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A NOTE ON NUTRITION

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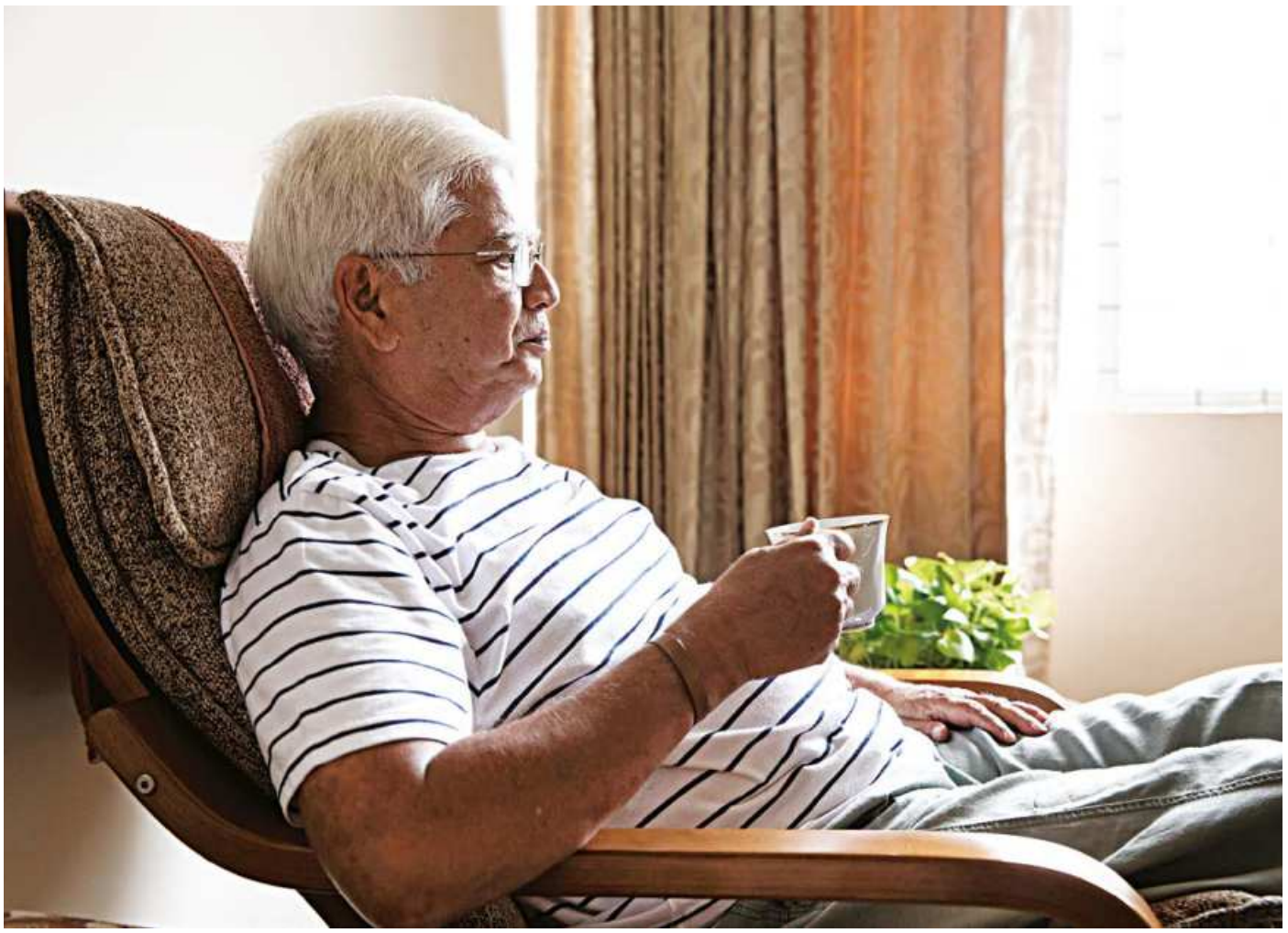
Nutrition guidelines for maintaining a healthy heart



29 September is World Heart Day, an event coined by the World Heart Federation, and observed throughout the globe. Cardiovascular diseases (CVD) are on the rise in Bangladesh, and it is therefore more important than ever to ensure that we are empowered with the knowledge to prevent them. For those who require cardiac surgery, it is important that they are aware of the nutritional needs in the postoperative scenario.

