

**Information Leaflet**

**Preconception Advice**

**Diet**

**General advice**

1. It is crucial to eat a healthy balanced diet when preparing to conceive.
2. Eat plenty of fruit and veg. Eating colourful fruit and veg is the best way to get plenty of antioxidants in your body. Leafy green veg are packed with excellent sources of vitamin C, iron, calcium, potassium and folate.
3. Include good sources or iron and calcium every day.
4. Have regular meals – breakfast lunch and dinner.
5. Drink around 2L of water a day, and drink more if you are being sick, it is hot weather or exercising.

**Fats**

Monounsaturated fats (nuts, avocado, olive oil) are an important part of a balanced diet and studies have shown that they can lead to higher fertility rates. We encourage you to replace saturated fats (fried foods, pastry, biscuits, cakes etc.) for monounsaturated fats, whilst being aware of portion sizes. Higher intake of trans fats has been shown to be associated with ovulatory disorders and infertility. The ingredient ‘partially hydronised oil’ is a trans-fat. Trans fats are found in foods like margarine, cookies, sweets, fried foods and many more.

**Protein**

Evidence suggesting that eating more plant sources of protein and fewer animal sources may help improve ovulatory infertility by 50%. An increase in plant sources of protein have also been found to improve outcomes in fertility treatment. You can get minimally processed sources of protein from foods such as tofu, tempeh, beans, lentils, chickpeas, nuts and seeds. This source has some good advice on plant sources of protein - <https://zoe.com/learn/vegetarian-protein-sources>

**Carbohydrates**

In terms of carbohydrates, the intake of foods with high glycaemic index (e.g. white bread, white rice, cakes, cereals, fries) can increase insulin resistance, cholesterol and oxidative stress which can have a negative impact on fertility and ovarian function. A high intake of simple sugars (found in sugary drinks, sweets, desserts) is associated with lower chances of becoming pregnant. You should try to replace the carbohydrates mentioned above with complex carbohydrates (quinoa, wholegrain bread, lentils, and beans) as this can help boost your fertility.

**Advanced glycation end-products**

Advanced glycation end-products (AGE)s are compounds that form inside the body when sugars attach to protein molecules. There are receptors for AGEs in the uterus and ovaries. In Woman who are overweight an accumulation of AGEs in the uterine tissue can have a negative impact on fertility- it can take longer to conceive and can inhibit the implantation of fertilised egg into the endometrial tissue. You should reduce your intake of AGEs – this includes grilled, barbequed, toasted and fried foods. Try to use alternative methods like casseroling, slow cooking, steaming, poaching and microwaving. Using acidic marinade such as lemon juice and vinegar will reduce the formation of AGEs when the foods are cooked. Avoid highly processed foods, sugar sweetened beverages and consumption of free sugars.

**Foods to avoid**

Risk of Salmonella - Raw shellfish, unpasteurised milk, raw or undercooked eggs.

Risks of listeria - Soft ripened cheeses (Brie, Camembert and some goats cheese), blue veined cheeses, unpasteurised dairy products, pate, soft serve ice cream from vans or kiosks.

Contaminants e.g mercury, dioxins – shark, marlin, swordfish, limit tuna intake, limit oily fish intake (salmon, mackerel, sardines to no more than twice week.

Foods with Vitamin A – multivitamin supplements containing excess retinol form of vitamin A, fish liver oils containing more than 700mcg/day, liver and liver products e.g. pate, faggots.

Find more information on the NHS website for a healthy diet when planning for pregnancy: <https://www.nhs.uk/pregnancy/keeping-well/have-a-healthy-diet/>

**Vitamins and Minerals**

**Vitamin D**Research shows vitamin D may be important for fertility. There are vitamin D receptors located in the ovaries, placenta and endometrium as well as in testicles and sperm. Recent studies show adequate vitamin D levels are associated with more positive pregnancy tests, clinical pregnancies and live births in woman undergoing fertility treatment. Vitamin D is especially important in winter months. Dietary sources of vitamin D include oily fish, egg yolks, and fortified foods. Current guidance is that everyone in the UK should take 10mcg supplement between the months October and March, vulnerable groups (pregnant and breastfeeding mothers) should take the supplement all year round.

**Iron**

Iron is the most common deficiency world-wide. Iron deficiency can lead to increased risk of problems with ovulation. Try to increase your intake of non-haem iron: legumes, grains, nuts, tofu, and dried fruit. It is important that you are also eating foods that helps your body absorb iron. Fruit and vegetable containing vitamin C (kiwi, oranges, broccoli, brussels sprouts) can help the body absorb iron. If you soak the grains and legumes prior to cooking this will help the absorption of iron.

**Zinc and Folate**

Folate deficiency increases the risk of neural tube defects. The guidelines for woman trying to conceive is 400mcg of folic acid daily. Those who are higher risk of neural tube defects may benefit from a higher dose of 5mg.

