

# Cambridgeshire and Peterborough Clinical Commissioning Group

<b>Clinical Policies Forum</b>	
<b>Date of Meeting:</b>	<b>6th May 2014</b>
<b>For</b>	<b>Information and Decision</b>
<b>Subject of Report</b>	<b>Briefing Paper on Policy for Hernia and Divarication of Recti</b>
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## 1. INTRODUCTION

The purpose of this paper is to review the evidence for the management of patients presenting with hernia or divarication of recti and to benchmark the Cambridgeshire and Peterborough CCG policy against guidelines and the policies of other CCGs with similar population profiles. This briefing does not aim to review evidence for the choice of surgical procedures (this was not part of the original policy and evidence is insufficient to direct funding to particular interventions in the current policy) but to cover decision-making for referral to surgical intervention. The following OPCS Codes are relevant:

T20: Primary repair of inguinal hernia  
T21: Repair of recurrent inguinal hernia  
T22: Primary repair of femoral hernia  
T23: Repair of recurrent femoral hernia  
T24 Primary repair of umbilical hernia  
T25 Primary repair of incisional hernia  
T26 Repair of recurrent incisional hernia  
T27: Repair of other hernia of abdominal wall  
T28: Other repair of anterior abdominal wall  
T97: Repair of recurrent umbilical hernia  
T98: Repair of recurrent other hernia of abdominal wall

## 2. BACKGROUND

- 2.1 Hernias are protrusions of organs or tissue, most commonly through the tissue that contains them. This predominantly occurs in the abdomen, where part of the intestine protrudes through the abdominal wall.<sup>1</sup>
- 2.2 In some cases, hernias may 'incarcerate' (neck of the hernia closes, trapping the contents inside) resulting in obstruction of the intestine and 'strangulation', where the blood flow is cut off.<sup>2</sup>
- 2.3 The most common type of hernias are inguinal (96% of all groin hernias),<sup>3</sup> which predominantly present in men (95%) and older people.<sup>4</sup>
- 2.4 Apart from the obvious presence of a hernia, inguinal hernias are commonly asymptomatic and the risk of strangulation is rare.<sup>4</sup>

- 2.5 Femoral hernias account for 4% of groin hernias.<sup>3</sup> They are more common in women than men (3:1 incidence)<sup>3</sup> and are associated with a much higher risk of strangulation than inguinal hernias.<sup>5</sup>
- 2.6 Umbilical hernias are due to improper closure of the umbilical cord opening and the resulting weakness in the surrounding muscle. Fatty tissue, or part of the bowel, may protrude through the weak muscle into the area by the naval. This may occur in children but disappear by the age of four or five years. It may also develop in adults due to strain and/or obesity.<sup>6</sup>
- 2.7 Incisional hernias result from poor healing or excessive strain on the tissue following a surgical operation. Strain may be caused by excessive muscular effort or activity or by obesity, which creates additional pressure on the weakened area.<sup>1</sup>
- 2.8 Divarication of the recti is the separation of the rectus abdominis muscle so that the abdominal wall fails to properly hold abdominal contents in place.<sup>7</sup> This commonly has a similar presentation to hernias.<sup>7</sup>

### 3. CURRENT POLICY AND COMPARISON WITH OTHER CCGs

- 3.1 The current Cambridgeshire and Peterborough CCG was adopted in September 2011, and edited to reflect the amended smoking statement in November 2012. The current policy has been compared with those of Bristol<sup>8</sup> Bedfordshire & Hertfordshire,<sup>9</sup> Oxford,<sup>10</sup> Suffolk<sup>11</sup> and West Essex<sup>12</sup> (Table 1).
- 3.2 No other CCG's policy contradicted any of the Cambridgeshire and Peterborough policy statements.
- 3.3 Bristol, Suffolk and West Essex policies also cover the management of umbilical and incisional hernias (Cambridgeshire and Peterborough currently only cover inguinal and femoral hernias). For incisional (but not umbilical) hernias, Bristol and Suffolk policies include a requirement for attempted weight loss before considering surgery. Patients should have:
- "Pain/discomfort interfering with Activities of Daily Living AND
  - Appropriate conservative management has been tried first e.g. weight reduction where appropriate"
- 3.4 Beds & Herts and Oxford policies only cover inguinal hernias.
- 3.5 None of these other CCG policies cover divarication of recti.

