Food as Treatment
Eating for Wound Healing
How do wounds occur?

Wounds occur when the skin is broken or damaged through injury or surgical incision. The skin can be damaged in a variety of ways depending on the cause of the injury e.g. trauma (puncture wounds, scalds); pressure or friction (pressure ulcers, abrasions). The lower limbs in particular can be prone to diabetic and venous ulcers which may have started with trauma (e.g. stubbing a toe, stepping on a nail) or through repeated irritation (e.g. tight fitting shoes, hot water bathing) which combined with poor blood circulation results in skin damage.

What are pressure ulcers?

Pressure ulcers are a type of wound caused by prolonged pressure being applied to an area of skin which starves the blood supply. This leads to damage of the skin and tissues below. Pressure ulcers commonly affect people that are bedbound or immobile and so are often called bed sores, pressure sores or pressure damage.

Nutrition and wound healing

Wounds can occur in people who have poor nutrition, who are not consuming enough fluid, energy, protein, vitamins and minerals which can delay healing and increase the risk of complications. Sometimes wounds occur in people who haven’t lost weight. It might be that despite eating well people with pressure damage may need extra nutrients to help the wounds to heal.

Are you getting the nourishment you need?

All people with wounds should aim to have a healthy, well balanced diet (as shown in the guide overleaf) which provides all the nutrients we need. This includes:

- Fluid
- Protein e.g. meat, fish, eggs, beans, lentils, soya products
- Milk and dairy foods e.g. yoghurts, fromage frais, crème fraîche and hard / cream cheeses
- Fruit and vegetables
- Starchy carbohydrates e.g. bread, pasta, rice, potatoes and breakfast cereals

Protein:

Include a high protein food at every meal, such as:
- Meat or meat products e.g. beef, lamb, pork, bacon, sausages
- Poultry e.g. chicken, turkey, duck
- Fish e.g. cod, mackerel, pilchards, sardines, tuna, salmon
- Vegetarian protein options e.g. tofu, soya mince, Quorn
- Eggs
- Dairy or dairy products e.g. milk, cheese, yoghurts, milk puddings
Vitamins, minerals and trace elements:

Fruit and vegetables contain essential vitamins, minerals and trace elements that are required for wound healing. Aim for five portions of fruit and vegetables each day to help meet your daily needs. Below are some ways in which you can incorporate fruit or vegetables into your meals:

- Add chopped fruit (fresh or dried) to porridge, yogurt or cereals
- Have a glass of (maximum 150ml) fruit juice each day
- Have fresh, tinned or dried fruit as a snack
- Have 3 tablespoons vegetables in soup or with hot meals
- Have side salad with sandwiches or baked potatoes
- Add vegetables to stews or casseroles

Should I take a vitamin and mineral supplement?

If you find it hard to eat enough protein or fall short of the recommended five portions of fruit or vegetables each day, a vitamin and mineral supplement may be beneficial, so discuss this with your doctor or pharmacist; or ask to be referred to a dietitian.

Fluid:

Try to drink 6-8 glasses (1.5 to 2 litres) of fluid each day which will support wound healing and is important for your general health.

- Water, tea, coffee, squash, juices, fizzy drinks, milk and milky drinks all count as fluids
- Milky drinks such as hot chocolate, latte, malted drinks and milkshakes are particularly good as they contain both calories and protein

Nutritional supplements

If you are still struggling with your appetite or if you are losing weight there are a variety of nutritional supplement drinks available over the counter or on prescription that may be helpful. Please discuss this with your doctor or ask for a referral to a registered dietitian.

What if I am Overweight?

Being overweight puts more pressure on your body, especially if you are not able to move around very much. However, trying to lose weight whilst you have pressure ulcers may slow down healing so you may want to delay starting a low calorie dietary plan.

What if I am Diabetic?

