

# GALL STONES

VLCC Health Information Series-I

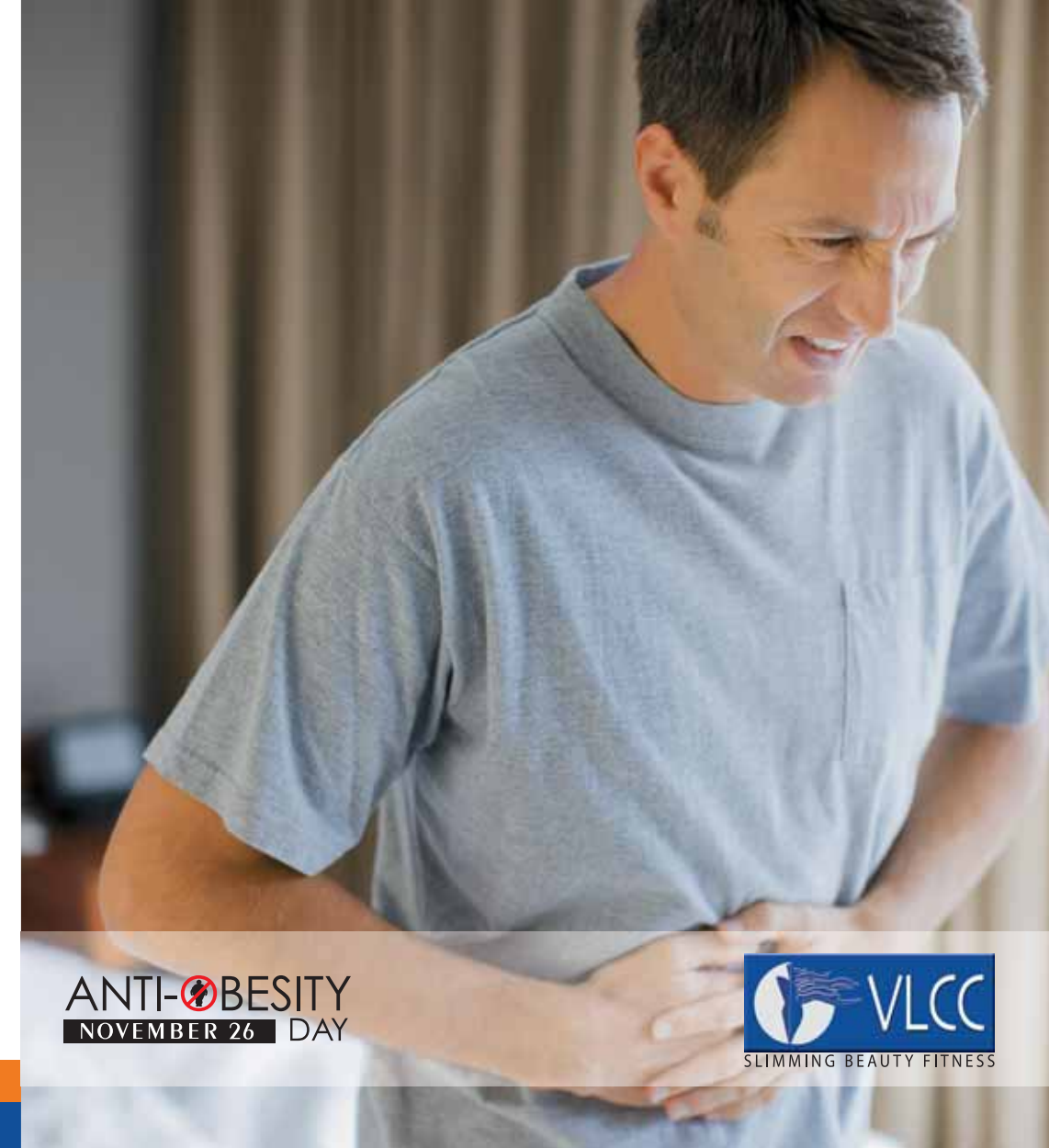
stones takes into consideration a balanced diet approach focusing on consumption of fruits & vegetables, whole grains, non fat dairy products and low in saturated & total fat. Low fat dairy products are advised as they are low in purine content and contain casein which stimulates uric acid diuresis.

Regular exercise helps in energy expenditure and reduce the chances of gall stone formation. The physiotherapists, fitness experts & counselors at VLCC plan an exercise program comprising both active and passive exercise as per your lifestyle, fitness level and health condition.



