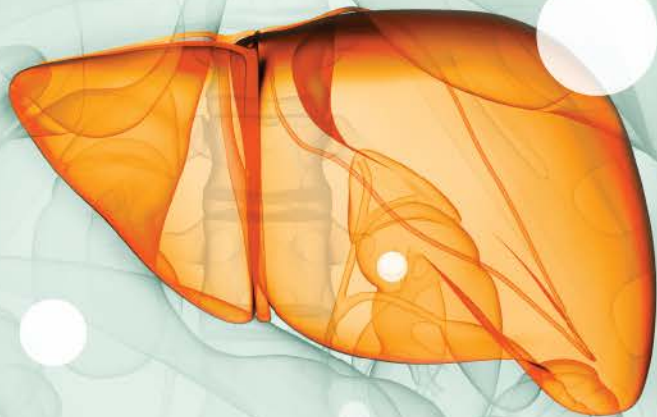


The Basics OF HEPATITIS C

認識 丙型肝炎

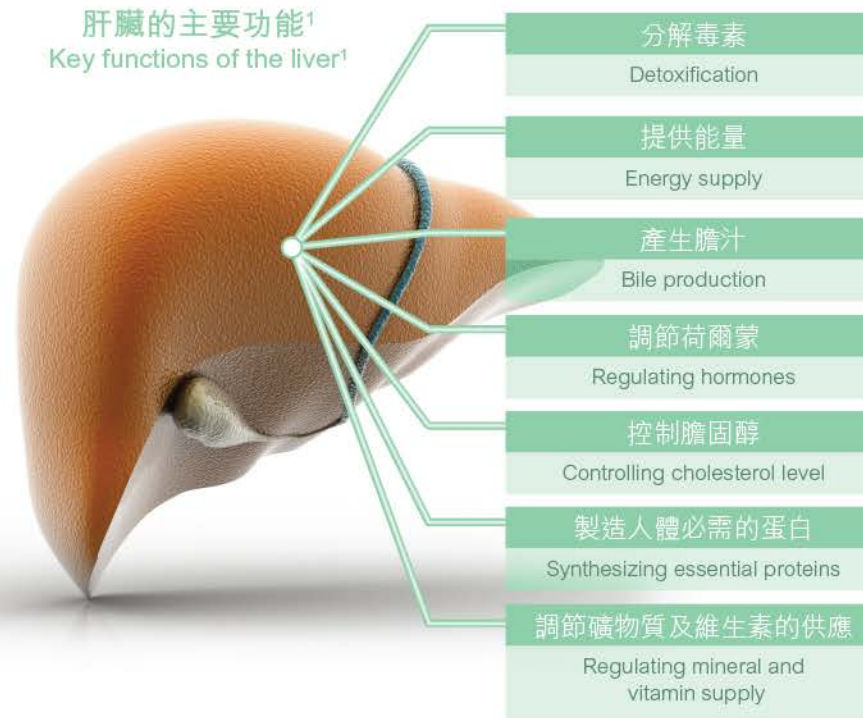


肝臟的重要性 The importance of liver

肝臟是身體內一個非常重要的器官，負責超過500種的工作。它能協助身體排除毒素、調節營養供應及製造重要蛋白等¹。一般肝病初期症狀並不明顯，患者往往在病情惡化時才感到不適（如疲累、食慾不振及體重下降）^{2,3}。因此，定期檢查和及早治療肝病是十分重要的。

Every day, the liver handles over 500 different vital functions to sustain our lives¹. Some of the key functions include detoxification, regulating nutrient supply and synthesizing essential body proteins. When it is damaged, there are no obvious signs or symptoms until it becomes fairly advanced. At this stage, patients may experience fatigue, loss of appetite and weight loss^{2,3}. Therefore, early screening and treatment are essential to prevent liver damage.

肝臟的主要功能¹ Key functions of the liver¹



丙型肝炎（簡稱丙肝）是什麼？ What is hepatitis C?

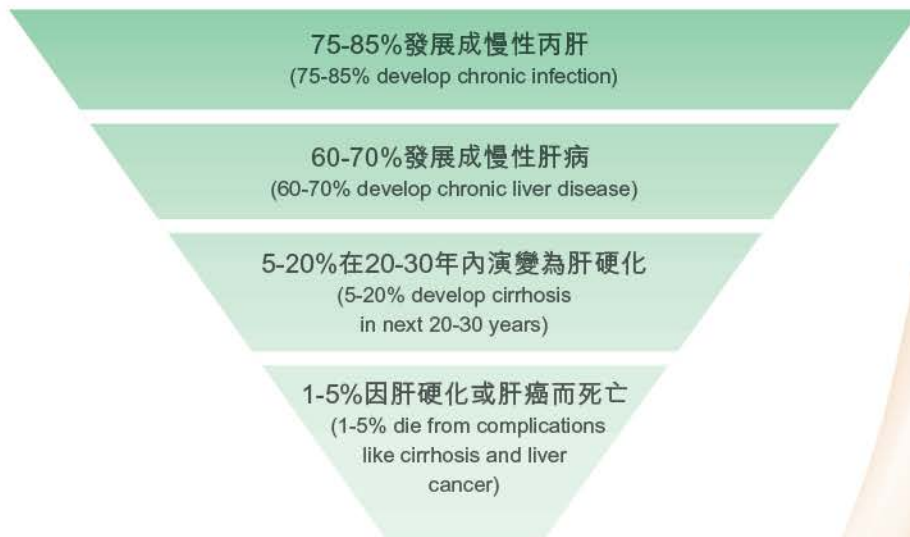
丙肝是由丙肝病毒造成的肝臟損害，潛伏期由兩週到六個月不等⁴。由於丙肝較其他的病毒性肝炎更有可能（80%）演變成慢性肝炎，加上大部分患者都沒有明顯症狀，可能在肝臟嚴重受損才發現病情的嚴重性，因此說丙肝是一個「隱形殺手」是很正確的^{5,6}。

丙肝依照病毒基因最少可分為1至6型，當中1型丙肝較2型及3型更難治癒⁷。要注意的是，丙肝可以導致肝硬化（結痂）、肝衰竭，甚至肝癌等併發症⁸。因此，及早的診斷及治療對減少併發症的出現尤其重要⁹。

Hepatitis C is a liver disease caused by the hepatitis C virus⁴. The incubation period ranges from 2 weeks to 6 months⁴. Compared to other forms of viral hepatitis, hepatitis C often goes unnoticed and develops into chronic disease (80% cases), posing a severe threat to liver health^{5,6}.

