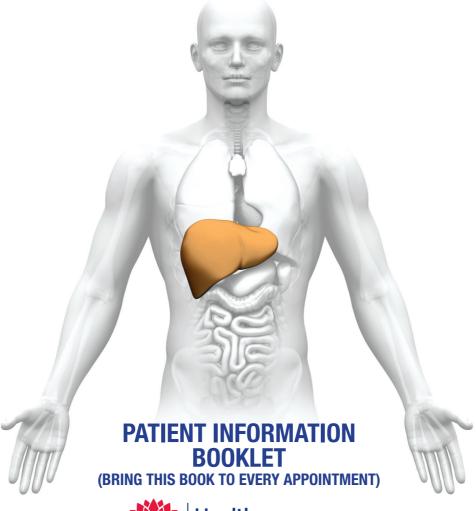
LIVER CIRRHOSIS





DEPARTMENT OF GASTROENTEROLOGY & HEPATOLOGY LIVERPOOL HOSPITAL | BANKSTOWN HOSPITAL CAMPBELLTOWN HOSPITAL

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WELCOME!

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:

Liverpool Hospital - tel: 0408 968 191 Bankstown Hospital - tel: 9722 7759 Campbelltown Hospital - tel: 4634 3615

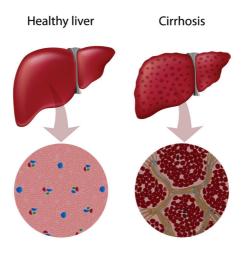
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WHAT IS LIVER CIRRHOSIS?

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 are caused by 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 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 and this is called Hepatic Encephalopathy (HE).

Your friendly liver clinic team can provide you with specific information on this.

WHAT ARE THE SYMPTOMS OF CIRRHOSIS?

There are two (2) 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.

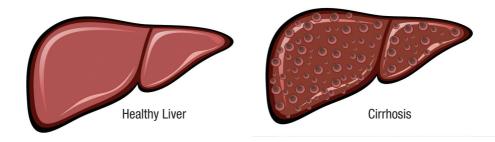
However, if the liver continues to be damaged (from untreated Hepatitis, poor diet or alcohol use) the healthy liver cells will become stressed and no longer function well.

Symptoms you may experience;

* Fatigue * Poor Appetite * Weight loss *Swollen belly *Tightening of your belt

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.



CRAMPS AND ITCHY SKIN

Muscle cramps and itchyness are common in people with cirrhosis. Do not worry, there are some treatments available. Speak with your healthcare team in the liver clinic.

SOME SIGNS AND SYMPTOMS OF DECOMPENSATION

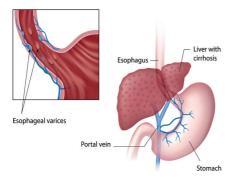
1. Variceal Bleeding

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

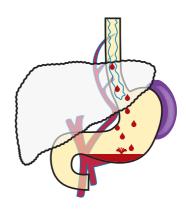
This can put you at risk of the vessels bursting open – this is called *bleeding varices*.

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 DEPARTMENT IMMEDIATELY.

Esophageal Varices



Oesophageal varices



Bleeding varices

2. Encephalopathy (Mental Confusion)

When you have cirrhosis your liver is less able 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 but 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.

Your clinic may recommend you take lactulose to encourage elimination of toxins before they enter your blood. If taking **lactulose** you should be aiming to have a minimum of 2-3 soft bowel motions a day.

You may be prescribed medications to prevent encephalopathy occurring. **Rifaximin** is an antibiotic that reduces the amount of ammonia build-up up in the body.

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 DEPARTMENT.



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 should be checking your weight at least weakly

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 DEPARTMENT 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 you doctor immediately if this happens.



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THINKING AHEAD

Your doctor may discuss with you the option of developing an Advanced Care Plan. An advanced care plan is a formal way of setting out your wishes for future medical care.

For more information about advanced care planning, ask one of the team members, or visit https://www.advancecareplanning.org.au/resources/advance-care-planning-for-your-state-territory/nsw and https://www.slhd.nsw.gov.au/myWishes/default.html

Your doctor may discuss with you the option of Palliative Care. The World Health Organization (WHO) defines Palliative Care as "an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual."

For more information about Palliative Care, visit https://www.slhd.nsw.gov.au/myWishes/ default.html

Ask to speak with the liver clinic social worker on phone: 8738 6527



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, as well as managing your symptoms and condition.

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 blood test *every 6 months* to monitor this.

You may need additional imaging with CT or MRI scan if considered necessary by your doctor.



It is very important that you attend these appointments.

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

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.



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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.



One such medication is **Lactulose**, a sticky liquid medication that may be prescribed to you to prevent

encephalopathy (confusion). This medication works by absorbing the toxins in your body and passes them out with a bowel motion. Although it can increase the amount of



times you open your bowels each day and 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, minimum 2-3 soft bowel movements per day.



