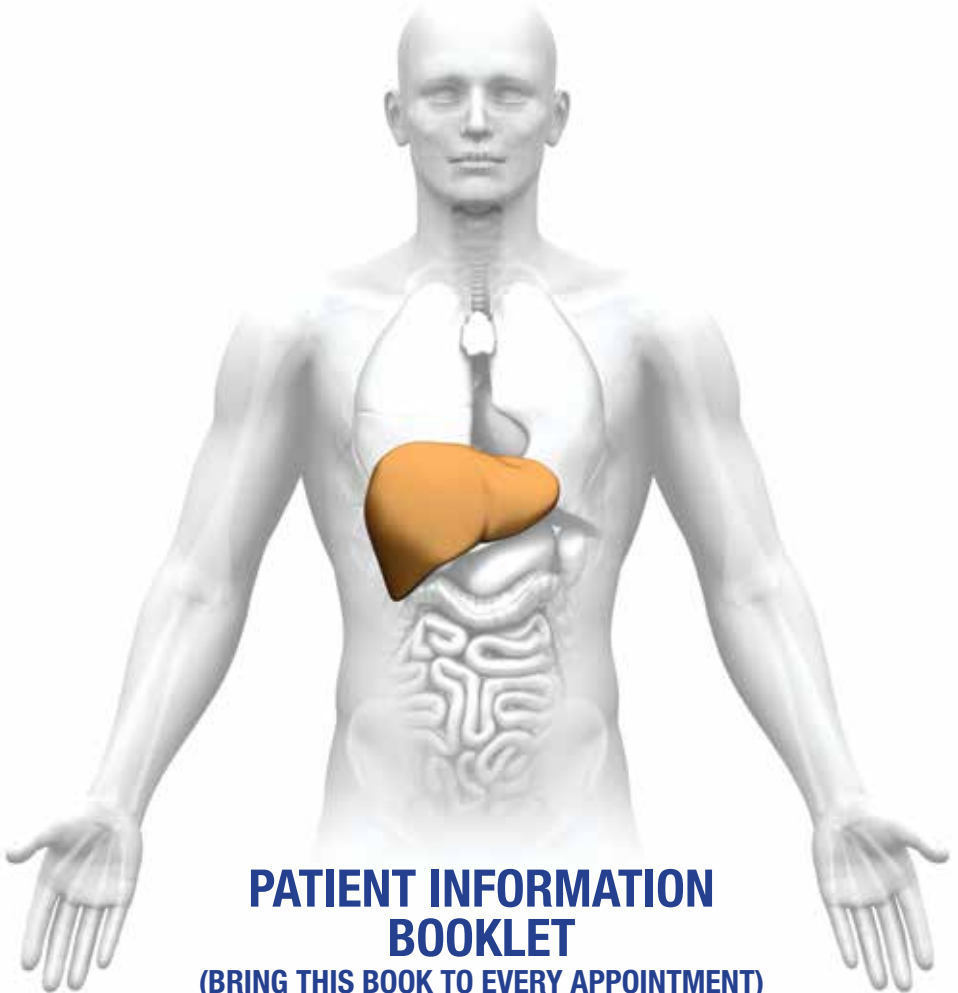


# LIVER CIRRHOSIS



## PATIENT INFORMATION BOOKLET

(BRING THIS BOOK TO EVERY APPOINTMENT)



Health  
Northern Sydney  
Local Health District

**DEPARTMENT OF GASTROENTEROLOGY & HEPATOLOGY**

TEL: (02) 9463 2450 FAX: (02) 9463 2041



## DEPARTMENT OF GASTROENTEROLOGY & HEPATOLOGY

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## WELCOME!

Welcome to the Royal North Shore Hospital Liver Clinic

We are an experienced and trusted multidisciplinary team dedicated to managing patients with *Liver Cirrhosis* and *Advanced Liver Disease*.

However, you as the patient can help **US** to help **YOU**. You can make a huge difference to your health by attending your appointments and scans, maintaining a healthy weight, eating right and taking all of your prescribed medications.

