Plan B – Get Healthy and build up your nutrition

1. Nutrients

The foundation of health is nutrition. A healthy body (and its organs, tissues, and cells) requires nutrients delivered regularly to support its daily functions, its growth, its longevity and resilience. When tissues receive a good supply of nutrients they can function as they should.

A healthy body is a fertile body.

You may like to look at the *Reproductive Health Diet* in the *Articles* section. Eating according to these guidelines ensures an excellent nutrient intake without additives, toxins or food substances that can compromise your health and fertility. It may be difficult for you to follow all the recommendations all of the time, however the more you can do the better. You may wish to seek the guidance of a healthcare practitioner to help you with a tailored dietary plan. Establishing good nutrition and health before conceiving also means that you are set up for continued healthy habits for a healthy pregnancy and baby.

Many Australian women have lower than recommended intakes of essential nutrients prior to and after conception. Many nutrients including iodine, iron, folic acid and omega-3 fatty acids need to be at optimal levels prior to conceiving in order to help ensure the health of the pregnancy.

Take a multi for fertility

Taking a multivitamin and mineral supplement is a helpful way to ensure an adequate intake of these important nutrients each day. It is known that folic acid and multivitamin/minerals have their best effects in reducing birth defects when taken from 3 months before conception. It has also been revealed that women who regularly take a multivitamin and mineral supplement may be less likely to have 'ovulatory infertility'.

Key nutrients that support a healthy conception

Antioxidants – Antioxidants are important for women attempting conception. They help protect cells from damage by free radicals derived from environmental and other toxins. A woman's eggs and a growing baby are particularly vulnerable to damage due to any depletion in protective antioxidant nutrition. This becomes more important over the years, as it has been suggested that oxidative damage contributes to the age-related decline in fertility. Numerous studies have shown that oxidative stress plays a role in infertility, endometriosis, miscarriage, birth defects, pre-eclampsia and pre-term birth. Antioxidants provide protection from free radical damage in the female reproductive system and women with higher levels of antioxidants in the fluid surrounding their reproductive organs have higher chances of conceiving.

Coenzyme Q10 (CoQ10) – CoQ10 is an important antioxidant and 'energy nutrient' within the mitochondria of every cell. The mitochondria are the mini 'powerhouses' of the cell, providing energy for the proper function and replication of cells. They are in very high numbers in the egg and as such play a role in providing lots of energy to an early dividing embryo. CoQ10 levels decrease with age which may have an effect on fertility since it is known that higher levels of CoQ10 are associated with a healthy first trimester/early stage of pregnancy and fewer
unhealthy contractions of the womb.

Vitamin E – Vitamin E is a powerful antioxidant that supports healthy circulation to the
reproductive system, including to the placenta.

Vitamin C – This antioxidant is particularly important within the ovary itself. The developing egg needs vitamin C to mature and ovulate, and as a result more vitamin C is used up around the
time of ovulation.

Mixed carotenoids – It is known that vitamin A is essential for healthy foetal development, in particular the immune system and eyes. Deficiencies of vitamin A and zinc are common in women of reproductive age, with

almost 60% not achieving the RDI for vitamin A and around 80% not getting the RDI for zinc. Supplementation with beta-carotene helps to improve vitamin
A levels.

Manganese – Is a little known essential mineral. It is involved in certain enzyme functions that have antioxidant effects and transfer genetic information.

Zinc – Zinc is one of the most important nutrients for a healthy reproductive system, playing roles in sexual development, ovulation and the menstrual cycle. Zinc is also an antioxidant within the reproductive system, supporting ovulation and the very early stages of embryonic and foetal development. Most Australian women of reproductive age do not consume the RDI of this
key nutrient!

Selenium – An essential antioxidant, selenium supports normal conception. It may play a role in protecting the developing embryo from damage and it is known that the demands for selenium
increase during pregnancy.

Omega-3 fatty acids – The majority of Australian women do not consume optimal levels of omega-3 fatty acids in their diet. It is known that the growing foetus demands DHA from the mother and can deplete maternal stores. This is particularly important for women who are planning to have a second or subsequent child and may not have replenished their stores after pregnancy and breast-feeding. Improving omega-3 fatty acid intake ensures that a woman's adipose/fat tissue stores contain a reserve of these fatty acids for the developing foetus, a healthy pregnancy and the breast-fed newborn infant. A diet with high levels of trans-fatty acids
may increase the risk of 'ovulatory infertility'.

B Vitamins – these nutrients are found in nature together and work together within the body. Vitamin B12, B6 and folate are three B vitamins significant for the reproductive system. They are particularly important for the healthy genetic expression of cells, including eggs, sperm and the cells of a growing embryo.

