Preconception and Pregnancy
The importance of ensuring that mothers and their babies are well-nourished is widely recognised. The nutritional status of a woman before conception and during pregnancy influences the growth and development of her baby and forms the foundations for her child’s later health (Gluckman et al. 2005).

The mother’s own health, both in the short and long term also depends on how well nourished she is before, during and after pregnancy (DH 2004a).

Poor nutrition during pregnancy has been linked to an increased risk of having a baby with a low birth weight. The link between low birth weight and infant mortality remains strong and if they survive, low birth weight babies suffer from higher rates of childhood illness and conditions such as hearing and visual impairment, neuro-developmental delay and behavioural disorders (Hack et al. 1995).

Several studies of school age children who had a low birth weight have shown less developed language and social skills, more behavioural and attention span problems, and lower IQ, cognitive ability and academic achievement (Dahl et al 2006).

**This section covers:**

- Preconception advice for men and women
- Healthy eating in pregnancy
- Nutrition related problems in pregnancy
- Food safety during pregnancy
- Prenatal advice on breastfeeding

A useful online guide to having a baby is available on the NHS choices website which covers all health issues from preconception through to the postnatal period.

www.nhs.uk
Preconception advice for women

Mothers with a history of poor nutrition before conception will have low nutrient stores, consequently the growing baby may have reduced access to the nutrients needed for growth and development. Therefore prior to conception women should be advised to follow a healthy balanced diet based on the eatwell plate.

Each day aim for

**Bread, rice, potatoes and pasta and other starchy foods** – base meals on these foods and use wholegrain varieties as often as possible, up to 6 portions a day. (1 adult portion size is similar to a computer mouse).

**Fruit and vegetables** – aim for at least five portions per day. (1 adult portion size is similar to a tennis ball).

**Milk and dairy foods** – aim for two or three portions per day of milk, cheese or yogurt using low-fat varieties whenever you can. (1 adult portion size is similar to a match box or 1 pint equivalent).

**Meat, fish, eggs, beans, and nuts** – aim for two portions of these each day. Two servings of fish per week are recommended of which one should be oily fish. (1 adult portion size is similar to a pack of playing cards).

**Foods and drinks high in fat and/or sugar** – limit these to small quantities and do not eat in place of the other food groups. Ideally 0 - 2 portions per day (1 adult portion size is similar to a dice).

**Fluid intake** 6-8 drinks per day (1½ - 2 litres) will provide adequate fluid to prevent dehydration. This includes all drinks: water, tea, coffee, milk, soup and fruit juices. More drinks may be needed in hot weather and after physical activity. (see page 17 for recommended amounts of caffeine).
Preconception advice for men

Fertility problems affect about 15% of couples and between 30-50% are due to male infertility. The aetiology of male infertility remains largely unknown as it is difficult to identify the role of single factors and various studies have shown conflicting data.

Lifestyle factors such as smoking, alcohol, diet and socioeconomic factors may affect sperm motility, fertility or pregnancy outcomes (Thomas and Bishop 2007).

Gastro-intestinal complaints and low intake of fruit and vegetables have been associated with low sperm counts (Wong et al 2003). Zinc, selenium and vitamin C may be particularly important in sperm production (Tas et al 1996).

The most prudent advice for men is to: (Thomas and Bishop 2007).

- Consume a balanced and varied diet based on the five food groups (see eatwell plate) ensuring adequate fruit and vegetable intake
- Limit themselves to a moderate alcohol intake of less than 28 units per week
- Aim for a healthy body weight - very underweight men should gain weight and obese men should lose weight

Alcohol

A follow-up study of couples planning their first pregnancy found an association between women’s alcohol intake and decreased fertility even among women who had five or fewer drinks a week.

This would indicate that fertility is reduced in a high proportion of women due to their alcohol intake.

Women experiencing difficulties in conceiving should be advised of the possible advantages of avoiding alcohol completely (Jensen,1998).

The Food Standards Agency now advise avoiding alcohol altogether but if women choose to drink alcohol it should be limited to one to two units once or twice per week.

www.nhs.uk/Goodfood
www.nhs.uk/healthy-eating
Effect of mother’s weight on conception

Women with a Body Mass Index (BMI) of 20-25 have been shown to have a higher rate of pregnancy than those with a BMI higher than 25 or lower than 20 (Zaadstra et al. 1993).

