

Putting NICE guidance into practice

# **Costing statement: Gallstone disease**

**Implementing the NICE guideline on  
gallstone disease (CG188)**

Published: October 2014

# 1 Introduction

- 1.1 This costing statement considers the cost implications of implementing the recommendations made in the NICE guideline on [gallstone disease](#).
- 1.2 The guideline may have resource implications at a local level as a result of variation in clinical practice across the country. Therefore, we encourage organisations to evaluate their own practices against the recommendations in the NICE guideline and assess costs and savings locally. Some of the resource effects to be considered locally are discussed in this statement.
- 1.3 The commissioners of care in this guideline are clinical commissioning groups (CCGs). The providers of care are secondary care hospitals.

# 2 Background

- 2.1 Gallstone disease occurs when hard fatty or mineral deposits (gallstones) form in the gallbladder. About 15% of adults are thought to have gallstone disease, and most of these people experience no symptoms. For a small proportion of people with gallstone disease, the stones irritate the gallbladder or block part of the biliary system, and this can cause symptoms such as pain, infection and inflammation.
- 2.2 80% of people with gallbladder stones are asymptomatic, meaning they experience no symptoms. In most cases, asymptomatic cholelithiasis is detected through imaging such as ultrasound or MRI during investigations for other conditions. For the remaining 20% of people the condition is symptomatic.
- 2.3 Surgery to remove the gallbladder, known as cholecystectomy, is the most common way to treat biliary pain or cholecystitis caused by gallstones and is one of the most commonly performed surgical procedures in the NHS. About 66,660 cholecystectomies are performed every year in the UK, costing about £111.6 million, around 61,220 of these are laparoscopic cholecystectomies.

### **3 Recommendations with potential resource impact**

- 3.1 Resource implications associated with implementing the guideline should be determined at a local level. However, some of the possible costs and savings associated with implementing the guideline are discussed below.

#### **Costs**

##### **Cost for CCG of day-case laparoscopic cholecystectomy**

- 3.2 The guideline recommends offering day-case laparoscopic cholecystectomy when possible for people having it as an elective planned procedure. An increase in the proportion of laparoscopic cholecystectomies carried out as day-case procedures could lead to additional costs for CCGs, as there is a best practice tariff to incentivise high quality and cost effective care of £1,674 for the day-case procedure compared with £1,353 for inpatient procedures (National tariff 2014–15, ‘GA10D Laparoscopic Cholecystectomy with length of stay 1 day or more without CC’ and ‘GA10E Laparoscopic Cholecystectomy with length of stay 0 days without CC’).

##### **Cost of bile duct clearance surgery**

- 3.3 The guideline also recommends that when there are stones in the bile duct it should be cleared surgically at the time of laparoscopic cholecystectomy, or with endoscopic retrograde cholangiopancreatography (ERCP) before or at the time of laparoscopic cholecystectomy.
- 3.4 Using the national tariff 2014–15 the weighted average cost of clearing the bile duct with endoscopic retrograde cholangiopancreatography before laparoscopic cholecystectomy is estimated at £1,607 (see appendix A).
- 3.5 Using the national tariff 2014–15 the weighted average cost of clearing the bile duct surgically at the time of laparoscopic cholecystectomy and the cost of clearing the bile duct with ERCP at the time of laparoscopic cholecystectomy is £3,950 (see appendix B).

- 3.6 Expert opinion acknowledges that only a minority of surgeons can perform bile duct exploration and laparoscopic cholecystectomy at the same time.
- 3.7 Laparoscopic cholecystectomy and ERCP are expected to be carried out by separate clinical teams at the same time, and as such effective coordination of these activities is essential in order to avoid logistical difficulties and inefficiencies.

### **Early laparoscopic cholecystectomy for people with acute cholecystitis**

- 3.8 Costs could increase when offering early laparoscopic cholecystectomy (to be carried out within 1 week of diagnosis) to people with acute cholecystitis. Although implementing this recommendation is not expected to increase the annual number of procedures, effective coordination of clinician time and theatre capacity is essential.

### ***Savings and benefits***

#### **Provider saving from day-case laparoscopic cholecystectomy**

- 3.9 By offering laparoscopic cholecystectomy as a day-case procedure when possible instead of an inpatient procedure, providers may reduce their costs and at the same time increase their income through the best practice tariff available for this procedure. They may also be able to use hospital beds more efficiently.

#### **Reconsideration of laparoscopic cholecystectomy following percutaneous cholecystostomy**

- 3.10 People who have had percutaneous cholecystostomy and then go on to have laparoscopic cholecystectomy could experience an improved quality of life. Carrying out a laparoscopic cholecystectomy after a percutaneous cholecystostomy could result in savings by reducing the number of people who experience recurrent gallbladder sepsis.

#### **Savings for bile duct clearance surgery**

- 3.11 A further potential saving and benefit is from performing ERCP and laparoscopic cholecystectomy at the same time. It is expected that this will

reduce costs and risks, as patients will only be anaesthetised or sedated once.