**Table 1 Current Cambridgeshire and Peterborough compared to other CCGs**

Current policy	Similar
Asymptomatic hernias which are easily reducible and do not have increased risk of incarceration or strangulation should be managed conservatively by observation and review.	Bristol, Beds & Herts, Oxford, Suffolk, W Essex
Hernias with alarm symptoms should be urgently referred for surgery.	
Assessment should rule out incarceration or strangulation as these are surgical emergencies requiring urgent referral.	W Essex <sup>a</sup>
<i>Femoral hernias</i>	
Patients with femoral hernias should be referred for consultation. (Prompt referral.)	Bristol, Oxford, Suffolk
<i>Inguinal hernias</i>	
Patients can be referred if they have any of the following:	
History of incarceration or real difficulty in reducing the hernia.	Bristol, Oxford, Suffolk

An inguino-scrotal hernia.	Bristol, Oxford, Suffolk
Significant symptoms such as: a. Increase in size, month to month. b. Pain with strenuous activity, prostatism or discomfort significantly interfering with activities of daily living which may include inability to work.	Bristol Oxford Suffolk <sup>b</sup> W Essex <sup>c</sup>
Patients with groin pain and occult hernia (without clinical evidence of hernia) should be offered watchful waiting for their "hernia"	Bristol
<i>Divarication of recti</i>	
The CCG considers repair of divarication of recti as a cosmetic procedure and a low priority.	
<sup>a</sup> "Clinical examination will generally suffice in the diagnosis of a hernia" <sup>b</sup> or "The patient is currently asymptomatic but work in a heavy manual occupation (e.g. in removal firms lifting heavy weights) and there is an increased risk of strangulation and future complications." <sup>c</sup> "herniae with a narrow neck or that are symptomatic should be referred directly for surgical assessment"	

#### 4. EVIDENCE

- 4.1 A search of NICE guidelines, SIGN guidelines and the Cochrane database of systematic reviews was conducted and the following strategy was used to search PubMed for systematic reviews published in English in the last 10 years: (hernia[Title] AND Review[ptyp] AND review\*[Title/Abstract]) AND ("2004/02/01"[Date - Publication] : "3000"[Date - Publication]) (24/02/2014, 409 hits). Since the available evidence in this area is low, a search for primary studies (limited to randomised controlled trials) was also conducted in PubMed (watch\* OR delay\* OR observation OR wait\*[Title/Abstract]) AND (hernia[Title/Abstract]) AND (Clinical Trial[ptyp]) (24/02/14, 90 hits).
- 4.2 One related guideline and nine relevant systematic reviews were identified. Two randomised controlled trials were also identified and evidence is summarised below.

#### **Assessment and diagnosis**

- 4.3 Two systematic reviews<sup>13 14</sup> and a guideline (European Hernia Society Guidelines)<sup>2</sup> evaluated the accuracy of different imaging techniques for diagnosing hernias. Meta-analysis gave diagnostic accuracies of: sonography: sensitivity 96.6%, specificity of 84.8%; ultrasound: sensitivity 86%, specificity 77%; computed tomography: sensitivity 80%, specificity 65%; herniography sensitivity 91%, specificity 83%; MRI sensitivity 94.5% and specificity 96%.
- 4.4 There was a large amount of variation between studies for the same imaging techniques.
- 4.5 Diagnostic studies are often limited due to inadequate follow-up of test negative patients. In these cases, sensitivity will tend to be overestimated.
- 4.6 Review authors conclude that herniography and, where this is not available, ultrasound should be used as first-line cases in diagnostic uncertainty.<sup>14</sup>
- 4.7 The European Hernia Society Guidelines state that "It is recommended that groin diagnostic investigations are performed only in patients with obscure pain and/or swelling. In these cases, use ultrasound (if expertise is available). If ultrasound negative, MRI (with Valsalva). If MRI negative, consider herniography." [Grade C

evidence: supported by case series, cohort studies of low quality and/or 'outcomes' research]

