NICE National Institute for Health and Care Excellence

NICE Pathways

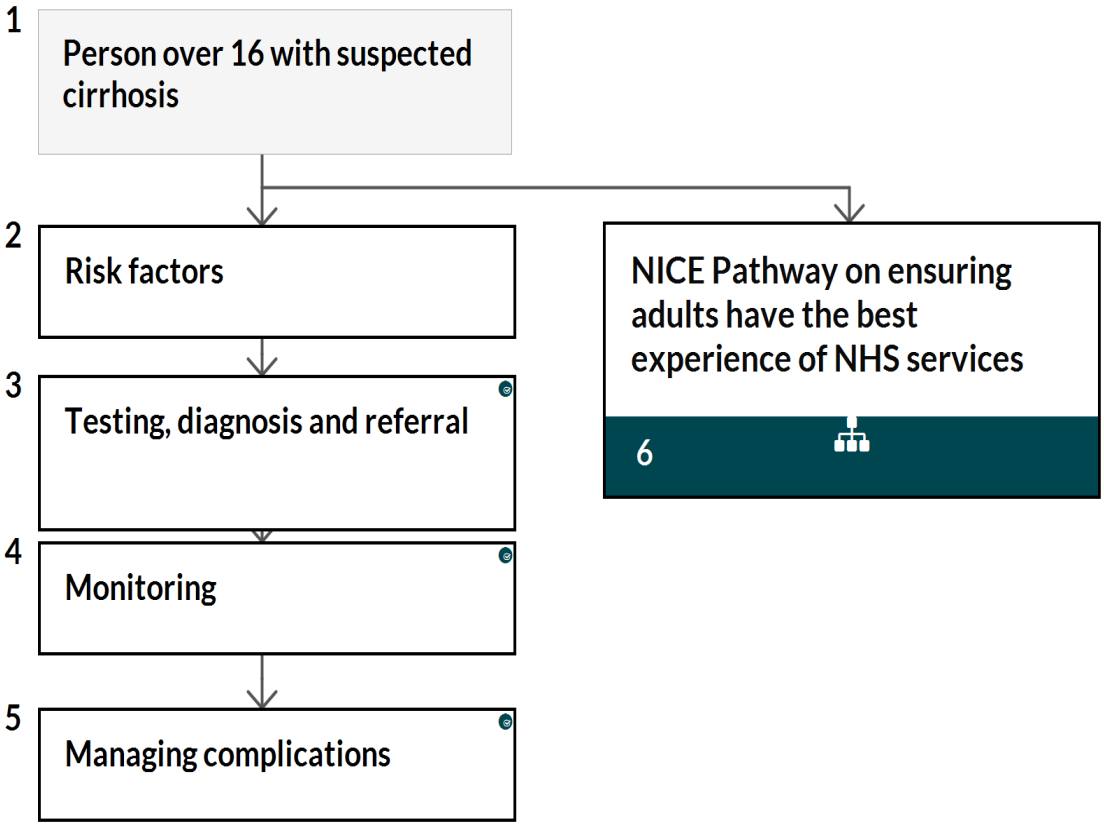
Cirrhosis overview

NICE Pathways bring together everything NICE says on a topic in an interactive flowchart. NICE Pathways are interactive and designed to be used online.

They are updated regularly as new NICE guidance is published. To view the latest version of this NICE Pathway see:

http://pathways.nice.org.uk/pathways/cirrhosis
NICE Pathway last updated: 29 July 2020

This document contains a single flowchart and uses numbering to link the boxes to the associated recommendations.



1 Person over 16 with suspected cirrhosis

No additional information

2 Risk factors

Be aware that there is an increased risk of cirrhosis in people who:

- have hepatitis B virus infection
- have hepatitis C virus infection
- misuse alcohol
- are obese (BMI of 30 kg/m^2 or higher)
- have type 2 diabetes.

Also see primary biliary cholangitis in the NICE Pathway on gastrointestinal conditions.

See the NICE Pathways on non-alcoholic fatty liver disease, alcohol-use disorders, hepatitis, type 2 diabetes in adults and obesity.