### **Early laparoscopic cholecystectomy for people with acute cholecystitis**

3.12 Further savings could be made from performing early laparoscopic cholecystectomy for people with acute cholecystitis, as this could reduce the number of accident and emergency visits and the prescribing of antibiotics and pain relief treatment for this condition.

## **4 Conclusion**

4.1 NHS organisations are advised to assess the resource implications of this guidance locally. However, expert opinion considered that implementing the recommendations will not have a significant national resource impact.

## Appendix A

| HRG code                         | HRG name  | Combined day-case / ordinary elective spell tariff (£) | Activity per 2011–12 reference costs | Total cost of procedures (£) |
|----------------------------------|---|--|--------------------------------------|------------------------------|
|                                  |   |  | Ordinary elective                    |                              |
| GB06A                            | Endoscopic Retrograde Cholangiopancreatography category 2 with length of stay 3 days or more with Major CC        | 4,818  | 2,133                                | 10,276,794                   |
| GB06B                            | Endoscopic Retrograde Cholangiopancreatography category 2 with length of stay 3 days or more with Intermediate CC | 3,113  | 4,699                                | 14,627,987                   |
| GB06C                            | Endoscopic Retrograde Cholangiopancreatography category 2 with length of stay 3 days or more without CC           | 2,461  | 1,808                                | 4,449,488                    |
| GB06D                            | Endoscopic Retrograde Cholangiopancreatography category 2 with length of stay 2 days or less                      | 794  | 19,043                               | 15,120,142                   |
| <b>Weighted average cost (£)</b> |   |  |                                      | <b>1,607</b>                 |

## Appendix B

| HRG code                         | HRG name                                       | Combined day-case / ordinary elective spell tariff (£) | Activity per 2011–12 reference costs | Total cost of procedures (£) |
|----------------------------------|--|--|--------------------------------------|------------------------------|
|                                  |  |  | Ordinary elective                    |                              |
| GA07A                            | Hepatobiliary Procedures category 3 with CC    | 4,548  | 2,007                                | 9,127,836                    |
| GA07B                            | Hepatobiliary Procedures category 3 without CC | 3,252  | 1,722                                | 5,599,944                    |
| <b>Weighted average cost (£)</b> |  |  |                                      | <b>3,950</b>                 |

## Glossary

|  |  |
|--|--|
| <ul style="list-style-type: none"><li>• Cholecystitis</li></ul>                  | <ul style="list-style-type: none"><li>• Inflammation or infection of the gallbladder. This guideline only includes cholecystitis caused by gallstones.</li></ul>   |
| <ul style="list-style-type: none"><li>• Cholecystolithiasis</li></ul>            | <ul style="list-style-type: none"><li>• See gallbladder stones</li></ul>   |
| <ul style="list-style-type: none"><li>• Choledocholithiasis</li></ul>            | <ul style="list-style-type: none"><li>• See common bile duct stones</li></ul>  |
| <ul style="list-style-type: none"><li>• Cholelithiasis</li></ul>                 | <ul style="list-style-type: none"><li>• May refer specifically to the presence of gallbladder stones or it may refer generally to the presence of gallstone disease.</li></ul>   |
| <ul style="list-style-type: none"><li>• Cholangitis</li></ul>                    | <ul style="list-style-type: none"><li>• Inflammation or infection of the common bile duct. This guideline only includes cholangitis caused by gallstones</li></ul>   |
| <ul style="list-style-type: none"><li>• Common bile duct stones (CBDS)</li></ul> | <ul style="list-style-type: none"><li>• Gallstones that have travelled from the gallbladder into the common bile duct, or stones that have formed in the bile duct. Stones in the bile duct may be found by gallbladder imaging or incidentally by unrelated imaging investigations.</li></ul> |
| <ul style="list-style-type: none"><li>• Gallbladder stones</li></ul>             | <ul style="list-style-type: none"><li>• Gallstones in the gallbladder</li></ul>  |
| <ul style="list-style-type: none"><li>• Gallstones</li></ul>                     | <ul style="list-style-type: none"><li>• Discreet, hard, fatty mineral deposits that develop in the gallbladder</li></ul>   |
| <ul style="list-style-type: none"><li>• Gallstone disease</li></ul>              | <ul style="list-style-type: none"><li>• The presence of gallstones in the gallbladder and/or common bile duct and/or the associated complications that gallstones cause</li></ul>  |

## **About this costing statement**

This costing statement accompanies the NICE guideline on [gallstone disease](#).

**Issue date:** October 2014

## **This statement is written in the following context**

This statement represents the view of NICE, which was arrived at after careful consideration of the available data and through consulting healthcare professionals. It should be read in conjunction with the NICE guideline. The statement is an implementation tool and focuses on those areas that were considered to have potential impact on resource utilisation.

The cost and activity assessments in the statement are estimates based on a number of assumptions. They provide an indication of the potential impact of the principal recommendations and are not absolute figures.

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