

## Fatty Liver Clinic

Dr L H Hiranandani Hospital Powai offers a novel and unique facility, the Fatty Liver Clinic. This clinic offers a comprehensive assessment, counselling and therapy for patients with fatty liver. Special packages are available and patients can seek advice from a liver specialist, dietician and are counselled on lifestyle changes, exercise, weight loss etc. Tailored diet charts and exercise programs are arranged according to each individual's requirement. Patients are also registered for regular follow-up to monitor their progress, and linked with other specialists like Diabetologist and Cardiologist as necessary.

**Clinic Days: Monday & Thursday**  
**Clinic Timings: 4.00 pm to 5.00 pm**  
**Venue: Department of Gastroenterology , 3<sup>rd</sup> floor.**  
**For Appointments Contact: 022 25763684 / 3500**

### Consultants:



**Dr Pravir Gambhire**

MD (Medicine), PDDM, DM (Gastroenterology),  
 DNB (Gastroenterology)  
 Full Time Consultant Gastroenterology



**Dr Neeraj Tulara**

MD (General Medicine)  
 Full Time Consultant General Medicine



**Ms Richa Anand**

PG Diploma in Dietetics, BSc Foods & Nutrition  
 Full Time Consultant Dietician



**Dr Janhavi Rankhambe**

BSc (PT)  
 Full Time Consultant Physiotherapist



Issue April 2017

### Contents:

Services.....	1
Non-alcoholic Fatty Liver Disease.....	2
Exercises in Fatty Liver.....	3
Diet in a Fatty Liver.....	4
Fatty Liver Clinic.....	5



### Services provided by the Gastroenterology Department:

- High Definition Upper GI Endoscopy • High Definition Colonoscopy • High Definition Sigmoidoscopy
- Narrow Band Imaging of Upper and Lower GI Tract • Biliary and Pancreatic ERCP • Capsule Endoscopy
- Endoscopic Foreign-body Removal • Endoscopic Band Ligation • Argon Plasma Coagulation
- Hemoclips and Glue Injection • Liver Biopsy • Achlasia Dilation • Endoscopic Polyp Removal
- Esophageal and Enteral Stricture Dilatation • Esophageal and Enteral Stenting

## Non-Alcoholic Fatty Liver Disease

### Dr Pravir Gambhire

MBBS, MD (Medicine), PDDM, DM (Gastroenterology),  
 DNB (Gastroenterology) Full Time Consultant, Gastroenterology

NAFLD (Non-alcoholic fatty liver disease) is a condition characterized by accumulation of fat (called fatty infiltration) in liver. It is a common problem and can lead to serious liver damage. NAFLD may progress to cirrhosis. The reported prevalence of NAFLD is 6 to 35%. In a population-based study from Mumbai, NAFLD in adult population was detected in 19%. The worrying part is prevalence of fatty liver has been increasing over time.

### Types of Fatty Infiltration:

- 1. NAFL (Non-alcoholic fatty liver)** in which the fatty infiltration is not associated with liver inflammation. It is the most common cause of liver disorder in US and Europe. NAFL are often detected when imaging tests of abdomen are done for other reasons. Liver blood tests are usually normal
- 2. NASH (Non-alcoholic steatohepatitis)** in which fatty infiltration is along with liver inflammation, is seen more frequently in people with diabetes, obesity and insulin resistance. This combination of disorders is often called the metabolic syndrome. Liver enzymes may or may not be elevated. Most of cases are between the ages of 40 and 60 years, although the condition can also occur over the age of 10 years.



**Hiranandani Hospital**  
 Your Family Speciality Hospital

### Dr L H Hiranandani Hospital

Hillside Avenue, Hiranandani Gardens,  
 Powai, Mumbai - 400 076.  
 Tel.: 2576 3300 / 3333 Fax: 2576 3344 / 2576 3311

### Hiranandani Hospital

Hamilton 'B' Hiranandani Estate,  
 Off Ghodbunder Rd, Patlipada, Thane (W)- 400 607,  
 Email: thinfo@hiranandanihospital.org

Board (Powai)	: 2576 3300, 2576 3333, 2576 3999
Multitask Counter	: 2576 3485, 2576 3486
Casualty	: 2576 3322, 2576 3323, 2576 3328, 2576 3271
Laboratory	: 2576 3366, 2576 3365, 2576 3234
Home Health Care	: 2576 3322, 98198 73621
Ambulance	: 2576 3328, 2576 3323
Health-check	: 2576 3318, 2576 3398
Blood Bank	: 2576 3355, 2576 3356
OPD Counter	: 2576 3337, 2576 3338, 2576 3339, 2576 3340
Centralised OPD Appointment	: 2576 3500
Hiranandani Hospital, Thane	: 2545 8666, 2530 8666, 2530 8670, 2530 8668

Email: wecare@hiranandanihospital.org | homecare@hiranandanihospital.org  
 pathology@hiranandanihospital.org  
 Website: www.hiranandanihospital.org

Most people with fatty liver have no symptoms; some cases may complain of fatigue, a generalized feeling of being unwell and a vague discomfort in their upper right abdomen, although it is not clear if these symptoms are related to NASH. Patients with NASH may progress to cirrhosis, with complications that include gastrointestinal bleeding, fluid in abdomen, change in behavior, liver failure and may also have liver cancer.

NASH is associated with diabetes, hyperlipidemia and obesity in up to 60 to 80% cases. Asian patients often develop fatty liver and steatohepatitis at normal body mass index (BMI) too (Lean NASH).