3 Testing, diagnosis and referral

Testing and diagnosis

Discuss with the person the accuracy, limitations and risks of the different tests for diagnosing cirrhosis.

Offer transient elastography to diagnose cirrhosis for:

- people with hepatitis C virus infection
- men who drink over 50 units of alcohol per week and women who drink over 35 units of alcohol per week and have done so for several months
- people diagnosed with alcohol-related liver disease.

Offer either transient elastography or acoustic radiation force impulse imaging (whichever is available) to diagnose cirrhosis for people with NAFLD and advanced liver fibrosis (as diagnosed by a score of 10.51 or above using the ELF test). See the NICE Pathways on testing and diagnosis of advanced liver fibrosis in children and young people and testing, diagnosis and

referral of advanced liver fibrosis in adults.

Consider liver biopsy to diagnose cirrhosis in people for whom transient elastography is not suitable.

For recommendations on diagnosing cirrhosis in people with hepatitis B virus infection, see the NICE Pathway on assessment of liver disease in people with chronic hepatitis B.

Do not offer tests to diagnose cirrhosis for people who are obese (BMI of 30 kg/m^2 or higher) or have type 2 diabetes, unless they have NAFLD and advanced liver fibrosis (as diagnosed by a score of 10.51 or above using the ELF test). See the NICE Pathways on testing and diagnosis of advanced liver fibrosis in children and young people and testing, diagnosis and referral of advanced liver fibrosis in adults.

Ensure that healthcare professionals who perform or interpret non-invasive tests are trained to do so.

Do not use routine laboratory liver blood tests to rule out cirrhosis.

Imaging technologies

NICE has published medtech innovation briefings on:

- FibroScan for assessing liver fibrosis and cirrhosis in primary care
- LiverMultiScan for liver disease.

Referral

Refer people diagnosed with cirrhosis to a specialist in hepatology.

Retesting

Offer retesting for cirrhosis every 2 years for:

- people diagnosed with alcohol-related liver disease
- people with hepatitis C virus infection who have not shown a sustained virological response to antiviral therapy
- people with NAFLD and advanced liver fibrosis.

For recommendations on reassessing liver disease in hepatitis B virus infection, see the NICE Pathway on assessment of liver disease in people with chronic hepatitis B.

Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

3. Non-invasive testing for cirrhosis (developmental)

4 Monitoring

Risk of complications

Refer people who have, or are at high risk of, complications of cirrhosis to a specialist hepatology centre.

Calculate the MELD score every 6 months for people with compensated cirrhosis.

Consider using a MELD score of 12 or more as an indicator that the person is at high risk of complications of cirrhosis.

Hepatocellular carcinoma

Offer ultrasound (with or without measurement of serum alpha-fetoprotein) every 6 months as surveillance for HCC for people with cirrhosis who do not have hepatitis B virus infection.

For people with hepatitis B virus infection and cirrhosis see surveillance for hepatocellular carcinoma in adults in the NICE Pathway on hepatitis B (chronic).

Do not offer surveillance for HCC for people who are receiving end of life care.

Oesophageal varices

After a diagnosis of cirrhosis, offer upper gastrointestinal endoscopy to detect oesophageal varices.

For people in whom no oesophageal varices have been detected, offer surveillance using upper gastrointestinal endoscopy every 3 years.

Focal liver lesions

The following recommendation is an extract from NICE diagnostics guidance on SonoVue (sulphur hexafluoride microbubbles) – contrast agent for contrast-enhanced ultrasound imaging

of the liver.

Contrast-enhanced ultrasound with SonoVue is recommended for characterising focal liver lesions in adults whose cirrhosis is being monitored:

- if contrast-enhanced MRI is not clinically appropriate, is not accessible or is not acceptable to the person, and
- when unenhanced ultrasound scan is inconclusive.

Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

4. Surveillance for hepatocellular carcinoma

5 Managing complications

Offer endoscopic variceal band ligation for the primary prevention of bleeding for people with cirrhosis who have medium to large oesophageal varices.

Offer prophylactic intravenous antibiotics for people with cirrhosis who have upper gastrointestinal bleeding.

