Smoking and surgery: time to clear the air

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This paper is accompanied by a brochure entitled “Stop before your op” on the website of the Australian and New Zealand College of Anaesthetists. It is reproduced with permission from Peninsula Health, Victoria, Australia.

INTRODUCTION

Cigarettes are the only consumer product that, when used according to the manufacturer’s instructions, have a very high chance of killing you.\(^1\) Between 1/3 and ½ of all tobacco users die prematurely as a result of its use.\(^2\) When completing a hospital patient admission, many of us were taught as medical students that smoking status should be documented under ‘Social’ in the patient history.\(^3\) This teaching minimizes the reality of a life threatening addictive disorder which killed 100 million people worldwide in the 20\(^{th}\) century, or approximately twice the total death toll from World War II.\(^4\) Smoking kills an estimated 5000 New Zealanders and 15,000 Australians each year.\(^5,6\)

Despite declining smoking rates in many countries, the epidemic of tobacco-related deaths is worsening, with official estimates that there will be 8 million deaths per year by 2030.\(^1\) This is the legacy of previously high smoking rates in developed nations and booming tobacco sales in China, India and Indonesia, which together account for almost half the world’s current smokers.\(^4\)

Tobacco is one of the greatest health disasters in human history. Anaesthetists and surgeons have the opportunity to reduce the damage it causes in the community by assisting their patients to quit smoking at a time when they are especially receptive to health messages.\(^7,8\) This is particularly the case when surgery treats smoking-related conditions.\(^9\) Preoperative smoking cessation decreases postoperative complications and sustained smoking abstinence ends the dire consequences of tobacco addiction.\(^10-12\)

PREOPERATIVE INTERVENTIONS FOR SMOKING CESSATION

The underlying spontaneous quit rate in the general population of smokers is estimated to be about 2% per annum.\(^13\) Having surgery doubles this in older adults (>50 years) compared to older adults not having surgery.\(^7\) In the US, approximately 8% of all quit events are related to surgery.\(^1\) However surgery has little effect on the spontaneous cessation rates of younger adults compared to underlying community rates.\(^14\) Smoking cessation interventions have been trialled in a variety of surgical populations to determine if cessation rates can be increased and postoperative complications reduced.\(^10,12,15\)

Moller and colleagues used an intensive smoking cessation program involving counselling 6-8 weeks before joint arthroplasty surgery and found postoperative complications were halved compared to the control group, mainly because of fewer infections.\(^15\) A similar program beginning 4 weeks before elective general surgery had comparable results.\(^16\) A 2010 Cochrane review of such trials summarized the effect of a variety of interventions designed to increase abstinence rates before surgery and found that patients randomised to cessation intervention group were 30% less likely to have a postoperative complications (RR 0.7 95% CI: 0.6 to 0.9).\(^10\) Compared to control groups (usual care), preoperative quitting rates were 10.8 times higher for studies such as Moller et al that used more intensive interventions (RR 10.8, 95%CI: 4.6 to 25.6) but even studies using brief interventions reported 1.4 times increase (usual care), preoperative quitting rates were 10.8 times higher for studies such as Moller and colleagues.\(^15\)

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QUITTING BEFORE SURGERY – WHEN IS THE OPTIMAL TIME?