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.

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.

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 (Bone Mineral Density/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 PLANNING ANY SURGERY.

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.

Do I need to follow a special diet?

Liver Cirrhosis

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 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. Alcohol needs to be stopped but coffee, tea and other non alcoholic drinks are OK.

Advanced Liver Disease

If your liver cirrhosis is more advanced (Advanced Liver Disease) 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).



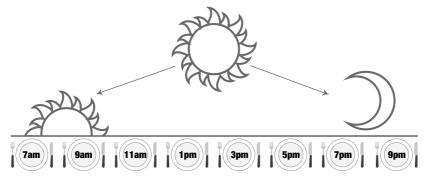
IF YOU HAVE ADVANCED LIVER DISEASE IT IS VERY IMPORTANT THAT YOU SPEAK TO A DIETICIAN EXPERIENCED IN LOOKING AFTER PEOPLE WITH LIVER CIRRHOSIS ABOUT YOUR DIET. THEY MAY RECOMMEND A HIGH PROTEIN, LOW SALT (SODIUM) DIET.

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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 dietician may also recommend special protein supplement drinks.

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 and condiments

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 good snack or protein supplement before you go to bed.



Eat small meals often and have a snack of energy and protein-rich food before bed. This is very helpful for people with liver disease. If you are awake during the night try to have a high protein drink or snack to reduce the time you spend fasting overnight.

See my dietitian

Your doctor or liver nurse can refer you to see a dietician or alternatively your GP may arrange this. 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.
- Seeing a dietitian may enable you to access discount protein supplements.

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.

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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.

	CHOOSE LOWER SALT FOODS	AVOID HIGH SALT FOODS
Ve	getables	
•	Fresh or frozen vegetable 'no a dded salt' vegetables	 Canned vegetables eg beetroot, canned peas Olives and pickled vegetables Marinated vegetables Vegetable juice Baked beans
Fru	iits	
•	All dried, canned and fresh fruits All frozen fruits	
Gra	ains and Cereals	
•	Arrowroot, Oats Bulgur, Cornflour Pearl Barley, Plain flour Polenta, Semolina Tapioca, Wheatgerm	

Milk and Milk Products			
			Decular hand shaces is shadder narrosen
•	Milk	•	Regular hard cheeses i.e. cheddar, parmesan Semi soft cheese i.e. brie, camembert
	Yoghurt Ice cream, custard		Processed cheeses
	Cream, dairy desserts		Cheese spreads and cream cheese
•	Gream, dairy desserts		Feta cheese
	Most cheeses are high in salt. Better	•	reta cheese
	choices include:		
	Choices include.		
•	Cottage cheese, Ricotta cheese		
•	Mozzarella cheese, Swiss cheese		
	<u>, </u>	notiv	100
_	eat, Fish, Chicken, Eggs and Meat Alter	ııalı\	
•	Fresh meats and chicken	•	Processed meats i.e. salami, devon,
•	Fresh fish and seafood.		ham, pastrami
•	Canned tuna/salmon in spring water or oil	•	Sausages, frankfurts
•	Eggs	•	Bacon
		•	Smoked, corned or dried meats
		•	Smoked or dried fish
		•	Canned tuna/salmon in brine
		•	Canned meats ie spam
		•	Sardines , anchovies
		•	Pate
Ric	e and Pasta		
•	Rice and pasta cooked without salt	•	Packet flavoured rice and pasta
•	Rice noodles	•	Two-minute noodles
		•	Canned Spaghetti
So	ups		
•	Home-made soups or broths	•	Canned and packet soups
		•	Stock cubes, stock powder
		•	Bovril, Bonox
0il	S		
•	Oils		
Spreads			
•	Unsalted or salt-reduced margarine/ butter or	•	Regular margarine/ butter / dairy blends
	dairy blends	•	Vegemite, Marmite, Promite
•	Honey, Syrup	•	Peanut Butter
•	Marmalade, Jam	•	Meat or fish paste
•	Ghee	•	Cheese Spreads
		•	Pate
		•	Pesto

