

DR. RELA INSTITUTE & MEDICAL CENTRE



LIVER TRANSPLANTATION



**PATIENT
GUIDE**



www.relainstitute.com

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About RIMC- Liver Transplant Unit

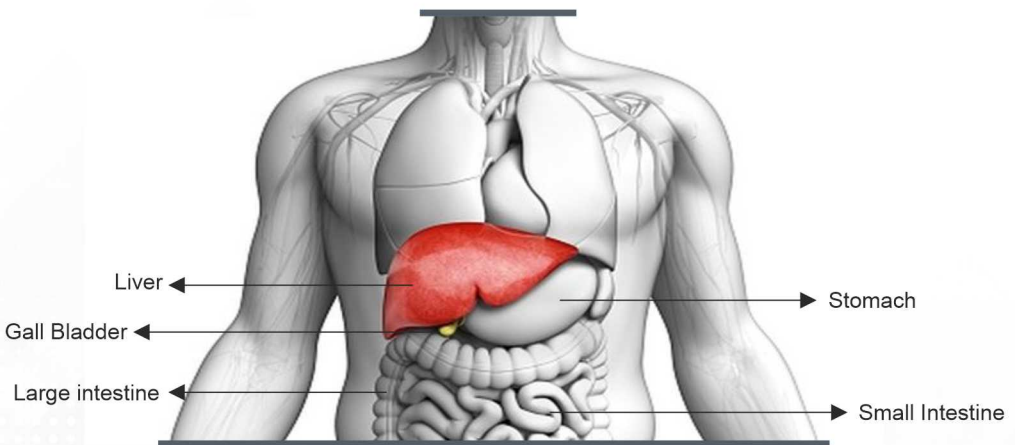
Dr. Rela Institute and Medical centre is a multi speciality hospital which was started in September 2018 with state of the art operating rooms and ICU facility. The RIMC Liver Transplant Unit helps to meet the needs of people in India and abroad suffering with liver disease and requiring a liver transplant. The unit is headed by Prof. Mohamed Rela, a world renowned liver transplant surgeon with over 28 years of experience. He has performed over 1500 liver transplant surgeries in India and in excess of 4000 transplants worldwide. This information booklet has been designed for patients needing assessment for Liver Transplant to help guide them through the process and for their families.

The Liver and Liver Diseases

The liver is the largest solid organ in the body. It is located on the right side of the abdomen under the ribs.

What does the liver do?

The liver has over 500 different functions that are essential for life. A few of them include: bile production that helps breakdown fatty foods, absorbing and metabolizing bilirubin, removing toxins from the blood, building muscles, killing germs, storage of vitamins and minerals, supporting blood clotting and production of albumin



What happens when the liver becomes diseased?

A Liver when healthy, repairs itself from most harm inflicted on it. In cases where the liver is under constant insult (for eg: alcohol abuse or subject to prolonged viral attack or is allowed to accumulate fat over several years due to poor lifestyle), the damage can be severe and results in the liver tissues getting scarred that leads to irreversible damage. A scarred liver is called a cirrhotic liver. Common causes of cirrhosis in adults are chronic viral hepatitis, Non-alcoholic fatty liver disease, chronic alcohol misuse, primary biliary cirrhosis, Wilson disease and sclerosing cholangitis. A less common complication of chronic liver disease is cancer of the liver. Children can also be affected by liver disease and the common causes include Biliary Atresia, PFIC, Alagille's syndrome and Wilson disease.

When the damage to the liver happens due to a sudden massive insult, liver failure sets in rapidly and the condition is called Acute Liver Failure. This is an uncommon scenario.

You will be advised to undergo Liver Transplantation by the transplant team, when surgery becomes the only option for a better quality of life and survival. In this case, you are advised to meet the Transplant Coordinators to start "Work Up" for Transplant and the next few pages will take you through the steps of evaluation.

Pre-Liver Transplant Evaluation and Tests (Work Up)

- Assessment
- Who will I meet in the Transplant Unit?
- What tests will I need?
- Who makes the decision?