The ANZCA Professional Statement (PS12) ‘Statement of Smoking as Related to the Perioperative Period - 2007’ concludes “Patients who smoke should be encouraged to stop smoking at least six to eight weeks before surgery”.\(^16\) The apparent caution against stopping earlier than 6-8 weeks before surgery is based on concerns that postoperative pulmonary complications may actually be higher in recent quitters (<8 weeks) than those who continue smoking.\(^16-18\) It has been previously speculated that recent quitters may lose the cough promoting effects of cigarettes before there is a reduction in mucous hyper-secretion, thereby increasing pulmonary complications.\(^11\) Data regarding this first appeared in the early 1980’s and although studies were limited in both quantity and quality, beliefs regarding the harms of quitting just a few weeks before surgery are well entrenched and appear in guidelines and recent review articles as though they were factual beyond doubt.\(^16,17,20,21\) As elective surgery in public and private hospitals is frequently performed within a 6 week waiting period, the question of optimal timing to quit smoking is of paramount importance in order to best assist patients.\(^22\)
In evaluating the evidence, there were three studies referenced in the ANZCA statement which made claims about recent quitters.\textsuperscript{17-19} The first was a 1982 prospective study from Mitchell et al which sought to identify risk factors for postoperative respiratory morbidity in 200 general surgical patients.\textsuperscript{18} Among the findings were that 7 out of the 14 patients (50%) who had stopped smoking within 8 weeks of surgery had purulent sputum postoperatively compared to ex-smokers >8 weeks (many of whom could have had years of abstinence), where the prevalence of purulent sputum was only 22% (10 out of 45 patients).\textsuperscript{18} This result just reached statistical significance ($\chi^2$=4.02 $p$=0.045) and the difference in sputum rate between recent ex-smokers and those with prolonged abstinence (28%) had a wide 95% confidence interval (95%CI: 0 to 50%). The Mitchell et al study did not analyse those who continued to smoke with the 14 recent quitters but had this been done, no significant differences in sputum would have been found. Furthermore, the actual quit times of the recent quitters (less than 8 weeks) was not stated and it may have been just a few days in some cases. Data on arguably more important pulmonary complications than purulent sputum such as bronchospasm, fever and segmental lung collapse was not reported in the Mitchell study.

The second study cited in the ANZCA statement was a 1989 study of cardiac surgical patients by Warner et al. It found that 12 out of 21 recent quitters (<8 weeks) had postoperative respiratory complications (57%) compared with 6 out of 18 patients (33%) who continued to smoke.\textsuperscript{17} Patients who stopped smoking longer that 8 weeks had a 14.5% pulmonary complication rate which was similar to the rate in patients who never smoked (11.9%).\textsuperscript{17} While there is no argument that longer periods of cessation before surgery are preferable, the data from this paper does not provide evidence that short periods of cessation were harmful, as is sometimes stated.\textsuperscript{18} No statistics were done on the difference in complications between the current smokers and recent ex-smokers. Had this been done, the 24% difference in complications between the groups in the small sample size (95% CI: -10 to 50%) would not have been statistically significant ($\chi^2$=2.2; $p$=0.2).

The third study was by Bluman et al who found that the 36 patients who self-reported that they had reduced their cigarette intake in the preoperative period had 6.7 times (95%CI: 2.6 to 17.1) more postoperative respiratory complications than the 105 who said they smoked their usual amount.\textsuperscript{18} This extraordinary claim is undermined by the difficulty in verifying self-reported cigarette reductions or cessation.\textsuperscript{23} It also ignores a well-described phenomenon called compensatory smoking whereby smokers may consume fewer cigarettes but extract a similar smoke volume by modifying the pattern of inhalation.\textsuperscript{24} In lay terms, they ‘suck the life out of the cigarette’. The patient’s total smoke exposure is thus not simply a function of cigarette numbers, but behavioural characteristics which can achieve a greater yield per cigarette.\textsuperscript{24}

Citing the Mitchell and Warner papers, the ANZCA document PS12 states that ‘compared to non-smoking patients, production of purulent sputum in the postoperative period is 50% higher in patients who stopped smoking < 8 weeks prior to surgery, 25% higher in those who ceased to smoke > 8 weeks prior to surgery and no different to non-smokers if cessation of smoking occurred > 6 months.’\textsuperscript{18} At face value, this would seem enough to encourage any smoker to keep lighting up, but a critical look at their data shows that the sputum production of recent quitters is little different from continuing smokers. This is supported by the largest study to date on the relationship between smoking, quitting and intra-operative sputum volumes which involved over 1000 participants in Fukushima, Japan.\textsuperscript{17}

Sputum volumes were determined by endotracheal tube suctioning during elective surgery. As expected, the prevalence of current smokers with increased sputum volumes (18.2%) was higher than non-smokers (9.3%). However 18.8% of recent quitters (>2 weeks but <2 months) had increased sputum which was not significantly different from 18.2% in current smokers.\textsuperscript{26} The prevalence of patients with increased sputum was not significantly higher than current smokers for those quitting for between 1-2 days (22.9%) and no differences in postoperative pulmonary complications were found based on length of smoking abstinence.\textsuperscript{25}