Ca	kes and Pastries		
•	Home-made pancakes	•	Most baked goods i.e. Cheesecake, pastries, cakes Commercial pancakes Croissants, Custard/jam tarts Doughnuts Sponge/self-saucing/plum pudding
Bis	scuits		opengarean cases grant paramg
•	Wafer biscuits	•	Most biscuits are high in salt
Br	eads, Muffins and Wraps:		
		•	Most breads, muffins and wraps are high in salt
Br	eakfast Cereals:		
•	Rolled oats Weetbix Semolina, Puffed Wheat	•	Most other breakfast cereals are high in salt ie Rice bubbles, Cornflakes, Bran and Bran flakes
Dr	inks		
•	Cordial Mineral or Soda Water Soft drink Milo Tea/Coffee	•	Bonox Sports Drinks Tomato & Vegetable Juices Effervescent drinks ie Eno, Berroca
Sn	ack Foods, Lollies and Chocolates		
•	Rice cakes Unsalted popcorn Boiled sweets Unsalted chips * Unsalted nuts * Boiled Iollies Jelly beans, jelly babies etc Sugar	•	Salted nuts Potato crisps, corn chips Rice crackers Salted popcorn Pretzels Caramels Some chocolate bars
Sa	uces and Dressings		
•	Tomato sauce with 'no-added-salt' Tabasco sauce Mint sauce Dry mustard Home-made dressings without salt Try using oil, vinegar, lemon juice, garlic, herbs, spices, sugar to make your own dressings	•	Tomato and BBQ sauces Worcestershire, Cheese sauces Gravy, Gravy powder, stock cubes Soy sauce, fish sauce, oyster sauce Pickles, pickled onions, Chutney, relish Bottled mustard, tartare sauce Gherkins, Olives, anchovies Bottled pasta sauces, tomato paste Commercial salad Dressings, mayonnaise

Herbs, Spices & Flavour	
Herbs & Spices Pepper Vinegar, lemon Garlic, ginger, chilli Tahini Feting out and Takagaray Foods	Salt Rock salt, sea salt, celery salt, chicken salt, garlic salt Steak seasoning, MSG Salt substitutes ie No Salt
Sandwiches with low-salt fillings e.g. roast beef, cooked chicken breast, egg and salad Salads with oil or vinegar only Steamed rice (rather than fried rice) Grilled fish, seafood, meat or chicken without added salt Salads and fruit salads	 Asian takeaways e.g. Chinese, Thai, fried rice Hamburgers Hot chips with salt Crumbed or battered fish Nuggets, fish fingers Lasagne, pasta with sauces, pizza, garlic bread Lebanese takeaways e.g. felafel, kibbie Meat pie, sausage rolls, quiche Salads with commercial salad dressings on them Commercial Soups

Low-Salt Food Choices

Good Choices	Avoid
Meats and Meat Alternatives:	 Processed meats (bacon, sausage, pepperoni, hot dogs, ham, luncheon/deli meats, corned beef, anchovies, sardines, caviar) Meat alternatives/vegetarian entrees Dried meat, smoked fish Salted nuts, salted peanut butter Microwave/frozen meals Meat Pies
Milk, Yoghurt, Cheeses: Milk or Yoghurt Frozen yoghurt, ice cream Natural Swiss cheese Low-sodium cheese Low-sodium cottage cheeses	Buttermilk, malted milk Processed cocoa Blue, feta and other salty cheeses Regular cottage cheese
Breads, Cereal, Rice, and Pasta: Bread, rolls, breadsticks without salt or cheese Unsalted taco shells, tortillas Pasta, barley, rice cooked without salt Unsalted cooked cereal Low-sodium crackers Homemade soup with low-sodium ingredients	 Breads, rolls, breadsticks made with garlic/onion salt, or cheese Stuffing mixes Pasta noodles or rice with seasoning packets Instant hot cereals, ready-to-eat cerelals Salted crackers Regular canned or dry soups, broths, bouillons Baking mixes such as cakes, pancakes, waffles or muffins
Other:	Soy sauceTomato SauceCongee with soy sauce

RESOURCE LIST

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

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

High protein, high energy diet, no added salt diet:

http://www.gesa.org.au/resources/patients/health-information-facts-sheets/

National Disability Insurance Scheme (NDIS): phone 1800 800 110

My Aged Care: phone 1800 200 422

Carers NSW: phone 1800 242 636

Department of Human Services, www.humanservices.gov.au

Centrelink: phone 132 717;

Medicare: phone 132 011;

The NSW Trustee and Guardian: phone 1300 364 103

Beyond Blue: phone 1300 224 636

Lifeline: phone 13 11 14

Australian Men's' Shed Association: www.mensshed.org/

South Western Sydney Drug Health Services: Drug and alcohol information or referral services, phone 02 9616 8586

NPS Medicine Wise \rightarrow

www.nps.org.au ph.1300 633 424 for Medicine Information.

CONTACT PERSON FOR THE TEAM

Liverpool Hospital Liver Clinic	Melissa Fraser 8738 4074 - Direct: 8738 3571
Bankstown Hospital Liver Clinic	Kelly Somes 9722 7759
Campbelltown Hospital Liver Clinic	Irena Petrovski 4634 3615

Please note that our telephone calls from the hospital to you come through to your mobile phones as a "private number".

APPOINTMENT DIARY

Date	Time	Appointment type	Location	Referral needed
				Yes/No

MEDICATION LIST

MEDICATION	Dose (mg)	Frequency

WEIGHT TRACKER

Date	Weight

ULTRASOUND APPOINTMENTS

Date	Next Due

GASTROSCOPY BOOKINGS

Date	Result	Next Due

NOTES			

NOTES			

