

# HIGH RISK WOMEN



Although every pregnancy is potentially at risk and should be protected by taking preconceptional folic acid, some women have an increased risk of their pregnancy being affected. This includes:

- **Couples where either partner has spina bifida, or a family history of NTD.**
- **Women that have had a previously affected pregnancy.**
- **Women that have diabetes.**
- **Women taking certain anticonvulsants for epilepsy.**
- **Women with coeliac disease or other conditions that affect the absorption of nutrients.**
- **Women that are very overweight (ie BMI over 30).**
- **Women that recently received bariatric surgery. They need to delay pregnancy for 2 years to reduce the risk of NTDs.**

Any women falling into one of these categories should make an appointment to see their doctor **before** trying to get pregnant. They will also need to take a higher 5mg dose of folic acid which their doctor may need to prescribe. This will significantly reduce their risk of having a pregnancy affected by an NTD.

## **Obesity**

Being very overweight/obese significantly increases the risk of adverse birth outcomes for both mother and baby (7 fold risk increase), and can increase the risk of NTD. The risk of NTD increases with the severity of obesity, rising from 1.7 fold to >3 fold between obesity and severe obesity. It's not fully understood why obesity increases the risk of NTD, but it's thought to be connected to problems with glucose control and metabolism. It is vital for women to achieve a healthy weight before trying to conceive (a BMI, between 19-29), and that they are supported with realistic weight reduction plans and ongoing support mechanisms wherever possible. Women that already overweight when they fall pregnant should **not** try to diet whilst they are pregnant, but should monitor their weight gain to ensure that they don't gain excessive weight. Further guidance for women that are overweight can be found [here](#).

## **Diabetes**

Women with Diabetes experience a 2 fold increase in their pregnancies being affected by birth defects. The risks increase significantly where women have poor glycaemic control preconceptionally, and in early pregnancy. **It is vital that women with diabetes ensure that their blood sugar is well managed before trying to conceive**, and that they achieve a healthy BMI prior to pregnancy. Diabetic women should also speak to their doctor/specialist to ensure that any necessary changes are made to their treatment and medication. Girls with diabetes should be educated from adolescence about the additional risks during pregnancy, and the importance of avoiding unplanned pregnancy by ensuring

effective birth control. Further guidance for women with diabetes can be found [here](#).

## **Epilepsy**

Some seizure medications are unsuitable for use during pregnancy, as they act as anti-folates, preventing the effective metabolism of folic acid. It's vital that women with epilepsy speak to their doctor/specialist **before** trying to conceive to ensure any necessary changes can be made to their medication. If medications need to be changed it may take several months to adjust to the new medication, so women with pre-existing health conditions should be prepared to be flexible and delay their pregnancy plans to ensure the best health for their future baby. Further guidance for women with epilepsy can be found [here](#).

## **Coeliac disease**

Poorly controlled coeliac disease can increase the risk of developing pregnancy related complications, including increasing the risk for NTDs due to malabsorption of folic acid and B12. Women with coeliac disease and other conditions that affect absorption should speak to their doctor **before** trying to conceive to ensure that they are getting the required amount of essential nutrients to support a healthy pregnancy. As women with coeliac disease are unable to eat gluten, current fortification strategies do little to support this sub-group of women, so supplementation at the correct dose is vital to maximise risk reduction in these women. Further guidance for women with coeliac disease can be found [here](#).

## **Families with a history of NTD**

Couples where either partner has spina bifida, or that have already experienced a pregnancy affected by an NTD, or have someone in their family that has spina bifida/or that have had a pregnancy affected by NTD, will have an increased risk of having an/another affected pregnancy. A couple with one child with an NTD has a 4 in 100 chance (4 percent) of having another baby with an NTD. A couple with two affected children has a 1 in 10 chance (10 percent) chance of having another baby with an NTD. Couples that have a family history of NTDs, should see a genetic counsellor to discuss risks of NTDs to their future children, and should take the 5mg dose of folic acid both prior to, and for the first 12 weeks of pregnancy. For further guidance for women with a history, or family history of NTD please contact your specialist or contact [martine.austin@ifglobal.org](mailto:martine.austin@ifglobal.org)

## **Ethnicity**

Women of certain ethnic backgrounds are shown to have an increased risk of NTD, including women of Celtic, Northern Chinese, Cree, Hispanic and Sikh heritage. The exact reason for this increased risk is unknown, but is thought to be a combination of genetic and cultural dietary factors.



## **Other factors which may contribute to NTD risk**

### **Smoking and alcohol consumption**

We know that poor lifestyle choices have a significant part to play in increasing adverse birth outcomes for both mother and child. These lifestyle factors will become even more significant when we look at the potential for prevention of hydrocephalus. However, whilst smoking and alcohol consumption are known to increase the risk of small for gestational age, preterm birth, stillbirth, sudden infant death and Foetal Alcohol Syndrome, they can also affect the absorption of folic acid, which consequently means that they may also increase the risk of NTD.

### **Increased body temperature**

Some evidence suggests that increased body temperature (hyperthermia) in the early weeks of pregnancy may increase the risk of spina bifida. Elevated core body temperature, due to fever (or the use of saunas/ hot tubs), has been associated with increased risk of spina bifida. For this reason women are advised to ensure that they are in good health before trying to conceive, and if they become unwell, to stop trying to conceive until they have fully recovered. Women are also advised against the use of hot tubs and saunas whilst they are pregnant or trying to conceive.

### **Environmental Factors**

As we know, not all NTDs are folic acid preventable. Some cases are known to be genetic, others relate to women in higher risk groups, and others remain unknown. The possible involvement of environmental factors such as industrial chemicals, solvents, fungicides and pollutants is an area currently under research in an attempt to uncover another piece in the NTD puzzle.

*Created: 25<sup>th</sup> June 2018*

*Review: 25<sup>th</sup> June 2018*