The issue of timing smoking cessation before surgery was recently reviewed by Myers et al who published a meta-analysis of studies that compared complication rates between smokers who stopped <8 weeks before surgery with those who continued to smoke.\textsuperscript{17} Myers et al identified 9 studies for inclusion in the meta-analysis totalling 448 recent quitters and 441 continuing smokers, most of which did not report statistically significant results.\textsuperscript{11} Analysing results of all studies together, the composite endpoint for total complications was 22% lower in recent quitters (Relative risk 0.8, 95% CI: 0.6 to 1.1).\textsuperscript{11} Pulmonary complications were reported endpoints of five studies, occurring in 115 of 261 recent quitters and 75 of 251 continuing smokers; a relative risk of 1.2 (95% CI: 0.9 to 1.5) meaning recent quitters were at slightly higher risk.\textsuperscript{11} However statistically minded readers will note that as the confidence intervals for these risk ratios include the number one, they were not statistically significant. Thus the question of optimal timing of smoking cessation before surgery still cannot be answered without larger studies.\textsuperscript{26}

The bottom-line from critical analysis of the studies is that recent quitters have fewer postoperative complications overall.\textsuperscript{18} It would seem they are no worse off than continuing smokers in terms of pulmonary complications, but may be no better off.\textsuperscript{11,25,27} Further data is needed on this important question but current available evidence should not dissuade anaesthetists and surgeons advising patients to quit at any time before surgery. The ANZCA Statement on Smoking is due for revision in 2012 (K Leslie, personal communication). Its’ current wording may have undesirable consequences including reducing the enthusiasm for clinicians to deliver a smoking cessation message when surgery occurs within an 8-week time-frame. Other consequences include the potential for surgery to be delayed in order to achieve a certain period of smoking abstinence that is based on an inaccurate interpretation of the data.
SMOKING AND POSTOPERATIVE OUTCOMES

It has long been understood that smokers are at risk of worse postoperative outcomes, but some of the most comprehensive data was published in 2011 when Turan et al compared 30-day outcomes in a massive cohort of 82,304 current smokers matched to 82,304 patients who had never smoked. Adjusting for potential confounding factors such as age, gender and alcohol consumption, a significant dose-dependent increase in major and minor morbidity was shown in smokers. Thirty day mortality was 1.3 times higher than non-smokers (95%CI: 1.2 to 1.5). Unplanned intubation was 1.6 times higher (95%CI: 1.1 to 2.3), pneumonia 1.8 times higher (95%CI: 1.1 to 2.9) and prolonged ventilation (>48 hours) 1.7 times higher (95%CI 1.2 to 2.5). These findings probably come as no surprise to those of us who anaesthetise heavy smokers in whom the triad of increased mucus production, reduced ciliary clearance and hyper-reactive Airways regularly provides unnecessary clinical challenges. Smoking has well known effects on airways including inflammation and bronchial reactivity, loss of cilia and increased mucus production from glandular hyperplasia. However their data provides the best quantitative data so far to inform patients of their smoking-related pulmonary risks.

Smoking increases heart rate, blood pressure and myocardial contractility and is a well known risk factor for development of coronary artery and peripheral vascular disease. It has been controversial whether adverse cardiac events in the postoperative period (e.g.: myocardial infarction) relate to smoking as an independent risk factor, distinct from its causation of vascular disease. Mangano’s Perioperative Ischemia Research Group identified left ventricular hypertrophy, hypertension, diabetes mellitus, definite coronary artery disease and use of digoxin, but not current smoker status as significant risk factors for ischaemia after non-cardiac surgery. Similarly, studies after cardiac surgery did not identify smoking as an independent risk factor for postoperative ischaemia. In contrast to these smaller studies, the enormous data-set from Turan et al showed current smokers were at significantly increased odds of postoperative myocardial infarction (OR 2.1, 95% CI 1.8 to 2.4) and stroke (OR 1.5, 95% CI 1.3 to 1.8). As this data came from a variety of patients and procedures at 200 surgical centres across the United States, it is probable that these results are highly generalizable and valuable in discussing postoperative cardiac risk with current smokers.