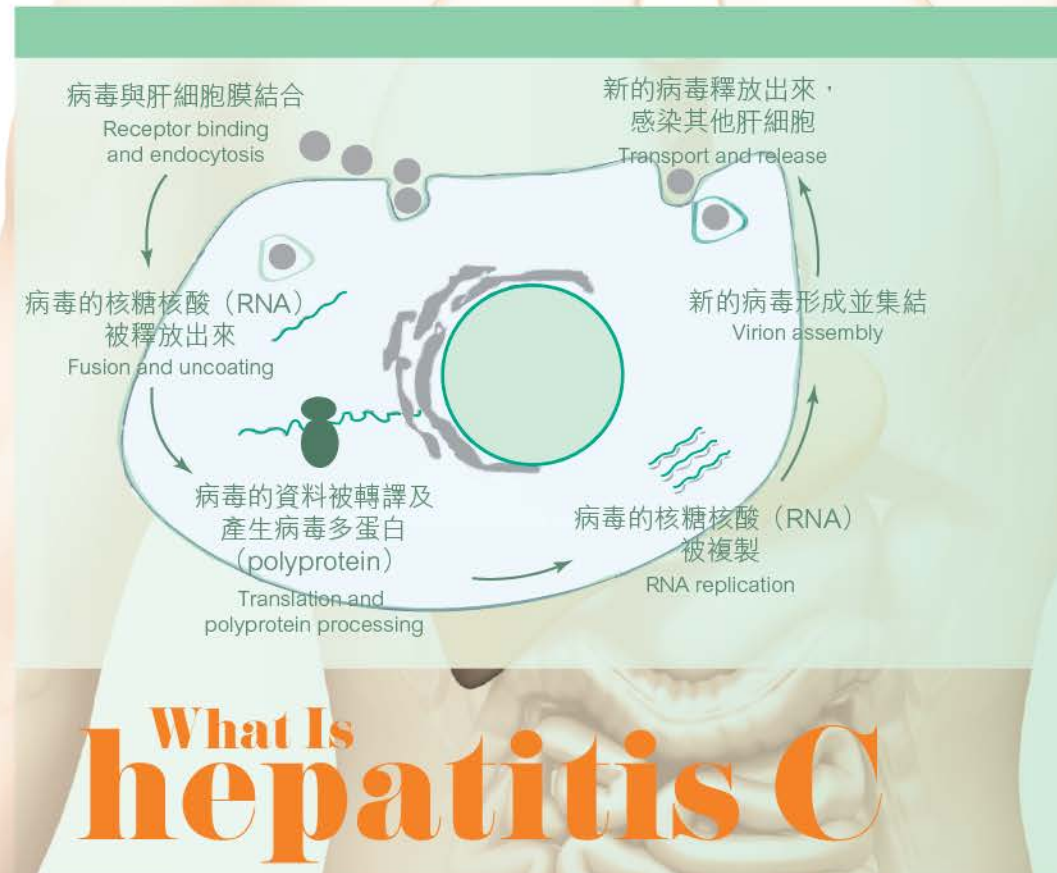
Hepatitis C can be classified into at least 6 different genotypes, with genotypes 2 and 3 having a better prognosis over genotype 1⁷. Over time, it may lead to complications including cirrhosis (scarring of liver), liver failure and liver cancer⁸. Early diagnosis and treatment help to limit disease progression and its complications⁹.

丙肝的併發症 (Complications of hepatitis C)¹⁰



以下為丙肝病毒攻擊肝臟的主要途徑^{11,12}：

The following diagram shows how hepatitis C virus attacks the liver^{11,12}:



香港的丙肝情況 Prevalence of hepatitis C in Hong Kong

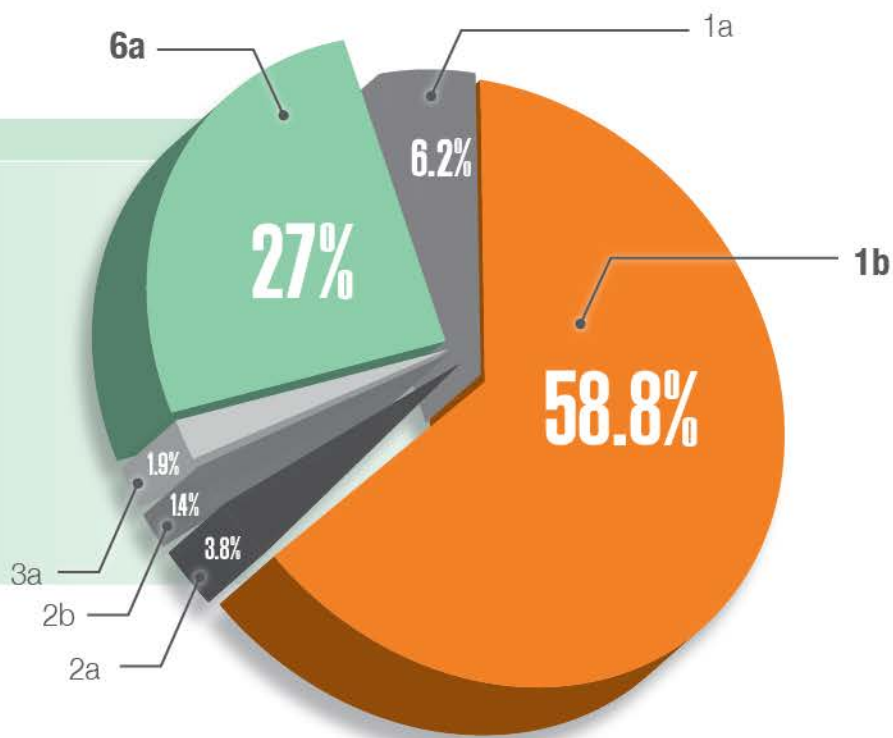
整體來說，香港只有0.3%人口患有丙肝，較乙型肝炎為低¹³。患者以男性為主，通常在48歲左右確診，患者主要是需要洗腎、曾接受輸血及吸毒人士¹³。

另外，本地的丙肝類型以1b及6a型為主，與西方國家的分佈情況不同¹³。因此，治療方案亦需作出調整¹⁴。

In Hong Kong, the prevalence of hepatitis C is estimated to be 0.3% (lower compared to hepatitis B) and is more commonly found in men and the middle-aged group¹³. A higher prevalence is also found in patients who require dialysis, blood transfusions or are drug abusers¹³.

The majority of hepatitis C cases are of genotypes 1b and 6a, which is deviated from common genotypes in Western countries¹³, necessitating a different treatment approach¹⁴.

本地的丙肝類型分佈情況 (Local hepatitis C genotype distribution)¹⁵



丙肝的傳染途徑 Routes of transmission

丙肝是一種透過血液傳播的疾病，以下為一些常見的感染原因^{4,8}：

- 共用針筒注射藥物
- 共用個人物品（如牙刷及剃鬚刀）
- 使用未經徹底消毒的醫療儀器
- 接觸到丙肝患者的血液
- 紋身及身體穿環（如鼻環）
- 不安全性行為

在現時的醫療體制下，因輸血引致的新案例已十分罕見^{4,8}。此外，丙肝並不會透過日常接觸（如擁抱及親吻）、共同進餐及哺乳傳播，患者可以如常生活及工作⁴。



Hepatitis C is a blood-borne disease, it is commonly transmitted through^{4,8}:

- Sharing needles
- Sharing personal accessories (e.g. toothbrushes, razors)
- Exposure to inadequately sterilized medical equipment
- Contact with infected blood
- Tattooing and body piercing procedures (e.g. nose piercing)
- Unprotected sex

Nowadays, transfusion-related infections are extremely rare due to universal blood donor testing^{4,8}. In addition, hepatitis C cannot be transmitted through breast milk, casual contact (e.g. hugging and kissing) or sharing food and drinks, therefore, disease carriers can carry out their work and activities as normal⁴.

預防丙肝的措施 Preventive measures

現時沒有疫苗可以預防丙肝，但我們可以在生活上多加注意，以減少受到感染的機會⁴：

- 避免共用個人物品（如牙刷及剃鬚刀）
- 避免進行紋身、穿環等高危活動
- 注意個人衛生（如勤洗手）
- 小心處理尖銳物品（如針筒）、血液及廢棄物
- 使用安全套，進行安全性行為
- 使用已消毒的針筒注射藥物

如您為丙肝患者，應告知您的醫護人員，尋求專業意見⁴。此外，您需要接受抗病毒藥物治療及預防其他病毒性肝炎的疫苗，以保障自己及他人的健康⁴。

Currently, there is no vaccination against hepatitis C, but the risk can be reduced by the following methods⁴:

- Avoid sharing personal accessories (e.g. toothbrushes, razors)
- Avoid high risk activities (e.g. tattooing, body piercing)
- Good personal hygiene (e.g. hand washing)
- Safe handling and disposal of sharps, blood and waste
- Use a condom while having sex
- Use sterile syringes for injections

If you are infected with hepatitis C virus, please seek advice from healthcare professionals⁴. Besides early antiviral treatment, you should also be vaccinated against hepatitis A and B for further protection⁴.

您是高危一族嗎？ Are you at risk?

