

Planning for & Eating Well in Pregnancy



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“Up to 50% of pregnancies are likely to be unplanned, so all women of childbearing age need to be aware of the importance of a healthy diet”

(NICE, 2008)

Aim to optimise nutritional stores
PRIOR to conception

Body Weight (Preconception)

- **Body Fat**

Influences female fertility. At least 22% required for optimal ovulation

- **BMI (Body Mass Index)**

20-25 Healthy Range

Conception can occur in those with low BMI but with increased risk to the infant e.g. LBW, prematurity, increased morbidity/ mortality

BMI>30 can decrease ovulation

- **Dieting prior to conception not advised**

The eatwell plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



Folate & Folic Acid

- When taken in sufficient amounts during preconception and early pregnancy can help protect against NTDs (neural tube defects)
- Supplementation is needed in addition to dietary intake
- Should be taken ~ 3mths prior to conception and up until the 12th week of pregnancy (when the neural tube closes).

Folate & Folic Acid

- **Recommended intake =**
 - 0.4 mg/d (400mcg) supplement of folic acid until 12th week pregnancy
 - Plus fortified foods such as breakfast cereals/ bread etc.
 - Plus folate rich foods (0.05mg/100g) e.g. Asparagus, brussel sprouts, spinach broccoli, spring greens, green beans, yeast extract, cooked black eye, kidney & soya beans.

Preconceptual Nutrition Advice

- Eat a varied diet – adequate in energy and nutrients.
- Make any significant dietary changes 3-4 months prior to conception.
- Aim for a healthy BMI/weight, avoid fluctuations
- Follow recommendations for folic acid intake
- Restrict/ ?avoid alcohol and restrict caffeine
- Include oily fish(1-2/wk) but avoid shark/ swordfish/ marlin and limit tuna
- Seek medical advice regarding medication and/or supplements- avoid taking Vitamin A supplements

Good Nutrition & Pregnancy

Eating for 2?

THE FACTS



Weight Gain- Pregnancy

- Excessive weight gain in women with healthy BMI (pre-pregnancy) does not enhance foetal growth and can contribute to postpartum maternal obesity

(Scholl et al, 1995).

- **Weight gain advised dependant on pre-pregnancy weight.**

- Underweight (BMI <19.8) gain 12.5-18kg
- Normal weight (BMI 19.8-26) gain 11.5-16kg
- Overweight (BMI >29) gain 7kg-11.5kg

(Institute of Medicine, 1990)

Weight during Pregnancy

- **Risks associated with being overweight/ obese**
Gestational diabetes, pre-eclampsia and hypertension, difficulties during labour, perinatal mortality
- **Risks associated with being underweight**
Low birth weight baby and associated risk of child suffering from chronic diseases in later life, compromised fetal growth and development

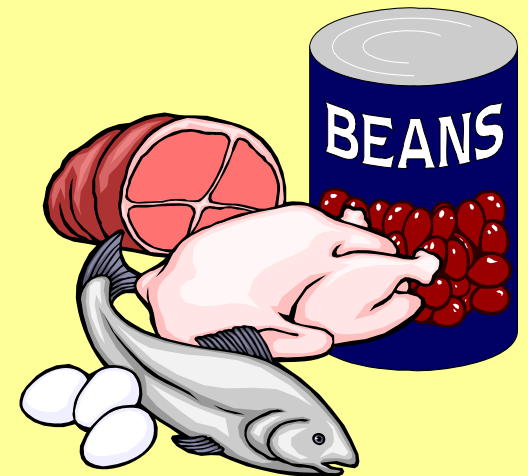


Energy Requirements?

- **Vary** naturally between individuals
 - Additional 200kcal in 3rd trimester
 - The small \uparrow in E cost is often met with the \downarrow in PA
 - Advised to eat according to appetite & monitor weight gain
 - Insufficient Energy intake in underweight mothers can lead to LBW
 - The need to 'Eat for 2' is a myth!

Protein Requirements

- Optimal requirements for pregnancy are unknown
- Suggested that an additional 6g a day required (RNI 51g/d)
- Most females in the UK already consume this amount
- An increased intake is not required



Iron in Pregnancy

- **Iron**

- No recommended ↑ in iron intake
- RNI same as for non pregnancy adult females (14.8mg/ day)

- **Sources**

- Haem-iron from meat and fish (more readily absorbed)
- Non-haem iron from green vegetables, pulses, fortified cereals, dried fruit, eggs
- Vitamin C aids absorption of non-haem sources
- Tannins (tea) ↓ absorption

- **Supplements?**

- May be needed if iron stores are inadequate at start of pregnancy
- Can cause constipation and nausea.