Smoking is a known risk factor for surgical infection in a large range of procedures including ambulatory surgery, joint replacement, plastic surgery and numerous types of general surgery. The size of the effect was so significant after major joint arthroplasty that one author likened it to being as though the anaesthetist had neglected to give the prophylactic antibiotics. Given the additional healthcare dollars needed to treat smoking related infections, an editorial in the Medical Journal of Australia argued for a community debate on whether elective surgical waiting list ought to reflect discriminatory policies towards smokers. Biologically plausible explanations have been offered for how smoking increases infection risk, even in the absence of peripheral vascular disease. Population studies show a significant proportion of smokers are deficient in Vitamin C which plays an important part in wound healing. Some studies show smoking lowers tissue oxygenation as the result of the combined effects of nicotine-induced vasoconstriction and binding of carbon monoxide to haemoglobin. Biochemical studies show impairment of connective tissue turnover occurs in smokers as collagen synthesis and deposition in the skin is reduced. Immunological studies show enhanced inflammatory responses in smokers that release tissue-destructive enzymes. The findings in the Turan study was consistent with earlier studies, showing tobacco use was linked to infection and poor healing with odds 30% higher for superficial wound infection (OR 1.3, 95%CI: 1.2 to 1.4) and sepsis (OR 1.3, 95%CI: 1.2 to 1.5) and 40% higher for deep wound infection (OR 1.4, 95%CI: 1.2 to 1.7).

The relationship of smoking to acute and chronic pain was the subject of a recent review. A number of studies have demonstrated that smokers have increased analgesia requirements after surgery. Postoperative pain and anaesthesia requirements in smokers are influenced by the interaction of complex factors during the surgical journey including chronic nicotine induced CNS changes, possible analgesic effects of recent nicotine consumption and nicotine withdrawal in hospital.

While nicotine and carbon monoxide are perhaps the two components of cigarette smoke most known to anaesthetists, there are another 4000 different compounds with varied pharmacological properties that were the subject of another recent review. Induction of liver enzymes in smokers may at least partly explain some of the drug interactions seen in smokers. Metabolic differences in smokers have been shown for a variety of drugs including opioids, aminosteroid muscle relaxants and alcohol. The news for smokers is not all bad however. After day-case knee arthroscopy, smokers had a lower risk of nausea (6%) than non-smokers (15%) in the setting of a standardized anaesthetic technique that omitted any prophylactic antiemetic.

BEGINNERS GUIDE TO SMOKING CESSATION

Mark Twain wrote: “giving up smoking was the easiest thing in the world: I know because I’ve done it thousands of times”. Many smokers try to quit on their own but in the absence of additional support, each quitting attempt will only have a 4-7% success rate. However quitting success tends to be better in patients having surgery when motivation may be greater and even brief interventions of advice and encouragement delivered by physicians improve quitting success. Anaesthetists and surgeons cannot be expected to be smoking cessation specialists but can readily refer patients to professionals who are. The Smoking Cessation Taskforce of the American Society of Anesthesiology developed a simple 3-point cessation strategy (A-A-R: Ask, Advise, Refer) that is easy to use in daily practice.
A=Ask. Patients should always be asked about their smoking status. One suggestion is to always ask even when the answer is already known as it reinforces the opinion that their tobacco use is a significant issue. Asking about smoking is frequently not done. One large audit showed hospital doctors asked about smoking status in less than half the cases.42 Anaesthetists documented smoking status in only 25% of cases in another audit.43

A=Advise. An Australian study showed that at a Newcastle preoperative clinic, 39% of smokers received smoking cessation advice from the anaesthetist.44 The situation may be worse elsewhere as many clinics in Australasia and elsewhere do not routinely give smokers cessation advice or quitting literature.45 We cannot assume surgeons or general practitioners (GP) perform this role as Myles et al found that stop-smoking advice was given in 6.5% of cases by surgeons and 3% of cases by GPs.46 Most smokers are aware of the risks that are printed on the packet regarding future cardio-respiratory disease and cancer, but data shows that few have awareness of the specific perioperative risks that their habit poses for them.7 Smokers deserve to know this information. Unless they understand that the potential benefit of quitting before surgery outweighs the perceived unpleasantness of cessation, it is not reasonable to expect smokers to make behavioural change prior to surgery.

