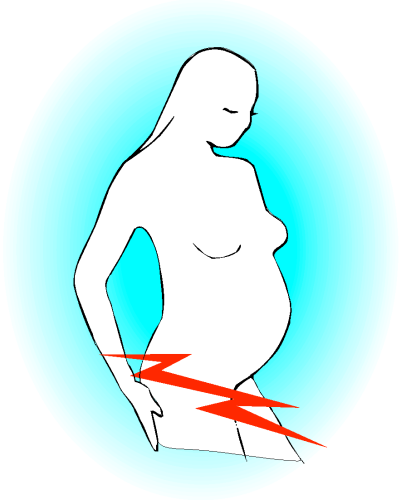
DIET AND NUTRITION



"Good nutrition means eating a well-balanced and varied diet of foods in as close to their natural state as possible."

This means, in general, that all food group families are included from the list of foods a mother and her family should eat from. Variety is important, because by eating a number of foods, you can be sure to obtain different nutrients and do not eat too much of any one food.
Obviously, it is best to make sure the foods you eat are ideally organic, fresh and uncontaminated..

Substances in your breast milk coat your baby's intestines, which prevents microscopic food particles from "leaking" through into your baby's bloodstream. When they do pass into the bloodstream (which is more frequent in an artificially fed baby), these food particles may be treated as foreign substances by his/her white blood cells, which attack them, and can cause painful unhealthy allergic reactions, such as a sore tummy, diarrhea, sore bottom, runny nose and eyes, rashes and eczema, or a crying, sleepless baby.

If you have allergies on either side of the family, it is beneficial to avoid the foods you or the baby's father are sensitive to, before and during your pregnancy as well as while your baby is breastfeeding. If you have a problem with dairy food, for example, proteins from cow's milk present in your own milk can cause problems for your baby. But there's a good chance your baby will not be sensitive to these foods, later in life, if the baby is breastfed. This is because breastfeeding lessens the baby's chance of becoming sensitised to the allergen.

These allergens include dairy, wheat, citrus, nuts and shellfish. Try cutting these out of your diet, one at a time, and see if your health and your baby's health improves. It may take up to ten days or a little longer for it to clear from his/her system. Weaning from the breast onto solid foods is not recommended for babies under six months. It is also helpful to breastfeed your baby frequently to stimulate your milk supply for your growing baby.

SPDNZ Resource Group

For SPD, as well as any other medical condition, diet is extremely important. Our bodies have specific nutritional requirements to ensure the health of bones, muscles, connective tissue, nerves and organs. A healthy diet is not restrictive, but does involve certain basic principles.

Basic Principles

There are three main energy sources in food: Carbohydrates, Fats and Protein.
1. **Carbohydrates:** Carbohydrates are the main source of energy for all bodily functions and assist in the digestion and assimilation of other foods
There are two main types of carbohydrate: Starches and Sugars.
Starches include: Bread
Rice
Flour
Cereals
Grains (oats, corn, millet etc)
Potatoes
Kumara and other starchy vegetables e.g. taro
Pasta
Sugars include: White, brown, and raw sugars
Honey
Sweet fruits contain a natural sugar called fructose

Carbohydrates provide the body with almost instant energy. However, refined carbohydrates, such as white bread, cakes and sweets etc. cause a sudden rise in the body's blood sugar level. This is followed by a corresponding rapid fall in blood sugar which can lead to symptoms such as fatigue, dizziness, nervousness, headaches and a craving for more sweet food.

Complex carbohydrates, such as whole grain bread, potatoes, brown rice, whole grain cereals etc are broken down more slowly in the body and lead to a more sustained blood sugar level for a longer period of time. Whole grains also provide valuable amounts of Vitamin B, and fibre for better digestion and elimination.

RECOMMENDATION: **<u>Include</u>** complex carbohydrates in your diet:

Potatoes and other starchy vegetables
Wholegrain or brown bread
Brown rice
Wholegrain cereals (oats, corn etc.)

Try to avoid or cut down on:

White bread
Cakes or biscuits made with white flour
Fizzy drinks such as Coke and Fanta
Sweets

2. **Fats:** Fats are the most energy-dense foods i.e. they have the greatest number of calories per unit of weight. Fats also provide the body with energy, but their more specific functions are: (i) to carry the fat-soluble vitamins, A, D, E and K.