以下人士感染丙肝的風險較高^{4,8}：

- 在1945至1975年出生或1992年前接受過輸血
- 曾居住在丙肝流行的地方，包括歐洲東部及南部、中東及南亞等國家
- 吸毒人士
- 曾進行紋身或身體穿環（如鼻環）
- 母親為丙肝患者
- 性伴侶為丙肝患者
- 愛滋病毒感染者
- 曾在醫療衛生較差的環境下接受輸血或入侵性手術

There is increased risk of infection for people who^{4,8}:

- Were born between 1945 and 1975 or were recipients of blood transfusions before 1992
- Lived in high-prevalent countries, including the Middle East, South Asia, Eastern and Southern Europe
- Abuse drugs
- Tried tattooing or body piercing (e.g. nose piercing)
- Were born to an infected mother
- Have an infected sex partner
- Are infected with HIV
- Received blood products or underwent invasive procedures without adequate infection-control measures

RISK





Screening and diagnosis

丙肝 的檢查及診斷

丙肝的症狀 Symptoms

丙肝的潛伏期由兩週到六個月不等⁴。在感染初期，大部分（80%）患者沒有任何不適，而少數人士會出現紅疹及關節痛的問題^{4,8}。如果肝臟明顯受損，患者會出現以下症狀^{4,8}：

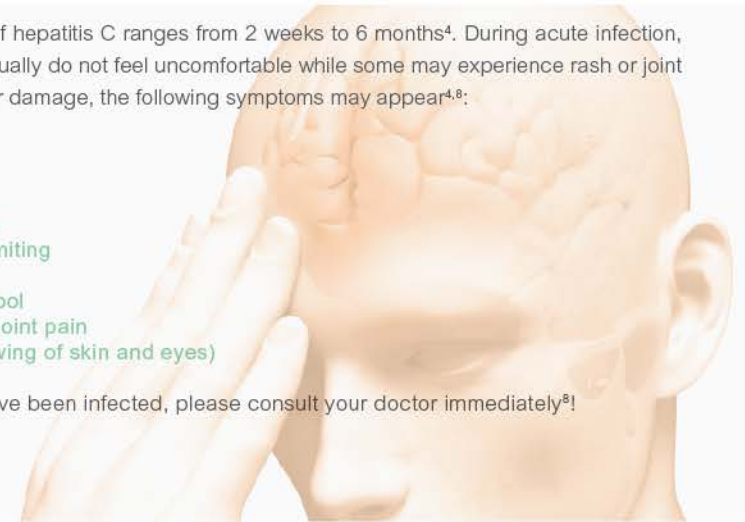
- 發燒
- 疲累
- 食慾不振
- 噁心及嘔吐
- 小便顏色變深
- 大便顏色變淺
- 腹部及關節脹痛
- 黃疸症（皮膚及眼白發黃）

若您懷疑自己受感染或曾接觸丙肝病毒，應及早求醫⁸！

The incubation period of hepatitis C ranges from 2 weeks to 6 months⁴. During acute infection, most patients (80%) actually do not feel uncomfortable while some may experience rash or joint pain^{4,8}. In cases of liver damage, the following symptoms may appear^{4,8}:

- Fever
- Fatigue
- Loss of appetite
- Nausea and vomiting
- Dark urine
- Grey-colored stool
- Abdominal and joint pain
- Jaundice (yellowing of skin and eyes)

If you think you may have been infected, please consult your doctor immediately⁸!



及早檢查的重要性 The role of early screening

無論在急性或慢性期，丙肝患者均沒有特別症狀，容易錯失治療良機⁴。不少患者往往在數十年後，肝臟嚴重受損時才求醫及確診，令人嘆息⁴。事實上，每四名慢性丙肝患者就有一名會發展成肝硬化、肝衰竭及肝癌等併發症，而丙肝亦是引致肝臟移植的主因⁸。

Since hepatitis C is asymptomatic, it is often undiagnosed until decades later when the liver is severely damaged⁴. In fact, 1 in 4 patients with chronic hepatitis C will develop complications such as cirrhosis, liver failure or liver cancer, leading to the majority of liver transplant cases⁸.

及早檢查對患者的好處包括^{4,8}：

Early screening helps to identify patients and serves to^{4,8}:

- 評估肝臟受損的程度
- 為丙肝病毒進行分類，調整治療方案
- 提高治癒率
- 減少併發症及病毒傳染
- Assess the degree of liver damage
- Determine viral genotype to guide treatment
- Increase treatment success rate
- Reduce complications and viral transmission



您應該檢查丙肝嗎？ Do you need screening?

以下指引能協助您決定是否需要接受丙肝檢查^{4,16}：

Below are some screening criteria^{4,16}:

建議接受檢查 Screening recommended :

- 肝酵素持續上升 Persistently elevated liver enzymes
- 使用針筒的吸毒人士 Injection drug users
- 曾接受過丙肝患者的輸血或器官移植 Received blood transfusion or organ transplant from an infected person
- 曾在醫療衛生較差的環境下接受輸血或入侵性手術 Received blood products or underwent invasive procedures without adequate infection-control measures
- 在1992年前接受過輸血 Received blood products before 1992
- 愛滋病毒感染者 HIV-infected patients
- 長期接受洗血的病人 Patients on long-term haemodialysis
- 已知的高風險丙肝病毒接觸（如傷口碰到患者血液）
High-risk exposure to hepatitis C virus, like contact with infected blood

因應情況而接受檢查 Screening may be performed :

- 曾接受紋身或穿環 Tried tattooing or body piercing
- 曾接受組織移植（如角膜及皮膚移植） Received tissue transplant, like corneal and skin transplant
- 曾患有性病或多於一個性伴侶 People with multiple sex partners or sexually transmitted diseases
- 丙肝患者的長期穩定性伴侶 Long-term sex partner with an infected person
- 非使用針筒的吸毒人士 Non-injecting drug users

丙肝是如何診斷出來？ How is hepatitis C diagnosed?

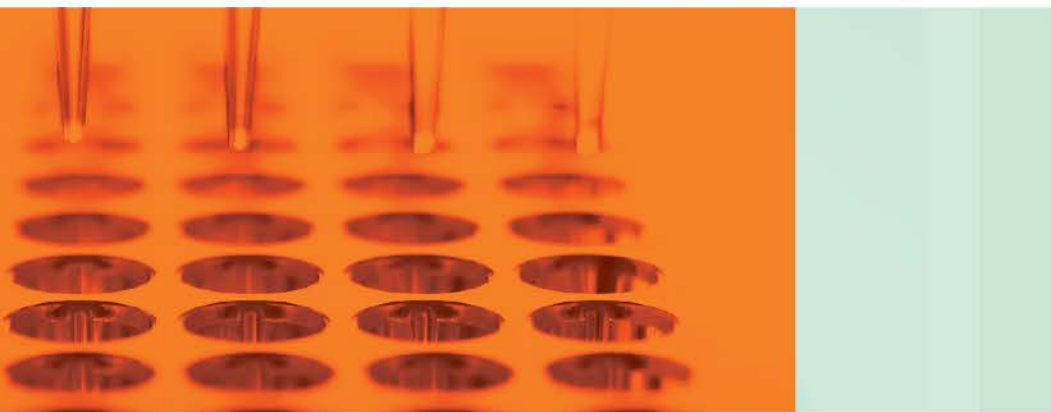
丙肝的診斷分為兩個步驟⁴：
Hepatitis C is diagnosed by a 2-step approach⁴:

1. 丙肝病毒抗體 (Anti-HCV antibody)
透過血清檢驗丙肝病毒抗體，以決定您是否受到感染
2. 丙肝病毒核糖核酸 (HCV RNA)
透過檢測丙肝病毒核糖核酸，可確認患者是否自行痊癒或發展成慢性丙肝

在確診後，患者亦會進行多個評估，包括：其他潛在的肝病風險（如乙型肝炎、長期飲酒或正服用肝毒性藥物）、肝臟受損程度、丙肝病毒分類及患者基因測試等¹⁴。這些評估有助醫生選擇最佳的療法¹⁴。

1. Anti-HCV antibody
A blood sample is screened for this antibody to confirm an infected person
2. HCV RNA
This is to check whether the patient has healed spontaneously or developed into chronic infection

After a definitive diagnosis, additional tests are needed to be performed to provide an overall disease analysis. Other potential risks to the liver (e.g. hepatitis B, alcohol use or drug-induced liver damage), liver disease severity, genetic testing and viral genotyping can help doctors to optimize treatment for individual persons¹⁴.