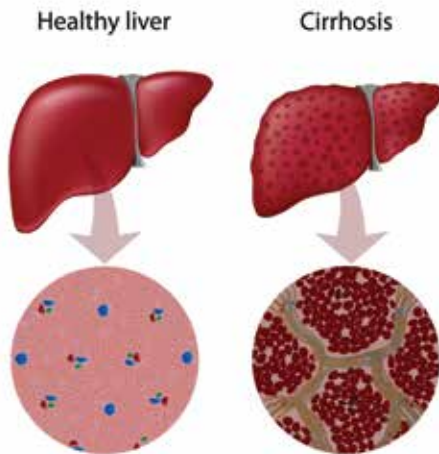
If you have any questions, please feel free to contact us on 9463 2450

# WHAT IS LIVER CIRRHOSIS?

Liver cirrhosis simply means scarring of the liver. Scarring of the liver is a concern as it causes healthy liver cells to die and be replaced by stiff scar tissue. This process happens slowly and is often irreversible and may lead to the whole liver hardening and becoming scarred and shrunken.

There are many causes of liver cirrhosis. The most common causes are chronic hepatitis B and C infections as well as long term heavy alcohol consumption. It may also be caused by fat build-up in the liver. This is seen in people who are overweight or who have diabetes.

There are other less common causes of cirrhosis such as autoimmune hepatitis (where the body's immune system attacks the liver) as well as certain medications and environmental chemicals.



# WHY IS CIRRHOSIS A PROBLEM?

A liver with cirrhosis becomes very hardened and lumpy with scar tissue. This makes it very hard for blood to flow through the liver. This causes a build-up or pressure on one side of the liver causing the pressure to increase inside the veins that are attached to the liver.

Imagine a hose full of water that has been kinked at one end. This causes the water to build up and flow back toward the tap.



One of the veins affected is called the **portal vein**, which is responsible for bringing blood to the liver. When the pressure in this vein is increased it is called **portal hypertension**.

This then causes a backflow of blood (like the kinked up hose) up into the spleen. The size of the spleen then increases causing it to destroy platelets (a type of blood cell) which affect how well your blood clots.

Besides causing problems with blood flow, the scar tissue also limits how well the liver can do its job.

The liver's main role is to filter and remove toxins, produce bile to break down nutrients, control blood clotting and produce important proteins.

When the liver cannot carry out these vital roles it causes many of the toxins to escape into the body causing confusion and trouble concentrating.

# WHAT ARE THE SYMPTOMS OF CIRRHOSIS?

There are two different stages of cirrhosis – ***compensated*** and ***decompensated***.

**Compensated** cirrhosis often has little or no symptoms. This is because there are still enough healthy cells in the liver to do its job. At this point the liver can ‘compensate’ or make up for the previous damage.

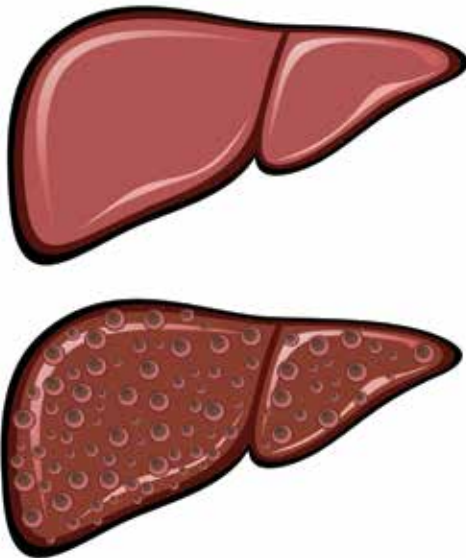
However, if the liver continues to be damaged (from untreated hepatitis, poor diet or alcohol use) the healthy liver cells will become stressed and no longer function well.

Symptoms you may feel include;

- \* Fatigue
- \* Poor Appetite
- \* Weight loss

When the healthy liver cells become too overwhelmed you may progress from compensated to decompensated cirrhosis.

**Decompensated cirrhosis** is very serious. People with decompensated cirrhosis notice a rapid decline in their health and will experience signs and symptoms of liver failure.