(ii) to provide a layer of fat to insulate the body against cold and excessive heat.
(iii) to provide fat deposits which surround the major organs such as kidneys, heart and liver. These fat deposits protect the organs and hold them in place.

Fats are made up of fatty acids which can be either saturated or unsaturated.
Saturated fatty acids are solid at room temperature and usually come from animal sources e.g. butter and lard.

Unsaturated fatty acids are liquid at room temperature and are derived from vegetable, nut or seed sources e.g. olive, corn and sunflower oils. Unsaturated fatty acids ('essential' fatty acids) are vital for normal growth and the health of blood, arteries and nerves. They also keep skin supple and young-looking and are necessary for the breakdown of cholesterol. Cholesterol is a necessary part of the diet, but when fats are eaten in excess, cholesterol can become a problem and may lead to the development of arteriosclerosis.

RECOMMENDATION: Include unsaturated fats in your diet, in salad dressings and in cooking

e.g. Olive)
Safflower)
Corn) Oils
Sunflower)
Nut)

Store oils in a cool, dark place to prevent them from becoming rancid.

Try to cut down on:

Saturated fats Butter
Lard
Fatty meats
Deep fried foods
Commercially baked or fried foods.

Margarine should also be avoided. Commercially baked or fried foods and margarine contain trans-fatty acids, an unnatural form of fat which has been linked with an increased risk of heart disease (Ref 1). Use a little butter instead. Butter is a whole food with significant nutritional value, whereas margarine has no natural food value at all.

3. Protein: Protein is vital for good health and forms the building blocks of muscle, blood, skin, hair and internal organs including the heart and brain. It is a vital component of antibodies, for fighting infection, and of milk during lactation.

Protein is made up of 22 amino acids, all but 8 of which can be produced by the human body. The remaining 8 are termed 'essential amino acids' and must be supplied in the diet to form 'complete' proteins. Sources such as meat, fish, eggs, milk and cheese are complete proteins. Vegetables, fruits and grains are 'incomplete' proteins (i.e. they don't contain all 8 amino acids). These foods need to be combined correctly to form complete proteins. This concept is particularly important for vegetarians and vegans in order to avoid protein deficiency.

In adults, the symptoms of protein deficiency may include lack of energy, mental depression, weakness, poor resistance to infection, impaired healing of wounds and slow recovery from illness. People under stress and pregnant women need extra protein.

Protein Sources: Complete Proteins.
Red meat – ideally, eat red meat no more than 2-3 times per week.
Chicken
Fish
Dairy products
Eggs

Incomplete proteins:
Fruit
Vegetables
Grains
Nuts and seeds
Combining grains e.g. rice, with vegetables such as lentils or kidney beans provides a complete protein. For more information on vegetarian diets, visit your health food store or public library.

RECOMMENDATION: Try to include some protein in every meal e.g. a boiled egg for breakfast, salmon salad for lunch, meat, chicken or fish for dinner.

Vary your protein sources and eat red meat 2-3 times a week (if you are not vegetarian) for iron intake. Iron is particularly important for women as we lose a significant amount of iron in menstrual blood every month. Lack of iron in the diet can lead to anaemia and susceptibility to infection.

NUTRIENTS – MINERALS AND VITAMINS

Minerals: Minerals are major components of bones, teeth, muscles, soft tissue, blood and nerve cells. They are involved in biological reactions such as muscle response, digestion, transmission of nerve impulses, metabolism of food, the production of hormones and maintaining the proper chemical and water balance in the body.

Minerals and vitamins often work together in human metabolism e.g. vitamin C improves the absorption of iron. All minerals must be supplied in the diet.

Calcium, chlorine, phosphorus, potassium, magnesium, sodium and sulfur are the main minerals in the body, but trace minerals are also extremely important even though they are only present in small amounts e.g. selenium and zinc.

A note on Calcium:

Calcium is particularly important for women at all stages of life, but particularly when pregnant or breastfeeding. Calcium is the major component of bones and teeth. Adequate calcium helps to avoid osteoporosis and is essential for healthy blood, muscle function and nerve transmission.

Calcium is especially important for women with SPD due to their inability to perform enough weight-bearing exercise to help keep calcium in the bones.

