

Corby Clinical Commissioning Group





# Optimising outcomes from elective surgery

# 1. Weight management

Anyone to be listed for an elective intervention who has a BMI of 40 or above must have been offered, accepted and completed weight management support<sup>1</sup> prior to their listing.

# 2. Smoking

Anyone to be listed for an elective intervention who is recorded as a smoker must have been offered, accepted and completed smoking cessation support<sup>2</sup> prior to being put on the waiting list.

### Exclusions

Exclusions apply to enable access to urgent care, however all patients must be offered access to smoking cessation and/or weight management concurrently regardless of urgency.

Exclusions include;

- Patients requiring emergency surgery
- Patients receiving surgery for the treatment of cancer
- Patients referred for bariatric surgery (weight management exclusion only)
- Patients who have a BMI of 40 and above with specific endocrine conditions which make them medically unsuitable for this pathway (weight management exclusion only)

No specific definition of elective and urgent care is provided, as it depends on the specific case of the individual patient and the type of procedure being advised. Individuals who smoke and have a BMI of 40 or above will need to complete both pathways.

### Rationale

Nene and Corby CCG's as well as Northamptonshire County Council have a statutory responsibility for improving the health of the Northamptonshire's population as well as providing individual patient centred care for promotion, prevention, diagnosis, treatment and rehabilitation. Maximising health is a critical element in achieving a sustainable health service into the future.

The Optimising Outcomes Policy enables a systematic approach to addressing the lifestyle risk factors of smoking and obesity in pre-operative patients. It enables appropriate support to be given to patients, with the aim of helping them to experience an optimal post-operative outcome. In supporting best practice, the policy will therefore ensure that the appropriate management of lifestyle risk is a routine part of surgical care pathways.

### Obesity

Obesity is a recognised risk factor for a wide variety of per-operative complications. Research highlights that obese patients are likely to experience;

- a nearly 12-fold increased risk of a post-operative complication after elective breast procedures<sup>i</sup>
- a 5-fold increased risk of surgical site infection (SSI)<sup>ii</sup>
- an increased risk of SSI as much as 60% when undergoing major abdominal surgery<sup>iii</sup>
- a higher incidence of SSI (up to 45%) when undergoing elective colon and rectal surgery<sup>iii</sup>
- an increased risk of bleeding and infections after abdominal hysterectomy<sup>iv</sup>
- a higher incidence of peri-operative deep venous thrombosis and pulmonary embolism<sup>v vi</sup>10,11

<sup>&</sup>lt;sup>1</sup> Weight management support includes one of the following services: (Weightwatchers, Pink Lady Studios and Activity on referral)

<sup>&</sup>lt;sup>2</sup> Smoking cessation support is provided by Northamptonshire stop smoking service



- increased risk of complication after elective lumbar spine surgery<sup>vii</sup>
- an increased risk of restrictive pulmonary syndrome, including decreased functional residual capacity (for morbidly obese patients)<sup>viii</sup>

Additionally, it is understood that around 50% of obese patients have a poor outcome following joint replacement surgery compared to less that 10% of patients with a healthy body mass index (BMI). Reasons include:

- a significantly higher risk of a range of short-term complications<sup>ix</sup>
- a less likely outcome of surgery improving symptoms<sup>x</sup>
- a higher risk of implant failing, requiring further surgery
- a higher incidence of weight gain following joint replacement surgery.

This weight management per-operative intervention should be seen as a basic component of evidenced based commissioning for elective surgery.

#### Smoking

Smoking is a well-known risk factor for complications after surgery and there is good evidence that smokers undergoing induction of general anaesthesia and surgery are at a higher risk of intra and post operative complications including adverse airway events such as coughing and laryngospasm than non-smokers thereby reducing the benefit of operative treatment in those who continue to smoke<sup>3</sup>. In addition, after surgery, compared with non smokers and ex-smokers, smokers are more likely to<sup>3</sup>:

- stay longer in hospital increasing use of hospital beds and associated costs means less opportunity to treat other patients
- be admitted to intensive care unit
- die in hospital

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There is conclusive evidence that smoking causes:

- impaired pulmonary function such as increased mucus production, and damage to the tracheal cilia which impedes the clearance of the mucus leading to post operative respiratory complications such as chest infection<sup>4</sup>.
- impaired wound healing leading to increased risk of wound infection after surgery<sup>3</sup>

substantial evidence<sup>3</sup> that smoking causes:

• an increase in the risk of cardiovascular complications such angina pectoris, strokes, graft failures and DVT after surgery

suggestive evidence<sup>3</sup> that smoking causes:

- post-operative complications relating to the gastrointestinal system
- post-operative impairment of antimicrobial and pro-inflammatory functions
- post-operative complications relating to the musculoskeletal system such as reduction in bone fusion after fracture and operative treatment.