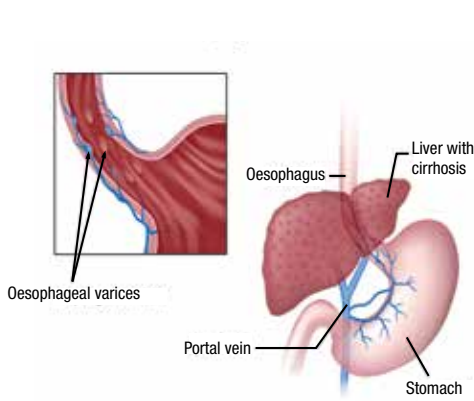
# SOME SIGNS AND SYMPTOMS OF DECOMPENSATION

## 1. Variceal Bleeding

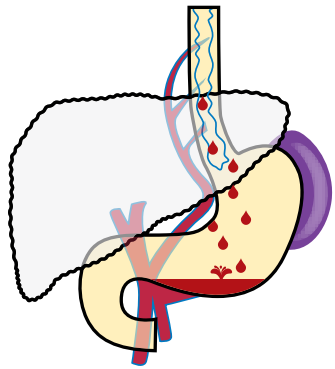
Because of increased pressure in the veins, some of the larger blood vessels in your oesophagus (swallowing tube) become swollen and enlarged.

This can put you at risk of the vessels bursting open – these are called **bleeding varices**.

**WHEN THIS HAPPENS IT IS AN EMERGENCY. IF YOU VOMIT BLOOD OR NOTICE YOUR STOOLS BECOMING BLACK AND TARRY YOU MUST GO TO YOUR NEAREST EMERGENCY ROOM IMMEDIATELY.**



Oesophageal varices



Bleeding varices

## 2. Encephalopathy ( Mental Confusion )

When you have cirrhosis your liver is unable to filter toxins out of your body. When this happens toxins such as ammonia can enter the brain and cause confusion. This is called *encephalopathy (en-cef-a-lop-a-thy)*.

Early stages of encephalopathy affect your sleep patterns. You may notice that you have trouble sleeping at night and feel very sleepy during the day.

You or your loved ones may also notice changes to your mood and concentration. All of these symptoms may be early stages of encephalopathy and need to be mentioned at your next appointment.

You may be prescribed medications to prevent encephalopathy occurring.

It is important that if prescribed you take this medication regularly in order to prevent you getting encephalopathy.

**ENCEPHALOPATHY CAN BE VERY SERIOUS.**

**IF YOU OR YOUR LOVED ONES NOTICE THAT YOU ARE CONFUSED OR VERY SLEEPY  
YOU SHOULD GO IMMEDIATELY TO THE HOSPITAL EMERGENCY ROOM.**



### 3. Ascites

High pressure in the veins that is caused by cirrhosis can also cause a build-up of fluid in the stomach. This is called *ascites* (**uh-sigh-teez**).

The belly becomes very large and you will notice a sudden increase in weight.

You will probably feel quite uncomfortable and eating will become difficult as you will always feel full.

You may also find that breathing becomes difficult, especially when you lie down.



**ASCITES CAN BE LIFE-THREATENING IF YOU GET AN INFECTION IN THE FLUID.**

**IF YOU SUDDENLY EXPERIENCE STOMACH PAINS OR GET A FEVER YOU NEED TO GO TO THE HOSPITAL EMERGENCY ROOM IMMEDIATELY.**

### 4. Jaundice

Jaundice is yellowing of the skin and whites of the eyes that is caused by a build-up of bilirubin. Bilirubin is a substance that is normally filtered by the healthy liver.

If you notice jaundice for the first time, it could be a sign that your liver may be getting worse or a sign of an infection. See your doctor immediately if this happens.



# MANAGING YOUR CIRRHOSIS

Although there is no cure for cirrhosis, there are many things we do to monitor how well your liver is coping with having cirrhosis.

## Liver Cancer Screening

When you have cirrhosis you are at a higher risk of having liver cancer. Liver cancer is very serious and for this reason we will send you for an ultrasound of your liver and a blood test *every 6 months* to monitor this.

It is very important that you have the tests and attend these appointments so we can detect liver cancer as early as possible (when they are still small) as treating liver cancer when it is found early can increase the chance of cure and survival.



## Ascitic Fluid Drainage

If your ascites becomes too uncomfortable or large you may need to have the fluid drained. This is called a *paracentesis* or *ascitic tap*. Your doctor or nurse will explain the procedure further if it is required.

## Blood Tests

Before your appointments in the clinic you will need to have blood tests done so that we can monitor how well your liver is working. It is important that you have these blood tests done as close to your appointment as possible.



## **Get Vaccinated (Immunised)**

People with cirrhosis are more prone to getting infections like the flu and pneumonia. We recommend you have regular vaccinations to reduce the chance of you getting these infections.

The flu-vax is performed annually and the pneumovax is performed every 5 years by your GP.

We also advise people with cirrhosis to have the hepatitis A and hepatitis B immunisations to protect the liver from developing these diseases, as getting these infections may put further strain on the liver (liver failure).