Review intravenous antibiotic prescriptions in line with antimicrobial is needed in the NICE Pathway on antimicrobial stewardship.

Consider a transjugular intrahepatic portosystemic shunt for people with cirrhosis who have refractory ascites.

Offer prophylactic oral ciprofloxacin or norfloxacin[1] for people with cirrhosis and ascites with an ascitic protein level of 15 g/litre or less, until the ascites has resolved.

See the NICE Pathways on acute upper gastrointestinal bleeding and medicines optimisation.

Thrombocytopenia in person needing a planned invasive procedure

Avatrombopag

The following recommendation is from NICE technology appraisal guidance on avatrombopag for treating thrombocytopenia in people with chronic liver disease needing a planned invasive

[1] At the time of publication (June 2016), neither ciprofloxacin nor norfloxacin have a UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See General Medical Council's Prescribing guidance: Prescribing unlicensed medicines for further information.

procedure.

Avatrombopag is recommended, within its marketing authorisation, as an option for treating severe thrombocytopenia (that is, a platelet count of below 50,000 platelets per microlitre of blood) in adults with chronic liver disease having planned invasive procedures.

See why we made the recommendation on avatrombopag.

NICE has written information for the public on avatrombopag.

Lusutrombopag

The following recommendation is from NICE technology appraisal guidance on lusutrombopag for treating thrombocytopenia in people with chronic liver disease needing a planned invasive procedure.

Lusutrombopag is recommended, within its marketing authorisation, as an option for treating severe thrombocytopenia (that is, a platelet count of below 50,000 platelets per microlitre of blood) in adults with chronic liver disease having planned invasive procedures.

See why we made the recommendation on lusutrombopag.

NICE has written information for the public on lusutrombopag.

Recurrent overt hepatic encephalopathy

The following recommendation is from NICE technology appraisal guidance on rifaximin for preventing episodes of overt hepatic encephalopathy.

Rifaximin is recommended, within its marketing authorisation, as an option for reducing the recurrence of episodes of overt hepatic encephalopathy in people aged 18 years or older.

NICE has written information for the public on rifaximin.

Refractory ascites

NICE has published interventional procedures guidance on subcutaneous automated low-flow pump implantation for refractory ascites caused by cirrhosis with **special arrangements** for clinical governance, consent, and audit or research.

Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

5. Prophylactic intravenous antibiotics for upper gastrointestinal bleeding

6 NICE Pathway on ensuring adults have the best experience of NHS services

See Patient experience in adult NHS services

Glossary

Advanced liver fibrosis

(stage F3 or above)

ELF test

(enhanced liver fibrosis test; a minimally invasive blood test that includes a serum concentration of procollagen-III aminoterminal-propeptide, tissue inhibitor of matrix metalloproteinase-1 and hyaluronic acid)

HCC

hepatocellular carcinoma

MELD

model for end-stage liver disease

NAFLD

non-alcoholic fatty liver disease

Sources

Cirrhosis in over 16s: assessment and management (2016) NICE guideline NG50

Avatrombopag for treating thrombocytopenia in people with chronic liver disease needing a planned invasive procedure (2020) NICE technology appraisal guidance 626

Lusutrombopag for treating thrombocytopenia in people with chronic liver disease needing a planned invasive procedure (2020) NICE technology appraisal guidance 617

Rifaximin for preventing episodes of overt hepatic encephalopathy (2015) NICE technology appraisal guidance 337

Subcutaneous automated low-flow pump implantation for refractory ascites caused by cirrhosis (2018) NICE interventional procedures guidance 631

SonoVue (sulphur hexafluoride microbubbles) – contrast agent for contrast-enhanced ultrasound imaging of the liver (2012) NICE diagnostics guidance 5

Your responsibility

Guidelines

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Technology appraisals

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take these recommendations fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this interactive flowchart is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to

make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Commissioners and/or providers have a responsibility to provide the funding required to enable the recommendations to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Medical technologies guidance, diagnostics guidance and interventional procedures guidance

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take these recommendations fully into account. However, the interactive flowchart does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the recommendations, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this interactive flowchart should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.