Sources of Calcium:
Milk and dairy products
Almonds, Brazil nuts, Hazelnuts, Sesame and Sunflower seeds
Green leafy vegetables e.g. spinach, Chinese cabbage
Broccoli
Soya beans and soy products - Tofu (use in moderation)
Dried figs
Drink a small glass of apple juice after meals to facilitate calcium absorption. Some people do not tolerate milk well – other sources, such as vegetables and nuts are more easily absorbed by the body.

Zinc: Reduces risk of miscarriage, premature labour, pre eclampsia, birth defects, inefficient labour and stretch marks. Zinc is depleted by the contraceptive pill, fertility drugs, alcohol and cigarettes by removing zinc from the system. Important for immunity, emotional and mental health and post natal health. Is quickly depleted by stress. Zinc is vital for healthy fetal and newborn development.Low zinc is implicated in collagen and musculo-skeletal disorders.

Sources of Zinc:
Whole grains,
Brewer's yeast,
All fruit, All
vegetables,

Nuts & nut butters ,
Offal and Meat,
Fish and Shellfish,
Poultry,
Oatmeal,
Whole corn,
Eggs,
Milk.
Seeds - pumpkin seeds, squash seeds, sunflower seeds,
Mushrooms,
The maternal Placenta

Vitamins: Vitamins are found in plants and animals in varying amounts e.g. carrots are high in vitamin A, and lemons contain plenty of vitamin C. Vitamins work with enzymes in the body to perform biochemical processes such as growth, metabolism, cellular reproduction, digestion, oxidation and the removal of waste products (carbon dioxide and urine). Vitamins are either water-soluble (B complex, vitamin C and bioflavonoids) or fat-soluble (vitamins A,D,E and K).

RECOMMENDATION: Eat a wide variety of foods, especially fruits and vegetables to ensure that you get the optimum range of nutrients in your diet. A colourful meal is a nutritious meal e.g. green vegetables combined with yellow or orange vegetables, a carbohydrate (bread, pasta, potatoes, rice) and a protein source (meat, dairy, fish, eggs) is a balanced meal, rich in both vitamins and minerals.

SPECIFIC NUTRITIONAL REQUIREMENTS OF PREGNANCY AND LACTATION

During pregnancy and breastfeeding, the need for all available nutrients is increased. The nutritional requirements of the growing baby tend to take precedence over those of the mother.

Protein, calcium and iron are particularly important for the development of the baby's bones, soft tissues and blood. Protein is also vital for the mother, to provide for the physical changes and the twenty percent increase in blood volume in pregnancy.

Adequate iron intake helps safeguard against anaemia if there is excessive blood loss following birth. Morning sickness may be helped by supplementary intake of B vitamins. Take 25mg B6 with each meal for nausea, and 250mg daily for vomiting (B6 is best taken as part of a B complex supplement).

Folic acid (part of the Vitamin B complex) is particularly important both before and during pregnancy. It is necessary for optimal brain function in the baby and the prevention of cleft palate, brain damage and impaired learning ability. The needs of the baby can easily deplete the mother's reserves. 800mcg of folic acid per day is advisable 4 months before conception and during the first few months of pregnancy.

Natural sources of folic acid are:
leafy green vegetables
Liver
Brewer's yeast.

RECOMMENDATION: Make sure that you have a nutritionally balanced diet during pregnancy. Include plenty of protein, calcium and iron-rich foods.
Eat a wide variety of fruits and vegetables
Take folic acid supplements if necessary – 800mcg daily
Drink plenty of fluids, especially when breastfeeding.

AVOID:
Cigarettes
Alcohol
Chemical food additives
Drugs

All of the above factors interfere with foetal growth and development. Take any medication only on the advice of your doctor.

It is also a good idea to avoid foods that may harbour the bacteria *Listeria Monocytogenes* which can lead to Listeriosis, an infectious disease that can affect the growing baby.

AVOID: raw eggs, soft cheeses, seafood, shellfish and pre-cooked meats like ham.
Make sure that chicken is always well cooked.

MANAGING YOUR WEIGHT

Many women with SPD acquire problems managing their weight due to an inability to burn excess calories with physical exercise. Eating for comfort can also be a problem, especially if you are depressed or lonely.