R=Refer. Compared to the provision of self-help material alone, multi-session counselling delivered via telephone quit lines increases the chance of smoking abstinence at 12 months by a significant 25-50%.46 A Victorian study showed that multi-session Quitline counselling resulted in 24% of participants being abstinent at 3 months.47 In Australia, self-referral to Quitline on 13 7848 (13 QUIT) or physician referral via fax is available. A standard Quitline service consists of 6 counselling sessions via telephone, usually 2 before the quit date and 4 afterwards (I. Ferreter, personal communication). Quitline staff can also give advice regarding smoking cessation pharmacotherapy. New Zealand Quitline can be contacted on 0800 778 778 and offer access to low-cost nicotine pharmacotherapy in addition to counselling.

Meta-analysis of the evidence of effectiveness of various smoking cessation interventions is shown in table 1 below. Most studies have been done on patients meeting criteria of nicotine dependence, which include smoking within 30 minutes of waking, smoking more than 15 cigarettes a day and significant withdrawal symptoms during previous quit attempts.48

Table 1. What works for smoking cessation from the Cochrane Library of Systematic Reviews

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Relative Risk* (95% Confidence interval)</th>
<th>Effectiveness</th>
<th>Comments</th>
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<tbody>
<tr>
<td><strong>DRUG TREATMENTS</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Nicotine patch51</td>
<td>1.7 (1.5 to 1.8)</td>
<td>Yes. Other nicotine forms similarly effective</td>
<td>Skin irritation possible. No increase in myocardial infarction.</td>
</tr>
<tr>
<td>Anxiolytics52</td>
<td>Low. Few trials, wide confidence intervals.</td>
<td>Evidence does not rule out possible effect</td>
<td></td>
</tr>
<tr>
<td>Bupropion (Zyban™)52</td>
<td>1.7 (1.5 to 1.9)</td>
<td>Yes, Similar effect size as NRT</td>
<td>36 studies. Seizure risk 1:1000. ? suicide association</td>
</tr>
<tr>
<td>Nortriptyline52</td>
<td>2.0 (1.5 to 2.8)</td>
<td>Yes, Similar or better than NRT.</td>
<td>6 studies. Tricyclic side-effects.</td>
</tr>
<tr>
<td>Selective serotonin reuptake inhibitors (SSRI) e.g.: Fluoxetine52</td>
<td>0.9 (0.7 to 1.2)</td>
<td>No</td>
<td>4 studies. Other SSRI drugs similarly ineffective.</td>
</tr>
<tr>
<td>Clonidine (oral or transdermal)54</td>
<td>1.7 (1.2 to 2.8)</td>
<td>Yes.</td>
<td>6 trials. Dry mouth &amp; sedation common.</td>
</tr>
</tbody>
</table>
Intervention | Relative Risk* (85% Confidence interval) | Effectiveness | Comments
--- | --- | --- | ---
Nicotine receptor partial agonists, e.g. Varenicline (Champix™) | 2.3 (2.0 to 2.7) | Yes. Lower doses than standard also appear effective. | 10 trials. Mild transient nausea? Depression & suicide association.

**NON-DRUG TREATMENT**

**Hypnotherapy**[^26] | Low. Possibly not as good as counselling. | 11 trials, very different designs.

**Individual counselling**[^50] | 1.4 (1.2 to 1.6) | Yes. | 30 trials, >7000 patients.

**Group behaviour therapy**[^40] | 2.0 (1.6 to 2.5) | Yes. | 53 trials. If patients like group attendance works better than individual counselling.

**Rapid smoking aversive therapy**[^27] | 2.0 (1.4 to 3.0) | Yes. | 12 trials. Problems with methodology in most.

**Acupuncture & related techniques**[^20] | 1.1 (0.8 to 1.4) | Low. Little or no different from placebo. | 33 studies, most effected by bias.

*Relative risk (RR) refers here to the ‘risk’ of successful cessation, usually measured at 12 months. Thus a RR of 1.7 for nicotine patches means patients receiving patches were 70% more likely to succeed at 12 months than control group patients.

Counselling is highly effective, whether individual or group based.[^2,^3,^10] Effective drug treatments include nicotine replacement therapy (NRT), bupropion and varenicline, while the place of nortryptiline and clonidine in smoking cessation is limited by side-effects.[^51-^54] Varenicline is generally commenced one-week before the patient’s quit date and bupropion commenced two-weeks before the quit date.[^40] This may cause practical difficulties in cases when the timing of surgery is imminent.