### Evidence to support preoperative smoking cessation

A 2010 Cochrane review<sup>5</sup> on the interventions for preoperative smoking cessation suggests that stopping smoking four to eight weeks before surgery may reduce the risk of:

<sup>&</sup>lt;sup>3</sup> Tobacco Control Resource Centre Factsheet 2006 Smoking and Surgery, a review for surgeons and anaesthesiologists [online] <u>http://www.doctorsandtobacco.org/files/113.pdf</u> accessed on 12 May 2008

<sup>&</sup>lt;sup>4</sup> Lourenco RV, KlimekMF, Borowski CJ. Deposition and clearance of two micron particles in the trachiobronchial tree of normal subjects - smokers and non-smokers *Journal of Clinical Investigation* 1971; **50**:1411–9.



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- wound-related complications
- lung and heart complications
- prolonged bone fusion time after fracture repair
- prolonged stay in hospital after surgery

Furthermore, research shows that providing pre-operative counselling and support for smokers awaiting surgery leads to a high quit rate compared to no support. Therefore the preoperative period is a good period to offer smoking intervention<sup>6</sup>.

In addition, the National Institute for Health and Clinical Excellence (NICE) guidance on smoking cessation services recommends that patients who are waiting for elective surgery should be encouraged to stop smoking before the operation<sup>7</sup>.

Contributors		References	
Stephen Gunther – Consultant Public Health		See below.	
Adopted by March 2014	Nene and Corby CCGs and Northamptonshire County Council	Equity and diversity	There was no evidence of a negative impact relating to any of the protected characteristics. The overall intention of the policy is to implement best practice, improve services and ensure better health of patients and the population in Northamptonshire.
Review Date April 2016			

#### References

- <sup>III</sup> Hourigan JS (2011). Impact of obesity on surgical site infection in colon and rectal surgery. Clin Colon Rectal Surg 2011;24(283-290
- <sup>iv</sup> Osler M et al. (2011) Body mass and risk of complications after hysterectomy on benign indications. Human Reproduction 2011; 26: 1512-1518.
- <sup>v</sup> DeMaria EJ, Carmody BJ. (2005) Preoperative management of special population: obesity. [Review] [31 refs]. Surgical clinics of north America 2005;85 (6): 1283-1289.
- v<sup>1</sup> Elgafy H et al. (2012) Challenges of spine surgery in obese patients. [Review]. American Journal of Orthopaedics 2012;41 (3): E46-E50
- vii Gaudelli C, Thomas K. (2012). Obesity and early reoperation rate after elective lumber spine surgery: a population-based study. Evid Based Spine Care J 2012;3(2):11-16.
- viii Hans GA et al. (2009) Postoperative respiratory problems in morbidly obese patients. [Review] [32 refs]. Acta Anaesthesiologica Belgica 2009;60 (3): 169-175.

<sup>IX</sup> The impact of pre-operative obesity on weight change and outcome in total knee replacement. A prospective study of 529 consecutive patients. Journal of bone and Joint Surgery – British Volume, Vol 92-B, Issue 4, 513-520

\* Foran J, Mont M, Etienne G, Jones L and Hungerford D. (2004) the outcome of total knee arthroplasty in obese patients. J Bone Joint Surg Am. 2004;86:1609-1615

<sup>&</sup>lt;sup>1</sup> Chen CL et al. (2011). The impact of obesity on breast surgery complications. Plast Reconstr Surg 2011; 128 (5): 395e-402e

<sup>&</sup>lt;sup>II</sup> Waisbren E et al (2010). Percent body fat and predication of surgical site infection. J am Coll Surg 2010: 210(4):381-9

<sup>&</sup>lt;sup>5</sup> Thomsen T, Villebro N, Møller AM. Interventions for preoperative smoking cessation. *Cochrane Database of Systematic Reviews* 2010, Issue 7. Art. No.: CD002294. DOI: 10.1002/14651858.CD002294.pub3. [online] http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD002294/frame.html accessed 15/12/2010

<sup>&</sup>lt;sup>6</sup> Moller AM, Villebro N, Pedersen T, Tonnesen H. Effect of preoperative smoking intervention on postoperative complications: A randomised clinical trial. *Lancet* 2002; **359:114**-7

<sup>&</sup>lt;sup>7</sup> National Institute for Health and Clinical Excellence PHG 010: Smoking cessation services February 2008 [online] <u>http://www.nice.org.uk/nicemedia/live/11925/41664/41664.pdf</u> accessed 16 December 2010