如何解讀測試結果？ How should test results be interpreted?

根據丙肝測試結果，醫護人員會為您採取適當的行動^{14,17}：
The test results will determine whether follow-up actions are needed^{14,17}:

丙肝病毒抗體 Anti-HCV antibody	丙肝病毒核糖核酸 HCV RNA	定義 Interpretation	需接受治療嗎？ Treatment needed?
陽性 (+)	+	正患有丙肝 Current infection	✓
	-	曾感染丙肝， 但已康復 Previously infected but recovered	✗
陰性 (-)	+	懷疑新感染個案 Suspected recent infection	未知， 需待進一步檢查 Uncertain, further testing needed
	-	未受感染 Not infected	✗

註：以上列表只供參考，醫護人員亦會根據實際情況（如病毒接觸史及臨床症狀）為您進行準確的診斷¹⁷。

Note: The above information is for reference only. Your doctor may also consider factors like clinical condition and viral exposure history to make a more accurate diagnosis¹⁷.

Things to know

BEFORE TREATMENT

治療丙肝前 的須知

治療的目標 Treatment goals

若感染急性丙型肝炎後發展為慢性肝炎，患者便必須及早接受治療；目標是達致以下幾點¹⁸：

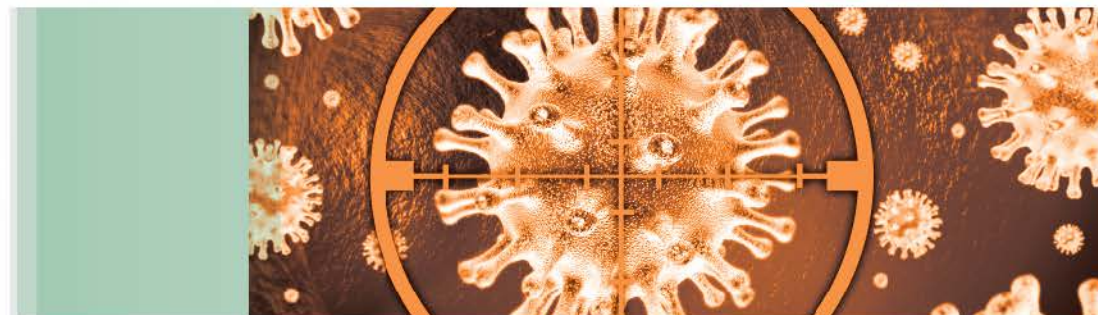
- 1) 永久地清除體內的病毒
- 2) 減少肝臟的損害
- 3) 減少將來罹患併發症（如肝硬化及肝癌等）的風險

而在情況較嚴重的病人，藥物治療亦能降低肝硬化代償失調的機會、改善肝功能、增加存活率及預防肝臟移植後感染的機會¹⁴。

Treatment is indicated for patients with chronic hepatitis C, which aims to¹⁸:

- 1) Permanently remove the virus from the blood
- 2) Minimize liver damage
- 3) Reduce the risk of complications (e.g. cirrhosis and liver cancer)

In severe cases (e.g. cirrhotic patients), treatment can also help to reduce the rate of decompensation, improve liver function, prolong survival and reduce post-transplant infection¹⁴.



治療的考慮因素 Treatment considerations

醫生會考慮以下因素來選擇藥物及決定療程時間¹⁴：
The following factors will affect treatment choice and duration¹⁴:

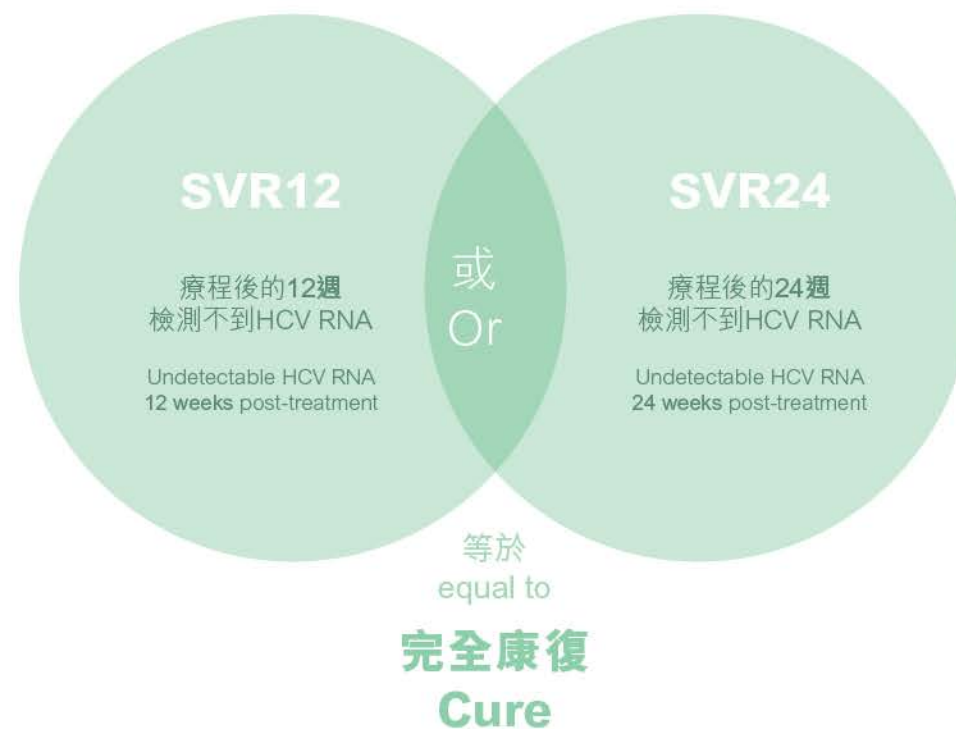
- 丙肝的類型
 - 病毒的抗藥性
 - 有否服用過相同的丙肝藥物
 - 肝硬化的程度
 - 藥物的副作用
 - 患者的其他疾病（如乙型肝炎及愛滋病病毒感染等）
 - 正在懷孕或計劃生育兒女
-
- Hepatitis C virus genotype
 - Viral drug resistance
 - Previous treatment history
 - Degree of cirrhosis
 - Side effect profile of regimen
 - Concurrent diseases (e.g. hepatitis B, HIV)
 - Pregnancy or trying to conceive



療效的指標 Indicators of treatment response

在接受療程後，患者會被安排定期檢測體內丙肝病毒核糖核酸（HCV RNA）的水平，以評估療效¹⁴。而在療程後的12週或24週，患者體內仍檢測不到丙肝病毒核糖核酸（HCV RNA）的話，這個狀態稱為「持續病毒反應」（SVR），表示患者已完全康復，準確度達99%¹⁴。

During treatment, HCV RNA levels are regularly monitored to see if the treatment is working well¹⁴. A **sustained virologic response (SVR)**, defined as undetectable HCV RNA level at 12 or 24 weeks after treatment, is the standard marker of hepatitis C cure (99% accuracy)¹⁴.