Underweight

Conception can occur in women well below average or ideal weight. However, women who have a low BMI (BMI <20) are less likely to conceive (Zaadstra et al. 1993).

Overweight and obesity

Overweight and obesity can affect ovulation and also the response to fertility treatment. A prospective study (Clark et al, 1998) showed that when overweight women who were not ovulating followed a weight loss and physical activity programme, the outcome for most women was natural ovulation, conception and successful pregnancy.

Being overweight does not prevent all women from conceiving, however the extra weight combined with the weight of the baby can lead to problems during the course of the pregnancy (The Centre for Pregnancy Nutrition, University of Sheffield, 2005).

Overweight pregnant women are more likely to have a premature or low birth weight baby.

Obese pregnant women are at increased risk of complications during pregnancy such as high blood pressure, gestational diabetes and pre-term delivery.
Women with diabetes

Women with diabetes who are planning to become pregnant should establish good glycaemic control before conception aiming to maintain their HbA1c below 6.1% to reduce the risk of congenital malformations.

Women with diabetes whose HbA1c is above 10% should be strongly advised to avoid pregnancy (NICE CG63 2008). Women with diabetes and a BMI above 27 should be encouraged to lose weight prior to conception.

The higher dose of folic acid supplement should be recommended to women with diabetes (see page 6).

The National Institute for Health and Clinical Excellence (NICE)

The National Institute for Health and Clinical Excellence recommends that women with a BMI over 30 should be informed of the increased risk to themselves and their babies during pregnancy and child birth. They should be encouraged to lose weight before becoming pregnant (NICE PHG 11 2008). It is preferable for weight to be reduced well in advance (at least three to four months) of conception to lessen the likelihood of nutritional inadequacy.

This guidance has been followed by specific advice on dietary interventions for weight management before, during and after pregnancy (NICE PHG 27 2010). The guidance makes recommendations for women with a Body Mass Index (BMI) of 30 or more planning a pregnancy. It recommends:

- Health professionals should use any appropriate opportunities to provide women with a BMI of 30 or more with information about the health benefits of losing weight before becoming pregnant for themselves and the baby they conceive.

- Trained health professionals should advise, encourage and help women with a BMI of 30 or more to reduce weight before pregnancy.

- Health professionals should offer a weight-loss support programme involving diet and physical activity. For information on local programmes available contact the healthy lifestyle service (see page 3).

- Health professionals should offer specific dietary advice in preparation for pregnancy, including the need to take daily folic acid supplements.
Healthy eating for pregnancy

A healthy diet is very important in pregnancy in order for the baby to develop and grow and to keep the mother fit and well. If the mother’s diet during pregnancy is nutrient-deficient, there is a further increase in the risk of inadequate nutrition for the growing baby. Poor rates of foetal and infant growth have also been linked to higher rates of premature death among adults and higher rates of cardiovascular disease and other conditions such as diabetes and high blood pressure (Barker 2008).

The nutritional requirements of pregnant women can generally be met by eating a healthy balanced diet based on the five food groups in the eatwell plate (see page 2). They have additional requirements for the following nutrients:

Folic acid and neural tube defects

Research has shown a link between low folic acid/folate intakes and the development of neural tube defects (Medical Research Council Vitamin Study Group, 1991).

To reduce the risk of neural tube defects, supplementation with folic acid prior to conception and during the first 12 weeks of pregnancy is recommended. There are 2 dose levels:

**5 mg per day** for those women:

- With spina bifida
- With a history of a previous child with a neural tube defect
- With diabetes

This high dose folic acid preparation is available on prescription only.

**0.4 mg per day** for all other women

These supplements are available over the counter and on prescription.

**Dietary Folates**

Folate is the form of folic acid found in food. The folate content of food decreases with long storage times and heat therefore cooking may cause a considerable reduction in the folate available.

The current average intake from diet is about 200mg per day. Women who may become pregnant should aim to increase their dietary intake of folate, in addition to the folic acid supplement, by:

- Eating more folate-rich foods such as green leafy vegetables (brussel sprouts, spinach and broccoli), potatoes, pulses and oranges
- Avoid over-cooking folate rich foods
- Choosing breads and breakfast cereals fortified with folic acid
- Liver is a rich source of folate but is **not recommended** during pregnancy because it has very high levels of retinol (vitamin A)
**Vitamin D**

Vitamin D is necessary for calcium absorption and to make calcium available for bone development.