- 4.8 The European Hernia Society Guidelines state that, "In female patients, the existence of a femoral hernia should be excluded in all cases of a hernia in the groin". [Grade D evidence: based on expert opinion]
- 4.9 The European Hernia Society Guidelines state that, "It is recommended to intensify efforts to improve the early diagnosis and treatment of patients with incarcerated and or strangulated hernia". [Grade D evidence: based on expert opinion]

### ***Asymptomatic inguinal hernia***

- 4.10 Two systematic reviews<sup>15 16</sup> and the European Hernia Society Guidelines<sup>2</sup> evaluated the use of watchful waiting compared to surgical repair of hernias and all identified the same two RCTs.<sup>17 18</sup> Two systematic reviews evaluated the safety of hernia repairs.<sup>19 20</sup>
- 4.11 The European Hernia Society Guidelines state that "It is recommended in minimally symptomatic or asymptomatic inguinal hernia in men, to consider a watchful waiting strategy". [Grade A evidence: supported by systematic review and/or at least two RCTs of good quality]
- 4.12 Both RCTs were in men with either asymptomatic<sup>17</sup> or minimally symptomatic<sup>18</sup> inguinal hernias.
- 4.13 Neither RCT showed a conclusive difference in pain scores and general health status for watchful waiting compared to surgical repair at follow-up (one<sup>17</sup> or two<sup>18</sup> years).
- 4.14 In one trial of 80 men randomised to watchful waiting,<sup>17</sup> after 7.5 years follow-up (range 6.2-8.2), the estimated cumulative crossover rate to surgery was 72%.<sup>21</sup> In the other trial,<sup>18</sup> of 254 men randomised to watchful waiting who enrolled in long-term follow-up (69% of original cohort), the estimated cumulative crossover rate to surgery was 68%.<sup>22</sup>
- 4.15 The most common reason for crossover in both trials was pain (54% and 72%). For both trials combined, a total of five patients in the watchful waiting groups developed acute hernias (1.5%).
- 4.16 One systematic review of hernia repair operations<sup>19</sup> reported a mortality rate of 0.05% and another concluded that, following hernia operations, a proportion of patients experience chronic pain and discomfort, which has a significant impact on Health Related Quality of Life (HRQL).<sup>20</sup>

### ***Symptomatic inguinal hernia***

- 4.17 No systematic reviews or RCTs evaluated the risks associated with, or effectiveness of treatments for, symptomatic inguinal hernia.
- 4.18 The European Hernia Society Guidelines<sup>2</sup> state that, "It is recommended that strangulated hernias are operated on urgently. It is recommended that symptomatic inguinal hernias are treated surgically." [Grade D evidence: based on expert opinion]

### ***Femoral hernia***

- 4.19 No systematic reviews or RCTs evaluated the risks associated with, or effectiveness of treatments for, femoral hernia.
- 4.20 The European Hernia Society Guidelines<sup>2</sup> state that, "In female patients, the existence of a femoral hernia should be excluded in all cases of a hernia in the groin." [Grade D evidence: based on expert opinion]

- 4.21 The European Hernia Society Guidelines state that, “A preperitoneal (endoscopic) approach should be considered in female hernia repair.” [Grade D evidence: based on expert opinion]
- 4.22 The European Hernia Society Guidelines states, “It is recommended to offer patients with femoral hernia early planned surgery, even if the symptoms are vague or absent”. [Grade B evidence: Supported by good cohort studies and/or case–control studies]

### ***Umbilical and incisional hernias***

- 4.23 No guidelines or systematic reviews evaluated the risks associated with, or effectiveness of treatments for, umbilical or incisional hernia.
- 4.24 The incidence of umbilical and incisional hernias is associated with obesity.<sup>23</sup>
- 4.25 The incidence increases with increasing BMI and is higher in overweight (BMI 25-30 kg/m<sup>2</sup>) and non-morbidly obese (BMI 30-40 kg/m<sup>2</sup>) (odds ratio 1.63 and 2.62 respectively) patients compared with lean patients.<sup>23</sup>
- 4.26 When surgery is conducted on incisional or umbilical hernias, rates of recurrence are around 5-25%.<sup>24-29</sup>
- 4.27 Increased BMI is associated with higher rates of recurrence following surgery<sup>24-27 29</sup> and with post-surgical morbidity.<sup>24 30</sup>

### ***Divarication of recti***

- 4.28 One systematic review evaluated the correction of divarication of the recti and included 16 case series and one RCT (comparing laparoscopic approach to open abdominoplasty).<sup>7</sup>
- 4.29 Authors conclude that “correction is largely cosmetic, and although divarications may be unsightly they do not carry the same risks of actual herniation.”