Direct-acting Antiviral Agents:

A NEW ERA OF
HEPATITIS C TREATMENT

新一代丙肝治療：
直接作用抗病毒藥物

現有的丙肝藥物 Current treatment options

近年，直接作用抗病毒藥物的出現為丙肝治療帶來重大突破¹²。現時，丙肝藥物已擴展成六大類，詳情如下^{12,14}：

The recent approvals of direct-acting antiviral agents represent a major breakthrough, and has extended hepatitis C treatment into 6 drug classes^{12,14}:

藥物類別 Drug class	例子 Example(s)	作用機理 Mechanism of actions	
干擾素 Interferon	聚乙二醇干 擾素 α -2b Peginterferon α -2b	誘導自身免疫反應，以抑制 病毒複製 Induces immune responses to inhibit viral replication	傳統藥物 Traditional medications
利巴韋林 Ribavirin	-	未明；減少病毒複製 Not clear; inhibits viral replication	
蛋白酶抑制劑 Protease inhibitor	博賽普韋 Boceprevir、 帕利普韋 Paritaprevir	抑制病毒NS3/NS4蛋白酶，減 少新病毒形成 Inhibits viral NS3/NS4 serine protease, thus reducing new virions production	直接作用 抗病毒藥物 Direct-acting antivirals
NS5A抑制劑 NS5A inhibitor	雷迪帕韋 Ledipasvir、 奧比他韋 Ombitasvir	抑制NS5A多功能蛋白，減少病 毒複製 Inhibits a multifunctional NS5A protein, reducing viral replication	
NS5B 聚合酶非核苷 類抑制劑 Non-nucleoside NS5B polymerase inhibitor	達沙布韋 Dasabuvir	透過異位抑制聚合酶的活性， 減少病毒複製 Allosterically inhibits polymerase activity, reducing viral replication	
NS5B 聚合酶核苷酸 類抑制劑 Nucleotide NS5B polymerase inhibitor	索非布韋 Sofosbuvir	直接抑制聚合酶的活性，減少 病毒複製 Directly inhibits polymerase activity, reducing viral replication	

註：部分療法需配合利托那韋 (ritonavir) 同時使用
Note: Some of the regimens require co-administration of ritonavir

直接作用抗病毒藥物是什麼？ What are direct-acting antiviral agents?

在過去，干擾素（interferon）及利巴韋林（ribavirin）是治療丙肝的主要藥物¹⁴。可是，它們未能針對病毒的特性，治癒率偏低（40%）並伴隨較多的副作用，未必適合所有患者使用^{14,19}。

自2011年起直接作用抗病毒藥物出現，這一種藥物能針對病毒生長週期的每個步驟發揮作用，在丙肝的治療上立下重要的里程碑^{14,19}。這類藥物的好處包括：口服、副作用較干擾素少、療程較短（由24-48週縮減至12-24週）及大幅提升治癒率（>90%）^{14,20}。此外，它們適合更多類型的患者使用¹⁴。

In the past, interferon and ribavirin formed the core of hepatitis C therapy¹⁴. However, they have several disadvantages, including non-specific mechanisms of actions, low cure rate (40%), high rates of side effects and numerous contraindications^{14,19}.

Since 2011, direct-acting antiviral agents which target different steps of the viral life cycle have become available^{14,19}. Compared with interferon-based therapies, they offer benefits such as all-oral therapy, fewer side effects, shorter treatment duration (shortened from 24-48 weeks to 12-24 weeks) and a much higher cure rate (>90%)^{14,20}. Besides, they can be widely used in different populations with little or no absolute contraindications¹⁴.

Higher

CURE RATE

提升

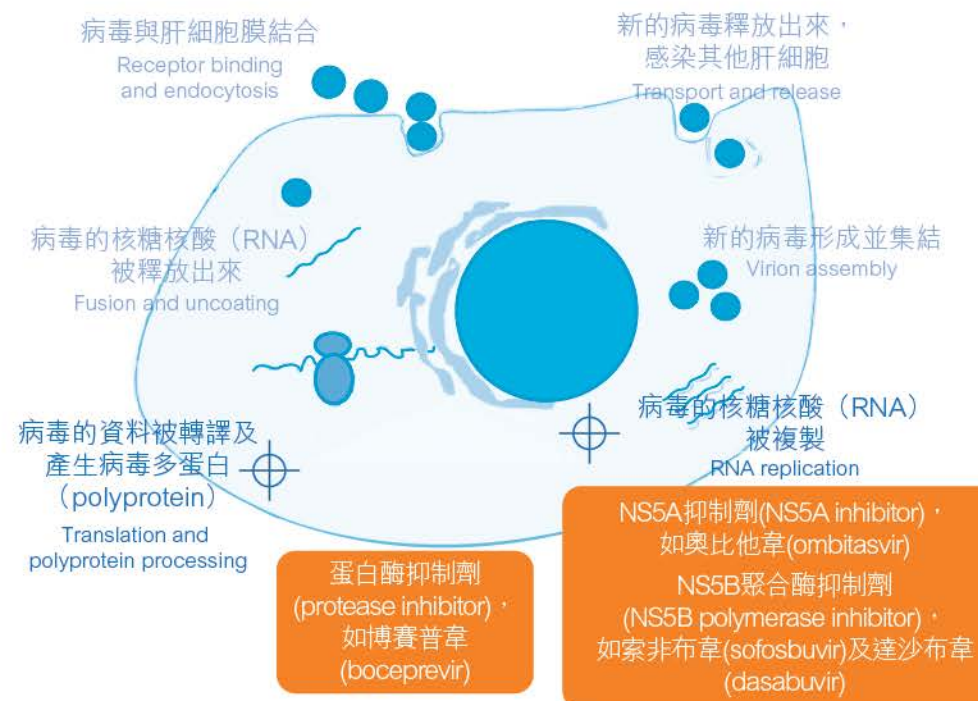
治癒率

>90%

作用機理 Mechanisms of actions

直接作用抗病毒藥物針對丙肝病毒的生長週期發揮效果，如下圖所示¹²：

Direct-acting antiviral agents work by targeting different stages of viral life cycle, as shown below¹²:



選擇直接作用抗病毒藥物的要點 Choosing a direct-acting antiviral agent

最理想的丙肝藥物應具備以下條件²¹：

Ideally, a direct-acting antiviral agent should possess the following properties²¹:

- 1 高抗病毒效力
- 2 廣譜性效力（能對抗不同類型的丙肝病毒）
- 3 較少抗藥性的問題
- 4 較少副作用
- 5 療程較短
- 6 方便服用（如每天只需一次，每次一粒）
- 7 較少藥物相沖的問題

- 1 High potency
- 2 Pan-genotypic efficacy
- 3 Good resistance profile (high resistance barrier)
- 4 Fewer side effects
- 5 Shorter treatment duration
- 6 Ease of administration (e.g. low pill burden, once-daily dosing)
- 7 Low potential for drug-drug interaction

以下為不同類型直接作用抗病毒藥物的主要特性²¹：

A summary of properties of different direct-acting antiviral agent is provided below²¹:

	抗病毒效力 Efficacy	廣譜性效力 Pan-genotypic activity	抗藥性屏障 Barrier for resistance	藥物安全性 Side effect profile	較少藥物相沖的特性 Drug-drug interaction profile
蛋白酶抑制劑 Protease inhibitor	✗	✗	✗	✗	✗
NS5A抑制劑 NS5A inhibitor	✓	✗	✗	✗	✗
NS5B聚合酶非核苷類抑制劑 Non-nucleoside NS5B polymerase inhibitor	✗	✗	✗	✗	✗
NS5B聚合酶核苷酸類抑制劑 Nucleotide NS5B polymerase inhibitor	✓	✓	✓	✓	✓

40 註：✓ 良好 ✗ 一般 ✗ 較差 NOTE: ✓ Good ✗ Moderate ✗ Less favorable

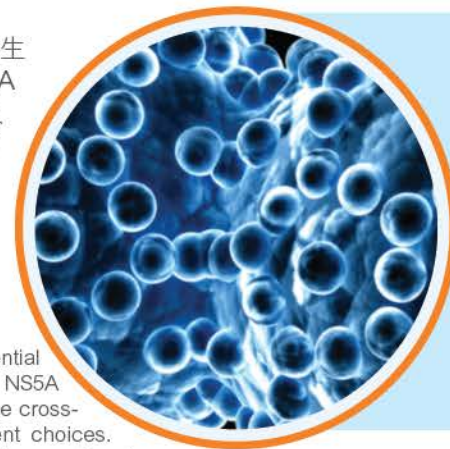
治療成功的要訣 Key factors for successful treatment

除了選用高效能的抗病毒藥物外，其他因素亦會影響療效^{14,22,23}：

Treatment success depends on the antiviral potency and the factors below^{14,22,23}:

1 病毒的抗藥性基因異變

丙肝病毒因其快速複製的特性，容易產生抗藥性（特別是對NS5A抑制劑[NS5A inhibitor]）。除了影響療效外，亦會因交叉抗藥性降低其他藥物的效果，限制治療選擇，而這個問題可以透過使用NS5B聚合酶核苷酸類抑制劑（nucleotide NS5B polymerase inhibitor）及聯合治療（同時使用兩種或以上的藥物）解決。



1 Viral resistance mutations

Hepatitis C virus replicates quickly and has a high potential for drug resistance development (especially for NS5A inhibitors). This will affect treatment success, and pose cross-resistance problems and ultimately limit the treatment choices. Choosing a nucleotide NS5B polymerase inhibitor and using combination therapies are some possible solutions.