#### Diagnostic Tools:

NASH is often discovered during routine laboratory testing. Additional tests help confirm the presence of NASH and rule out other types of liver disease. Sometimes a liver biopsy is required to confirm NASH and also help determine the severity of inflammation, detect liver scarring (fibrosis or when severe cirrhosis).

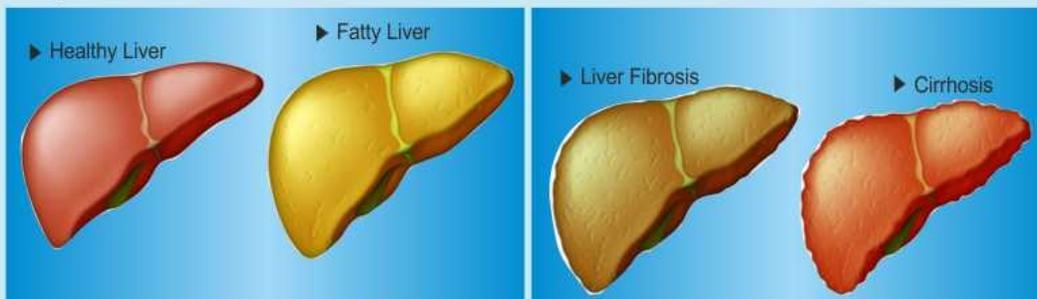
Fibroscan / Fibrometer are noninvasive tests that determine how much scarring there is in liver and to determine if cirrhosis has developed.

#### Medications:

Treatment aims to control the conditions that are associated with NASH such as obesity, diabetes and hyperlipidemia. Weight reduction by an individualized healthy diet and exercises can help to reduce NASH and NAFL. Weight loss should be gradual, since rapid weight loss has been associated with worsening of liver disease.

Healthcare providers sometimes recommend Vitamin E, Omega-3-Fatty Acids, anti-diabetic medications, statins, bile acid therapies, etc. There is some evidence that these might reduce some of the liver damage that occurs as a part of NASH; there is also evidence that these medications increase other health-related risks. Do not take medications unless your health care provider recommends it.

#### Progress of the disease:



It is difficult to predict the course of NASH. One study that tracked liver damage over time showed that the condition remained stable in 53% of people and worsened in 43% of people. Most serious complication of NASH is liver cirrhosis. In one study upto 26% of people with NASH developed cirrhosis. People with NASH often have metabolic syndrome. The metabolic syndrome puts people at increased risk for heart disease. The good news is that the treatment for NASH also helps treat other problems that are part of metabolic syndrome. Thus do not forget prevention is better than cure, early detection and timely management of fatty liver can prevent permanent damage to liver in the future.

### Exercises in Fatty Liver

Dr Janhavi Rankhambe  
BSC (PT)  
Full Time Physiotherapist

- An individualized regular exercise program helps in weight loss, lowers triglycerides and aids control diabetes
- Exercise improves insulin resistance, increase the level of high density lipoproteins and also strengthen the immune system
- Aerobic exercises as well as resistance training are beneficial to lower the liver fat

- Aerobic exercises aid overall weight loss and help reduce the visceral fat
- Though resistance training does not lead to overall weight loss, it leads to significant reduction in the blood cholesterol levels as well as drop in ferritin, a protein found in liver that facilitates storage of fat

### Diet in a Fatty Liver

Ms Richa Anand

PG Diploma in Dietetics, BSC Foods & Nutritions  
Full Time Consultant Dietician

Liver is integral to most metabolic functions of the body; the importance of the liver in the metabolism of ingested nutrients and drugs suggests that hepatic function can be influenced by dietary manipulations. The diet to aid a normal liver is a balanced healthy diet where all foods can be taken in moderation and in most cases weight reduction is advised.

The main criteria which need to be stressed upon are **Quality, Quantity** and **Regularity**.

- Quantity should be based on your lifestyle, food must be consumed in proportion to the nature of daily work and exercise regimen
- Quality of the diet should be such that it should facilitate the body to stabilize to an optimum level
- Regularity is eating at least 4-5 meals a day to ensure that the gut functions effectively and the energy levels are kept even

#### Do's and Don'ts:

- Have a well balanced diet with whole grains, vegetables, fruits, nuts and seeds
- Add whole grains like whole grain breads and cereals, brown rice, quinoa and barley to your diet
- Limit processed foods like white bread, white rice, cakes, cookies, donuts and candy
- A high protein diet especially of vegetable sources is beneficial in treatment
- When opting for non-vegetarian food choose lean meats such as egg whites, fish and chicken and avoid red meats such as mutton, pork and beef
- Eat plenty of dark-colored fresh fruits and vegetables they are rich in antioxidants, fiber, vitamin C, natural antibiotic substances and anti-cancer phyto-nutrients which have been found beneficial in the treatment of liver disorders
- Use freshly ground black pepper, lemon juice, onion, spring onions, garlic, ginger, herbs, and mustard powder for flavorings instead of oil, butter and strong spices
- Drink lots of water (6–12 glasses per day) because it helps the kidneys to get rid of the toxins that the liver has broken down
- Avoid alcohol, alcoholic beverages and aerated beverages
- Limit fats and oils and avoid use of butter, margarine, fried foods like potato chips, burgers etc
- High fat dairy products like whole milk, ice cream and cheese contain saturated fats, so they must be restricted
- Choose skimmed milk and low fat curds instead
- Also eliminate canned and processed foods, full cream milk, animal fat, white flour and sodium rich foods
- Read labels carefully to understand the contents of the packaged food

At the end of the day remember to eat simple home cooked meals that have all the seasonal vegetables and fruit. Eat all foods in moderation and stay healthy!!!!