

Fertility Preparation

Preconception fertility care is based on helping your body produce the healthiest eggs and sperm possible. In a woman it takes approximately 100 days for the egg to develop towards ovulation and in the male it's approximately 116 days for sperm production to be completed. A proactive way to utilise this time involves couples adapting a healthy diet and environment in the four months prior to a possible conception.

Although the focus is often on women in fertility issues, the reality is that men share 50% of the responsibility in the creation of a healthy embryo.

Recommendations for both partners include;

- Refraining from cigarette smoking and other social drugs such as marijuana.
- Avoiding the consumption of alcohol.
- Avoiding caffeine based products.
- Avoiding pesticides and chemicals where possible for example; hair dyes, chemical household cleaners, nail polish remover, garden sprays, and paint fumes.
- The use of organically grown, unsprayed produce, additive-free foods, free range eggs, fresh fish and organically reared meat and poultry where possible.

The following studies suggest areas of special concern

Smoking

A report prepared by the British Medical Association had the following key findings

- Men who smoke have a lower sperm count and a higher proportion of malformed sperm.
- Women who smoke take longer to conceive.
- Women who smoke are twice as likely to be infertile as non smokers.
- Men and women who smoke have a poorer response to fertility treatment.
- Women who have stopped smoking take no longer to become pregnant than those who have never smoked.
- Stopping smoking improves sperm count and quality.

British Medical Association 2004 www.bma.org.uk

Coffee

- A study of 1,909 women in America found the risk of not conceiving for 12 months was 55% higher for women drinking 1 cup of coffee per day. It was 100% higher for women drinking 1 and one half to 3 cups and 176 % higher for women drinking more than three cups per day.
Yale University School of Medicine. Epidemiologic Reviews Vol 14, Pg 83, 1992
- Coffee drinking before and during pregnancy was associated with over twice the risk of miscarriage when the mother consumed 2 to 3 cups of coffee per day.
Journal of American Medical Association December 22 1993
- A Caffeine intake of 3 or more cups a day by women **or their partners** doubled the rate of miscarriage in a Danish study.
American Journal of Epidemiology Vol 160 No 7 2004 661-67

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Pesticides

- In a study of Danish greenhouse workers, an unexpectedly high sperm count was found among organic farmers. Their sperm count was more than twice as high in those men as in a control group of blue-collar workers, suggesting that consuming organically grown foods may enhance fertility.
Abell A, Ernst E, Bonde JP. High sperm density among members of organic farmers' association. Lancet 1994;343:1498.
- Men experiencing infertility were found to be employed in agriculture/pesticide related jobs 10 times more often than a study group of men not experiencing fertility problems.
American Journal of industrial medicine Vol 24; 587-592, 1983
- Miscarriage increases in women (2.1 to 4.7 times) were found after exposure to chemical solvents. The major risk chemicals were those used in dry-cleaning, paint, paint thinners and paint strippers.
American Journal of Industrial Medicine Vol 20; 241-249, 1991

Body Weight

- A body mass index (BMI) of 25 to 29.9 in women is considered overweight and has been linked to irregular or infrequent menstrual cycles, an increased risk of infertility, an increased risk of miscarriage and decreased success with fertility treatments. The positive news is that small amounts of weight loss (5-10%) may dramatically improve ovulation and pregnancy rates.
American Society for Reproductive Medicine
- A study of Danish men found that sperm counts were lower in those men that were overweight (21.6 %) and those that were underweight (28.1%)
American Society for Reproductive Medicine Meeting October 2004

Alcohol

A study from the University of California of 221 couples undergoing fertility treatment found;

- For women alcohol consumption in the month before IVF attempt reduced success nearly 3 times with alcohol consumption in the week before egg pick up (one glass per day) increasing the chance of miscarriage by 2 times.
- For men alcohol consumption the month before IVF reduced success 2 and a half times and alcohol (one glass per day) in the week before sperm collection reduced success more than 8 times.

The recommendation was made that couples abstain from alcohol consumption at least one month before the attempt to maximize the effectiveness and success of the IVF and GIFT procedure.

Fertility and Sterility 2003;79:330-339

- Alcohol consumption in the week prior to conception was associated with an increased the rate of miscarriage. For women ten or more drinks a week was associated with 2 to 3 times greater risk of miscarriage while for men it was 2 to 5 times greater risk.

American Journal of Epidemiology Vol 160 No 7 2004 661-67

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Lap tops and Male fertility

Men sitting with their legs together and working on a laptop computer can rise the temperature by up to 2.8 degrees C. An amount sufficient to affect testicular function and impair spermatogenesis.

Human Reproduction Advance Access published online December 9 2004

Further information on preconception programmes can be found at <http://www.foresight-preconception.org.uk/>