Assessment

You can either undergo assessment as OP (not admitted) or as IP (admitted). The decision is based on the doctor's advice depending on your medical condition or when admission is not medically indicated, based on your choice and convenience. The work up can take anywhere between 3 and 7 days depending on your condition and any findings from the tests. The purpose of the assessment is to:

- Assess the extent of the liver disease
- Evaluate fitness for transplant
- To learn of any other medical conditions that needs treating before a transplant can take place

Do I have to repeat the tests which I may have already done elsewhere?

You will not be asked to repeat all the tests, but certain investigations which are vital in decision making or which are not of good quality (eg CT scan which is not timed accurately) may be repeated. In any case, you will be required to consult the core team of specialists who will be involved in your care during and after the transplantation. If additional tests are requested by them, they will have to be done

Who will I meet in the Transplant Unit?

The transplant unit comprises of several teams who will be involved in your assessment.

Transplant Coordinators:

Once the decision to transplant is confirmed by the Hepatologist or transplant surgeon, the transplant coordinators start the process of evaluation. They organize your appointments for the various tests and consultations with the different specialists. They also provide all the information you need to know about the liver transplantation. They guide you and your family during the entire process.

Hepatologist:

The Hepatologist will be taking care of your medical management and will optimise your condition before the transplant procedure. They will also liaise with the rest of the evaluation team for any concerns that might arise during the evaluation process and also once you are on the waitlist. After completion of the workup and while you are awaiting a transplant, you will be required to consult the hepatologist on a regular basis to monitor your medical condition.

Transplant Surgeon:

The Transplant Surgeon will assess you for the transplant surgery, look through your evaluation and CT scan for technical information that will be required for planning your surgery. He/She will explain in detail, the steps of transplantation and prepare you for what to expect before, during and after transplantation.

Anesthetist/Intensive Care Team:

The Anesthetist is the doctor responsible for putting you to sleep during the surgery. They will assess for any anesthetic risk and decide if you are fit for anesthesia during the surgery. This will help improve outcome of the surgery. They also monitor your condition throughout the operation and whilst you are in the Intensive Care Unit. They also provide support with pain management.

Cardiologist:

The cardiologist is responsible for assessing your cardiac health. A lot of attention needs to be placed on identification of any underlying cardiac disease that influences surgical risk and long term outcome. Any such findings will be addressed prior to the transplant.

Dietician:

The Dietician plays an integral role as part of the transplant assessment team. Liver disease may have made you malnourished. This may lead to complications during surgery and recovery afterwards. The dietician will assess your nutritional health and will come up with treatment strategies to correct it. They will work with you and set diet and nutritional goals in order to get the right calorie and protein intake that is needed every day. Good nutrition will help put the body in best condition for transplant surgery.

Others:

The Nephrologist, Ophthalmologist, Dentist, ENT surgeon, Pulmonologist, Infectious Disease Specialist, Gynecologist (for female patients) and any other specialist as deemed necessary by the primary transplant team will also need to evaluate you before surgery.

What tests will I need?

To make the entire process easy, all the tests and consultations are offered as a package. However, additional tests may be required if requested by the consultants. These additional tests need to be paid for separately. The package as such includes,

- Blood Tests (basic blood tests, Biochemistry Analysis, Viral Markers, Tumour Markers, Auto Immune Markers)
- Radiology (CT scans, MRI, Ultrasound, XRay)
- Cardiology (ECG, ABG, Echo, PFT, Stress Thallium / Coronary Angiogram / DSE / TMT)
- Consultations and exams by various Specialists.

In preparation for some tests, you will need to come to the hospital without eating and avoiding certain medications. The transplant coordinators will give you all instructions you'll need, prior to the tests.

These tests furnish the transplant team with complete data to assess the functioning of your liver and other body systems to decide your fitness for transplant and address any pre-existing condition, thereby optimizing you for the transplantation.

Who Makes the Decision?

Once the tests are complete and fitness advice from the various specialists obtained, the evaluation details of all pre transplant patients are reviewed at a weekly Pre Transplant Listing Meeting which is comprised of Hepatologists, Transplant Surgeons and Anesthetists. Here they risk stratify patients and plan pre-operative and operative strategies based on individual risks. Some patients may even need further investigations before a final decision can be made.

