Practical implications for primary care: NICE guideline NG49 - Non-alcoholic fatty liver disease assessment and management (2016)

These tips highlight the recommendations that are relevant to GPs from the NICE guideline NG49: NAFLD assessment and management. ***The tips are not RCGP guidance; they are a tool to raise awareness of the NICE guideline and to support its implementation. They should always be used alongside the published NICE guidance*.**

GPs are expected to take NICE recommendations fully into account when exercising their clinical judgement. However, guidance does not override a doctor's responsibility to make appropriate decisions for each individual patient, in consultation with the individual and/or their guardian or carer. Clinical guidelines are based on the best available evidence and are there to help healthcare professionals in their work, but they do not replace their knowledge and skills.

10 questions GPs should ask themselves and their team about non-alcohol-related fatty liver disease (NAFLD):

1) What is NAFLD and why is it important?

Non-alcohol-related fatty liver disease, or hepatic steatosis, is characterised by a primary excess of fat in the liver that is not the result of another primary liver pathology such as alcohol-related liver disease, chronic viral hepatitis infection or some inherited and endocrine conditions. Untreated, NAFLD can progress from steatosis to liver inflammation (non-alcohol-related steatohepatitis, or NASH), liver fibrosis and finally end-stage liver disease and cirrhosis. Around 5–10% of those with NAFLD will develop liver cirrhosis.

The prevalence of NAFLD in the UK population is estimated at 20–30% and approximately 2–3% of the population are thought to have NASH. NAFLD is more common in people who have central obesity, insulin resistance or type 2 diabetes, hypertension and dyslipidaemia - the conditions comprising 'metabolic syndrome'.

NAFLD is an increasingly important public health issue as the prevalence of its risk factors increase, though progression from NAFLD to end-stage liver disease may take decades. However, prevalence studies demonstrate an emerging epidemic of obesity in children and young people and some studies have shown that up to 38% of obese children have evidence of hepatic steatosis. With NAFLD starting more commonly in childhood the age that those at risk develop significant liver disease will inevitably fall.

Early diagnosis and management of NAFLD is of vital importance at all ages. Management of the condition focuses on reversal of fatty infiltration through dietary and lifestyle change together with monitoring for the development of cirrhosis and its complications. There is no pharmacological treatment currently licensed for the treatment of NAFLD in its early stages.

2) Which of my patients are at risk of developing NAFLD?

Though NAFLD isn't limited to these conditions, there is an increased prevalence in patients with:

- type 2 diabetes;
- obesity and increased waist circumference;
- metabolic syndrome (a combination of hypertension, obesity and diabetes or insulin resistance).

Please refer to NICE guidance for the management of adults with liver disease likely to be secondary to alcohol misuse or hepatitis B or C infection.

3) What do I need to do for any children I suspect might have NAFLD?

NICE guidance is to refer children and young people for a liver ultrasound to test for NAFLD if they have type 2 diabetes or metabolic syndrome and if they do not misuse alcohol.

In children, a diagnosis of NAFLD can be made if the liver ultrasound shows fatty liver and other suspected causes have been ruled out. Children with NAFLD demonstrated on liver ultrasound should be referred to a paediatric hepatologist in tertiary care.

If the liver ultrasound is normal, children and young people with ongoing risks as listed above should be retested for NAFLD with liver ultrasound every 3 years.

To diagnose NAFLD, other causes of liver disease should be excluded. Please refer to NICE guidance for the management of children with liver disease likely to be secondary to alcohol misuse, or hepatitis B or C infection.

4) How do I diagnose NAFLD in an adult?

NAFLD is a common incidental finding in primary care, particularly through an abnormal liver ultrasound result when a patient is being investigated for an unrelated condition.

However, because of current evidence on the low specificity of available screening tests and concerns about the easy availability of resources, current NICE NAFLD guidance does not advise whether, when, or how a GP should screen for NAFLD in adults with type 2 diabetes and/or metabolic syndrome. Options currently available to GPs who want to investigate a patient who may have NAFLD include liver ultrasound scan and the fatty liver index (FLI), but these are not recommended as screening tests in NICE guidance. FLI is an algorithm that brings together BMI and waist measurement with specific blood test results to assess the risk of NAFLD. NICE has highlighted screening for NAFLD as a priority for further research.

