

Preparing for pregnancy (Part 2)

In the first part of this article we reviewed a number of key aspects to consider in the preconception period. If you haven't read that one, please do as it will provide excellent foundation for this article.

In this article, I thought it would be beneficial to review specific dietary requirements for both parents. As we previously discussed, a healthy body is a fertile one. When you consider the concept that you 'are what you eat' it is no surprise that a healthy, balanced and nutritionally optimal diet is recommended both pre-conceptually and during pregnancy. Supplementation is essential in some instances but if you eat a rubbish diet there is no amount of vitamin supplementation that can change that. At some point we need to acknowledge that the block of chocolate (for example) is bound to have a negative effect. Ultimately what can your body do with this food? The concept of being realistic is essential as no one should completely deprive himself or herself of *everything*, however, moderation is the key. Use the 90% for your body and 10% for treats as a general rule. This means eat well at home, spend time shopping for good food and then when you're out with friends it's okay to have the ice-cream at the movies or that piece of birthday cake.

Now that we're clear on the general principles, let's review a few key areas that should be considered for all couples in the preconception period.

Eat organic as much as possible

Now I know that a lot of people wonder if this is really worth the expense. All of the top chefs in the world can't be wrong. Organic food simply tastes better. I know from personal experience that my sense of satiety is greatly increased when I eat organic vs. non-organic foods. It's almost as though my body wants more food simply to try to reap more nutrients.

Above all, if organic eating means you're rationing excessively (i.e. rationing one tomato for a whole week) then perhaps you're not going to get the right amount of nutrients regardless. Be logical about your decisions. Organic potato chips are minimally healthier (they're still fundamentally potato chips), however, organic peaches are markedly different than their non-organic counterparts.

If you can eat 100% organic – fantastic and please do! If not, perhaps focus on the priorities such as meat, dairy, eggs, and as many fruits and vegetables as you can. Remember though that organic mincemeat or sausages is not a better choice than non-organic eye fillet. Each decision should be considered carefully and objectively. Try to work out what you are trying to achieve. Perhaps the increase in protein and reduction in saturated fat from the eye fillet is a better choice?



Protein requirements

Building little bubs takes lots of nutrition and building healthy gametes (sperm and eggs) requires ample protein for their infrastructure. Have a look at your diet objectively and perhaps write it down for one week, and then assess.

Protein comes from either animal or vegetarian sources. Animal sources include red or white meat, fish, eggs, or dairy products. Vegetarian sources include wholegrains (each grain varies significantly), nuts, seeds, pulses and their sprouts. Of importance, remember that each food you consume will be a combination of all of the macronutrients i.e. it will comprise of carbohydrates, protein and fats. The concept of pure protein in foods is complicated and there are some minor exceptions for a general diet, acknowledge this aspect.

Each protein comprises of a series of amino acids and it is the amino acid arrangement that determines a number of qualities. For example, animal sources of protein breakdown to provide all of our amino acids and are considered a complete protein. Vegetarian sources break down to provide some of the amino acids are often deficient in some. The trick to healthy eating is to combine a number of vegetarian sources together such as humous, falafel, tabouli and pita or lentils and brown rice as the combination provides a more balanced source thus supporting optimal protein usage in the body.

When you consider your protein requirements it is calculated based on your weight and level of activity. As a general rule we use the calculation of 0.8-1.2g/kg body weight where 0.8g/kg is used if someone is less active (but not sedentary) and 1.2g/kg is used for individuals with active lifestyles and regular exercise. Most individuals can use the 1g/kg calculation as a general rule, however, it is advisable for a naturopath or similar to review this comprehensively to assess your individual requirements. As such, as an example the average 60kg woman with average activity would require approximately 60g protein per day. Please acknowledge that 200g full fat yoghurt would generally provide 20g of protein. Start to read labels and understand that each food has varying protein content and review what you're eating.

Caffeine

I doubt that anyone is surprised to see this included in the recommendations! Caffeine has been proven in countless studies to negatively affect fertility with one study suggesting that it reduced a person's monthly chance of conceiving by greater than 45% when consumed in doses higher than 250mg/day.

Caffeine consumption is associated with an increased time to conception and has been linked to causes of infertility including endometriosis and an increased risk of spontaneous abortion. Excessive intake of caffeine is also likely to place stress on the adrenal glands reducing a person's natural stress management thereby increasing stress hormones and chemicals that cause negative effects to health and fertility. Additionally, its diuretic action will impact on nutritional status and increase the loss of vital nutrients required to enhance fertility such as B vitamins. In one paper, it was observed that women who consumed less than one cup of coffee per day were twice as likely to become pregnant compared with moderate coffee drinkers (2-4 cups per day). It was concluded that the risk of failing to become pregnant increased with higher consumption. As such, it is essential for both partners to avoid caffeine in those trying to optimise their fertility.