Prevention is better than cure

Paying close attention to what we eat can help reduce the risk of developing cardiovascular diseases. Sedentary lifestyles, consumption of excess carbohydrate, saturated fats and trans-fats, and limited fibre in diet are mostly responsible for causing CVD.

Saturated fats are abundant in animal products and tropical oils; they are solid or waxy at room temperature. The sources are fatty cuts of beef, the skin of poultry, full fat and processed cheeses, cream cheese, high-fat dairy products such as whole milk, cream, butter and sour cream, fried foods and fast foods, tropical oils — palm and coconut.

Trans-fatty-acids are liquid fats changed into solid forms through a process called hydrogenation. Many manufacturers use hydrogenated fats in their ingredients because it creates products with an extended shelf life and better consistency. They raise the levels of LDL ("bad cholesterol") in the blood and lower the levels of high-density lipoproteins (HDL or "good cholesterol").

Fast foods and fried foods are always high in trans-fat.

Unsaturated fats are recommended to lead a healthy life. Monounsaturated fats are one of the healthiest sources of fat in the diet. These include olive, canola and peanut oils; most nuts, nut oils and nut butters (natural peanut butter or almond butter); olives and avocados.

Good sources of polyunsaturated fats include safflower oil, flax oil and flax seeds, sunflower oil, walnuts, fish, soybeans, canola oil, etc.

Most of us do not get enough fibre in our diet. The recommended amount is 25-35 grams of dietary fibre per day. They are one type of carbohydrate that the body cannot digest. As fibre passes through the body, it affects the way the body digests foods and absorbs nutrients. Fibre can also help reduce our LDL cholesterol level.

A fibre rich diet can help control blood sugar, promote regularity, prevent gastrointestinal diseases and help manage weight.

Soluble fibres provide the greatest heart-health benefits. It helps lower total and LDL levels by binding to bile (secreted by the liver) in the gut and removing with the body's waste. Good sources of soluble fibre include oats and oat bran, barley, legumes (dried beans, lentils and split peas), apples, bananas, pears and citrus fruits, Brussel sprouts, broccoli, cabbage, sweet potatoes, and squash.

"Roughage" are insoluble fibres — wheat bran and whole wheat or grain bread/bread products, pasta, cereal and crackers, vegetables are a good source of roughage.

Post-operative nutrition of cardiac patients

Individuals undergoing cardiac surgeries often require a special diet. Malnourished patients are more susceptible to surgical trauma, ischemia/reperfusion injury, anaesthesia related complications, as well as inflammation. A pre-existing malnourishment is sometimes aggravated by fasting necessary prior to surgery and the commonly observed postoperative delay of nutrition support.

In order to assess the need for an adequate therapy, first it is important to detect patients who are at high nutritional risks. Some individuals may require preoperative diet management, while others may require postoperative care. This also varies from patient to patient.

After surgery, patients are unable to feed themselves although the need for proper nutritional diet is high in these cases. The use of intravenous administration of nutrition is often favoured in cardiac surgery patients, especially within the first days after operation. Trace elements like selenium are important for many of the body's regulatory and metabolic functions, especially during times of stress. There is thus a need to ensure that the level of selenium are adequate.

Among the most relevant vitamins are thiamine and vitamins D and C. Thiamine is responsible for adequate aerobic metabolism; vitamin D is involved in numerous physiological mechanisms desirable for cardiac surgery patients; vitamin C aide the healing process by preventing organ injury in critically ill patients.

In general, oral or tube feeding is continued after surgery to reduce surgical stress, maintain physiological functional capacity, and facilitate postoperative functional recovery.

Cardiac patients who are well nourished prior to surgery experience fewer complications than those who are malnourished. The mortality rate is also lower.

Several studies have shown the importance of energy and protein metabolism in the early recovery period after cardiac surgery. Adequate nutritional therapy is therefore suggested.

Once patients recover, it is important that they maintain good health according to the instructions of physicians and dieticians.

To sum it up, as cardiac surgery itself is a scheduled insult (an event which causes damage to a tissue or organ), it offers opportunities for nutrition support through the preoperative, intraoperative and postoperative period.

Assessment of preoperative nutritional status may guide health care professionals to consider early preoperative nutrition interventions in patients at elevated risk of developing postoperative complications.

Postoperative oral/enteral nutrition intake should be resumed early in the hemodynamic stable cardiac surgery patients.

Postoperative nutrition support should be initiated early (0–24 hours after surgery) in patients at high nutritional risk with an expected prolonged ICU stay.

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