

## Diet After Liver Surgery

It is important to maintain a good lifestyle and healthy diet for your body after a liver resection has been done. At this stage, all you have left is the remnant liver to perform its vital functions, which are

- i. **Detoxification** - It inactivates toxins, protects our body by breaking down toxins.
- ii. **Hormone Regulation** - It stores nutrients like amino acids and lipids for absorption and breakdown of circulating hormones like insulin.
- iii. **Sugar** - It stores glycogen and maintains blood glucose.
- iv. **Bile juice production** - It manufactures and secretes bile juice for digestion.

Here are the lists of guidelines for you to observe:

- **Physical activity**
  - Avoid heavy lifting, less than 5 kg
  - Maintain good posture ( eg. Avoid bending down)
  - Light exercise such as swimming ( eg 200meters=4laps to complete in 30 minutes using breast stroke), brisk walk (eg. about 1/2km to 1km a day, divide into 2 times, take about 15min each time)
  - Light warm up ( eg. simple stretching)
  
- **Back support** - The back muscle is working extra hard to support the body as the abdomen (front) muscle is weaker after surgery. It takes about 6-9 months to fully recover. Hence it is important to have a proper posture for good back support ( eg. wearing a corset, putting a pillow behind when sitting down), and proper care ( eg. correct way of getting up from bed, avoid sleeping on the soft bed).
  
- **Wound care** - You will be wearing a waterproof dressing for your wound. This allows you to bath. There may be some discolorations (staining or discharge from the wound site), which is not uncommon. However, if it appears soaked or if you are uncertain, please consult the clinic.
  
- **Diet** - A Well Balance diet is very important. You can visit the website [www.nutrition.com.sg](http://www.nutrition.com.sg) for reference. Patient with liver cirrhosis (hardening of liver), there are certain foods that must be avoided.
  - **Soft Diet**
    - for the 1st two weeks after the operation, it is advisable to start with soft diet for easy digestion. Eg. Porridge, 'Mee Swa' and 'Kway Teow'
    - Take small portion with frequent meals (approximate 6 meals per day). It will reduce gastric distension and bloating as the stomach is unable to empty food as

normal as before the surgery.

- **Low Fat Diet** - Fats is important as it supplies fatty acids that the vita organs for protection and support. It is needed to absorb and store fat soluble vitamins A,D,E and K. And it is essential for growth in children.

However, there are two types of fats: Saturated and Unsaturated fats. Saturated fats are mainly from animal and its products. It can also be found in palm oil, coconut oil. Too much of these fats will cause increase in the cholesterol level.

Unsaturated fats are mainly from fish and plants. It helps to reduce the blood cholesterol.

- Cook food with unsaturated oil eg. Olive oil and Canola oil.
  - Cut down usage of saturated oil eg. Margarine, hydrogenated vegetable oils (soybeans oil, corn oil) and shortening (palm oil, coconut oil), as well as fats from meat and dairy products.
  - Avoid or reduce dressing like Tartar sauce, thousand islands dressing and mayonnaise, they are made from hydrogenated oils.
  - Less deep fried and oily food. You can choose to steam, grill and bake your food often.
  - Reduce intake of dairy products eg. Cow milk (choose skim and low fat milk or soy milk, low fat yogurt and ice-cream). It is hard to digest because these products cause the splinter (end opening of the stomach connect to the small intestine) to close; hence the stomach is unable to empty the food.
  - Avoid large amount of sugar intake; excessive refine sugar will be converted to triglycerides.
  - Avoid or reduce intake of peanuts, it has very high content of cholesterol and also it is harmful to your liver.
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- **Low Salt Diet** - It is necessary because in cirrhotic a high sodium content cause retention of water.
    - Pan salt has less sodium contents where you can use it as a normal salt to cook, bake and add taste to your food. It can easily be bought from the shops.
    - No MSG or Artificial Flavors in your food.
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- **Protein Diet**
    - Red meat eg. Beef and Lam should be avoided if you have cirrhosis of liver. Otherwise if you have normal liver, it is safe to take these meats.
    - Take white meat eg. Chicken, Fish
    - Obtain protein from other source eg. Soy products, Tofu and half boiled egg white.

Most protein are absorbed in the form of single amino acids (the building blocks of protein) however some are absorbed as two or three amino acids combinations. Egg white and Soy products and fish are more encourage taking compare to the red meat as the body requires energy to metabolize the complex proteins into different types of amino acids before it can use them.

- **Roughage** - It is good to empty the bowel daily and thus it is important to take fibres.
  - Fresh fruits and vegetables. You can also grind them into juices. If so distend, avoid taking durian and avocado.
  - Oats, Corn and Brown rice etc they are high in fibers.
  
- **Supplement**
  - Supplement eg. Vitamin C (help in wounds healing and good for skin texture) and B (for nerves), and minerals such as Selenium (antioxidant enzymes and enhance immune system) are helpful after operation for building up your body.
  
- **Water**
  - Drink aobut 1.5 L to 2 L of fluid a day. That does include juices and beverages. Keep your body hydrated unless you have kidney problems. In which case, please consult the doctor first. In liver cirrhosis, it is important to restrict your fluid intakes. The doctor will guide you.