Smoking cessation 5: people awaiting or recovering from surgery

Key points

- The effects of smoking on surgical outcomes
- How to best communicate the risks to patients
- Offering practical support to surgical patients to help them become smoke-free

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Abstract Patients who are awaiting surgery, or recovering after surgery has been undertaken, can play an active role in achieving good outcomes, and stopping smoking is one of the most important measures that they can take. This final article in a five-part series on the nurse’s role in smoking cessation looks at how nurses are well placed to prompt this change by giving patients tailored information and motivational interventions to ensure they understand the harms of continuing to smoke before surgery and the benefits of quitting.

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Elective surgery used to be something that was ‘done’ to patients, who were considered passive recipients of care. All that was really expected of them was to take their medication, have observations taken, eat at set times and mobilise when directed. Before the introduction of hospital smoke-free policies, smoking was permitted, with nurses even wheeling patients outside for a cigarette. Stopping smoking in the weeks before surgery was generally considered counterproductive, especially if nicotine replacement therapy was used, and it was not unusual for patients to smoke right up to, and straight after, their surgery (Stefan et al, 2020).

As awareness of the harms of smoking grew, patients who smoked were encouraged more explicitly to quit as soon as they could before their operation so the benefits could be realised, although there was still uncertainty as to how late before surgery stopping smoking could have an advantage. We now know that, although earlier is best, stopping smoking even up to the day before surgery can lead to better outcomes (Gregory and Chowdary, 2018).

Nowadays, some surgeons will not operate until a patient abstains from smoking and, although patients may think they are being penalised for their lifestyle, there is good evidence behind this decision, as the associated risks mean surgery is not always safe when a patient continues to smoke (Pillutla et al, 2018).

Very Brief Advice Treating tobacco dependency is a priority for the NHS; the NHS Five Year Forward View states that the sustainability of the NHS relies on a radical upgrade in prevention and public health, including reductions in smoking-related ill health (NHS England, 2014). The Tobacco Control Plan for England expects all health professionals to know every patient’s smoking status and to be competent and committed in enabling patients to quit, either by direct action or referral to stop-smoking services (Department of Health, 2018). NHS England’s (2019) The NHS Long Term Plan provides information for patients and practitioners on stop-smoking pathways. National Institute for Health and Care Excellence (2018; 2013) guidelines
Box 1. The effect of smoking on surgical outcomes

- Smokers are 38% more likely to die after surgery than non-smokers
- Following surgery, smokers:
  - Have a higher risk of lung and heart complications
  - Have a higher risk of post-operative infection and impaired wound healing;
  - Require longer hospital stays
  - Require higher drug doses
  - Are more likely to be admitted to an intensive care unit
  - Have increased risk of emergency re-admission
- Smoking is the most important risk factor for developing serious post-operative complications after elective orthopaedic surgery (including: hip and knee replacement; and foot, ankle and shoulder surgery)
- The negative effects of smoking have been reported in gum surgery
- Smoking is an important predictive factor for anastomotic complications after colonic and rectal resection
- Smokers are at significantly higher risk of complications during reconstructive breast surgery and breast cancer surgery
- Smokers often need a higher dose of anaesthesia than non-smokers
- People who smoke have decreased blood oxygenation; this leads to reduced oxygen delivery to their tissues, so they are more likely to need oxygen therapy

Source: Action on Smoking and Health (2016)

Stop-smoking services

Nurses undertaking pre-surgical assessment can identify patients who smoke early in the treatment process, and explain that their best choice for an improved health outcome is to stop smoking; this process includes:

- Referring people for ongoing behavioural support;
- Following this up at the next encounter.

This approach of continuous attention to smoking cessation, rather than hoping that the question does not come up again, increases the likelihood that patients will take action (ASH, 2018).

Referring patients to stop-smoking services before elective surgery can make a difference in terms of offering them much-needed support, as they may not know how to contact the services themselves. A referral using the agreed pathway will ensure the patient receives a proactive and friendly call to arrange an appointment. Advice from a health professional is the second most common reason patients give for stopping smoking and the more times patients hear the message, the more likely they are to act on it (ASH, 2016). As such, duplication of effort across primary and secondary care is not a cause for concern when it comes to stop-smoking advice. Although patients may initially resist the intervention on the grounds that a cigarette will help them get through the stress of surgery, nurses are well placed to help them understand why stopping smoking is so important.

Teachable moments

There is strong evidence that surgical patients who smoke have higher risks and worse surgical outcomes (ASH, 2016). By drawing on this evidence to explain to patients the consequences of their continuing to smoke – and, in particular, the risks that relate to the procedure they are due to have – nurses can influence their decision making. Box 1 outlines how surgical outcomes may be affected by smoking.

