



Living a healthier lifestyle



Liver disease can have very few symptoms, therefore discussion with your child's or family doctor about their health and lifestyle will increase the chance of them being able to provide an accurate diagnosis. Picture: www.aminoco.com

Non-alcoholic fatty liver disease in childhood and adolescence

NON-ALCOHOLIC Fatty Liver Disease (NAFLD) is now the most prevalent form of chronic liver disease, affecting 10 per cent to 20 per cent of the general paediatric population. Within the next 10 years, it is expected to become the leading cause of liver disease, liver failure and indication for liver transplantation in childhood and adolescence, especially in the Western world.

With the rise in childhood obesity, more children are developing the disease, and we are seeing more in our practice. Many parents are aware that obesity can lead to type 2 diabetes and other serious metabolic conditions, but there is far less awareness of the link between obesity and liver disease. There are also some genetic mutations that can increase the risk with or without obesity.

NAFLD occurs when you have too much fat in your liver. The liver is a very active organ processing fat, carbohydrates and protein into energy and other proteins. In some people there is an imbalance in this process. This may be a result of too much fat coming into the liver cell, overwhelming the machinery that processes it or a subtle change in the cells' ability to process (metabolise) or transport the fats/carbohydrates.

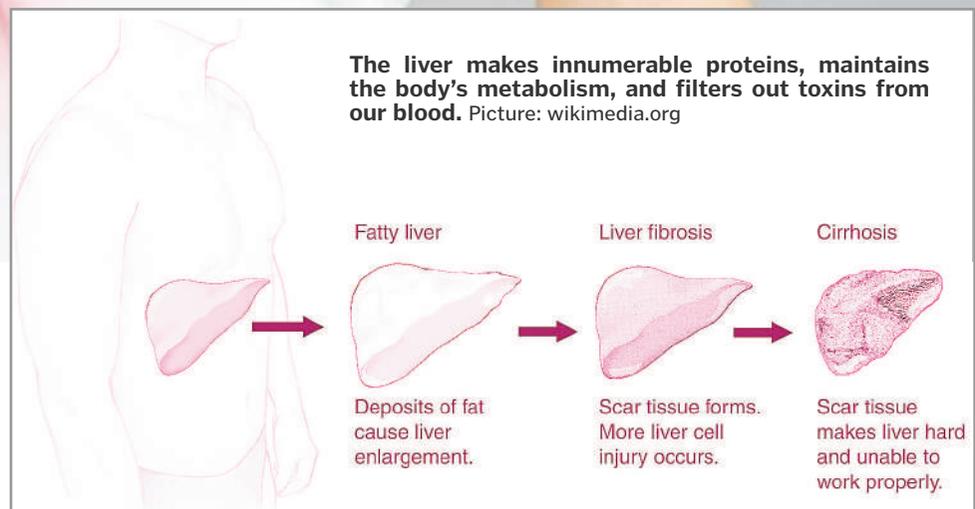
In some people, the liver cells simply accumulate fat droplets that do not irritate their liver what is called simple or bland hepatic (liver) steatosis. However, in others, the fat droplets act like splinters and cause an inflammatory response what

is called non-alcoholic steatohepatitis (NASH) that can lead to the formation of scars (fibrosis). It's generally symptomless, but as it progresses, fatty liver disease can interfere with critical liver functions.

Many children who have NAFLD do not display symptoms in the early stages. It is often once significant damage to the liver has occurred that signs become more obvious. Some children may report symptoms such as abdominal pain, fatigue, irritability, headaches, difficulty concentrating, low mood and anxiety. If cirrhosis (the most advanced stage) develops, the following symptoms may be present including yellowing of the skin and the whites of the eyes (jaundice), itchy skin (pruritus), swelling of the lower tummy (ascites), bruising easily, dark urine.

Liver disease can have very few symptoms, therefore discussion with your child's or family doctor about their health and lifestyle will increase the chance of them being able to provide an accurate diagnosis. There is no specific test for NAFLD and most children are diagnosed because they are having tests for something else e.g. routine blood tests and ultrasound scans.

Screening efforts are mixed, in part because there is no treatment other than weight loss and we don't have a perfect noninvasive screening tool. Some clinicians measure alanine aminotransferase (ALT) levels in all obese children starting at around age 10. But, we need better ways to screen, diagnose, and treat fatty liver



starting in childhood.

Cirrhosis—scarring of the liver due to chronic inflammation—is rare in kids, but it is a concerning long-term consequence that can lead to end-stage liver disease. Elastography (fibroscan) would be useful assessing scarring of the liver. And, liver biopsy would help assessing the intensity of inflammation in NASH and staging scarring of the liver.

We need to act early in a child's life to prevent excess weight gain and subsequent liver inflammation. In adults, the disease is a growing reason for liver transplant and, in some instances, liver cancer.

The liver makes innumerable proteins, maintains the body's metabolism, and filters out toxins from our blood. If it stops working, a liver transplant is the only treatment.

If diagnosed in the early stages, it is possible to stop NAFLD progressing to the point of liver damage. Children and adolescents with NAFLD need medical follow up to detect changes in their condition as early as possible. We know that in most cases, lifestyle change with a major focus on healthy eating, increasing activity and weight loss can reverse the condition.

As a parent, there are lots you can do to help your child become a healthier weight. Getting them to be more active and healthy eating is important. This is not an easy option and it requires commitment from the whole family to change your lifestyle.

Maintaining a healthy weight by eating

fewer processed foods and exercising regularly is the main way to prevent nonalcoholic fatty liver disease.

In conclusion, NAFLD has emerged as the most prevalent liver disease worldwide, mainly because of the massive parallel global increase in obesity. NAFLD is a disease strongly linked with obesity, insulin resistance (diabetes and pre-diabetes), dyslipidaemia and raised blood pressure. The prevalence of NAFLD continues to rise and it is now becoming one of the most frequent causes of cirrhosis (advanced liver disease) and liver transplantation. Paediatric NAFLD remains understudied, under-recognised and potentially undermanaged. Important gaps remain in our overall approach to screening, diagnosis, management and follow-up. I wish world health organization (WHO) includes NAFLD under non-communicable diseases as extensive public-health efforts will be needed in the near future to counteract this disturbing development globally.

◆ **Dr Sivaselvam Sivakumar is the head of Laboratory and Transfusion Services and specialist consultant histopathologist and cytopathologist at Oceania Hospital Pte Ltd. He has over 22 years of experience and specialises in nephropathology, gastrointestinal pathology, liver pathology, transplant pathology of solid organs and small bowel. The views expressed are the author's and not of this newspaper.**