavir/dasabuvir and ribavirin for 24 weeks; for genotype 1b-infected patients, treat with ombitasvir/paritaprevir/ritonavir/dasabuvir and ribavirin for 12 weeks

[1] Can be prescribed to persons with compensated or decompensated cirrhosis
[2] These regimens should be prescribed only to persons with compensated cirrhosis because they can cause liver failure and death when prescribed to persons with decompensated cirrhosis. Therefore, they should be used only in settings where specialized care is available and where the degree of cirrhosis (compensated vs decompensated) can accurately be assessed

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