

## Prevention: Lowering the Chances of Your Baby Having Spina Bifida or Anencephaly



Although we still don't know all the causes of neural tube defects (NTD) such as spina bifida and anencephaly, we do know that some people have an increased chance of having a pregnancy affected by NTD, and it is possible to reduce the chance of this happening. There are both genetic and environmental factors (such as diet) involved, with a complex interplay between our genetic make-up, our health and our lifestyle.

Having a close relative with spina bifida, or who has had a baby with anencephaly, increases the chance of you having an affected pregnancy. You would also have a greater chance of having a baby with a NTD if you have spina bifida, or have already had a pregnancy affected by a NTD. Your own health can also affect the development of your baby, as can lifestyle factors such as your weight. But the chance of your baby being affected by NTD can be lowered, and if this is something you want to do, begin to get ready a few months before you start trying for a baby.

Many of the simple measures below will have other benefits too, such as increasing your fertility when you stop contraception, and reducing the chance of your baby being born prematurely.

The neural tube, which will become the baby's spine and brain, closes by the 28th day of pregnancy. Failure to close properly at the 'head' end will lead to anencephaly, where the brain doesn't develop. Sadly, this is always fatal, and babies affected by anencephaly die either before their birth or a few hours after.

Failure of the neural tube to close at the 'bottom' end leads to spina bifida.

Because this vital stage of development happens so very early, it is essential that preparation begins **BEFORE YOU BECOME PREGNANT**.



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Don't leave it until you find out you are expecting, or until you meet the midwife at Booking Clinic.

### **Taking Folic acid**

Eating foods rich in natural folate, such as leafy vegetables and orange juice, or foods fortified with folic acid (such as some breakfast cereals) will help keep you healthy, but is unlikely to give you enough folate to protect from NTD.

Taking a supplement of folic acid before you get pregnant can help lower the chance of having a pregnancy with a NTD by up to 70%. The Department of Health recommends taking 400mcg a day for at least a month before conceiving a baby or stopping contraception. This is easily and cheaply available from chemists and supermarkets. If you'd prefer to take a multivitamin, make sure it has 400mcg of folic acid (and no vitamin A unless it is a specially prepared preconception multivitamin).

The following groups are all advised to take a higher dose of folic acid, 5mg, which is only available on prescription from a GP, before they become pregnant:

- Women who are at higher risk of having a pregnancy affected by NTD, i.e.
- Women with spina bifida
- Women who have had a pregnancy affected by spina bifida or anencephaly
- Women who have a relative affected by NTD (or whose partner has)
- Very overweight women with a BMI over 30 (see below)
- Women taking certain anti epilepsy medication

### **Taking Vitamin B12**

Vitamin B12 works closely with folate, and low levels in the bloodstream increase your chance of your baby having NTD. Many foods rich in B12 are 'out of fashion' these days, such as eggs and red meat; vegetarians and vegans may need to take extra B12 to get enough. If you have a stomach condition, have had surgery to your stomach, or take medication for excess stomach acid regularly, ask your GP to check the levels of B12 in your blood before you begin trying for a baby, so that low levels can be corrected before pregnancy. Women who have had weight-loss surgery to their stomach or intestine should take advice well in advance of trying to conceive.

B12 is only absorbed from food a little at a time. **Shine** advises that you take a supplement of 2.5mcg per day, along with your folic acid, for at least three months before trying to conceive.

## **Maintaining a healthy weight**

Being very overweight can make the likelihood of your baby having a NTD four times higher than having a healthy weight. (By 'very overweight' we mean a body mass index (BMI) over 30: for example, over 12.5 stones for a women of 5'4".) It can also put you and your baby at risk of other serious complications, like prematurity.

We don't fully understand how being overweight affects your baby, so do try to get to a healthy weight, by eating foods like leafy vegetables, fruit, peas and beans and eggs, and eating less sugar, baked foods (cakes, bread, biscuits) and animal fats. There is support available from slimming groups, or ask your GP to refer you to a dietician if you need extra help.

You are advised to take the higher dose, 5mg, of folic acid before conceiving if you are overweight, but as we don't know how the extra risk arises, losing weight healthily before trying for your baby is best.

## **Your Own Health**

Some health conditions, and some medication used to treat health conditions, are associated with a higher chance of a pregnancy affected by NTD:

### **Diabetes**

Diabetes is associated with developmental problems in babies, such as heart defects, kidney defects and genital problems, as well as spina bifida and anencephaly. At the moment we're not sure why. If you have diabetes, talk to your Diabetes Team well before you start to plan your pregnancy, to get your blood sugar under as close control as possible. Take folic acid and B12 supplements; it is also possible that Inositol (Vitamin B8) can protect against NTD too.

### **Epilepsy**

If you take anti-epilepsy medicine, make an appointment to see your Neurologist well before you start trying for a baby. Some medicines, such as sodium valproate, are associated with NTD and other birth problems, so check that you are on medicines with a lower risk. If your neurologist agrees you need to change medicines, it could take several months to do so safely. Your health and wellbeing are the most important factors in this change.

## Prevention: Lowering the chances of your baby having spina bifida or hydrocephalus



### High Temperatures

If you develop a high temperature, for example from flu, or a urine infection, use contraception again for that month. Don't try for a baby until you're completely better.

If you have a urine infection and are prescribed trimethoprim, **DO TELL YOUR GP IF YOU MIGHT BE PREGNANT**, as trimethoprim is associated with NTD. Your GP may prescribe an alternative.

If you need any more information, please contact **Shine's Health Team**, who will be glad to talk you through your preparations for your pregnancy.

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