Remember that caffeine comes in many forms and is not limited to coffee. Remember that dark chocolate has higher concentration than milk, and that green tea is ultimately the same as black or white or oolong tea for content.

A simple list is below for easy reference:

Item	Size	Typical caffeine content
Coffee		
<i>Instant</i>	150 ml cup	60-100 mg
<i>Percolated/Drip</i>	150 ml cup	100-150 mg
<i>Espresso</i>	150 ml cup	90mg
<i>Decaffeinated</i>	150 ml cup	2-4 mg
Tea	150 ml cup	30-100 mg
Cocoa	150 ml cup	30-60 mg
Cola Soft Drink	250 ml	35 mg
Energy Drink	250 ml	80 mg
Chocolate Bar	30 gm bar	20-60 mg
Prescription/over-the-counter medicines	Tablet	20-100 mg

Source: NDARC Caffeine Fact Sheet

Alcohol

Alcohol is never considered a health promoting substance, and in the realm of fertility there is no exception. As the general principle is to improve health overall alcohol avoidance is recommended. There are mixed reports as to the extent of its effect, but it is generally agreed that it has a negative impact on fertility.

One interesting paper reported reduced conception from as little as one drink per week and observed a 50% reduction in the probability of conception during a woman's cycle when females consumed alcohol. Other literature has shown links with increased risk of miscarriage, negative effects to egg quality and lower chance of subsequent pregnancy. Alcohol is believed to slow the ability of the embryo to mature and implant and significantly increase one hormone oestrogen. This hormone when high at the wrong time in a woman's cycle reduces or delays the ability for natural ovulation and is a common cause of those love handles and extra abdominal weight.

Now the men are not immune and cannot think that they are safe! Alcohol consumption in men is associated marked effect to sperm both with defective sperm shapes, poor swimming ability and reduced count.



Trans fatty acids

We all know that trans fats are nasty fats for a number of reasons. One interesting paper discovered that trans fats may increase the risk of ovulatory infertility particularly when consumed instead of carbohydrates or unsaturated fats. This is a scary proposition and reminds women to stay away from these fats completely to protect their fertility and improve their fertile outcome. Main dietary sources of trans fats are packaged foods such as biscuits, cakes, etc and watch out for 'vegetable fats' on ingredients of packaged foods as it typically means that it is a poor quality vegetable fat such as cottonseed or soy oil, or it's a healthier fat such as sunflower oil that has been modified in structure to stay solid at room temperature thus making it a trans-fat. As a general rule avoid processed foods as much as possible but completely avoid these trans fats for optimal outcome.

Obesity

Obesity understandably has a marked negative impact on fertility for both men and women. One is considered to be obese when their BMI is greater than 30 kg/m². BMI is a relative measure of your weight to your height and as such indicates your ideal weight range based on your height. It is calculated by dividing your weight (in kilograms) by the square of your height (in metres).

In men, weight loss leads to an improvement in testosterone levels and sexual function. Obese men generally have lower sperm counts (up to 50%), reduced sperm production, increased DNA fragmentation of sperm, and increased levels of erectile dysfunction.

In women, ovulation returns with a relatively modest degree of weight loss from diet and exercise. Approximately 90% of obese women will resume ovulation if they lose >5% of their pre-treatment weight, and 30% will conceive. The risk of miscarriage doubles when their BMI is greater than 35 kg/m²; they are more likely to suffer from pregnancy complications (e.g. 6x higher gestational diabetes); there is an increase risk of birth defects; and they are double at risk of having a stillbirth.

The fertility diet

A healthy wholefood diet is one that naturally encourages fertility. The concept of a fertility diet is not new. There is significant research suggesting that dietary modulation improves ovulation, conception and the birth of a healthy child.

One really interesting paper reviewed the concept of a fertility diet in significant detail. What was found was that a positive fertility diet consisted of:

- Low/no intake of trans fats with a simultaneous greater intake of monounsaturated fat
- Lower intake of animal protein with greater vegetable protein intake
- Higher intake of high-fibre, low glycaemic carbohydrates
- Greater preference for high-fat dairy products as opposed to low-fat highly processed versions
- Higher non-heme iron intake (vegetarian sources of Iron)
- And a higher frequency of multivitamin use





From these observations, it was concluded that the positive dietary modifications correlated with a positive fertility outcome. As such the “fertility diet” pattern is seen to have positive effects on the fertility of otherwise healthy women and that combining this dietary strategy with body weight control and increased physical activity may help prevent the majority of infertility cases due to problems with ovulation.

Overall we’ve touched on a few of the major areas one needs to consider when preparing for pregnancy. The most important consideration is to treat your body as though you are already pregnant (easily done for women) and for men to acknowledge that they provide 50% of the genetic material for their future little one so self-responsibility and self-care is vital.

Remember, the gift of preconception care is that it allows you to start being the parent you want to be even before the little one arrives.

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