Calcium

- Requirements not increased
 - RNI is 700mg/ day
- **To meet basic requirements**
 - Approx. 3 servings of dairy foods a day
 - e.g.
 - Glass of milk (200mls)
 - Small pot of yoghurt (150g)
 - Small piece of cheese (30g/ 1oz)



Vitamin D

- **10mcg** supplement recommended during pregnancy and breastfeeding
- Poor maternal status is associated with reduced bone mass in offspring, and increased risk of osteoporosis in later life (Javaid et al, 2006)
- **Healthy Start** Vitamins (during pregnancy)
 - Vitamins- Vit C, Vit D and Folic acid

The logo for 'HEALTHY START' is displayed in a white rectangular box. The words 'HEALTHY' and 'START' are stacked vertically in a bold, red, sans-serif font. The letters have a slightly distressed or hand-painted appearance.

Vitamin A

- Vitamin A requirements do increase during pregnancy
- **But** animal studies have shown that too high an intake (Retinol) is teratogenic in the preconception period
- In pregnancy need to avoid: -
 - Vitamin A supplements - Pate
 - Liver - Liver sausage
 - Cod liver oil (fish liver oil)

Caffeine Intake & Pregnancy

Too much caffeine in pregnancy increases the risk of spontaneous abortion and LBW infants.

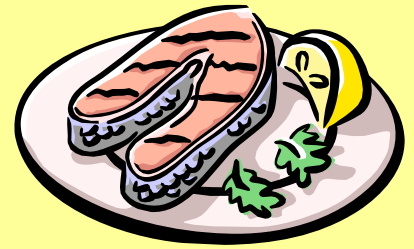
The Food Standards Agency recommends limit of 200mg/ day pre and during pregnancy

Sources of caffeine in the diet?

200mg Caffeine?

- 2 mugs of instant coffee (100mg each)
- 1 mug of filter coffee (140mg each)
- 2 mugs of tea (75mg each)
- 5 cans of cola (up to 40mg each)
- 2 cans of 'energy' drink (up to 80mg each)
- 4 (50g) bars of plain chocolate (up to 50 mg each)

Eating Fish in Pregnancy



- **Important** to include oily fish 1-2 portions a week
- Avoid swordfish, shark and marlin- these contain relatively high levels of mercury which can effect the nervous systems of unborn babies
- Limit tuna to no more than 2 portions of fresh, or 4 medium sized cans per week (140g drained weight per can)
- Oysters or shellfish should be avoided unless thoroughly cooked

Alcohol in Pregnancy?

- Best to avoid
- NICE (2008) advise no alcohol while trying to conceive/ during first 3 months due to increased risk of miscarriage
- Frequent/ excessive consumption linked with growth retardation, development delay
- If choosing to drink limit to max. 1-2 units, once or twice a week

Nutritionally 'at risk' groups?

- Teenagers
- Women 20% above or 10% below Ideal Body Weight
- Low income
- Eating disorders
- Self-imposed restrictions – dieters, “allergies”
- Alcohol, smoking or drug problems
- Pre-existing complications – DM, GI disease
- Poor Obstetric Hx – LBWs, spontaneous abortion
- Closely spaced pregnancies

Nutritionally 'at risk'?

- **Vegans**

- No animal foods → potentially deficient in Vit. B12
 - Supplements/fortified foods required
- Iron supplements may be advised if low iron stores prior to pregnancy
- Pre-conception advice strongly recommended

- **Vegetarians** : well-balanced diet not normally nutritionally compromised.

- Compensate for non-haem iron:
 - ↑ Vit C sources (particularly @ meals)
 - ↓ Tea (particularly @ meals)

Food Safety & Hygiene

Foodborne Infections

- **Listeriosis**

- Can cause spontaneous abortion/ stillbirth

- **Avoid**

- Soft mould-ripened cheese- Camembert, Brie
 - Soft/ unpasteurised goat's/ sheep's cheese
 - Unpasteurised milk
 - Pre-cooked or ready prepared foods which will not be re-heated e.g. pate (any type including vegetable), cold meat pies, quiche

Food Safety & Hygiene

- **Salmonella**

- Can cause miscarriage or premature labour
- Avoid
 - Raw eggs e.g. homemade mayonnaise, cold soufflés
 - Undercooked poultry

- **Toxoplasmosis**

- Can cause severe foetal abnormalities, including blindness
- Found in raw meat, unpasteurised milk and cat faeces

Food Safety & Hygiene

- **Campylobacter**

- Can cause premature births, spontaneous abortion and still births
- Common sources of infection include poultry, unpasteurised milk, untreated water
- Plus, domestic pets and soil

- Follow good hygiene procedures to reduce risk

Peanut/ Nut Allergy

- With a maternal/ paternal history of allergy where either parent or a previous child has hay fever, asthma, eczema or other allergy the recommendation is to avoid peanuts/ peanut containing foods during pregnancy and breastfeeding.
- With an atopic family history, some evidence that intrauterine exposure to peanut allergens is linked with an increased risk of nut allergy developing in children?
- **A review of the evidence is needed!**

Summary of Dietary Guidance

- Regular meals and snacks.
- Follow healthy eating principles.
- Eat according to appetite (avoid increasing intake of sugary/fatty sugars to avoid excessive weight gain).
- Avoid or Limit alcohol
- Avoid potentially hazardous foods.
- Practice good food hygiene.

