

Participant information: Rapid weight loss and biliary disease

This information sheet provides further information and options for those who may have a higher risk of biliary disease to enable an informed choice.

Summary

- ‘Biliary disease’ describes all the things that can go wrong with the gallbladder
- The gallbladder is a small sack of enzymes and chemicals used in digestion. It sits under the right side of our ribcage
- Total diet replacement causes rapid weight loss which increases the chance that gallstones form and that any stones you already have are more likely to move about
- Gallstones that move can get stuck in the tube between the gut and the gallbladder
- Stuck stones can risk unpleasant pain, vomiting, infection and even, very rarely, death if the gallbladder bursts
- You can avoid biliary disease by losing weight more slowly i.e. not joining the NHS Type 2 Diabetes Path to Remission Programme but seeking other ways to get support to lose weight. You can also discuss with your GP the possibility of a prescription medication to reduce the risk.

What is biliary disease?

Biliary disease describes all the things that can go wrong with the gallbladder. The gallbladder is a small sack of enzymes and chemicals used in digestion, that sits under the right side of our rib cage. Gallstones can cause sudden, severe, usually right sided abdominal pain. This pain is often triggered by eating fatty foods. The pain is much worse if the gallstones have moved into the small tube that joins the gallbladder to the gut. You can read more about gallstones here: [Gallstones - NHS \(www.nhs.uk\)](http://www.nhs.uk)

What are the risks of rapid weight loss?

Obesity itself is a risk factor for gallstones. So, losing weight over the long term is likely to reduce the risk of gallstones forming.

However, **rapid** weight loss, for example using total diet replacement (TDR) products on the NHS Type 2 Diabetes Path to Remission (T2DR) Programme, is also a risk for developing gallstones. It increases the risk that stones move and can result in biliary colic. Losing weight more slowly reduces the chances of developing gallstones.

Biliary colic is a very painful condition which causes pain in the right upper half of your abdominal area, it can also make you feel sick and vomit, particularly after eating. If stones get completely stuck in this tube the bile and bacteria can build up in the gallbladder and cause an infection – you would notice a fever, pain and vomiting. This is called acute cholecystitis. You can read more about this here: [Acute cholecystitis - NHS \(www.nhs.uk\)](http://www.nhs.uk)

Acute cholecystitis is very serious. It requires antibiotic treatment in hospital and, usually, an operation to remove the gallbladder. In very rare instances, if the gallbladder bursts, it can cause sepsis and death.

In one study of rapid weight loss participants were scanned and found to have no gallstones before weight loss. However, 10% of participants developed gallstones after 16 weeks of rapid weight lossⁱ. People with a higher starting weight who lost the most weight and who had high levels of the bad blood triglyceride fat appeared to be at highest risk. In studies of people following rapid weight loss with bariatric surgery up to 30% of people have developed gallstonesⁱⁱⁱⁱ.

How can I reduce the chances of developing biliary disease?

If you think you have a particularly high risk for biliary disease but you still want to participate in the NHS Type 2 Diabetes Path to Remission Programme, you can discuss with your GP potentially trying a prescription of a medication called ursodeoxycholic acid^{iv}. Some GPs may want to discuss this with a liver specialist before trialing this treatment.

What should I look out for?

Pain in the right upper part of your abdominal area, particularly after eating. However, some people feel the pain in their shoulder tip or all over their abdomen. Nausea and vomiting. Fevers if the gallstones are stuck.

What should I do if I think I've developed biliary disease?

See your GP in a routine appointment if you are just experiencing mild and intermittent stomach pains but not vomiting or experiencing a fever. You should see a GP the same day if you have these symptoms and a fever.

What if I'm not sure about rapid weight loss and the risks of biliary disease?

See your GP to discuss the pros and cons of losing weight this way. Many areas have other options for weight loss that might be safer for you. These include seeing a dietitian or health coach, being referred to the NHS Digital Weight Management Programme (DWMP) or attending Slimming World or WW. Most people with Type 2 diabetes are also eligible for the new appetite suppressant medications that are very similar to Wegovy (semaglutide). These "GLP-1" medications come in either injection or tablet forms – you should be able to discuss this option with your GP practice's diabetes nurse. If you have bariatric surgery in your area, you may want to discuss whether surgery would be an option, although this also carries high risk of gallstone formation.

ⁱ Yang, Huiying, et al. "Risk factors for gallstone formation during rapid loss of weight." *Digestive diseases and sciences* 37 (1992): 912-918.

ⁱⁱ Shiffman, Mitchell L., et al. "Gallstone formation after rapid weight loss: a prospective study in patients undergoing gastric bypass surgery for treatment of morbid obesity." *American Journal of Gastroenterology* (Springer Nature) 86.8 (1991).

ⁱⁱⁱ Iglézias Brandão de Oliveira, Carlos, Elinton Adami Chaim, and Benedito Borges da Silva. "Impact of rapid weight reduction on risk of cholelithiasis after bariatric surgery." *Obesity surgery* 13.4 (2003): 625-628.

^{iv} Worobetz, L. J., F. G. Inglis, and E. A. Shaffer. "The effect of ursodeoxycholic acid therapy on gallstone formation in the morbidly obese during rapid weight loss." *American Journal of Gastroenterology* (Springer Nature) 88.10 (1993).