Zinc plays an important role in hormone balance and ovulation. Dietary sources of zinc include wholegrains, nuts and seeds as well as oysters and lean red meat. To increase zinc and folate intake eat plenty of fruit and veg, particularly dark green leafy varieties, fortified cereal products and nuts and seeds.

**Iodine**

The body needs iodine for the production of thyroid hormones, which are essential for adequate brain and neurological development. Iodine stores should be sufficient prior to conception due to the role of iodine in egg maturation. The fetus relies on maternal iodine stores until around 18 weeks. Iodine requirements during pregnancy are 200mcg per day. Woman should try and build up their iodine stores several months prior to conception. Sources of iodine include fish (white fish contains more than oily fish) and dairy products. If you have plant based diet it is important to have milks which are fortified with iodine.

If you do not have sufficient iodine in your diet, a supplement should be considered ensuring that it does not exceed 150mcg daily. This should be taken in the form of potassium iodide or potassium iodate. Seaweed or Kelp Supplement should be avoided as the iodine content can vary considerably.

**Other Supplements**

Coenzyme Q10 has been shown to support fertility. It works as an antioxidant.

Acetyl L-carnitine – contains antioxidants to help promote a healthy female reproductive system.

B vitamins (other than folic acid) – B Vitamins can help improve egg quality and prevent ovulatory infertility.

**Lifestyle**
**Weight**Maternal pre-pregnancy weight is a strong predictor of fertility and pregnancy outcomes. Low BMI can result in irregular periods and a compromised immune system which can increase the risk of infection and inflammation. Obesity is associated with irregular or decreased ovulation. In obese woman there is a reduced ability of the egg to implant into the womb. Obesity increases the risk of gestational diabetes, hypertension, preterm birth and caesarean section. If you are living with obesity – if you can try to aim for 5-10% weight loss it can increase fertility. Weight loss to reach a healthy BMI will provide the most benefit. The ideal BMI is between 19 and 25 kg/m2. You can use this calculator on the NHS website to calculate your BMI: <https://www.nhs.uk/health-assessment-tools/calculate-your-body-mass-index/>

**Caffeine**

We advise you to avoid caffeine as too much caffeine can be harmful to a baby in the womb and can increase the risk of miscarriage. Caffeine can also impair your body’s absorption of iron and calcium. The safe amount of caffeine to have is 200mg per day which is 2 instant coffees or one cup of filter coffee.

**Alcohol**

When planning for pregnancy the safest option is to avoid alcohol. Alcohol can lead to disruptions in the hormonal balance of the female reproductive system, can increase the risk of miscarriage and the risk of you baby developing foetal alcohol spectrum disorder.

**Smoking**

When trying to conceive you and your partner should quit smoking and avoid using e-cigarettes. There are several toxic substances in cigarette smoke that impact fertility. Smoking can lead to menstrual irregularities and lead to you having menstrual cycles where you fail to ovulate. The evidence suggests that if you smoke you chances of success with IVF is greatly reduced.

**Exercise**

Exercise is an important part of a healthy lifestyle. In moderation exercise can help to increase fertility. The advice is to exercise for 30 minutes a day. If you have not previously been exercising begin with no more than 15 minutes and increase gradually to 30 minutes. If you exercise regularly prior to pregnancy you are safe to continue. Over exercising can disrupt your periods.

**Drugs**

Recreational drug use can compromise fertility (including steroids/gym supplements, cannabis and cocaine).

**Stress**

It is unlikely that stress alone will cause infertility but stress can interfere with your ability to get pregnant. Try to make self care a priority. Try to get adequate sleep (7-9 hours per night).

**More information on NHS website can be found for planning your pregnancy**

[**https://www.nhs.uk/pregnancy/trying-for-a-baby/planning-your-pregnancy/**](https://www.nhs.uk/pregnancy/trying-for-a-baby/planning-your-pregnancy/)

**This leaflet can be changed into different languages and formats using the tools on the website. Please note when translating information into different languages via the website, some information may need clarifying for accuracy with a member of staff. This leaflet can be formally translated on request via our Patient Experience Team, although response times to have information translated can vary. To request formal translation services or if you would like to make any suggestions or comments about the content of this leaflet, please contact the Patient Experience Team on 0151 702 4353 or by email at** **pals@lwh.nhs.uk**

The Hewitt Fertility Centre (Liverpool)

Liverpool Women’s NHS Foundation Trust

Crown Street

Liverpool

L8 7SS

0151 702 4121

The Hewitt Fertility Centre (Knutsford)

4 The Pavilions

Knutsford Business Park

Mobberley Road

Knutsford

WA16 8ZR

Tel: 01565 653287 © Liverpool Women’s NHS Foundation Trust