NRT is commenced on the patient’s quit date, making it use easier.[^52] There is no evidence that NRT has a negative effect on postoperative outcome.[^52,^53] Given the known cardiovascular side-effects of nicotine, it is somewhat counter-intuitive that the safety of NRT has been firmly established, even in the presence of cardiac disease.[^50] Guidelines from The Royal Australian College of General Practitioners state there is no evidence of increased risk for patients using NRT with stable cardiovascular disease, but it should be used with caution in recent MI, unstable angina or recent CVA.[^48] In many cases the benefit that NRT gives cardiac patients in stopping smoking outweighs the harm of continued smoking or the NRT itself.[^50]

It is likely that components of cigarette smoke other than nicotine contribute significantly to the increased cardiovascular risk of smokers.[^27] Furthermore, peaks and troughs of blood nicotine levels after smoking are far greater with cigarettes than NRT.[^27] Nicotine patches do not appear to induce vasoconstriction resulting in poor wound healing and infection as wounds in abstinent smokers wearing NRT patches were no more likely to become infected or rupture than abstinent smokers without NRT.[^59]

Studies comparing different forms of NRT (transdermal patches, gum, inhalers etc) did not strongly favour one form over another but studies using NRT combinations showed higher effectiveness (e.g. patch for baseline nicotine requirement and gum for breakthrough cravings).[^51] The initial dose of a sustained-release nicotine patch usually approximates the current daily nicotine intake so that a 20 cigarettes per day patient would be prescribed patches delivering 21mg/day.[^40] Nicotine (eg. gums) for breakthrough cravings 12mg/day.[^40] Tapering of patch doses generally occurs over a 4-week period.[^40]

**SMOKING CESSATION: THE PUBLIC HEALTH CHALLENGE FOR ANAESTHETISTS AND SURGEONS.**

The consistent and routine application of a smoking cessation strategy represents a challenge for anaesthetists, surgeons and health services. The first challenge is overcoming personal attitudes that prevent us from engaging with patients to inform them of the harms of smoking and giving encouragement and support to quit. This includes perceptions that smoking is a social rather than medical problem, assumptions that physician’s advice lacks effect on cessation outcomes, a deficit of knowledge or training and a reluctance to raise the topic because it may upset patients.[^3,^41,^44]

The second challenge is time. The smoking status of a patient may only be discovered by the anaesthetist on the day of surgery. Systems to have alerting information available earlier should be considered. Despite political and media agendas that focus on long elective surgical waiting lists, the reality is that there is relatively little time to act in most cases as half of elective surgery at Australian public hospitals being currently done within 36 days.[^22] Whether smokers should have elective surgery delayed in order to participate in a smoking cessation program is a debate long overdue when one considers that since 1944 there have been over 300 papers showing the adverse effects of smoking on surgical outcomes.[^3]
The third challenge is to advocate within our health systems for effective and sustainable programs for smoking cessation based on established evidence-based models. Fund providers of acute care in hospitals may balk at funding requests for hospital-based interventions where the savings are not immediately apparent. This is unfortunate as even an intensive preoperative smoking cessation clinic model was shown to be cost-effective in terms of reducing overall hospital costs. More long-term community savings could be expected than reported in a hospital-cost analysis as many patients remain smoke-free 12 months or more after discharge from these programs.

Anecdotally, very few health services in Australasia have systematic programs for patients joining surgical waiting lists that identify smokers and give them information and support on how to quit before surgery. Peninsula Health in Melbourne is currently commencing and evaluating a program where all smokers on the surgical waiting list will receive a brochure explaining the benefits of quitting as well as a reply-paid referral letter to enable Quit Victoria to commence free preoperative telephone counselling sessions*. No other Victorian health service systematically refers elective surgical patients to quit (I. Ferreter, personal communication), yet referral to Quitline is an integral part of smoking cessation guidelines for Australian general practice.

The scale of the task is a challenge but also a significant opportunity for public health improvement. In the 2009/10 year there were 1.9 million elective operations in Australia, two thirds of which were in the private sector. In New Zealand public hospitals, there were 137,279 elective operations over the same period (C. Lewis, personal communication). Based on the current smoking prevalence it is likely that at least 360,000 smokers have elective surgery in our region each year. As cardiothoracic, vascular and certain cancer surgery is over-represented amongst smokers, this figure is probably conservative. Worldwide, an estimated 70 million smokers undergo major surgery each year.