Dietary sources of vitamin D are limited and include:

- Meat
- Oily fish
- Eggs
- Margarine and low fat spreads are fortified by law

The ‘National diet and nutrition survey of British adults’ (Ruston et al. 2004) found that about a quarter of British women aged 19–24 and a sixth of those aged 25–34 are deficient in vitamin D.

For most adults in the UK the main source is made in the skin when it is exposed to the UVB rays in sunlight when outdoors. At UK latitudes, there is limited sunlight of the appropriate wavelength only during April to September. Lack of vitamin D may adversely affect bone mineralisation of the growing baby and the accumulation of vitamin D stores for the early months of life. Therefore maternal skin exposure alone may not always be enough to achieve the optimal vitamin D status needed for pregnancy.

The following groups are particularly at risk:

- Those with black or dark skin, as the pigmentation provides an additional barrier for sunlight activation
- Those who have limited skin exposure to sunlight such as those who remain covered when outside or are housebound
- Obese women (those with a BMI > 30)

The effects of deficiency are:

- Higher risk of seizures and breathing problems in infants born to mothers deficient in vitamin D
- Rickets and growth delay in older infants and toddlers born to mothers deficient in vitamin D
- Musculoskeletal pain and weakness in women with vitamin D deficiency which eventually may result in osteomalacia (‘soft bones’)

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**NICE recommends:**

- All women should be informed at the booking appointment about the importance for their own and their baby’s health of maintaining adequate vitamin D stores during pregnancy and whilst breastfeeding
- All pregnant and breastfeeding women should be advised to take 10µg vitamin D daily in a dietary supplement

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**Healthy Start** vitamins are available free to some pregnant women in Bath & North East Somerset. Details about how to get the vitamins are available at ante-natal appointments.

The vitamin tablets contain:

- 0.4mg Folic Acid
- 10µg Vitamin D
- 70mg Vitamin C

Women can apply for healthy start vitamins through their midwife or health visitor. Vitamins can then be collected from all Children’s Centre in Bath & North East Somerset in exchange for a voucher.

[www.healthystart.nhs.uk](http://www.healthystart.nhs.uk)
Vitamin A

Pregnant women should not take supplements containing vitamin A as high doses of retinol, the animal form of vitamin A, are associated with teratogenesis (malformations in the unborn child) DH, 1990.

However, women are recommended to have an additional 100 micrograms of vitamin A per day from the plant form of vitamin A (beta carotene) during pregnancy. This can be achieved by eating a healthy diet with plenty of vegetables and fruit.

To avoid high doses of retinol, pregnant women should avoid:

• Vitamin supplements containing retinol
• Cod liver oil supplements
• Liver and liver products such as liver pâté

Iron

Women with good iron status prior to conception and who eat a healthy balanced diet will not need extra iron during pregnancy. This is because the rising demands of iron by the growing baby are met by:

• Diminished losses from the mother because menstrual bleeding ceases during pregnancy
• Increased iron absorption during pregnancy - the level of absorption increases progressively as pregnancy advances. This increase in absorption is more pronounced in women who are anaemic

The foetus accumulates most of its iron during the last trimester laying down stores for the first 6 months of life.

Iron supplementation may have side effects such as constipation or nausea.

Eating a balanced diet including iron rich foods should be encouraged.

Iron rich foods to encourage are:

• Meat, especially red meat, such as beef, lamb or pork
• Pilchards and sardines
• Pulses (peas, beans and lentils)
• Iron fortified breakfast cereals
• Green vegetables
• Dried fruit e.g. apricots, prunes, raisins

Note: Liver is high in iron but is not recommended during pregnancy because of its high retinol content.