Nutrition-related Problems in Pregnancy

- **Nausea and vomiting**
 - Small balanced meals/snacks advised, these can be as nourishing as full meals
- **To alleviate sickness**
 - Small CHO-rich snacks (every 2-3 hours)
 - Dry bread/biscuits/ cereal in morning
 - Avoid large meals, greasy/spicy foods
 - Suck something sour
 - Slowly sip fizzy drink
 - Try foods and drink that contain ginger

Nutrition-related Problems in Pregnancy

- **Cravings**
- **Aversions**
- **Pica**
- **Heartburn- reflux**
 - In 3rd trimester
 - Can be exacerbated by certain foods- e.g. spicy, fatty, fizzy or acidic
 - Try SFMs, ,milk and yoghurt

Nutrition-related Problems in Pregnancy

- **Constipation**

- Most likely caused by physiological effects of pregnancy on GI system, or change in eating habits, physical activity levels
- Iron supplements if taken may be implicated
- Standard dietary guidance: -
 - Fluids
 - Cereal fibre
 - Fruit and vegetables

After the Birth...



- Maintain a healthy diet
- Expect weight loss to be gradual
- If eating extra to sustain breastfeeding, base on starchy carbohydrates rather than fatty/sugary foods
- Spread intake throughout the day
- Drink plenty of fluids

Breastfeeding

- Increased energy requirements

Additional Energy Cost of Breastfeeding	
0-1 months	450 kcals
1-2 months	530 kcals
2-3 months	570 kcals
3-6 months	480*/570# kcals

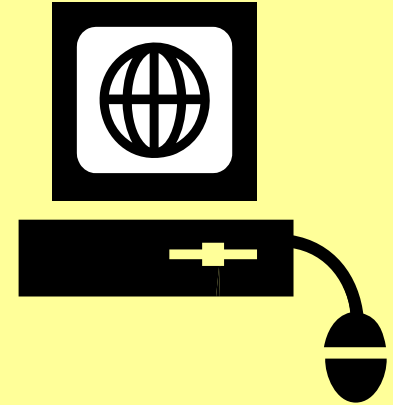
(DH 1991: RNI for adult females 1940 kcal/d)

*Weaning

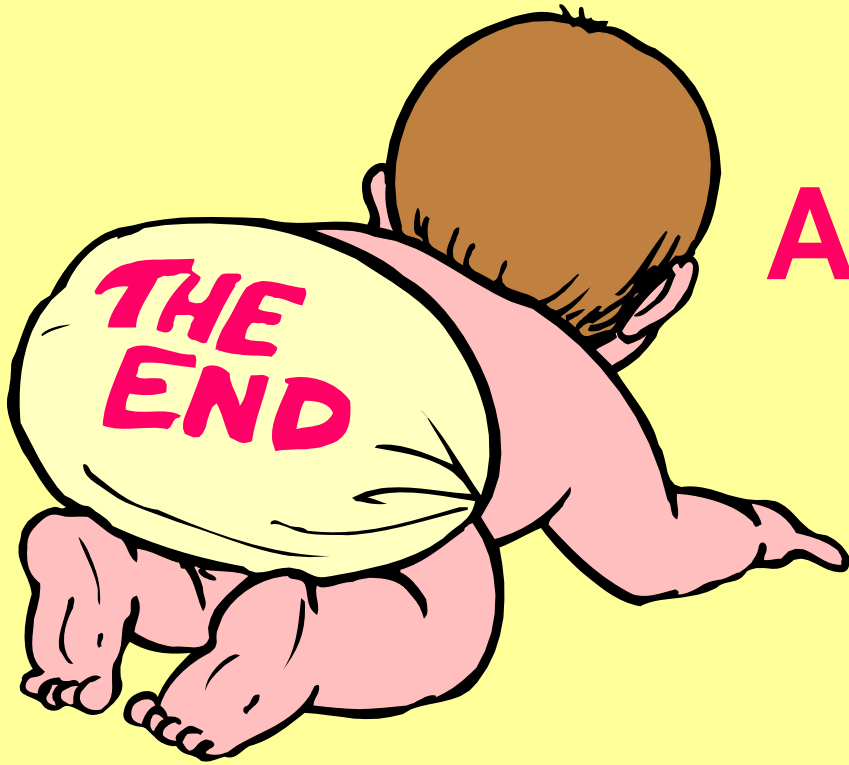
exclusive breastfeeding

Further Information...

Can be reliably obtained from: -



- The Food Standards Agency
www.eatwell.gov.uk
- Eating for Pregnancy (University of Sheffield)
www.eatingforpregnancy.org.uk
- The British Dietetic Association
www.bda.uk.com



Any Questions?