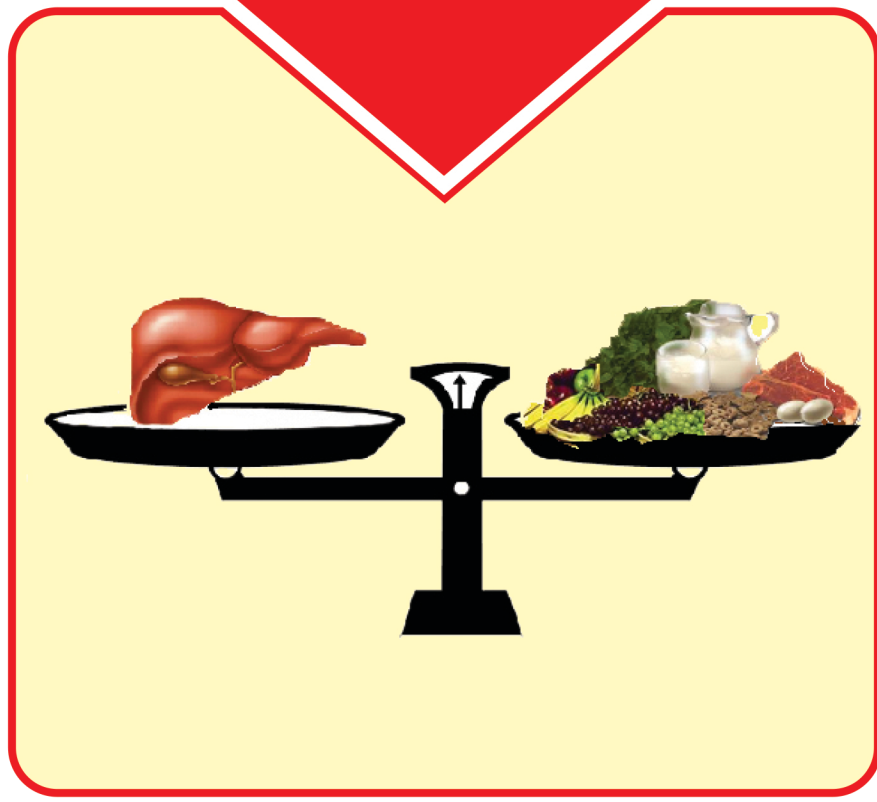


# Dietary Modifications in Chronic Liver Disorders

A Guide For Patients/Families



Department of Nutrition and Food Services




آغا خان یونیورسٹی ہسپتال، کراچی

The Aga Khan University Hospital, Karachi



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The liver is vital for protein, fat, glucose and vitamin breakdown, and detoxification of drugs. Any damage to this organ can affect wellbeing of the body.

Certain disorders, from mild to severe in intensity affect the liver function. As such, patients need to strictly modify their diet. Please read and apply the following guideline.

### **Diet therapy includes taking care of**

**Proteins:** This controls the malnutrition and disease severity; so adequate protein intake should be ensured as per the advice of the doctor or dietitian.

**Sodium (salt):** This increases the risk of *ascites* (abdominal fluid), and levels of restriction may vary from patient to patient.

**Fiber:** Should be increased to avoid constipation.

**Fat:** Should be taken in moderation.


**Carbohydrates:** Enough carbohydrates should be taken to spare proteins for liver cells regeneration.

**Minerals and vitamins:** Fruits and vegetables should be consumed; Supplements may be needed as per advice of the doctor/dietitian.

### **Complications that require modification in diet needs**

**Ascites (excess fluid in abdomen):** This is composed of protein-rich fluid. Patients with ascites are often malnourished, and have frequent complaints of inadequate oral intake.

Diet therapy includes: Sodium restriction and a good amount of protein intake as prescribed by the doctor or dietitian.



**Cirrhosis:** Chronic liver disease caused by loss of functional liver cells.

Diet therapy includes: Protein according to the concerned tolerance and prescription; sodium is restricted.

**Hepatic encephalopathy:** This is any disorder affecting the brain due to liver disease.

Diet therapy includes: Reduced amount of protein intake depending on the condition and as prescribed by the doctor or dietitian. Sodium is restricted when edema (swelling) or ascites is present. An adequate amount of carbohydrate and fat are required to allow protein for building muscles (rather than providing energy)

Steatorrhoea: Foul-smelling fatty stool.


Diet therapy includes: Low-fat diet for a brief period of time. Carbohydrate and protein intake should be increased. Avoid any alcohol consumption.

**Hepatic carcinoma:** Cancer of the liver.

Diet therapy includes: High to moderate fat, high carbohydrate and high protein with restricted sodium intake.