Weight management is not about how much you eat, but what you eat. Diets do not work. Restricting your food intake and eating fewer meals only slows your metabolism, so that when you start eating normally again, you put on weight even faster than before.

Healthy eating is about making a permanent change to your eating habits, with an awareness of the nutritional value of the food you are eating.

General Principles of Healthy Eating:
Eat as wide a variety of foods as possible, and in as natural a state as possible i.e. avoid highly processed, flavoured and adulterated foods.

AVOID: Sugary, fizzy drinks e.g. coke, fanta, lemonade
Drink sachets e.g Raro
Sweets
Packet jellies

Any 'diet' drinks as these often contain sugar substitutes such as aspartame, which has been linked to a number of health problems including cancer (Ref 2).

All of the above items are 'empty" calories i.e. they have no nutritional value at all.

TRY TO CUT DOWN ON (or cut out completely):

Cakes
Biscuits
Sugar in tea and coffee (Cut down the amount of sugar *gradually*, over 2-3 weeks)
Tinned fruit in syrup (choose tinned fruit in natural juice instead)
White bread and rolls
Deep fried foods e.g. fish and chips and other takeaway foods like McDonalds burgers.

These items are low in fibre and nutritional value, and high in sugar, salt and calories.

Even people with a 'sweet tooth' can learn to lower their cravings for sugar by cutting down on sweet foods gradually.

Deep fried foods like fish and chips are high in trans-fatty acids, an unnatural, man-made form of fat which may increase the likelihood of developing cardiovascular disease. An occasional takeaway meal can be a treat, especially when you have had a bad day. Try a takeaway curry or Chinese food instead of burgers, pizza or fish and chips.

<u>GOOD FOODS</u>

Wholemeal bread
Rice (use enriched rice if using white)
Wholemeal or vegetable pasta
Grains (corn, oats, millet, rye etc)
Vegetables (Eat as much as you like and as wide a variety as possible)
Fruit (bananas can be a good, sweet, filling alternative when you long for something sweet)
Nuts and seeds
Dairy products (low fat milk and calcium enriched)
Eggs (an egg a day is fine and will not raise cholesterol levels)
Red meat – Beef, lamb, pork, mutton - Eat 2-3 times per week
Chicken
Fish (include tinned oily fish e.g. sardines as they are rich in Omega 3 fatty acids)

<u>DRINKS</u>

Water – try to drink several glasses of water per day. Water with pure lemon juice or cucumber and mint can make water more palatable.

Tea and coffee – both contain caffeine, so drink these in moderation. Try to cut down to one cup of coffee per day and try some herbal teas e.g. Chamomile and Spiced Apple, Ginger and Lemon, as an occasional alternative.

Fruit juice – an occasional glass of juice is good for you, but avoid drinking too much as fruit juice is high in fructose, a natural sugar. Fruit juice can be watered down with oat straw tea.

Alcohol – It is recommended that alcohol should be avoided completely during pregnancy and breastfeeding. There is no recommendation for a safe alcohol intake during this time. *The baby is dependent on maternal clearance as the fetal liver is deficient in the enzymes necessary to metabolise alcohol and remove it from the baby's bloodstream.*[3]

MANAGING MEALS

Try to make meal preparation as easy as possible for yourself. Some women find the following tips helpful:

1. Sit down to chop vegetables etc. if standing for long periods is difficult or painful.

2. Make sure that the cooking equipment you use most frequently is easily accessible in the kitchen and does not involve a lot of walking to and fro. Ask for help to rearrange your kitchen if necessary.

3. Simple, easy to cook meals are best. Try stir-fries or one-pot casseroles. Meals cooked in a slow cooker ensure that you are not too busy cooking at what can be the worst time of the day with young children.

4. Occasionally make an extra amount of a meal that can be frozen then reheated on a day when you are not feeling up to cooking.

5. Ask for help. Even small children can be given simple jobs like laying the table, drying dishes etc.

References:

1. Hydrogenated fats increase the risk of coronary heart disease. Source: *Science*, 1994 Apr 22, 264:5 3 2
2. Aspartame induces lymphomas and leukaemias in rats. Eur. J. Oncol. n 2, pp. 00-00, 2005
3. Alcohol. Compendium for a Healthy Pregnancy and Normal Birth. J Donley

Revised 2008 by the SPDNZRG editorial team