

The Clinical Case for providing stop smoking support to Gynaecology 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.

The Clinical Case for providing stop smoking support to Gynaecology Patients**What is the relationship between smoking and gynecological conditions?****Female reproductive health**

- Cigarette smoking increases the risk of spontaneous abortion.¹
- A dose-related smoking effect causes a conception delay of approximately 2 months.¹
- With advancing age the decline in the number of retrieved oocytes was found to be faster in smokers than non-smokers.^{2,3,4}
- Increases the rate of preterm birth.⁵

Infections

- Smoking was an independent predictor of high risk papillomavirus (HR-HPV).^{6,7}
- Women who smoke are more vulnerable for Chlamydia trachomatis.^{8,9}

Female genital cancer

- Smoking acts as a co-factor in cervical carcinogenesis and increases the risk of ovarian cancer.^{10,11,12}

Other gynecological problems

Cigarette smoking is associated with several gynecological problems:

- Chronic and recurrent pelvic pain¹³
- Increased risk of premature preterm rupture of membranes^{14,11}
- Intermenstrual bleeding¹⁵
- Age of menopause is decreased by approximately one year in smokers¹⁶

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What are the health benefits of stopping smoking?

Stopping smoking is vitally important for pregnant women. Smoking has shown to increase low birth weight, reduce preterm birth, and infant morbidities.¹⁷ Successfully stopping smoking will not only benefit a patient's long term health by reducing the risk of developing smoking-related disease,¹⁸ but it may also help a patient to recover quicker by eliminating the acute effects of smoking on the body. There is an evidenced benefit of quitting in terms of general outcomes (see below).

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

- Increase in sympathetic tone leading to increase in blood pressure, heart rate and peripheral vasoconstriction leading to an increased demand for oxygen and cardiac function.¹⁹
(24 – 48 hours)
- Formation of carboxyhaemoglobin leading to a reduction in oxygen delivery to the tissues.²⁰
(8 – 24 hours)
- Formation of carboxymyoglobin leading to a reduction in oxygen storage in the muscles.^{21,22}
(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.¹⁹
- Hypersecretion of mucus, narrowing of the small airways, decrease in ciliary function and change in mucus rheology leading to a decrease in mucociliary transport.¹⁹ **(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.^{11,23,19} **(1 week – 2 months)**
- Induction of hepatic enzymes which increases drug metabolism through both pharmacokinetic and pharmacodynamic mechanisms.²⁴ **(6 – 8 weeks)**

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General health benefits of stopping smoking²⁵

- 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.
- Risk of hospitalisation decreases to the level of non-smokers in 1 to 3 years after quitting.^{26,27}

Stop smoking support is effective

Providing stop smoking support has been proven effective for hospitalised patients, regardless of reason for admission.²⁸

Effective methods typically include a combination of medications, replacing unhealthy habits with healthy habits and behavioural support. Evidence indicates that nicotine replacement therapy, bupropion and varenicline are all effective treatments for both short and long-term smoking cessation.²⁹

Behavioural support should be started during hospitalisation and continued at least for a one month after discharge increases likelihood of cessation.²⁸

Nicotine replacement therapy (NRT) and pregnancy

Most studies available to date investigate the use of nicotine patches in pregnancy. Other forms of NRT such as nicotine gum, spray, and inhalers need further research to evaluate their safety in pregnant women.³⁰

Regardless of the delivery system used, prescribing the lowest effective dose of NRT would be appropriate action.¹⁷

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

Research shows that 95% of patients expect to be asked about smoking and a short intervention can make all the difference.^{18,19} 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 gynaecology. Studies were found by searching MEDLINE and EMBASE using combined exploded subject headings of 'gynaecology' or 'reproductive health' and 'tobacco use cessation' from 01/1945 – 07/2011. Evidence has been included in this summary from large population based studies, cohort studies, randomised controlled trials and reviews only.

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