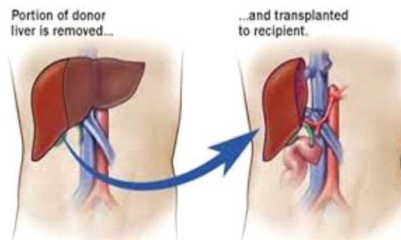
Based on the availability or non-availability of a family member to voluntarily donate part of his/her liver to you, the choice you have is between Living Donor Liver Transplant (LDLT) and Deceased Donor Liver Transplant (DDLT).

DDLT

Deceased Donor Liver Transplant or Cadaveric Liver Transplant is when the organ comes from a person who has been declared brain dead, usually after an accident. The family of the deceased make a very difficult decision to donate, so as to give someone else a chance to live a better life. This is the only option for a patient who does not have a family member to donate. The waiting time for a liver to become available is unpredictable and may take several months. At times, during this waiting period, patients may require hospitalisation for any decompensation (like Ascites, infection or Hepatic Encephalopathy). This may be quite draining on the health and the resources of the patient.

LDLT

Living Donor Liver Transplant is when a relative of yours voluntarily donates a part of his/her healthy liver to replace your liver which is unhealthy. These transplants are possible due to the liver's amazing ability to regenerate and grow. Due to this, you will be able to receive the life-saving surgery a lot sooner than if you



had to wait for a deceased donor liver to become available. Also this is an elective procedure as opposed to DDLT which is always an emergency procedure.

If you opt for a DDLT, you are listed based on the blood group. You are communicated this decision and after your consent is officially registered with the state deceased donor transplant program, you are placed on the waiting list.

In case of LDLT, the team carries out the evaluation of the prospective donor simultaneously as you go through your evaluation and once the donor is approved, the transplant coordinators help you to complete the paperwork. It is a mandatory requirement at RIMC that the donor is a relative of the recipient and has voluntarily come forward to donate. The paperwork for a first degree relative (mother, father, spouse, sibling, child, grandparents) is very straight forward and with necessary documents, can be approved by the in-house ethical committee. All other relatives will need to attend the "State Level Authorisation Committee" meeting with all relevant documents to prove relationship and needs approval from the DME (Director of Medical Education). On completion of this process, the transplant team will fix the earliest available date for transplant.

How to prepare yourself during waiting for a DDLT:

While you are waiting for the liver transplant, it is important for you to visit the transplant team on a regular basis in order to have your medical condition monitored. Doctors will treat your health condition to keep you as comfortable as possible. If you are not in Chennai and not on regular follow up with the team at RIMC, it's vital that the team is kept posted of any changes in health condition.

Should the offer for an organ become available, and you receive a call, it's essential to inform the team of any infections (cold, cough, fever etc) at the time, however mild it may be.

In DDLT, you have to be ready for immediate surgery, as the liver retrieved from the deceased donor needs to be transplanted within 12 hours. This is the reason why you are advised to stay close to the listed center as you move up the waitlist. You can be called to the hospital in the middle of the night and at very short notice. It may be a good idea to have your hospital bags packed, ready to grab and go. In an occasional instance, the surgery may not proceed even after the alert has been given and you are called in. It can be due to several reasons – you may not be medically fit, the donor family may withdraw consent, the donor liver is not in good condition for transplant.

How to prepare yourself before surgery

On arrival, you are admitted and basic tests and X rays are done to assess the current state of your health (all of this happens a day before the surgery in LDLT). They are seen by a doctor who would address any last minute concerns and will advise on pre-operative fasting time. If the liver is from a living donor, your donor is taken to surgery first, followed by you. In case of deceased liver transplant, surgery is planned based on the arrival time of the liver from the donor (if the donor surgery happens in a different hospital).

The Operation

Liver Transplantation is a major surgery and can take between 8 and 10 hours and in some cases even longer. You will usually have a 'inverted L shaped' scar across the upper half of the abdomen following surgery. During surgery, your entire unhealthy liver is removed (except in very rare instances) and the donor liver is placed in the same space below your rib cage on the right side. Connections between blood vessels in the donor liver and your blood vessels are made and also the bile tube connections are established. At completion of surgery, drainage tubes will be inserted around the operation site. This will be removed after a few days following surgery, however a drainage bag will be applied as there may be continued fluid drain for a few days afterwards. The wound will be closed with metal clips which can be removed in about 3 weeks.

