Prevention of Spina Bifida with folic acid

What is folate/folic acid?
Folic acid is a B group vitamin that is needed for healthy growth and development. This vitamin is known as folate when it is found naturally in food, such as green leafy vegetables, and as folic acid when it is added to food, such as bread and breakfast cereals, or used in dietary supplements.

Who needs folic acid and why?
Folic acid is important for everyone but is especially important for women of childbearing age particularly those planning a pregnancy.

This vitamin is crucial to the healthy development of babies in early pregnancy. A baby's growth is the most rapid in the first weeks of life – often before you even know you are pregnant. Folic acid taken at least one month before pregnancy and for the first three months of pregnancy will substantially reduce the risk of birth abnormalities called neural tube defects (NTD) in babies. The most common form of a neural tube defect is spina bifida.

What are the risks?
In Australia approximately 1 in every 800 pregnancies is affected by a neural tube defect.

How much folic acid do I need?
To reduce the risk of neural tube defects, all women planning a pregnancy, or capable of becoming pregnant, need to take an additional 0.4 milligrams (400 μg or micrograms) folic acid a day. Start at least one month before you get pregnant and continue for three months or more after you become pregnant.

Women with an increased risk should check with their doctor before becoming pregnant, as they will need a higher dose (5 mg) of folic acid.

Who is at increased risk of having a baby with a neural tube defect?
- Men and women with a neural tube defect such as spina bifida or occult spinal dysraphism
- Couples who have already had a pregnancy affected by a neural tube defect
- Men and women who have a close blood relative with, or a family history of, a neural tube defect
- Women taking medication for epilepsy, particularly sodium valproate
- Women with type 1 diabetes

Will taking enough folic acid prevent all cases of neural tube defects?
Folate or folic acid cannot prevent all neural tube defects, but it does reduce the risk by up to 70%.
**What are good sources of folic acid?**
Some foods, particularly leafy green vegetables are rich in folate. In Australia folic acid has been added to bread making flour since 2009. (Three slices of bread contains about 120 micrograms of folic acid and the suggested daily intake is 400 micrograms.)

While these vegetables and bread are rich sources of folic acid, the best way to make sure you get enough folic acid is to take a folic acid supplement.

**Folic acid supplements** are available from pharmacies, but you may need to ask over the counter for the 5 mg supplements.

**Are there any adverse effects from taking folic acid?**
High doses of folic acid are not known to have any adverse effects on healthy individuals. Folic acid is water soluble and excreted naturally from the body. Studies have shown that a daily dose of 10 mg has not had any adverse affects on adults.

**Do I need to take the tablets throughout pregnancy**
The extra folic acid is needed only when the neural tube (which becomes the central nervous system) of the baby is forming - around the first 3 - 4 weeks of pregnancy.

**Is folate useful if I am already pregnant?**
The folic acid supplement should be taken at least 1 month before pregnancy and for the first 3 months during pregnancy to help prevent a neural tube defect. By the time most women realise they are pregnant the critical time for formation of the neural tube has already passed. You may need to speak to a doctor or genetic counsellor about your situation.

**What should men do?**
Men who have spina bifida or a family history of neural tube defects should make sure that any female partner knows about their increased risk and the importance of folate in prevention.

**Are there any tests for spina bifida or other neural tube defects during pregnancy?**
Ultrasound by a doctor who is specialised in foetal ultrasound can detect anencephaly from around 11 weeks and most cases of spina bifida from around 18 weeks. Occult spinal dysraphism and mild cases of spina bifida can be more difficult to detect.

**Does folic acid help with other birth defects?**
Folic acid supplementation has been shown to benefit other congenital anomalies, such as congenital heart defects, urinary tract anomalies, oral facial clefts, limb defects, and pyloric stenosis.
Do any drugs reduce the benefit of folic acid?
Some drugs, known as folic acid antagonists, will reduce the effectiveness of folic acid. Women should check with their doctor if they are taking any medication.