Iron absorption from foods

The iron in red meat and oily fish is absorbed better than iron from plant foods. Women following a vegetarian diet and those who eat little meat can increase their iron absorption from cereal and vegetable sources by:

• Having a good food or drink source containing vitamin C with a meal e.g. orange juice with beans on toast
• Avoiding drinking tea at mealtimes as the tannins present in tea bind with the iron, reducing its absorption
Calcium

Despite high requirements for calcium for the growing baby, additional calcium is not needed as the mother’s calcium absorption increases during pregnancy. Adequate calcium will be provided by 2-3 servings daily of any of the following:

<table>
<thead>
<tr>
<th>Food</th>
<th>Serving Size</th>
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</thead>
<tbody>
<tr>
<td>Milk</td>
<td>1 glass - 200mls</td>
</tr>
<tr>
<td>Cheese</td>
<td>25g or 1oz</td>
</tr>
<tr>
<td>Yoghurt</td>
<td>1 pot of 120-150g</td>
</tr>
<tr>
<td>Tofu</td>
<td>50g or 2½ oz</td>
</tr>
<tr>
<td>Calcium enriched soya milk</td>
<td>1 glass - 200mls</td>
</tr>
</tbody>
</table>

Pregnant adolescents have higher calcium needs as they will not have achieved their peak bone mass. They should be encouraged to eat at least 3 servings of these calcium rich foods each day.

Women who do not eat dairy products or calcium-enriched soya products should be referred to a registered dietitian for advice on achieving an adequate calcium intake during pregnancy.

Alcohol

Alcohol intoxication should be avoided at any stage of pregnancy and especially in the early weeks where it is associated with teratogenesis (malformations in the foetus) and may cause miscarriage. Pregnant women are advised to avoid alcohol (NICE CG 62 2008), but women who do choose to drink should consume no more than 1 or 2 units of alcohol once or twice a week.

Energy

Energy requirements during pregnancy are not as high as previously believed. Additional energy is needed during pregnancy to support the growth of the unborn child and to enable fat to be deposited in the mother’s body for later use during lactation. However, considerable reductions usually occur in physical activity and metabolic rate to help to compensate for these increased needs. The Department of Health recommends an extra 200 calories per day from food for the final three months only e.g. one pot of yogurt, or 2 slices of bread with cottage cheese (DH, 1991).

Women with a low BMI at the start of pregnancy need to increase their food intake to provide more energy and nutrients for both themselves and their developing baby. Women can discuss this with their midwife if they have concerns.
Appropriate weight gain during pregnancy

There are currently no UK evidence based recommendations on appropriate weight gain during pregnancy.

The American Institute of Medicine (IOM) recommends (IOM 2009):

<table>
<thead>
<tr>
<th>BMI</th>
<th>Pre-pregnancy BMI</th>
<th>Appropriate weight gain during pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>&lt; 18.5</td>
<td>12.5 - 18kg</td>
</tr>
<tr>
<td>Normal weight</td>
<td>&gt; 18.5 - 24.9</td>
<td>11.5 - 16kg</td>
</tr>
<tr>
<td>Overweight</td>
<td>&lt; 25 - 29.9</td>
<td>7 - 11.5kg</td>
</tr>
<tr>
<td>Obese</td>
<td>≥ 30</td>
<td>5 - 9kg</td>
</tr>
</tbody>
</table>

Women who gain weight within the IOM ranges are more likely to have better maternal and infant outcomes than those who gain more or less weight (Viswanathan et al. 2008).

Gaining too little weight during pregnancy can result in infants being born with a low birth weight, which is associated with health problems for the child.

Excess weight gain during pregnancy can increase the risk of gestational diabetes, pre-eclampsia and difficulties during delivery. It is also associated with postpartum weight retention in the short, intermediate, and long term (Viswanathan et al. 2008).
Overweight and obesity

Around 15-20% of pregnant women are obese (NHS Choices 2007). Maternal obesity is related to health inequalities, particularly socioeconomic deprivation, inequalities within ethnic groups and poor access to maternity services (Heslehurst et al 2007). This is why it is important to support women who are overweight or obese to lose weight before they become pregnant.

NICE recommends that overweight and obese pregnant women are not encouraged to lose weight during pregnancy as this may compromise their nutrient intake and that of the growing baby (NICE PHG 27 2010).

Many pregnant women ask health professionals for advice on what constitutes appropriate weight gain during pregnancy. However, there are no evidence-based UK guidelines on recommended weight-gain ranges in pregnancy.