2 患者服藥依從性

準時服藥能提高治癒率及防止病毒出現抗藥性。除了使用藥盒及鬧鐘外，現時已有每日只需口服一次的丙肝藥物，十分方便。

2 Compliance with medications

Hepatitis C medications should be taken on time to increase the likelihood of treatment success and minimize drug resistance development. Besides using pill box and alarm, choosing a convenient once-daily regimen is another alternative.



索非布韋：現代治療的基礎 Sofosbuvir: The current backbone of treatment

索非布韋 (sofosbuvir) 為首款NS5B聚合酶核苷酸類抑制劑 (nucleotide NS5B polymerase inhibitor)，是現今丙肝療法的**骨架藥物**¹⁴。它適用於**所有類型的丙肝**，配合其他丙肝藥物發揮顯著療效¹⁴。

Sofosbuvir is the first nucleotide NS5B polymerase inhibitor, and forms the **backbone** of today's hepatitis C treatment¹⁴. It can be used in **all genotypes** of hepatitis C infection, and achieves excellent cure rates in combination with other agents¹⁴.

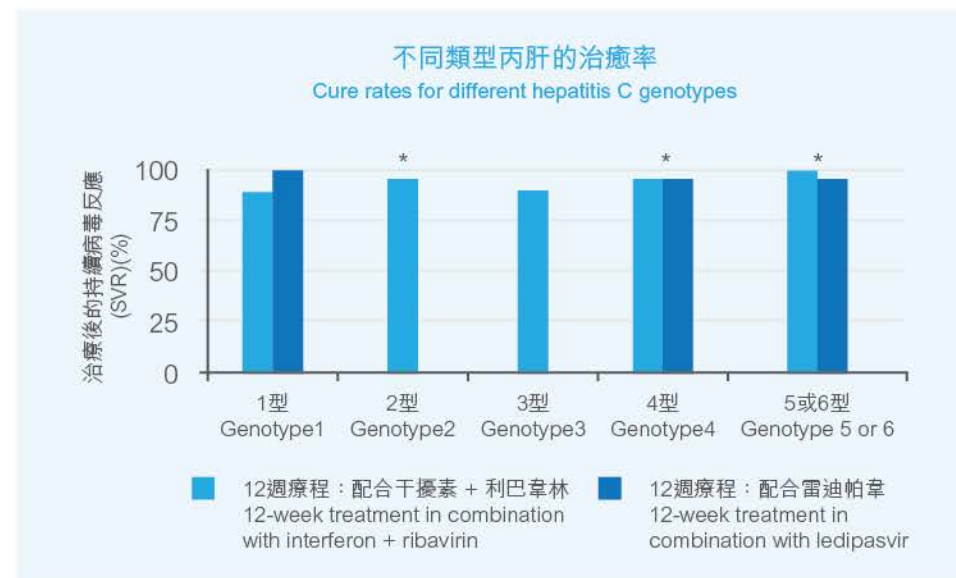
它的優點包括^{14,24}：
Its main advantages include^{14,24}:



卓越的抗病毒效力 Superior antiviral efficacy

索非布韋 (sofosbuvir) 能與不同藥物組合，治療所有類型的丙肝，並為首次接受治療的患者提供普遍**90%或以上治癒率**¹⁴：

Sofosbuvir can be combined with other medications to treat all hepatitis C genotypes, providing **≥90% cure rates** in the majority of treatment-naïve patients¹⁴:



註：以上為首次接受治療的患者治癒率 (*包含部分曾接受治療但失敗的患者)。現時，索非布韋 + 雷迪帕韋組合藥片暫未在本港註冊用作3至6型丙肝的治療。

Note: The data above represent cure rates in treatment-naïve patients (*includes some treatment-experienced patients). Currently, sofosbuvir + ledipasvir combination pill is not registered for treating hepatitis C genotypes 3 to 6 in Hong Kong.

較少抗藥性問題 Excellent resistance profile

索非布韋 (sofosbuvir) 具獨特的作用機理，大大減低病毒出現抗藥性的機會²⁴。即使病毒出現抗藥性，問題亦非常短暫，患者仍可繼續服用索非布韋 (sofosbuvir) 及透過調整其他藥物達致100%治癒率²⁴。

Due to its unique mechanism of actions, sofosbuvir is unlikely to have drug resistance problem²⁴. When drug resistance occurs, it is usually short-term and patients can still continue sofosbuvir treatment with slight regimen modifications to achieve 100% cure rate²⁴.



適合不同患者使用 Broad usage in different patient groups

索非布韋 (sofosbuvir) 較少出現藥物相沖，適合正同時服用其他藥物的患者使用²⁴。至今，索非布韋 (sofosbuvir) 已被廣泛證實在不同病人群組（如同時患有愛滋病病毒感染、末期肝硬化及移植後丙肝復發等）都可安全地使用²⁴。

Sofosbuvir has low potential for drug-drug interaction, allowing easier use in patients taking other medications²⁴. The safety and efficacy of sofosbuvir have been proven in different populations including those with HIV, advanced cirrhosis and post-transplant recurrence²⁴.

服用索非布韋 (sofosbuvir) 的注意事項²⁵ How to take sofosbuvir²⁵



- 服用方法：每日一次，每次一粒（每日同一時間，可空腹或跟餐服用）
- 療程時間：一般為12週，因應患者情況有所不同
- 如果您正服用其他藥物或保健品（包括草藥及維他命等），應告知您的醫生
- 如果您正在懷孕或哺乳，或計劃生育兒女，應通知您的醫生

- Dosage: **One tablet to be taken once daily** (at the same time every day, with or without food)
- Duration: typically 12 weeks (may vary in individual cases)
- If you are taking other medications or supplements (e.g. herbals and vitamins), please inform your doctor
- If you are pregnant, breastfeeding or trying to conceive, please inform your doctor

索非布韋 + 雷迪帕韋 Sofosbuvir + ledipasvir

這是全球首款能單獨使用、每日一粒的1型丙肝口服組合藥物^{14,26}。它含有索非布韋 (sofosbuvir) 及雷迪帕韋 (ledipasvir) 兩種活性成分，透過雙重功效消滅病毒²⁶。

除了擁有索非布韋 (sofosbuvir) 的優點 (見上一章)，加入雷迪帕韋 (ledipasvir) 更有助消滅部份已出現抗藥性的病毒，部分患者只需8週的療程就能治癒²⁶。

This is the first available single-tablet, once-daily regimen for hepatitis C genotype 1 infection^{14,26}. It contains sofosbuvir and ledipasvir as the active ingredients, exerting dual antiviral activity²⁶.

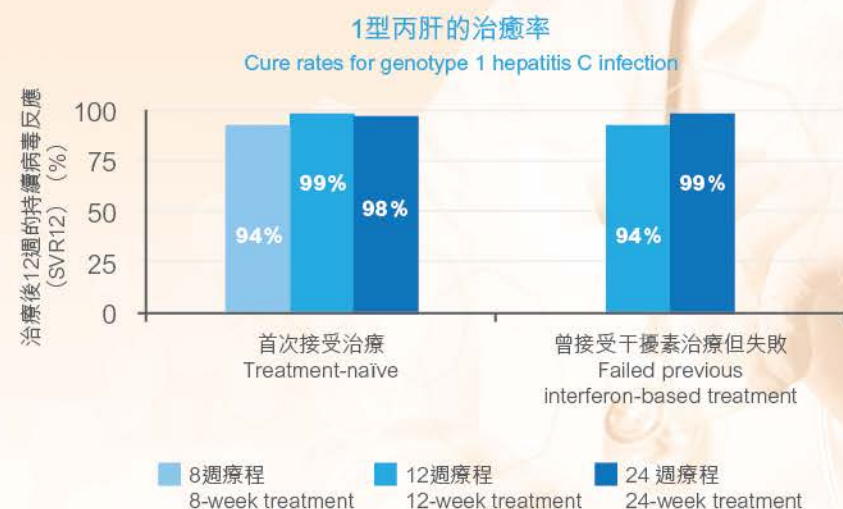
Besides having the advantages of sofosbuvir (see previous chapter), the addition of ledipasvir further enhances its efficacy against drug-resistant virus and in some cases, patients can be cured with only 8 weeks of treatment²⁶.