The good news to impart to patients is that these effects are largely avoidable if they make changes straight away. Stopping smoking before surgery reduces:

- Lung, heart and infection complications;
- Complications from the anaesthesia;
- Bone-healing time and length of hospital stay;
- Wound-healing time by making more oxygen available;
- Breathing problems.

A way to convey this in terms a patient will understand, even without a good grasp of anatomy and physiology, is to explain that oxygen is needed for healing, and that carbon monoxide (the poisonous gas in cigarette smoke) drives oxygen out of the blood. This makes healing more difficult, meaning the edges of surgical wounds cannot knit together, and allows infection to set in. Nurses may find it helpful to demonstrate the coming together of wound edges with their hands for patients who are less able to understand verbal explanations.

Box 2. Vaping

People who smoke are dependent on nicotine, but it is the tobacco smoke that is harmful. Electronic cigarettes (vapes) are battery-powered devices that deliver nicotine orally; there is no combustion involved and they do not contain tobacco (Action on Smoking and Health, 2018). The most-common reason smokers give for vaping is to help them quit smoking, and a recent review of the evidence found electronic cigarettes can be an effective way for smokers to quit or abstain (Public Health England, 2018). Nurses concerned about reports in the US of people getting seriously ill – and even dying after vaping – having had illegal street-bought substances should note that there has been no such safety alert issued for UK-regulated nicotine vaping products (Ross, 2020; Newton, 2019).
Patients should be informed about local stop-smoking services to help them quit treatment in stop-smoking services and has been shown to be up to three times more successful than an unassisted quit attempt (West and Papadakis, 2019).

Nurses may encounter patients who have just started using vaping devices (electronic cigarettes) (Box 2) or have been using them for years. The popularity of these devices means it is worth considering how they fit into the pre- and post-operative pathway. The evidence to date has not identified any major concerns about the use of electronic cigarettes around surgery and, although vaping is not completely risk free, it carries a fraction of the risk of smoking and is helping thousands of smokers to quit and stay smoke-free (Public Health England, 2018).

Nurses should, therefore, feel confident about encouraging patients to try or to continue with vaping, if it allows them to be smoke-free.

**Conclusion**

Patients who smoke should expect support from the NHS to quit, and this is especially important before and after surgery. All health professionals should:

- Inform patients of the risks of smoking before surgery;
- Refer them to stop-smoking services, where available, so they can access timely behavioural support and also products to help them quit.

If patients decline this offer, nurses on pre- and post-surgical wards can supply medication to support temporary abstinence before and after surgery.

Most patients wish to improve their chances of a successful surgical outcome and, for those who smoke, quitting should be a priority. Nurses can help patients make that commitment – as illustrated in the case study in Box 3 – by using their communication skills to offer stop-smoking advice in a way that resonates with the patient.

**Box 3. Case study**

Lilian Patterson,* aged 69, had first started smoking as a teenager, but quit when she had her children. She was quite active and engaged in running and cycling during her 30s and 40s, maintained a healthy weight and had a positive outlook on life. During her 50s, Ms Patterson’s life took a different turn. Marriage difficulties ended in separation and, around the same time, she was made redundant. She took comfort in eating and in drinking more wine than before, and found that staying on the sofa was easier than pushing herself to go out on her bike. Her initial dismay at putting on weight was eventually consigned to the ‘deal-with-it-later’ pile and she told herself that ‘middle-age spread’ was just something that happens to women. On a rare night out, a friend offered her a cigarette and she felt she had rediscovered something she had been missing for years. The next day, she bought a pack and had smoked 20 cigarettes a day ever since.

Ms Patterson had long intended to gain control of these self-destructive habits, but nothing changed until deterioration of her knee joints made replacements essential and, distressed at the prospect of temporarily restricted mobility, she asked her nurse what she could do to aid her recovery. The nurse had a special interest in the patient’s role in peri-operative care, and shared with her fundamental advice about preparation and post-surgical recovery, including reducing her alcohol intake, eating more nutritious food, and taking as much exercise as she could, given her limitations. Most importantly, the nurse emphasised that she should stop smoking and described a recent audit on the ward showing a far higher risk of post-surgical wound infections among patients who smoked. Personalising the information made it a teachable moment and Ms Patterson took up the nurse’s offer to be referred to the stop-smoking service.

Ms Patterson managed to stop smoking using varenicline, a prescription medication used to treat tobacco dependence, and also focused on the other aspects of pre-surgical preparation that were in her control. Her anaesthetist told her afterwards that she would have needed far more intensive management had she still been a smoker.

*The patient’s name has been changed.

**Guided reflection**

- When thinking about referral to local stop-smoking services, are you and other team members familiar with the process to follow?
- Why does Very Brief Advice work better than other methods when it comes to raising the subject of smoking with a patient?
- What tailored messages about the particular surgery involved would resonate with your patients?

**References**