## **Maintain Healthy Bones**

People with liver cirrhosis have a tendency to having thinning of the bones (osteopenia or osteoporosis). If bone thinning develops, you may have a higher chance of having fractures (broken bones). A healthy diet (with calcium containing foods) and vitamin supplements may be recommended to prevent this happening.

It is important for you to have a scan of your bones (DEXA scan) every 2 years so we can monitor for thinning of the bones.

## **Surgery**

**CAUTION IF YOU EVER NEED ANY KIND OF SURGERY.**

**YOU SHOULD LET YOUR SURGEON KNOW THAT YOU HAVE LIVER CIRRHOSIS AND LET YOUR LIVER DOCTOR KNOW IF YOU ARE PLANNED FOR ANY SURGERY. THIS IS BECAUSE SOME KINDS OF SURGERY CAN PUT A STRAIN ON YOUR LIVER AND PUT YOU INTO LIVER FAILURE.**

**WE WILL NEED TO PLAN ANY SURGERY WITH YOU AND YOUR SURGEON TO MAKE SURE ANY SURGERY PERFORMED IS DONE AS SAFELY AS POSSIBLE.**

# NUTRITION AND LIVER CIRRHOSIS

As part of your regular clinic visits to manage your cirrhosis, your doctor or nurse may suggest that you make an appointment to see the clinic dietitian.

When you have cirrhosis, the liver may have a reduced ability to store glycogen (the stored version of glucose) which provides the body with energy. This causes the body to use your fat and muscle stores for energy instead.

This leads to unhealthy weight loss and muscle wasting which can be very serious for your health.

To prevent this, the dietitian will thoroughly assess your dietary requirements and help you to formulate an eating plan that focuses on a high energy, high protein diet to maintain muscle and to keep the body working normally.

## Why is nutrition important in liver cirrhosis?

Good nutrition is very important to support your liver's function when you have liver cirrhosis. Nutritional deficiencies, weight loss and muscle wasting are common in liver cirrhosis, and can be managed with the right diet.

Not everyone with liver cirrhosis will need to follow the same diet, therefore it is important to see a dietitian at your liver clinic who can provide dietary information specific to your condition.



## Do I need to follow a special diet?

In the early stages of liver cirrhosis, there is often no need for a specialised diet. Good nutrition can support your liver function and overall health. You should follow a healthy and well balanced diet and maintain a healthy weight. Your diet should contain lots of variety from all food groups including breads and cereals, fruits and vegetables, lean meats (and alternatives like lentils and legumes), and dairy (and alternatives like soy). Each food group provides your body with essential nutrients so it is important that you do not remove any of these food groups from your diet. All meals & snacks should contain a lean source of protein. It is recommended to have a snack just before bed.

## Advanced Liver Disease

If your liver cirrhosis is more advanced your dietitian will recommend a more specialised diet. It is common to experience symptoms such as a poor appetite, nausea, reduced energy levels or fluid retention in the legs (oedema) or abdomen (ascites). These symptoms often make it difficult to eat as much food (particularly protein) as your body needs. A poor diet, as well as poor liver function, can cause malnutrition and muscle wasting (particularly in your arms and around your shoulders, chest and back). If you have advanced liver disease it is very important that you speak to your doctor and dietitian about your diet. They may recommend a high protein, low salt (sodium) diet.

- **High Protein Diet**

If you have been advised to follow a **high protein diet**, foods that you should eat more of include: meat, poultry, seafood, eggs, milk, yoghurt, cheese, nuts, seeds, lentils, legumes and soy products. Your doctor or dietitian may also recommend special protein supplement drinks.

- **Low Salt Diet**

If you have been advised to follow a **low salt (low sodium) diet** you should not add salt to foods in cooking or at the table, and you should avoid high salt processed foods, takeaway foods and condiments.

- **Fluid Restriction**

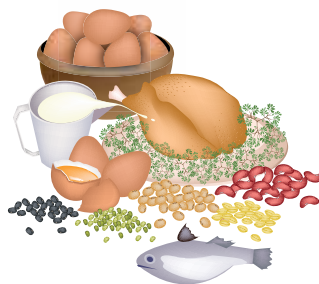
You may be asked to restrict your daily fluid intake. Your doctor will advise you if this is needed and how much fluid to take each day.