可靠的抗病毒效力 Promising antiviral efficacy

在1型丙肝患者中，每日一次索非布韋 (sofosbuvir) + 雷迪帕韋 (ledipasvir) 普遍能達到約96%的治癒率²⁶：

In genotype 1 hepatitis C infection, once-daily sofosbuvir + ledipasvir generally cures 96% patients²⁶:



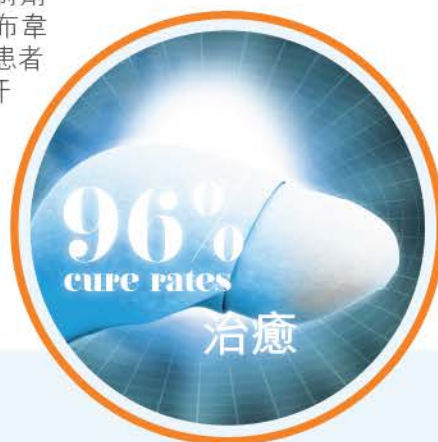
註：8週療程只適合病情較輕且首次接受治療的患者

Note: 8-week treatment regimen is only suitable for treatment-naïve patients with mild infection.

高效治癒丙肝頑症 Effective in difficult-to-treat populations

即使病毒對雷迪帕韋 (ledipasvir) 等NS5A抑制劑 (NS5A inhibitor) 產生抗藥性，服用索非布韋 (sofosbuvir) + 雷迪帕韋 (ledipasvir) 的患者仍能達到89-96%的治癒率²⁶。此外，即使在肝纖維化較嚴重的患者，這個療法仍能維持96%或以上的治癒率²⁶。

In NS5A inhibitor-resistant infections, sofosbuvir + ledipasvir can maintain high cure rates (89-96%)²⁶. In addition, this regimen has been shown to provide ≥96% cure rates in patients with severe liver fibrosis²⁶.



較少副作用 Good safety profile

臨床研究顯示，索非布韋 (sofosbuvir) + 雷迪帕韋 (ledipasvir) 在不同病人群組 (包括末期肝硬化及肝臟移植後等) 都可安全地使用²⁶。最常見的副作用是頭痛及疲累，但患者甚少因此需要中斷治療^{14,26}。

Clinical studies showed that sofosbuvir + ledipasvir can be safely used in different patient populations including those with advanced cirrhosis and post-liver transplantation²⁶. The most common side effects are headache and fatigue, and patients rarely discontinue treatment due to adverse effects^{14,26}.



服用索非布韋 (sofosbuvir) + 雷迪帕韋 (ledipasvir) 的注意事項²⁷

How to take sofosbuvir + ledipasvir²⁷

- 服用方法：每日一次，每次一粒 (每日同一時間，可空腹或跟餐服用)
- 療程時間：一般為12週 (詳情見下表)
- 如果您正服用其他藥物或保健品 (如草藥)，應告知您的醫生
- 如果您正在懷孕或哺乳，或計劃生育兒女，應通知您的醫生
- Dosage: **One tablet to be taken once daily** (at the same time every day, with or without food)
- Duration: typically 12 weeks (see table below)
- If you are taking other medications or supplements (like herbals), please inform your doctor
- If you are pregnant, breastfeeding or trying to conceive, please inform your doctor

12 WEEKS

建議療程時間²⁷

Recommended treatment duration²⁷

患者類別 Type of patient		療程時間 Treatment duration
首次接受治療 Treatment-naïve	無肝硬化 No cirrhosis	8週 (如病情較輕) 或12週 8 weeks (for mild infection) or 12 weeks
	肝硬化 With cirrhosis	12週 12 weeks
曾接受干擾素治療 但失敗 Failed previous interferon-based regimen	無肝硬化 No cirrhosis	12週 12 weeks
	肝硬化 With cirrhosis	24週 24 weeks

帕利普韋 + 奧比他韋 + 達沙布韋 + 利托那韋 (Paritaprevir + ombitasvir + dasabuvir + ritonavir)

這是另一種1型丙肝口服組合藥物。患者需同時服用兩種藥片：第一粒含有帕利普韋 (paritaprevir)、奧比他韋 (ombitasvir) 及利托那韋 (ritonavir)；第二粒則含有達沙布韋 (dasabuvir)²⁸。

相比起以索非布韋 (sofosbuvir) 為基礎的治療，這種療法亦能高效對抗1型丙肝（治癒率一般為90%或以上），而主要分別在於它欠缺廣譜性（未有註冊用於2至6型丙肝）、較容易出現藥物相沖及每天要服用較多藥片^{14,28}。服用時最常見的副作用包括作嘔、皮膚痕癢及失眠等²⁸。

This is another type of combination pill for hepatitis C genotype 1 infection. Patients need to take two types of tablets daily: one containing paritaprevir, ombitasvir and ritonavir; the other one containing dasabuvir²⁸.

Compared with sofosbuvir-based regimens, it is similarly efficacious against hepatitis C genotype 1 infection (cure rates $\geq 90\%$), but it lacks the pan-genotypic activity, is more prone to drug-drug interactions and causes a higher pill burden^{14,28}. The most common side effects include nausea, pruritis and insomnia²⁸.



服用帕利普韋 + 奧比他韋 + 達沙布韋 + 利托那韋的 注意事項²⁹

How to take paritaprevir + ombitasvir + dasabuvir + ritonavir²⁹

- 服用方法：

- 1 早上跟餐服用兩粒含有帕利普韋 (paritaprevir)、奧比他韋 (ombitasvir) 及利托那韋 (ritonavir) 的藥片，及一粒含有達沙布韋 (dasabuvir) 的藥片
- 2 晚上跟餐服用一粒含有達沙布韋 (dasabuvir) 的藥片

- 療程時間：12-24週，因應患者情況有所不同

- 如果您正服用其他藥物或保健品（包括草藥及維他命等），應告知您的醫生

- 如果您正在懷孕或哺乳，或計劃生育兒女，應通知您的醫生

- Dosage:

- 1 Morning: take two tablets containing paritaprevir + ombitasvir + ritonavir, and one tablet containing dasabuvir with food
- 2 Evening: take one tablet containing dasabuvir with food

- **Duration: 12-24 weeks** (may vary in individual cases)

- If you are taking other medications or supplements (e.g. herbals and vitamins), please inform your doctor

- If you are pregnant, breastfeeding or trying to conceive, please inform your doctor

早上

Morning

晚上

Evening



歐洲肝臟學會2015年丙肝治療指引 EASL 2015 hepatitis C treatment guideline

以下為歐洲肝臟學會（EASL）對各類型的丙型肝炎的治療建議¹⁴：

The treatment recommendations for different hepatitis C genotypes are shown below¹⁴:

建議療法 Recommended Treatment	索非布韋 (Sofosbuvir) + 干擾素 (Interferon) + 利巴韋林 (Ribavirin)	索非布韋 (Sofosbuvir) + 雷迪帕韋 (Ledipasvir)	帕利普韋 (Paritaprevir) + 奧比他韋 (Ombitasvir) + 達沙布韋 (Dasabuvir) + 利托那韋 (Ritonavir)
丙肝類型 Hepatitis C Genotype			
1型 Genotype 1	12週 12 weeks	8至12或24週 8-12 or 24 weeks	12或24週 12 or 24 weeks
2型 Genotype 2	12週* 12 weeks*	不適用 Not recommended	不適用 Not recommended
3型 Genotype 3	12週 12 weeks	不適用 Not recommended	不適用 Not recommended
4型 Genotype 4	12週 12 weeks	12或24週 12 or 24 weeks	不適用 Not recommended
5或6型 Genotype 5 or 6	12週 12 weeks	12或24週 12 or 24 weeks	不適用 Not recommended

*療法一般只需索非布韋 (sofosbuvir) + 利巴韋林 (ribavirin) 的組合，而情況較差時或會加入干擾素 (interferon)。

*Treatment normally includes sofosbuvir + ribavirin, while interferon may be added in more severe cases

註：醫生會因應患者情況加入利巴韋林 (ribavirin) 增強療效。現時，索非布韋 + 雷迪帕韋組合藥片暫未在本港註冊用作3至6型丙肝的治療。

Note: Ribavirin may be added to the regimen under certain conditions. Currently, sofosbuvir + ledipasvir combination pill is not registered for treating hepatitis C genotypes 3 to 6 in Hong Kong.