### **Frequently asked questions**

- **How much protein should be consumed?**  
The amount of protein may vary from individual to individual. Please follow the dietitian or doctor advise for the type of protein.  
Sources of protein:  
Animal sources: Egg, fish, chicken, red meat, milk, milk products and cheese  
Plant sources: *Dals*, beans and cereals such as wheat and rice.
- **How much sodium should be consumed?**  
A pinch of salt (one-fourth tea spoon) may be added in cooking.  
What to avoid: No salt should be added to foods at the table.



Foods like *achars* or pickles, processed meats, salted snacks (like chips, *nimco*, crackers), canned foods (seasonings like soya sauce, Worcestershire sauce, Chinese salt (monosodium glutamate) should be avoided.

- **Does only salt restriction reduce the chances of ascites?**  
No! Only salt restriction may not be effective in reduction of ascites. Other ways to reduce ascites are adequate protein intake and sufficient calories.
- **Why there is so much emphasis on prevention of constipation?**  
Constipation leads to retention of waste products in the body, leading to high ammonia levels and encephalopathy. Adequate amount of fiber and laxatives, as prescribed by the physician helps regular bowel movement and decreases 'transit time' as well. All fruits and vegetables are good sources of fiber; others include psyllium husk (*ispaghul*), figs (*anjeer*), and prunes (*aaloo bukhara*)
- **Is fat completely restricted in liver disease?**  
No! It is not completely restricted because the body prefers fat as an energy source; (25-40% of calories from fat are recommended).
- **Should food supplements be used?**  
In case of poor oral intake, food supplements may be suggested orally for nutritional support. Supplementation should to be taken only if prescribed by a doctor or dietitian.

**FOOD GUIDE FOR LIVER PATIENTS  
(LIMITED/RESTRICTED IN PROTEIN AND SODIUM)**

Food category	Foods allowed	Foods excluded
<b>BEVERAGES</b>	Tea, fresh juices, sweet drinks (half cup)	Coffee, soft drinks, soda drinks, alcoholic beverages
<b>MILK*</b>	Dairy desserts(half cup), unsalted cottage cheese, milk, yoghurt (without cream): 1 cup/day.	Cheese (all except cottage cheese), butter milk, lassi
<b>GRAINS, CEREALS</b>	Rusk, porridge (unsalted), plain bread (2 slices) Biscuits: 2 to 3 (unsalted), <i>chapatti</i> , rice (no added salt)	Salted porridge, bakery products (cakes, pastries, biscuits, <i>samosas</i> , <i>pakor</i> s, <i>naan</i> , <i>taftaan</i> , <i>sheermaal</i> )
<b>FRUITS</b>	All fresh fruits / juices (half cup) (without added salt)	Canned fruits
<b>VEGETABLES</b>	All fresh/ cooked vegetables as required	Canned vegetables, spinach not more than one-fourth cup
<b>EGG, FISH, POULTRY, MEAT*</b>	2 egg whites; chicken/fish 5 ounces (without skin)	Mutton, beef, other meat items such as kidney, liver, brain, etc
<b>FATS, OILS</b>	All types of vegetable oils (used sparingly): olive oil, canola, corn etc.	Salted butter, margarine, <i>ghee</i> , cream:
<b>MISCELLANEOUS</b>	Jam, jelly, honey, vinegar, lemon juice	Pickles, <i>nimko</i> , canned foods with sauces, packed chips, olives, soya sauce, hot-pepper sauce, ketchup, Chinese salt, mayonnaise, soda, baking powder

**Seasonings without salt:**

- Lemon, vinegar are excellent seasonings with fish, meat, vegetables, salads.
- Meat may be seasoned with onion, garlic, green pepper, nutmeg, ginger, dry mustard, unsalted tomato juice.
- Vegetables may be seasoned with green pepper, ginger, mint, onion.

**REFERENCES**

- MANUAL OF CLINICAL NUTRITION MANAGEMENT, MORRISON: 2001
- KRAUSE'S FOOD & NUTRITION (12TH EDITION) 2008



### Important Note:

Food provided during hospitalization to patients is disease specific and during stay food from outside hospital is not permitted. Written and verbal instruction related to dietary restrictions is explained by clinical nutrition staff, where applicable.

### Outpatient Nutrition Care Clinics

**Nazarall Walji Building (NW 2)**

Phone: (021) 3486-5789-90

Monday to Thursday

Timings: Morning 9:00am - 11:00am

**Consulting Clinic (CC 4)**

Phone: (021) 3486-1034

Friday

Timings: Afternoon 2:00pm - 4:00pm

**Gastroenterology Clinic****(JHS Building)**

Phone: (021) 3486-1055 / 3486-6308

Thursday

Timing: Morning 9:00am - 12:00am

**Sports & Rehabilitation Clinic  
(Sports Centre)**

Phone: (021) 3486-1662

Tuesday

Timing: Morning 9:00am - 11:00am

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