Most people with advanced liver disease find that eating several small meals a day helps, especially if your appetite is poor. It is recommended that you eat **six to eight** small meals per day, and have a snack containing protein and carbohydrate before you go to bed. It is important not to go longer than 7-8 hours without eating.

## How can I see a dietitian?

Your doctor or liver nurse can refer you to see a dietitian. In your first appointment with a dietitian, they will conduct a nutritional assessment which involves:

- Taking measurements of your weight, height, body mass index (BMI). They may sometimes measure your hand grip strength and the size of your muscles in your upper arms.
- Asking about your clinical symptoms which may be impacting on how much you can eat and drink.
- Assessing the foods and drinks you are having, specific to the needs of your liver and any other medical conditions that you have.



The dietitian will then provide you with practical recommendations about your diet and nutrition to help support your liver function and overall health.

Your dietary needs may change over time, so your dietitian will follow up with you to make sure you are always eating the best diet for your liver.

## RESOURCE LIST

Patient information sheets are available for free download at the website of Gastroenterological Society of Australia:

<http://www.gesa.org.au/resources/patient-information/>

### High protein, high energy diet:

<http://membes.gesa.org.au/membes/files/Consumer%20Information/High%20Protein%20High%20Energy.pdf>

### No added salt diet:

<http://membes.gesa.org.au/membes/files/Consumer%20Information/No%20Added%20Salt.pdf>

Dietitian Name: \_\_\_\_\_

Phone: \_\_\_\_\_



## EXAMPLES OF HIGH PROTEIN AND HIGH ENERGY FOODS

HIGH PROTEIN	HIGH ENERGY
Meat	Potato and sweet potato
Chicken	Bread and bread products
Fish	Cakes
Cheese	Biscuits
Eggs	Corn
Legumes like lentils, baked beans and chickpeas	Pasta, rice and noodles
Nuts and seeds	Butter, margarine and oil
Tofu	Cream
Yoghurt, milk and soymilk	Mayonnaise
Milk powder, custard	Breakfast cereals
	Spreads like honey, jam, golden syrup

\*If you have been advised to take a low salt diet, please consult your dietician as some of these foods may be high in salt.

## NUTRITIONAL SUPPLEMENTS

Supplement	Frequency	Script Date

# MEET THE TEAM

Dr Brett Jones, Hepatologist	Dr Venessa Pattullo, Hepatologist
Dr Paul O’Farrell, Gastroenterologist	Dr Neomal Sandanayake, Gastroenterologist
Dr Gordon Park, Gastroenterologist	Dr Philip Chang, Hepatologist
Jocelyn Schramko, Clinical Nurse Consultant 9463 2455	Ms Elsa Chu, Clinical Nurse Specialist

# APPOINTMENT DIARY

Date	Time	Appointment type	Location	Referral needed
				Yes/No
				Yes/No
				Yes/No
				Yes/No
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# APPOINTMENT DIARY (CONTINUED)

Date	Time	Appointment type	Location	Referral needed
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## CLINICAL PROGRESS TABLE

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**LIVER CANCER (HCC) SCREENING** (6 monthly ultrasound and AFP)

	Date	Next Due
AFP		
Ultrasound		
AFP		
Ultrasound		
AFP		
Ultrasound		
AFP		
Ultrasound		
AFP		
Ultrasound		
AFP		
Ultrasound		
AFP		
Ultrasound		
AFP		
Ultrasound		

**LIVER CANCER (HCC) SCREENING** (6 monthly ultrasound and AFP)

	Date	Next Due
AFP		
Ultrasound		
AFP		
Ultrasound		
AFP		
Ultrasound		
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Ultrasound		
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AFP		
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AFP		
Ultrasound		

## GASTROSCOPY BOOKINGS

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**VACCINATIONS:** Influenza (yearly); Pneumococcal (5 yearly)

Vaccination	Date	Vaccination	Date
Hepatitis A		Hepatitis A	
Hepatitis B		Hepatitis B	
Influenza Pneumococcal		Influenza Pneumococcal	
Influenza		Influenza	
Influenza		Influenza	
Influenza		Influenza	
Influenza		Influenza	
Influenza Pneumococcal		Influenza Pneumococcal	
Influenza		Influenza	
Influenza		Influenza	
Influenza		Influenza	
Influenza		Influenza	

**BONE DENSITY (DEXA) SCANS:** (every 2 years)

DEXA Scan Date	Result	Next Due Date



# MEDICATIONS

There are many different medications that you may be prescribed by the doctors at the liver clinic. It is very important that they are taken exactly as prescribed. Some of the common medications that you may need are listed below.