5) What should I do if I have diagnosed an adult with NAFLD and what is the ELF test?

Those who have been diagnosed with NAFLD on liver ultrasound scan or following an FLI test need further investigation to test for advanced liver fibrosis and through this to assess their risk of developing progressive liver disease. NICE recommends this is done with an ‘ELF’ test.

The ELF (enhanced liver fibrosis) test is a patient-friendly, proprietary blood test which combines the results of three serum biomarkers that correlate with the level of liver fibrosis to create an ‘ELF score’. The ELF score indicates a patient’s level of liver fibrosis.

It is important to note that despite NICE guidance ELF testing is not currently available in all areas. Though alternative ways of assessing fibrosis were not recommended by NICE, doctors may have to consider using the fib-4 test and the NAFLD fibrosis score. These utilise readily available serum and other biomarkers in simple algorithms to calculate indirect estimates of fibrosis risk.

6) How do I act on the results of an ELF test?

People with NAFLD are diagnosed with advanced liver fibrosis if they have an ELF score of 10.51 or above.

Adults and young people with NAFLD and confirmed advanced liver fibrosis on ELF testing should be referred to a hepatologist for further assessment.

If the ELF score for a patient with NAFLD is below 10.51 they can be told that they are currently unlikely to have advanced liver fibrosis. However, in order to reduce the risks of progressive liver disease, the patient should be engaged with a programme of dietary and lifestyle change, and if the risk factors persist, should be re-tested every 3 years with an ELF test.

If a child or young person is investigated with an ELF test and the score is below 10.51, this should be repeated every 2 years.

7) What lifestyle interventions can I suggest for patients with NAFLD, whether or not they have advanced liver fibrosis?

A diagnosis of NAFLD, with or without advanced liver fibrosis, offers the patient a real opportunity to reduce their risk of progressing to end-stage liver disease and cirrhosis through lifestyle change. GPs should offer practical advice to their overweight and obese patients with NAFLD on increasing physical activity, improving their diet and losing weight to help reduce the fat content of the liver. Advice should be in line with NICE’s obesity guidelines. Additionally, there is enough evidence on effectiveness for GPs to offer the lifestyle interventions in NICE’s obesity guideline for all people with NAFLD regardless of their BMI.

Because progression to cirrhosis is faster when there is more than one risk factor it is important for those with NAFLD to stay within the national recommended limits for alcohol consumption and reduce any risk of contracting viral hepatitis infection, including accessing vaccination against hepatitis A and B.

All patients with suspected NAFLD should have an alcohol history taken to rule out alcohol-related liver disease which may present with fatty liver change, and because alcohol misuse increases the risk of progression of liver disease in those with NAFLD.

Adults and young people over 16 with NAFLD and advanced liver fibrosis should be monitored for the development of cirrhosis in line with NICE's cirrhosis guideline, though this may be managed in secondary care.

Some patients may have read about the potential benefits of taking omega-3 fatty acid supplements in NAFLD. However NICE advises there is not enough evidence to recommend their use.

8) What is the role of routine LFT testing in ruling out NAFLD or in assessing for advanced liver fibrosis in those with NAFLD?

Routine liver blood tests are commonly normal in NAFLD even when there is advanced liver fibrosis and a normal LFT has no value in excluding either diagnosis.

9) Are there any other conditions I need to be aware of if my patient has NAFLD?

NICE advices that GPs be aware that NAFLD is a risk factor for type 2 diabetes, hypertension and chronic kidney disease.

GPs should also be aware that when a patient already has type 2 diabetes, the diagnosis of NAFLD is a risk factor for atrial fibrillation, myocardial infarction, ischaemic stroke and death from cardiovascular disease.

Appropriate screening tests are indicated in these situations.

10) Once I refer my patient with NAFLD, what will happen in secondary care?

Secondary or tertiary care specialists may consider pharmacological interventions for some patients with NAFLD and advanced liver fibrosis, whether or not they have diabetes. Pioglitazone and vitamin E have both been associated with positive outcomes.

In tertiary care settings only, vitamin E treatment may be considered for children with NAFLD and advanced liver fibrosis.

All those with NAFLD and advanced liver fibrosis will be monitored within secondary care for the development of cirrhosis and its complications.