NICE Recommends (PHG 27,2010):

- Eating habits and physical activity are discussed at the first visit to a health professional
- Explain the benefits of healthy eating and physical activity to the woman and her unborn child
- Promote the Healthy Start scheme to those who are eligible
- Dispel any myths about what and how much to eat in pregnancy for example ‘eat for two’
- Encourage moderate physical activity such as swimming and walking
- Offer women with a booking appointment BMI of 30 or more a referral to a Dietitian or appropriately trained health professional for assessment and personalised advice on healthy eating

Pregnant women with a BMI of 30 or more receiving antenatal care in Bath & North East Somerset will be offered an appointment at the Diabetes clinic and can be referred to the Healthy Lifestyle Service (see page 3). Refer to Bath & North East Somerset’s Healthy Weight pathway for pregnant women. Pregnant women with a BMI of 40 or more can be referred to a dietician.

guidance.nice.org.uk/PH27
Women at increased nutritional risk during pregnancy

Women with pre-existing medical conditions

Such conditions include:

- Diabetes mellitus
- Food allergy
- Malabsorption syndromes

These women should be referred to a dietitian prior to pregnancy and have their nutritional status monitored closely throughout the pregnancy.

Diabetes

Diabetes in pregnancy is associated with health risks to both the woman and the developing baby. Miscarriage, pre-eclampsia and preterm labour are more common in women with pre-existing diabetes.

Women with diabetes account for 2–5% of pregnancies in England and Wales; about 90% of these are due to gestational diabetes. The risk factors for gestational diabetes are:

- BMI > 30
- Previous macrosomic baby (4.5Kg (10lbs) or above)
- Previous gestational diabetes
- Family history of diabetes (first-degree relative with diabetes)
- Family origin with a high prevalence of diabetes:
  - South Asian
  - Black Caribbean
  - Middle Eastern

Women with any one of these risk factors should be offered testing for gestational diabetes (NICE CG62 2008). In most cases gestational diabetes will respond to changes in diet and physical activity.
Adolescents

Adolescent girls may have increased nutritional requirements because they need to complete their own growth as well as providing for the foetus (Stevens-Simon & McAnarney, 1988). The shorter the length of time between the onset of menarche and pregnancy, the greater the nutritional risk.

Pregnant teenage girls under the age of 18 years are eligible to join the Healthy Start scheme regardless of their financial circumstances (see page 7 for more information on the Healthy Start scheme).

www.healthystart.nhs.uk

Vegetarian and vegan women

Many vegetarian and vegan women’s diets are significantly better than those of non-vegetarian women; however some, in particular adolescents, may decide to avoid meat and other animal foods without taking care that the important nutrients they are missing are provided from other sources. Particular attention should be paid to achieving adequate dietary sources of protein, iron, omega 3 fats, calcium and vitamin B12.

Pregnant women who follow a vegan diet should take care to ensure that they consume sufficient:

- Vitamin B12 from good sources such as fortified yeast extracts, fortified soya milk, fortified textured soya protein and fortified cereals. If these are not included in the diet a vitamin B12 supplement may be needed

- Calcium from fortified soya milk and almonds each day or taking a calcium supplement

Black and minority ethnic groups

Gestational diabetes is more prevalent amongst women of Asian, Black Caribbean and Middle Eastern ethnic origin. Pregnant women from these groups should all be screened for diabetes. Women who have recently arrived from developing countries may have parasitic infections, or have a poor nutritional status if they have been subjected to famine.
Women who have previously had a low birth weight baby

It is important to ascertain whether or not the cause of the reduced birth weight in a previous pregnancy had a nutritional component such as poor gestational weight gain and/or a reduced food intake. Short birth intervals predispose to lower birth weights because women may not have had time to replenish their nutrient stores between pregnancies (Allen 2005).

Women who are homeless, living in bed and breakfast accommodation, or on low incomes

These women may have the combined difficulty of living on state benefits and living with limited cooking facilities. A survey (The National Children’s Home & Maternity Alliance, 1995) demonstrated that there is great difficulty in providing an adequate diet for pregnancy while living entirely on state benefits. (see page 7 for more information on the Healthy Start scheme).

Women who have alcohol or drug problems are less likely to eat a balanced diet.

Women who give up smoking should take care not to snack on high calorie foods in place of smoking as this would put them at risk of gaining excess weight.