**CONCLUSION**

Before he died of lung cancer at the young age of 45, the great US musician Nat King Cole asked his doctor to “get me well so I can get on television and tell people to stop smoking”. It was too late for Nat and his cancer denied him that opportunity. Yet by routinely enquiring about smoking habits, advising to stop and referring for further help, anaesthetists can act on their favourable opportunity to end the misery that tobacco inflicts on many lives. Regarding smoking and surgery, it is time to clear the air.

*Further information, brochure template and fax referral form, visit clinician’s area at www.stopbeforetheop.blogspot.com

**REFERENCES**


32. Aköz T, Akan M, Yıldırım S: If you continue to smoke, we may have a problem: smoking's effects on plastic surgery. Aesthetic Plast Surg 2002; 26: 477-82.


How can you quit smoking before your surgery?

Quitting is a free service to everyone. Follow these steps:
1. Complete and sign the enrolment form.
2. Send it in the enclosed reply-paid envelope.
3. Quitline will phone you (including mobiles) at the time you have asked for.

What does Quitline do?

After talking to you, your Quitline specialist will give you a step-by-step plan to support you after you have quit. Most people have about six counselling sessions over the phone. You can discuss other supports including stop-smoking medication with the Quitline specialist.

Does Peninsula Health offer quit smoking support?

Peninsula Health Community Health offers quit smoking sessions for people who prefer a face-to-face meeting with a Quit smoking professional. These individual appointments or group sessions are held at our Community Health sites in Frankston, Mornington, Rosebud and Hastings. A small charge may apply.

For more information or to make an appointment, contact Community Health Frankston, phone: 03 8764 8100
Mornington Peninsula, phone: 03 9985 9220

As well as counselling, you may want to consult a GP or pharmacist for advice about medication that may improve your quitting success.

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Improve your health before, during and after surgery

Your Peninsula Health team is committed to making sure you are aware of problems you may face when having surgery.

We want you to have the latest facts on how smoking can increase the risk of problems you may face when having surgery.

Quitting smoking before surgery may mean less time in hospital, faster recovery and huge benefits for your future health.

Because we are concerned about your health and safety we want to show you why you should quit smoking before your operation—and hopefully quit for life.

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What does research say about quitting smoking before surgery?

- Recent research shows that people who smoke are almost 50% more likely to get a wound infection after surgery. Severe infections can be life-threatening and minor infections can mean antibiotics and a longer stay in hospital. B) quitting smoking before surgery can reduce your risk of getting an infection.

- Research also shows that smokers take longer to heal from surgical procedures compared with non-smokers. If you quit smoking, your heart and lungs will work better to help you through surgery. Your blood will carry more oxygen as it is pumped around your body, helping you to heal faster.

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Why is surgery a great time to quit smoking for life?

- When preparing for surgery you may begin to think about your health and want to make changes. Quitting smoking is one of the best ways to improve your health and lifestyle.

- Peninsula Health has a smoke-free policy so you cannot smoke ciggels while in hospital.

- Quitting smoking before surgery will mean you are free from cravings while in hospital.

- Quitting smoking for good will reduce your future risk of cancer and heart disease.

- You will save thousands of dollars.

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How long before my operation should I quit smoking?

- The patients in the study shown in the graph (left) had stopped for six to eight weeks before surgery.

- Even if you don’t have this much time before your operation, recent research shows that shorter periods of smoke-free time can still help you.

- The more smoke-free time you have before surgery, the greater the benefits to you.

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Mr Bob Syryca, Director of Surgical Services
Peninsula Health

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Complications after major surgery. Patients who stopped smoking (above) were less likely to have complications than those who didn’t. Those who stopped for more than six weeks were least likely to have complications. patients with complications

- 0% patients with complications
- 10% patients with complications
- 20% patients with complications
- 30% patients with complications
- 40% patients with complications
- 50% patients with complications
- 60% patients with complications
- 70% patients with complications
- 80% patients with complications
- 90% patients with complications
- 100% patients with complications

Reference: Dr. A. Miller, The Lancet. Vol. 359. p.1147