

## Detecting a neural tube defect during pregnancy

### Testing for neural tube defects during pregnancy

Two tests are available to assess your risk and diagnose neural tube defects during pregnancy. These are:

#### 1. Second trimester maternal serum screening.

A blood sample is taken between 14 and 18 weeks (ideally 15 and 17 weeks) to measure your alpha-fetoprotein levels. The results from this test indicate if your pregnancy is at an increased risk or low risk for neural tube defect.

#### 2. Structural ultrasound

Performed between 18 and 20 weeks, this scan can be used to diagnose most case of spina bifida and other neural tube defects.

If your results show an increased risk, your healthcare provider will refer you for further testing and counselling.

### Further Information

Speak to your GP, Midwife or Obstetrician for advice on folate during pregnancy, your risk and the tests available. You can also contact the:

#### Maternal Fetal Medicine Service

King Edward Memorial Hospital  
374 Bagot Road, Subiaco WA 6008  
(08) 6458 2834 or (08) 6458 2845

or

#### WNHS Statewide Pharmacy Service

(Obstetric Medicine Information Service)  
Medicine Information Line  
(08) 6458 2723

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Government of **Western Australia**  
Department of **Health**

# Folate and neural tube defects



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## What is folate

Folate or folic acid (a synthetic form of folate) is a B group vitamin that is vital for normal body cell growth and development. Your body uses folic acid to make DNA and RNA, which is essential for cells to divide and multiply. This is particularly important during periods of rapid cell division and growth, such as early pregnancy and infancy.

## Why is folate important during early pregnancy?

Folate supports the healthy development of your baby's brain and spine. In the first few weeks after conception the neural tube forms and closes. This tube becomes the baby's brain and spine. If it doesn't close it can lead to neural tube defects such as spina bifida. Neural tube development is influenced by both genetic and environmental factors.

Taking folic acid before and during pregnancy significantly reduces the chances of neural tube defects. In Australia, around one in every 800 pregnancies is affected by a neural tube defect each year.

## Foods containing folate

You can find folate naturally in:

- leafy green vegetables
- wholegrain breads and cereals
- fruits
- legumes
- orange juice.

However, dietary sources alone are often not enough during pregnancy. It is recommended that you take a folate supplement before and during early pregnancy.

## How much folate is needed during pregnancy?

To reduce the risk of neural tube defects women are advised to take a supplement containing 0.5 mg of folate/folic acid per day for at least one month before conception and continue for at least the first 3 months of pregnancy, alongside a healthy diet.

Maintaining adequate levels of folate can help prevent up to 70 per cent of neural tube defects. However, it is important to remember that folate cannot prevent all cases of neural tube defects.

Folate supplements are available from the pharmacy and supermarkets.

## Who needs a higher intake of folate?

Some women have a higher risk of having a baby with a neural tube defect. These include women who:

- have a personal or family history of neural tube defect
- have had a previous pregnancy affected by neural tube defect
- have spina bifida, epilepsy, obesity, diabetes, or inflammatory bowel disease
- take medications that affect folate absorption.

Speak to your doctor, midwife or pharmacist for more information on folate during pregnancy.

## What is a neural tube defect?

Neural tube defects occur when the spine, brain and skull of a baby do not develop completely. The neural tube is a hollow, tube-like structure that encases the brain and spinal cord. Many babies born with a neural tube defect have varying levels of disability and some may be stillborn or die shortly after birth.



There are 3 types of neural tube defects:

- 1. Spina bifida** – where the neural tube fails to close, leaving a hole that allows the spinal cord to 'pop out' through the spine. Babies born with spina bifida have varying degrees of disability.
- 2. Anencephaly** – affects the skull rather than the spine. The upper end of the neural tube does not close which means the brain and skull do not form properly. Babies with anencephaly die soon after birth.
- 3. Encephalocele** – a rare condition in which the brain and covering tissue poke through a gap in the skull. Babies with encephalocele have varying degrees of physical and intellectual disability.