- *Folate* – plays a role in DNA and RNA synthesis, and is therefore critical in cellular division. In order to divide properly, cells need adequate folic acid. The development and growth of a foetus involve constant cell division, which can lead to an increase in the mother's demand for folate. Daily supplementation with folic acid for one month prior to conception and during pregnancy may reduce the incidence of neural tube defects such as spina bifida and anencephaly in the unborn child. In addition to folate, iron, vitamins B1, B2, B3, B6, and B12, magnesium and zinc help reduce the risk of birth defects involving the neural tube (e.g. spina bifida) and cleft palate and cleft lip.
- *Vitamin B12* – dietary deficiencies are common in vegetarians and dieters, and can be missed in those taking folic acid supplementation. Long-term supplementation with folate should be accompanied with B12. This vitamin, with folate, is important for preventing neural tube defects and may be indicated for women with recurrent miscarriage.
- *Vitamin B6* – this vitamin can help reduce excessive prolactin hormone and increase progesterone, assisting hormonal balance. It has been used successfully for treating PMS symptoms and PMS-related depression, as well as the severity of morning sickness.

The beneficial three: Homocysteine is a substance found in our blood that, if elevated, is known to be associated with increased risk of atherosclerosis and heart disease. It may affect a pregnancy through various complex biochemical pathways affecting gene expression and enzyme function and by disrupting blood circulation and clotting mechanisms.

Elevated homocysteine is associated with an increased risk of: recurrent miscarriage, congenital abnormalities, placental abruption, pre-eclampsia, preterm birth, stillbirth, and low birth weight

Homocysteine can be lowered by supplementing with a combination of folate, B12 and B6.

Iodine – the current estimated average iodine intake in Australia is 130 µg/day but the RDA for pregnancy is 250 µg. The high frequency of iodine deficiency found in pregnant women suggests that dietary sources of iodine are insufficient. As a result, experts are recommending that all women planning to conceive and those who are pregnant take a multivitamin containing iodine because this nutrient supports the production of thyroid hormone and the development of a healthy baby. Optimising iodine levels before pregnancy can take up to 5 months. Deficiencies in thyroid hormone or iodine can increase the risk of infertility, miscarriage, stillbirth and neuropsychological problems in the child.

Iron – an astounding 73% of Australian women and at least 25% of pregnant women have below recommended intakes of iron. A woman's iron levels at the time of conception affect the development of the baby, the pregnancy and breastfeeding. It can take a number of months to build up the stores of iron required for a healthy pregnancy. Iron is known to be important for a healthy ovulation and the early stages of foetal development. It has been shown that women who consume iron in supplements have a significantly lower risk of 'ovulatory infertility' than women who do not take supplements.

Vitamin D – deficiency is common in this 'sunburnt country', contrary to popular thought. Whilst the main source of vitamin D is sunlight, many women are not getting sufficient direct skin exposure without sunscreen. Of women who first attended an Australian fertility clinic, 30% were found to be deficient. Vitamin D is essential for the musculoskeletal and neurological development of a foetus.

Coming off the Oral Contraceptive Pill

'The Pill' can cause low levels of vitamins B2, B3, B5, B6, B12, folic acid, vitamin C and zinc. It is important to avoid conceiving immediately after coming off the pill, as you need some time to build up healthy levels of essential nutrients for conception.

2. Water

Aim for 10 glasses of filtered/purified water daily. Clean water means no heavy metals and chemicals that may be present in tap water. A well-hydrated body is one that functions better, has a good circulation of nutrients and detoxifies efficiently.

3. Detoxification

As you lose weight from fat stores, toxins are released from that tissue into the blood stream and need to be eliminated. So in a sense, weight loss is a detoxification! It is important that detoxification channels are working well during weight loss to ensure the released toxins do not damage healthy cells.

Weight loss of 5-10% improves ovulation and pregnancy rates in overweight and obese women. Weight loss before pregnancy reduces the risk of miscarriage, birth defects, high blood pressure, blood clotting, diabetes, pre-term and caesarean section delivery.

4. Fitness

It is important to establish a good exercise regime months before conceiving. It helps with weight loss if that is your goal, improves blood flow to the reproductive tissues, improves general health and mood amongst many other benefits. Daily exercise is particularly important for women who are overweight, suffer from endometriosis, fibroids, diabetes or PCOS. For example, women who engage in frequent high-intensity cardiovascular exercise have reduced risk of developing endometriosis. On the other hand, excessive exercise is damaging to fertility if it results in a low BMI.

5. Rest and Emotional Health

Taking care of your own 'sense of wellbeing' is an important aspect of health. Maintaining a positive attitude has a profound impact on every aspect of health, including your capacity to handle stress, to maintain healthy habits and sustain healthy relationships. Good quality sleep, stress management techniques and attitudes

particularly come into their own when you are challenged in some way. Some of these special challenges may include:

- Impatience to conceive *now* rather than doing Preconception Care
- Unsuccessfully trying to conceive for some time
- Past experience of a difficult pregnancy, pregnancy loss, premature birth or a child with health problems
- Fear of parenthood
- Concern about postnatal depression

Learning meditation techniques, undergoing counselling or seeking some other form of support is an important ingredient in the Path to Pregnancy.