### ***Other***

- 4.30 The European Hernia Society Guidelines<sup>2</sup> state that, “An operation in day surgery should be considered for every patient”. [Grade B evidence: Supported by good cohort studies and/or case–control studies]

## **5. CURRENT ACTIVITY**

- 5.1 The CCG monitors activity and spend on various procedures covered by surgical threshold policies. Tables 2 and 3 show data for the number of procedures (activity) and cost for Cambridgeshire and Peterborough (C&P) CCG registered patients over the past 2 financial years for inguinal and femoral hernia surgery.

**Table 2: C&P CCG activity and spend on inguinal hernia surgery carried out in hospital during 2012/13 compared with 2013**

	<b>2012/13 (April-April)</b>	<b>2013 (April-December)</b>
Activity	787	900
Elective	727	858
Non-elective	60	42
Spend in Millions	0.99	1.11

**Table 3: C&P CCG activity and spend on femoral hernia surgery carried out in hospital during 2012/13 compared with 2013**

	2012/13 (April-April)	2013 (April-December)
Activity	42	45
Elective	22	24
Non-elective	20	21
Spend in Millions	0.08	0.10

5.2 Activity increased in second part of the 2013 financial year from the level in the 2012/13 financial year. With the current usage rate, a conservative estimate of total activity and spend for the 2013/14 (April-April) financial year are:

Inguinal hernias: activity 1,200; spend £1.48 million

Femoral hernias: activity 60; spend £0.13 million

5.3 The activity of umbilical and incisional hernia surgery has not been monitored but as they were not covered by the policy, if the activity for umbilical and incisional is assumed to be that of the national average,<sup>31</sup> the respective estimated activity and spend are:

Umbilical: activity 383; spend £0.47 million

Incisional: activity 151; spend £0.19 million

5.4 The total combined 2013/14 estimates of activity and spend for all hernias are 1,794 and £2.27 million respectively.

5.5 National data for activity and spend on hernia surgery in 2012/13 shows that not many are performed as day cases and spend on umbilical and incisional hernias is not insignificant (Table 4)

**Table 4: Statistics on Groin Hernia Procedures - Inpatient Statistics for England 2012/13**

Main procedures and interventions	Admissions	Male	Emergency	Mean length of stay	Mean age in years	Day case	FCE bed days
<i>Inguinal</i>							
T20 Primary repair of inguinal hernia	65,239	93%	4%	1.7	58	68%	36,293
T21 Repair of recurrent inguinal hernia	5,649	97%	9%	2.1	63	54%	5,673
<i>Femoral</i>							
T22 Primary repair of femoral hernia	2,903	26%	49%	5.1	67	36%	10,590
T23 Repair of recurrent femoral hernia	205	29%	26%	3.9	64	43%	570
<i>Umbilical</i>							
T24 Primary repair of umbilical hernia	20,799	66%	13%	2.2	48	66%	16,473
T97 Repair of recurrent umbilical hernia	1,304	59%	13%	2.6	51	45%	1,899
T98 Repair of recurrent other hernia of abdominal wall	663	51%	12%	4.5	53	32%	2,109
<i>Incisional</i>							
T25 Primary repair of incisional hernia	8,221	45%	11%	4.1	59	17%	29,279
T26 Repair of recurrent incisional hernia	1,593	49%	11%	5.1	57	12%	7,287

## 6. RECOMMENDATIONS

- 6.1 Current policies for inguinal and femoral hernias and divarication of recti should remain unchanged.
- 6.2 Umbilical and incisional hernias should be included in the policy including a condition that there should have been weight loss before surgery is considered.
- 6.3 The policy should include a requirement that surgery should, where possible, be conducted as day cases.

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