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## What are gall stones?

Gallstones are small, pebble like substances that develop in the gall bladder.

Gall stones can be as small as a grain of sand or as large as a golf ball. The gall bladder can develop as just one large stone, hundred of tiny stones or a combination of the two.

The two types of gall stones are:

- **Cholesterol stones** are usually yellow–green and are made primarily of hardened cholesterol. They account for about 80 percent of gall stones
- **Pigment stones** are small, dark stones made of billirubin

The gall bladder is small, pear shaped sac located below the liver in the right upper abdomen. Gall stones form when liquid stored in the gall bladder hardens into pieces of stone like material.

Gall stones can cause acute inflammation of the gall bladder with severe pain, high fever & chills. Also if left unoperated can slip down to the common bile duct & cause cholangitis or jaundice, thereby making surgical intervention risky.

Bile is made in the liver and then stored in the gall bladder until the body needs it. The gall bladder contracts and pushes the bile into a tube called the common bile duct that carries it to the small intestine, where it helps with digestion. Bile contains water, cholesterol, fats, bile salts, proteins and billirubin-a waste product. Bile salts break up fat and billirubin gives bile and stool a yellowish – brown color. If the liquid bile contains too much cholesterol, bile salts or billirubin it can harden into gall stones.

## What are the causes of gall stones?

The gall bladder stores bile which contains cholesterol, water, billirubin and bile salts.

Gall stones can form under the following conditions:

- Too much absorption of bile salts from the bile
- Too much absorption of water from the bile
- Too much cholesterol in the bile
- Inflammation of the lining of the gall bladder

## What are the risk factors of having gall stones?

- Gall stones are more common in women than in men
- Incidence increases with age, especially in women beyond 60 yrs
- Women with high estrogen levels due to pregnancy and contraceptive use or hormone replacement therapy
- Obesity, especially in women
- Use of cholesterol – lowering drugs
- Diabetes & insulin resistance
- Rapid weight loss and fasting, especially after bariatric (weight loss) surgery
- Previous gall stones
- Diseases of the gall bladder and ducts
- Blood diseases including sickle cell anemia

## Will obesity lead to Gall stones?

Obese individuals are more likely to develop gall stones than those who are at a healthier weight. Researchers have found that obese individuals tend to produce higher levels of cholesterol than normal. This leads to production of bile that contains more cholesterol than can be dissolved. When this happens, gall stones can form from undissolved cholesterol. Additionally, in the obese, gall bladders may not empty normally or completely.

Research has also shown that those who have excess fat around their waist (abdominal obesity) may be at greater risk for developing gallstones than those who carry excess fat mainly around their hips and thigh areas. As BMI increases, the risk for developing gall stones also rises. Women with a BMI greater than 32 may be as much as three times as likely to develop gall stones as those with a BMI of 24 or 25. The risk may be seven times higher in women with a BMI above 45 than in those with a BMI under 24.

## What would happen if the gall bladder is removed?

You do not need a gall bladder to digest food. Bile still flows from the liver to the gut once the gall bladder is removed. However, there is no longer any storage area for bile between meals. The flow of bile is therefore constant, without the surges of bile that occur from a gall bladder when you eat a meal.

You can usually eat a normal diet without any problems after your gall bladder is removed. However, up to half of people who have had their gall bladder removed have some mild abdominal pain or bloating from time to time. This may be more noticeable after eating a fatty meal. Some people notice an increase in frequency of passing stools (motions or feces) after their gall bladder is removed. This is like mild diarrhea. It can be treated by anti-diarrheal medication if it becomes troublesome.

## Will losing weight help prevent or improve your condition and its complications?

- It's important to note that weight loss due to crash dieting or rapid weight loss can actually increase your chances of developing gallstones, too. As the body metabolizes fat during prolonged fasting and rapid weight loss through “crash diets”, the liver secretes extra cholesterol into bile, which can cause gall stones. Slower weight loss of about half to one kg a week is much less likely to cause gall stones.
- Although losing weight may increase the risk of developing gall stones, obesity poses an even greater risk. Weight loss can lower the risk of developing gall stones and many other obesity related diseases. Just a 10% reduction of body weight can lower disease risk.

## How VLCC experts can help you manage your condition?

VLCC experts can help you to manage this condition by helping you to lose weight and advising appropriate changes in diet and lifestyle. Diet plan for clients with gall