Post-operative Care

Immediately following surgery, you are transferred to the Liver Intensive Care Unit. In the ICU, you are maintained on a breathing machine (ventilator) until you are able to breathe independently. You will be in the ICU for about 2 to 3 days and if your liver function tests are improving and all other organ functions are satisfactory, you will be moved to the ward subsequently.

The next few days demand a lot of determined effort from you as we start gentle exercises to help speedy recovery. The physiotherapist will visit every day to help with breathing exercises and mobility. This is important as this helps build strength to return to normality and also to decrease complications. During this time, the ward nurses will educate you about your medications and the frequency of intake. It is imperative that you attend postoperative clinic on a regular basis to avoid risk of infection or liver rejection. Initially you will be seen 2 times a week by the hepatologist or transplant surgeon and this will gradually taper down. The frequency of visits will be communicated to you by the transplant team. It is very important that you come to all the clinics as this will help ensure that your new liver is working properly and also that your body is responding well to the new medicines. After discharge to your hometown from the transplant clinic (which is typically 6 to 8 weeks from transplant), a close follow up communication by email or through

the coordinators with the transplant team is important. It is required that you send your blood test results by email regularly, so that doctors can monitor and amend any medications as needed.

Life After Liver Transplant

Liver Transplantation has excellent outcomes. Most patients go on to live a normal life. Three months after surgery most patients have recovered fully and return back to work. To make the most of the new liver, it is important to follow the treatment plan and to live a healthy life style. The key things to remember are:

Medications

It is common to have a bunch of medicines to help your new liver function smoothly. Some medicines (immune suppressant) are prescribed to prevent rejection, some to fight infections and some others to treat side effects of the immunosuppressant. However these will come down to just a couple after a few months. It is important to take all medications as prescribed and on time. Discontinuing medications without doctor's advice can lead to rejection of the transplanted liver. Immune suppressant medications will have to be taken for the rest of your life.

Keeping Up With Appointments

It is crucial to keep up all your doctor and blood test appointments. This will allow the doctor to check for any signs of rejection and to ensure the new liver is working as it should. It is highly recommended that this practice is continued, so the doctor can amend any medications as needed.

Eat Healthy

Establishing good eating habits is key to early recovery. The body needs more energy and protein for healing from the operation. On full recovery, it is recommended that your body weight is maintained in spite of the voracious appetite that you may develop. Gaining too much weight after surgery can be harmful to your new liver. In general, avoid too much salt and sugar. 'Grapefruit' can interact with certain medications, so you may want to avoid it. It is a good practice to visit a dietitian to help plan your diet.

Exercise

Exercising regularly is highly recommended. However, abdominal exercises and lifting heavy weights will have to wait until after the first three months. To maximize success of your new liver, staying active and controlling your weight is key. This will also reduce any risks of stroke or heart attack.

Avoid Alcohol and Tobacco

Alcohol and tobacco are a big “no-no” after a transplant. Avoiding these can prevent damage of the new liver and will also aid in your general well-being.

World Transplant Games

Life after transplant does not stop with resuming your normal life but can also throw interesting opportunities to explore and experience what you have not done before , like participating in international sporting events like the “WORLD TRANSPLANT GAMES”.

Once every 2 years, the World Transplant Games Federation organise Summer and Winter Transplant games for people who have had the life-saving surgery. More than 60 countries participate. It aims to raise public awareness on the importance and the benefits of organ donation and to celebrate the quality of life that can be achieved post-transplant. This also gives a lot of hope to patients who are waiting to be transplanted.

For further information, please visit their website: www.wtgf.org

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Dr. Rela Institute & Medical Centre is a multi-specialty quaternary care hospital located in Chennai, India.

The Institute is within the campus of Sree Balaji Medical College and Hospital, which is spread across 36 acres. It has 14 operating theatres with 450 beds, inclusive of 150 critical care beds.

The Institute is conveniently located 10 minutes from the Domestic and International Airport.

The hospital is designed to provide highly specialized care in various departments with a focus on multi-organ transplantation. Prof. Mohamed Rela, a world renowned surgeon in the field of Liver surgery and transplantation is the Chairman and Managing Director of the Institute.

In addition to quaternary & quality care, is also committed to provide day to day primary and secondary care to the local population, with facilities of international standards.

The Institute would provide comprehensive support to international patients travelling for medical treatment such as language assistance, stay, visa and travel.

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