Women who are restricting their food intake for reasons such as slimming or self diagnosed food allergies. Women should not cut out food groups without advice from a registered dietitian as they omit important nutrient sources (NICE CG 11 2008).

Women who currently have, or have a recent history of, an eating disorder such as anorexia nervosa or bulimia nervosa may have low body stores of some nutrients.
Nutrition related problems in pregnancy

Nausea and vomiting

Nausea and/or vomiting are common occurrences in the first 14-15 weeks of pregnancy. Nausea is thought to be caused by the changing pregnancy hormones and can be triggered by certain foods or smells. It can also be caused by hunger. Women with excess vomiting should be referred to their GP if there is any risk of dehydration.

Tips for overcoming nausea and vomiting:

• Small, frequent meals, every two hours or so throughout the day, that include fruit and starchy foods e.g. bread, toast, plain biscuits and cereals may help
• Snacks which involve little preparation and/or cooking may be preferable

Cravings and taste changes

Unless cravings and aversions are excessive and prevent a pregnant woman from eating a nutritious diet, these are not usually harmful.

Heartburn / Oesophageal reflux

This is generally more common during the last three months (12 weeks) of pregnancy when pressure from the baby in the uterus can cause acid to be pushed back up from the stomach. It is also more common in multiple pregnancies.

Tips for helping relieve symptoms of heartburn/oesophageal reflux:

• Smaller, more frequent meals may help
• Sitting up straight when eating to relieve the pressure
• If heartburn occurs at night, sleeping propped up by extra pillows may also help
• Avoid foods that are found to cause problems

Constipation

This is common at all stages of pregnancy and can be relieved by increasing the fibre and fluid content of the diet.

How to avoid constipation:

• Eat foods that are high in fibre such as:
  - Wholegrain varieties starchy foods like pasta, rice and cereals
  - Fruit and vegetables
  - Pulses such as beans and lentils
• Drink plenty of water
• Gentle exercise to keep muscles toned
Food safety during pregnancy

General food hygiene guidelines

• Keep kitchen clean, particularly work surfaces
• Wash hands before preparing food
• Wash fruit, vegetables and salad before use
• Keep fridge temperature below 5°C, freezer below –18°C
• Store raw meat covered at the bottom of the fridge separate from cooked foods
• Defrost frozen meat thoroughly before cooking (the safest way to defrost food is overnight in the fridge)
• Cook foods thoroughly and according to manufacturers’ instructions
• Cool leftover food quickly and use within 24 hours - do not reheat more than once
• Never eat foods after the “use-by” dates on the packaging
• Keep pets out of the kitchen and away from work surfaces

Extra care should be taken:

• When buying unwrapped foods, e.g. cooked meats and prepared salads. If scrupulous food handling guidelines have not been followed, these foods can easily become contaminated
• With cook-chill foods (ready cooked foods sold and chilled) should not be eaten cold, but heated right through and the leftovers discarded
• Make sure ready prepared meals are heated until piping hot right through

Salmonella infection is a common cause of food poisoning and is particularly associated with chicken and raw eggs. To avoid salmonella:

• Poultry should be thoroughly defrosted in the fridge and cooked until piping hot right through
• Eggs should be cooked so both white and egg are solid

To avoid Toxoplasmosis, which is an infection caused by a parasite found in raw meat, cat faeces and soil that can seriously affect the unborn baby, women should:

• Wear rubber gloves when emptying cat litter trays
• Wash hands after handling cats
• Wear gloves whilst gardening
• Wash vegetables whilst gardening
• Wash vegetables and salad thoroughly to remove any soil or dirt
• Wash hands after handling raw meat
• Thoroughly cook meat
• Not help with lambing or milking ewes that have recently given birth
Foods to limit during pregnancy

**Oily fish** should be eaten once or twice per week because they are a good source of omega 3 fats for both the mother and the growing baby. They should be limited to two servings per week because some of these fish contain dioxins and PCBs (polychlorinated biphenyls) that might affect the nervous system of the baby.

Tuna should also be limited to 4 medium sized cans of tuna a week (with a drained weight of about 140g per can) or fresh tuna steaks (weighing about 140g when cooked or 170g raw).

**Caffeine** should be limited to 200mg a day because high levels of caffeine can cause miscarriage or lead to low birth weight with an increased risk of health problems later in life.