治療後的
注意事項
During or
after
treatment

丙肝治療副作用的應對方法 Management of treatment-related side effects

若患者採取以下措施後仍感到不適，應尋求醫生協助³⁰。
If you are still unwell after the following measures, please seek medical advice³⁰.

治療可能出現的副作用 Possible treatment-related side effects	應對方法 Management
發燒、頭痛及流感症狀（特別是使用干擾素的患者） Fever, headache and flu-like symptoms especially for interferon-based regimens	<ul style="list-style-type: none"> - 按醫生指示服用止痛藥 Take pain medications as instructed by your doctor - 按摩或溫水暖敷肌肉酸痛位置 Massage or apply a hot water bottle to sore muscles
疲累 Fatigue	<ul style="list-style-type: none"> - 多休息 Get adequate rest - 適量運動（如散步），但避免劇烈活動 Exercise regularly like walking but avoid strenuous activities - 維持均衡飲食 Maintain a well-balanced diet
失眠 Insomnia	<ul style="list-style-type: none"> - 定時作息 Maintain a good sleeping habit - 多放鬆心情（如泡溫水浴及聆聽音樂） Try to relax by listening to music or taking a warm bath - 避免晚上喝咖啡或過量進食 Avoid caffeine or heavy meals before bedtime
食慾不振 Loss of appetite	<ul style="list-style-type: none"> - 小食多餐 Eat small but frequent meals - 選擇自己喜愛的食物 Choose your favorite food - 進食高蛋白質的小食（如芝士）及飲料（如加營養）補充營養 Take high-protein snacks (e.g. cheese) and drinks (e.g. Ensure) to replenish nutrient
噁心及嘔吐 Nausea and vomiting	<ul style="list-style-type: none"> - 避免刺激性的食物（如辛辣、酸性及油膩食物） Avoid spicy, acidic and greasy food - 飲用薑茶 Drink ginger tea - 利巴韋林應跟餐服用 Take ribavirin with food
腹瀉 Diarrhoea	<ul style="list-style-type: none"> - 補充足夠水分 Drink enough water - 採取BRAT飲食餐單（香蕉、米飯、蘋果及土司），以減少腹瀉出現 Try the BRAT diet (i.e. banana, rice, applesauce and toast) to relieve diarrhoea

定期覆診 Regular follow-up

即使患者達到「持續病毒反應」（SVR）後，仍須定期覆診確保病毒已被徹底清除¹⁴。覆診的詳情按肝臟的健康狀況而定^{14,31}：

For patients who have achieved SVR, one or more follow-ups will be required depending on the liver condition^{14,31}:

患者肝臟的狀況 Liver condition	覆診的詳情 Follow-up details
沒有肝硬化 No cirrhosis	<ul style="list-style-type: none"> - 一次性檢查 Follow-up once only - 確保患者在治療後48週體內並無殘餘的丙肝病毒核糖核酸（HCV RNA）及肝酵素（ALT）水平正常 To confirm no residual HCV RNA in the patient's body and ALT level is normal at 48 weeks after treatment
肝硬化 With cirrhosis	<ul style="list-style-type: none"> - 每6個月例行檢查 Follow-up every 6 months - 以超聲波及血液抽檢等監測患者的肝功能及有否出現肝癌等併發症 To assess liver function and identify complications (such as liver cancer) by means of ultrasound and blood testing

註：如患者有其他肝病的風險因素（如曾濫用酒精及患有二型糖尿病等），醫生會因應情況安排更多檢查。

Note: If the patient has other risk factors for liver diseases (e.g. alcohol abuse or type 2 diabetes mellitus), further investigations may be arranged



保健產品適合我嗎？ Should I take supplements?

在使用這些產品前，應先諮詢醫生的意見。暫時，沒有充分的證據顯示它們有效協助治療丙肝，而且部分產品有機會造成藥物相沖，甚至引起副作用等³²。以下為常見的保健產品及其注意事項³²：

Always consult your doctor before you take these products. There are no strong evidence for their uses in hepatitis C treatment, and they may interact with other medications and cause adverse effects³². Some of these supplements include³²:

保健產品 Type of supplement	注意事項 Precautions
乳薊果 Milk thistle	<ul style="list-style-type: none"> - 較為安全，但仍可能引起腸胃不適（如脹氣及腹瀉） Relatively safe to use, but may cause gastrointestinal side effects (e.g. bloating and diarrhoea) - 對同屬植物敏感人士應避免使用 Avoid use if you are allergic to plants like ragweed
甘草根提取物 Licorice extract	<ul style="list-style-type: none"> - 可能與其他藥物相沖 Potential for drug interactions - 長期服用會引起高血壓及頭痛等副作用 Long-term use can lead to side effects including hypertension and headache
人參 Ginseng	<ul style="list-style-type: none"> - 並無任何研究數據 Not studied in hepatitis C - 可引起失眠及精神緊張等副作用 May cause insomnia and nervousness
蒲公英提取物 Dandelion	<ul style="list-style-type: none"> - 對丙肝功效未明 No known effect in hepatitis C - 可引起胃部不適、血糖降低及皮疹等副作用 May cause side effects such as stomach discomfort, lowering of blood glucose and skin rash
紫錐花提取物 Echinacea	<ul style="list-style-type: none"> - 可能與其他藥物相沖（如降血脂藥） Potential for interactions with drugs such as lipid medications - 患有自體免疫性疾病（如類風濕性關節炎）的人士應避免使用 Avoid administration in patients with autoimmune diseases such as rheumatoid arthritis

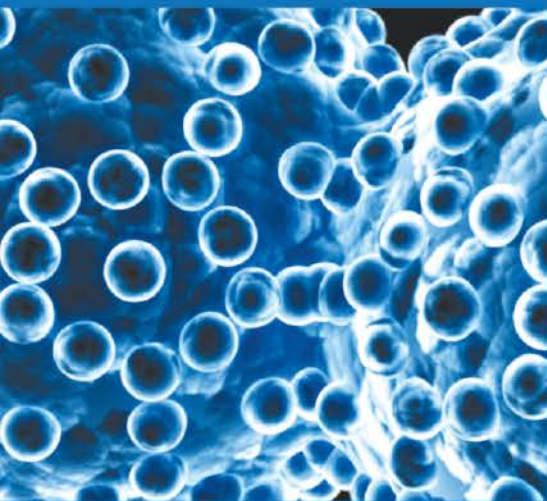
生活飲食 的注意事項

Lifestyle
MEASURES

健康貼士 Health tips

除了藥物治療外，以下生活措施亦能保障肝臟健康^{8,33}：
Apart from medical treatment, healthy lifestyle is key to healthy liver^{8,33}:

- 維持健康體重及BMI
 - 避免飲酒
 - 戒煙
 - 保持營養均衡的飲食
 - 定期運動
 - 接受疫苗預防甲型及乙型肝炎
 - 足夠休息及放鬆心情
 - 服用藥物前先諮詢醫生意見
- Maintain healthy body weight and BMI
 - Avoid alcohol
 - Quit smoking
 - Maintain a well-balanced and nutritious diet
 - Exercise regularly
 - Get vaccinated against hepatitis A and B
 - Relax and get enough sleep
 - Seek medical advice before you take medications



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