



# Maternal and Fertility Nutrition

Specialist Group

## Female Fertility

This leaflet offers diet and lifestyle advice to improve your overall general health and fertility.

### What is infertility?

In the United Kingdom, roughly 1 in 7 couples have difficulty conceiving, even if they have unprotected sex every 2-3 days a week for a year. Around 30% of infertility is related to men, 30% to women, 30% to both men and women, whilst 10% is unexplained.

Women may experience infertility for many reasons, some of which are modifiable. These include:

- **age;** fertility starts to decline from the early 30s, particularly from the age of 35
- **irregular periods or ovulation**
- **blocked or damaged fallopian tubes**
- certain **health conditions** e.g. polycystic ovary syndrome (PCOS), endometriosis, thyroid disease, fibroids and uncontrolled diabetes or coeliac disease
- having a body mass index (BMI) in the **underweight, overweight or obesity categories**
- **certain lifestyle habits** e.g. smoking, excessive alcohol consumption or excessive exercise
- **genetics;** chromosomal abnormalities and genetic diseases
- **unexplained infertility**
- **medications** that may interfere with various aspects of fertility. If you are on regular medications, seek advice from your GP before trying to conceive.

### What steps can I take to improve my fertility?



#### Nutrition

Start with a balanced diet. The following points may also help improve fertility:

**A Mediterranean Diet:** this way of eating may protect fertility. It is based on fruit, vegetables, nuts, wholegrains, legumes, olive oil and oily fish, and moderate amounts of dairy, eggs and meat.

**Carbohydrates:** a high carbohydrate diet is associated with greater infertility risks. Therefore, moderate carbohydrate intake is advised.

# Female Fertility

Wholegrains are an important aspect of the diet to optimise fertility. Wholegrain foods include oats, millet, rice, barley, quinoa, wholewheat pasta and wholegrain bread. Other useful foods that you can eat instead of refined carbohydrates (white bread or pasta) include beans, pulses, fruit and vegetables.



Another rating of carbohydrate foods is the glycaemic index (GI). Lower GI foods are wholegrain pasta, sweet potatoes, oats, basmati rice, dairy and fruit. Including these foods as part of a balanced diet has been shown to improve fertility.

**Protein:** choose more plant-based protein sources over animal proteins. This means reducing your intake of red meat and replacing it with plant proteins such as lentils, beans, pulses, nuts and seeds.

**Fats:** fats play an important role in reproductive health. Where possible try to choose unsaturated fats (vegetable oils, nuts, seeds, avocados, oily fish) over saturated fats (animal fats, butter, coconut oil). Include omega-3 fats either from oily fish (1-2 portions per week) or an omega-3 supplement containing EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid).

**Folate:** folate is the type of Vitamin B9 found in food. When trying to conceive, consuming folate-rich foods reduces risk of neural tube defects and improves egg quality.

## Should I take any supplements?

Yes, take a **folic acid supplement of 400 micrograms (400µg) every day**. Ideally, start to do this **12 weeks** before you try to conceive. Folic acid is the synthetic form of Vitamin B9. Some women may require a 5mg folic acid supplement prescription. Ask your GP, about this, particularly if you have had a previous pregnancy affected by neural tube defects (NTD), you or your partner have NTD, you are taking medications for epilepsy, you have coeliac disease or diabetes, your BMI is 30kg/m<sup>2</sup> or more, you have sickle-cell anaemia or thalassaemia.

Recent evidence suggests choosing to take a combined prenatal multivitamin and mineral supplement might help your fertility. Choose prenatal supplements providing:

- A suitable folic acid supplement (400µg)
- iodine (150µg)
- vitamin D (10µg)

The table on the next page lists other key nutrients to improve your fertility.

# Female Fertility

## Key Nutrients to Improve Female Fertility

Nutrient	Reported Benefits for Fertility	Foods	Daily Recommendations
<b>Folate/folic acid</b>	Reduces risk of neural tube defects and promotes egg quality	Broccoli, sprouts, peas, chickpeas, fortified cereals	400µg 5mg* (*if you have the medical conditions mentioned above, speak to your GP)
<b>Vitamin D</b>	Improves reproductive health	Oily fish, egg yolk, offal, meat, fortified margarines and breakfast cereals	10µg
<b>Omega 3</b>	Improves egg quality and implantation	Oily fish, nuts, seeds, seafood, oils	450mg EPA and DHA 1-2 servings oily fish per week (max 2 due to heavy metals such as mercury)
<b>Iodine</b>	Ensures healthy menstruation and improves chances of pregnancy.  Important for healthy development of baby.	Fish, milk and dairy products, seaweed*  (*eaten in moderation)	150µg
<b>Iron</b>	Essential for healthy and regular ovulation	Red meat, pulses and legumes, green leafy veg, tofu, nuts, seeds	14.8mg
<b>Vitamin B12</b>	Important for implantation and maintaining a healthy pregnancy	Meat, eggs, dairy, fortified plant foods: yeast extract, fortified plant-based drinks/ yoghurts, fortified breakfast cereals	1.5µg (2.6µg if taking high dose of folic acid)
<b>Calcium</b>	Important for development of the embryo	Dairy foods, green leafy vegetables like spinach, tinned sardines, figs, calcium-enriched foods	700mg
<b>Zinc</b>	Important for healthy ovulation and menstruation, and early development of embryo	Seafood, lean beef and turkey, sesame and pumpkin seeds, cashews, lentils and chickpeas	8mg

If you follow a vegan diet make sure you get enough iodine, vitamin B12, zinc and selenium from food or supplementation in the months **before** trying for a baby.

As your prenatal supplement may already include folic acid and Vitamin D, you won't need to take additional supplements unless your doctor or dietitian tells you to. **You do not need to take Vitamin A supplements. You can get sufficient amounts of Vitamin A from your diet. An excessive amount of Vitamin A can lead to birth defects and increased risk of miscarriage.**

# Female Fertility

## Lifestyle Factors

### Caffeine

As a protective measure, it is recommended that women trying to conceive should have less than 200mg (2 cups of coffee/3 cups of tea) per day. Limit cola, high energy drinks, chocolate as they contain caffeine too.

### Alcohol

It is best not to drink alcohol when planning pregnancy as it increases the time it takes to get pregnant. It also increases the risk of miscarriage and birth defects.

Choose water as your main drink. Limit sugar-sweetened beverages as these have been linked to increased risk of infertility.

### Body Mass Index

BMI is a measure of how healthy your weight is for your height. National guidelines recommend that the best BMI for healthy ovulation is between 19 and 30 kg/m<sup>2</sup>. If your BMI lies outside of this range and you are not ovulating regularly, a 5-7% move towards this range may improve ovulation.

### Activity

Regular, moderate physical activity can improve your chance of pregnancy. However, extreme amounts of exercise can make it worse.

### Stress & sleep

Stress can affect fertility. Aim for adequate sleep (7-9 hours a night). Relaxation is also important.

### Diabetes

If you have diabetes try to get your HbA1c under control during preconception.



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Find out more at [bda.uk.com/maternalfertility](https://bda.uk.com/maternalfertility)

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