It is important to check labels as certain cold and flu remedies also contain caffeine, talk to a midwife or pharmacist before taking these.

<table>
<thead>
<tr>
<th>The caffeine content of drinks and chocolate is</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1 shot of espresso coffee</td>
<td>140mg</td>
</tr>
<tr>
<td>1 mug of filter coffee</td>
<td>140mg</td>
</tr>
<tr>
<td>1 mug of instant coffee</td>
<td>100mg</td>
</tr>
<tr>
<td>1 cup of brewed coffee</td>
<td>100mg</td>
</tr>
<tr>
<td>1 mug of tea</td>
<td>75mg</td>
</tr>
<tr>
<td>1 cup of tea</td>
<td>50mg</td>
</tr>
<tr>
<td>1 can of cola</td>
<td>up to 40mg</td>
</tr>
<tr>
<td>1 can of ‘energy’ drink</td>
<td>up to 80mg</td>
</tr>
<tr>
<td>1 bar of plain chocolate</td>
<td>up to 50mg</td>
</tr>
<tr>
<td>1 bar of milk chocolate</td>
<td>up to 25mg</td>
</tr>
</tbody>
</table>
Foods to avoid during pregnancy

- **Mould ripened soft cheese** such as brie and camembert, **blue veined cheeses** such as danish blue and stilton and chèvre (a type of goats cheese) due to risk of listeria.
- **Unpasteurised milk** (cows, sheep or goats) or any products made from it due to risk of listeria.
- **Raw eggs** and foods containing raw eggs such as mayonnaise and mousse due to risk of salmonella.
- **Raw shellfish**, e.g. **prawns**, **cockles** and **mussels** unless they are bought packaged and stamped with a use by date. Shellfish should only be eaten if part of a hot meal and cooked thoroughly.
- Avoid all types of pâté including vegetable. This is because pâté can contain listeria.
- **Shark**, **swordfish** and **marlin** due to high mercury levels.
- **Raw or undercooked meat.** This is especially important with poultry and products made from minced meat such as sausages and burgers.

Peanuts

In December 2008 the Food Standards Agency advised that there is insufficient evidence to advise any pregnant women to avoid eating peanuts and peanut products during pregnancy and breastfeeding.

Foods that are safe to eat as part of a healthy balanced diet during pregnancy:

(see eatwell plate p2):

- **Cooked shellfish**, including prawns that are part of a hot meal and have been cooked thoroughly.
- **Live or bio yoghurt**
- **Probiotic drinks**
- **Fromage Frais**
- **Crème Fraîche**
- **Soured cream**
- **Spicy food**
- **Mayonnaise, ice cream and salad dressing** made with pasteurised egg are safe. Home-made versions may contain raw eggs, so avoid. If you are not sure when eating out, ask staff for more information or avoid.
- **Honey** may be eaten during pregnancy, but is not suitable for babies under one year.
- **Many cheeses including:**
  - **Hard cheese** - (such as Cheddar and Parmesan)
  - Feta
  - Ricotta
  - Mascarpone
  - Cream cheese
  - Mozzarella
  - Cottage cheese
  - Processed cheese - (such as cheese spreads)
Prenatal advice on breastfeeding

The UNICEF UK Baby Friendly Initiative recommends that pregnant women should be offered opportunities to attend participant-led antenatal classes, including breastfeeding workshops. Before 34 weeks gestation they should receive breastfeeding information, including technique and good management practices, as detailed in the UNICEF UK Baby Friendly Initiative.

www.unicef.org.uk
guidance.nice.org.uk/CG62

Bath and North East Somerset antenatal care includes a one to one discussion about breastfeeding to all pregnant women before 32 weeks gestation.
References


Institute of Medicine (1990) Nutrition During Pregnancy Part I: Weight Gain


Further Information is available from:

Bliss
www.bliss.org.uk

British Dietetic Association
Healthy Eating During Pregnancy Fact Sheet
www.bda.uk.com

Department of Health
The Pregnancy Book
www.gov.uk

Food Standards Agency website
www.eatwell.gov.uk

Healthy Start
www.healthystart.nhs.uk

Midwives Information and Resource Service (MIDIRS) information leaflet
www.infochoice.org

NHS Choices
www.nhs.uk

Tommy’s The Baby Charity
www.tommys.org