

Other Sources of Information

HFEA

www.hfea.gov.uk

References

Effects of cigarette smoking on reproduction C. Dechanet, T. Anahory, J.C. Mathieu Daude, X. Quantin, L. Reyftmann, S. Hamamah, B. Hedon and H. Dechaud *Hum. Reprod. Update* (2011) 17(1): 76-95.

Fertility assessment and treatment for people with fertility problems- Clinical Guideline. National Institute for Clinical Excellence. February 2004.

NHS Direct

A nurse-led advice service run by the NHS for patients with questions about diagnosis and treatment of common conditions.

Telephone: 0845 4647

Website: www.nhsdirect.nhs.uk

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Equip

A West Midlands NHS website which signposts patients to quality health information and provides local information about support groups and contacts.

Website: www.equip.nhs.uk

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Patient UK

Provides leaflets on health and disease translated into 11 other languages as well as links to national support/self help groups and a directory of UK health websites.

Website: www.patient.co.uk

Further information is available from;

Patient Advise and Liaison Service (PALS)

PALS will act on your behalf when handling patient and family concerns, they can also help you get support from other local or national agencies. PALS, is a confidential service.

Royal Shrewsbury Hospital, Tel: 0800 783 0057 or 01743 261691

Princess Royal Hospital, Tel: 01952 282888

Disclaimer

This leaflet is provided for your information only. It must not be used as a substitute for professional medical care by a qualified doctor or other health care professional. Always check with your doctor if you have any concerns about your condition or treatment. This leaflet aims to direct you to quality websites: these are correct and active at the time of production. The Shrewsbury and Telford Hospital NHS Trust is not responsible or liable, directly or indirectly, for ANY form of damages whatsoever resulting from the use (or misuse) of information contained in this leaflet or found on web pages linked to by this leaflet.

Your Information

Information about you and your healthcare is held by the NHS. You can find out more about the information we hold and how it is used in the leaflet called: **Your Information**

Website: www.sath.nhs.uk

The Shrewsbury and Telford Hospital 

NHS Trust

The Shropshire and Mid Wales Fertility Centre

Smoking and Conception

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Introduction

Cigarette smoking is known to be harmful to your general health and to increase the risk of heart disease and cancer, but few people realize that it also has a serious negative effect on their chances of having a baby both naturally and through assisted conception (e.g. In-Vitro Fertilisation).

Most NHS commissioning bodies (the groups that pay for local patients to have NHS treatment) insist that patients quit smoking before being treated. This decision is made on the basis of the evidence that is outlined in this information leaflet.

Cigarette smoke contains thousands of chemicals (e.g. nicotine, cadmium, arsenic, carbon monoxide, cyanide, benzene, formaldehyde and ammonia), the majority of which are poisonous, with many causing cancer.

How does cigarette smoke affect women's fertility?

The growing follicle

Smoking brings forward the menopause by about 2 years. Women who smoke have a lower 'ovarian reserve' meaning that they have fewer eggs remaining than those that have never smoked. In animals smoking has been shown to damage the growing follicle (which contains the egg) and reduce its growth.

Hormones

Smoking can cause imbalances in the levels of your hormones. Smokers have higher testosterone levels, higher Follicle Stimulating Hormone (FSH) levels and lower levels of both Oestrogen and Progesterone at key stages in the menstrual cycle.

The Embryo up to day 5 (Blastocyst)

In animals, the chemicals in cigarette smoke have been shown to inhibit (slow) the growth of the developing embryo and to increase the number of cells (individual parts of the embryo) that die during development

The Fallopian tubes

There is some evidence that smoking may be associated with an increased risk of lesions forming in the fallopian tubes and an increased risk of ectopic pregnancy (a potentially life threatening condition where an embryo implants in the tubes rather than the womb). Cigarette smoke may affect how the cilia (tiny 'hairs' within the tubes) work and by doing so may affect the transport of the egg and embryo to the womb.

Implantation

Implantation is the process by which the embryo attaches to the lining of the

womb. When implantation occurs you become pregnant. In smokers the implantation rate is reduced by at least 20%, making you less likely to become pregnant if you smoke.

Smoking whilst pregnant

If you smoke whilst you are pregnant, you expose the growing fetus to all of the toxic chemicals that you are being exposed to. You reduce the amount of oxygen available for the fetus and as a result of this poisoning, its heart has to work harder. Babies of smokers are more likely to be born prematurely (early) and to have low birth weight. Smoking also increases the risk of stillbirth and miscarriage.

Smoking and IVF/ICSI

Fertilisation rates are lower in IVF using sperm from men who smoke. Embryos produced in IVF have a lower chance of implantation (pregnancy) if the male partner smokes.

How does cigarette smoking affect male fertility?

Smoking reduces the quality of the sperm and damages their DNA.

How long should I have given up smoking before I can have treatment?

The longer you give up the better. We recommend that you give up smoking if you are trying to conceive, not just when you discover you need treatment.

Can I have treatment if I smoke?

No. The Shropshire & Mid-Wales Fertility Service has a strict policy that it will not allow patients who smoke to be treated. Any couple found to be smoking (or where one individual smokes) will have their treatment abandoned. If you have a treatment abandoned due to smoking, this abandoned cycle will be counted as one of your allocation of NHS treatments.