## Medications to prevent encephalopathy (confusion)

- **Lactulose:** lactulose is a liquid laxative medication. It works by absorbing the toxins in your body and passes them out with a bowel motion. It can increase the amount of times you open your bowels each day and in general we would aim for you to have 2-3 soft bowel motions per day. Although this may be inconvenient it is extremely important that you continue with this medication. Please feel free to speak to the clinic nurses if you are having problems with taking lactulose (eg too many bowel motions, diarrhoea) as your dose may need to be adjusted.
- **Rifaximin:** rifaximin is a type of antibiotic that can reduce the amount of chemicals in the bowel and bloodstream that contribute to encephalopathy.

## Medications to reduce fluid accumulation (ascites and/or ankle swelling)

- **Diuretics:** spironolactone (Aldactone) and frusemide (Lasix) are two medications that can help to get off some excess fluid which is passed out in the urine. Your doctor will need to monitor your kidney function (by blood tests) if you take these medications and adjust the dose of the medications if they are putting too much strain on your kidneys.

## Medications to prevent variceal bleeding

- **Propranolol (Inderal):** propranolol is a blood pressure lowering medication which can reduce the chance of having varices bleeding. If you start this medication, your blood pressure and heart rate will be monitored. If you feel light headed when starting this medication, let your doctor know as your dose may need to be adjusted.

## Supplements

- **Vitamin D and calcium:** your doctor may prescribe these if you are low in vitamin D. These supplements, in addition to eating a healthy diet, will help strengthen your bones and reduce your chance of having broken bones (fractures).



**LIVER CIRRHOSIS MAY AFFECT HOW YOUR BODY HANDLES OTHER MEDICATIONS. IF YOU ARE PRESCRIBED NEW MEDICATIONS BY YOUR GP OR OTHER DOCTORS, IT IS IMPORTANT FOR YOU TO LET YOUR OTHER DOCTORS KNOW THAT YOU HAVE LIVER CIRRHOSIS. SOME MEDICATIONS MAY NOT BE SUITABLE FOR YOU, OR MAY NEED TO HAVE A LOWER DOSE BECAUSE OF YOUR LIVER CIRRHOSIS.**

**ALSO LET YOUR LIVER DOCTOR KNOW IF OTHER DOCTORS HAVE PRESCRIBED NEW MEDICATIONS. YOU SHOULD BRING THE NEW MEDICATIONS ALONG TO YOUR LIVER SPECIALIST APPOINTMENT AND UPDATE THE MEDICATION LIST IN THIS BOOKLET.**

**MANY COMPLEMENTARY AND HERBAL TREATMENTS CAN CAUSE LIVER DAMAGE AND MAY NEED TO BE STOPPED. YOUR DOCTOR WILL ADVISE YOU.**

## MEDICATION LIST

MEDICATION	Dose (mg)	Frequency



MEDICATION	Dose (mg)	Frequency

**PLEASE NOTE:**

- 1. Some medications are affected by liver cirrhosis. Please consult your doctor before starting any new medications.
- 2. Avoid any complementary or herbal medications.
- 3. Report any drug side effects as soon as possible.

## NOTES

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## NOTES

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## NOTES

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## **RNSH Outpatient Liver Clinic**

### **Gastro / Liver Department**

Ph: (02) 9463 2450

Fax: (02) 9463 2041

Email: [NSLHD-RNS-HepatologyServices@health.nsw.gov.au](mailto:NSLHD-RNS-HepatologyServices@health.nsw.gov.au)

### **Ambulatory Care Centre**

Level 3 Acute Services Building, RNSH

St Leonards NSW 2065

Ph: 02 9463 1400

To make an appointment fax or email.

Fax 02 9463 1065

Email: [NSLHD-accreferrals@health.nsw.gov.au](mailto:NSLHD-accreferrals@health.nsw.gov.au)

**FOR URGENT REFERRALS OR ADVICE, CONTACT CNC Jocelyn Schramko (Mon-Fri)**

Phone: 94632455

Email: [Jocelyn.Schramko@health.nsw.gov.au](mailto:Jocelyn.Schramko@health.nsw.gov.au)

Original booklet development: Carlie Stephens CNC Hepatology - Liver Clinic, St George Hospital, UNSW