The Clinical Case for providing stop smoking support to 'Ear, Nose and Throat' (ENT) Patients

Why intervene in secondary care?

1. Hospital patients are more receptive to 'Very Brief Advice' (VBA) and an offer of support to stop smoking, as they are often experiencing a period of heightened motivation
2. Giving VBA to a hospital patient (the '3 A's': Ask, Advise, Act) can also encourage compliance to the smokefree hospital policy, and highlight any need for withdrawal management. Providing Nicotine Replacement Therapy (NRT) to a patient during a period of forced abstinence, will ease nicotine withdrawal symptoms
3. Stopping smoking can lead to significant health benefits, and reduce post-operative complications and improve recovery time

What is the aim of this 'clinical case' document?

The aim of this document is to provide clinical support for hospital staff in terms of supporting patients to stop smoking, even if this is just for a period of forced abstinence whilst in hospital. Being in hospital provides an opportune moment to intervene and provide both brief advice and support to stop smoking; including making a referral on to local stop smoking support. There are many benefits for a patient if they have temporary abstinence from smoking, including a shorter time for recovery and this can often stimulate a full attempt to stop smoking.

What is the relationship between smoking and ENT?

Cigarette smoking is associated with an increased risk of infections including respiratory tract infections;[1,2] Helicobacter pylori infection; otitis media; and postsurgical and nosocomial infections.[3,4,5] The following processes have been associated with cigarette smoking that predispose smokers to ENT infections:

- oral colonisation by some potentially pathogenic microorganisms[6,7,8,5]
- the nasopharyngeal flora of smokers contains less aerobic and anaerobic organisms with interfering capability[5]
- airway inflammation, hypersecretion of mucus, and poorly reversible airflow limitation; processes are poorly understood, but may be related to development of Chronic Obstructive Pulmonary Disease (COPD)[9]

In addition, a positive association between smoking, exposure to noise and hearing loss has been reported in several studies.[10,11,12]

What are the health benefits of stopping smoking for ENT patients?

Microbial flora reverts to normal levels quickly after stopping smoking[13,8] suggesting a critical role in improving ENT health. Successfully stopping smoking will not only benefit a patient's long-term health by reducing the risk of developing smoking related disease,[14] but abstinence from smoking may also help a patient recover quicker by eliminating the acute effects of smoking on the body. There is an evidenced benefit of stopping smoking in terms of general outcomes.

Main acute effects of smoking on the body (estimated time of recovery, if known)

- Increase in sympathetic tone leading to an increase in blood pressure, heart rate and peripheral vasoconstriction leading to an increased demand for oxygen and cardiac function.[15] **(24 – 48 hours)**
- Formation of carboxyhaemoglobin leading to a reduction in oxygen delivery to the tissues.[16,17,18] **(8 – 24 hours)**
- Formation of carboxymyoglobin leading to a reduction in oxygen storage in the muscles.[19,16] **(8 – 24 hours)**
- Increase in red blood cell production, which leads to an increase in blood viscosity, a decrease in tissue perfusion, a decrease in oxygen delivery to the tissues and potentiation of thrombotic process.[20,21]
- Hypersecretion of mucus, narrowing of the small airways, decrease in ciliary function and change in mucus rheology leading to a decrease in mucociliary transport.[20,21] **(12 – 72 hours)**
- Changes in functioning of a range of immune cells (pro- and anti-inflammatory cytokines, white blood cells, immunoglobulins) which lead to decreased immunity and are associated with atherosclerosis.[20,21] **(1 week – 2 months)**
- Induction of hepatic enzymes which increases drug metabolism through both pharmacokinetic and pharmacodynamic mechanisms.[22] **(6 – 8 weeks)**

General health benefits of stopping smoking[23]

- Within 20 minutes blood pressure drops to the level it was before the last cigarette.
- Within 8 hours carbon monoxide levels in the blood return to normal.
- Within 24 hours the chance of a heart attack decreases.
- Within 2 weeks to 3 months circulation improves and lung function increases.
- Within 1 to 9 months lungs regain normal ciliary function, reducing infection risk.
- By 10 years the risk of lung cancer is approximately half of a smoker. The risk of cancers of the mouth, throat, bladder, kidney and pancreas also decrease.

Providing 'Very Brief Advice' to hospital patients: the '3 A's'

Providing a stop smoking intervention to a hospital patient is proven to be effective regardless of the reason for admission.[24] Offering VBA is the single most cost effective and clinically proven preventative action a healthcare professional can take[25] and it is important to keep giving advice at every opportunity, as smokers may take several attempts to stop smoking successfully.[26] In addition, by referring a patient to a local stop smoking service, they are four times more likely to stop smoking.[27] Increase in common cold symptoms and mouth ulcers after stopping smoking have been reported.[28] Smoking patients should therefore be informed about their increasing chance of experiencing these symptoms when stopping smoking.

Research shows that 95% of patients expect to be asked about smoking and a short intervention can make all the difference.[29,30] The '3 A's' 30 second approach to giving 'very brief advice' are as follows:

ASK and record smoking status

ADVISE the patient of the personal health benefits of stopping smoking

ACT on the patient's response
- prescribe NRT for patients in withdrawal
- monitor withdrawal and adjust pharmacotherapy accordingly
- refer to local stop smoking service

How was this information sheet put together?

This information is a summary of the current scientific evidence on the association between cigarette smoking and ENT conditions. Studies were found by searching MEDLINE and EMBASE using combined exploded subject headings of 'Otolaryngology' and 'tobacco use cessation' from 01/1945 – 07/2011. Evidence has been included in this summary from cohort studies, randomised controlled trials and reviews only.

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