High blood sugars can make it harder for your wounds to heal and keeping blood sugars within a healthy range can also prevent wound complications, such as infection, occurring. It is therefore important to check your blood sugar levels regularly if you are diabetic or have a history of raised blood sugars. Please speak to your nurse or doctor if you are not currently checking your own blood sugar levels.
Ideas for nourishing puddings:
- Milk puddings such as rice pudding, custard and semolina with added dried, canned or stewed fruit
- Sponge puddings with custard, ice-cream or cream
- Full fat yoghurts, mousse or trifle
- Fruit pie or crumble with cream, custard or ice-cream

Ideas for nourishing snacks:
- Cheese and crackers
- Slice of cake, 2-3 biscuits or a sweet pastry
- Fresh or dried fruit, mixed nuts with raisins
- Teacake, hot cross bun, crumpet or scone with butter, jam, honey or peanut butter
- Hummus or avocado on toast
- Crisps
- Boiled egg
- Small pork pie, scotch egg or sausage roll

Ideas for nourishing drinks:
- Full cream milk
- Milky tea or coffee
- Hot milky drinks such as hot chocolate or malted drinks made with full cream milk, cream and sugar
- Milkshakes
- Fruit juices, yoghurt drinks or smoothies

Energy:
You may struggle to eat enough energy (calories) if you have a poor appetite. Here are some tips which will help you improve your intake:
- Choose full fat or high energy food varieties e.g. whole milk, thick and creamy yoghurts. Avoid low calorie options e.g. skimmed milk, diet yoghurts, light hot chocolate
- Eating 4 to 6 smaller meals or snacks may be easier than the traditional 3 larger meals per day
- Avoid drinking before you eat as this will fill you up
- If you are struggling to prepare foods use convenience foods or ready meals
- Try fortifying your diet by adding extra protein and calories to foods (see table on page 6 for ideas)
- Include extra snacks between meals
- Have regular nourishing drinks and try fortified milk

Fortified Milk:
This is higher in calories and protein than ordinary cows milk and can be used as a drink, in tea / coffee / hot chocolate / Ovaltine/ Horlicks, on breakfast cereals, or added to your recipes e.g. sauces and puddings

Calorie and protein content:
1 pint full cream milk: 386kcal, 19g protein
1 pint fortified milk (using recipe below): 630kcal, 35g protein

How to Make Fortified Milk
1 pint full cream milk
5 tablespoons (about 32g) milk powder

Mix the milk powder with a small quantity of milk to make a smooth runny paste, add this to the remainder of the milk and mix thoroughly.
How to Add Extra Protein and Calories to your Food

<table>
<thead>
<tr>
<th>To soups ADD</th>
<th>To bread, toast, cracker, crumpets ADD</th>
<th>To breakfast cereals ADD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cream</td>
<td>Thickly spread butter or margarine</td>
<td>Jam, honey or syrup</td>
</tr>
<tr>
<td>Beans or lentils</td>
<td>Soft cheese</td>
<td>Sugar</td>
</tr>
<tr>
<td>Grated cheese</td>
<td>Jam, honey, chocolate spread or lemon curd</td>
<td>Yoghurt (full fat)</td>
</tr>
<tr>
<td>Milk powder</td>
<td>Mashed banana</td>
<td>Fruit</td>
</tr>
<tr>
<td>Evaporated milk</td>
<td>Peanut butter</td>
<td>Nuts</td>
</tr>
<tr>
<td>Croutons</td>
<td></td>
<td>Cream</td>
</tr>
<tr>
<td>Rice or pasta</td>
<td></td>
<td>Evaporated milk</td>
</tr>
<tr>
<td>Dumplings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barley/Couscous</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>To vegetables &amp; salads ADD</th>
<th>To sauces ADD</th>
<th>To puddings also ADD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olive oil / olive oil based spread</td>
<td>Cheese</td>
<td>Custard</td>
</tr>
<tr>
<td>Salad cream</td>
<td>Margarine or butter</td>
<td>Ice cream</td>
</tr>
<tr>
<td>Mayonnaise</td>
<td>Yoghurt (full fat)</td>
<td>Crème fraiche</td>
</tr>
<tr>
<td>Chopped hard boiled egg</td>
<td>Cream</td>
<td>Sorbet</td>
</tr>
<tr>
<td>Sauces e.g. cheese, white, gravy</td>
<td>Crème fraiche</td>
<td>Cream</td>
</tr>
<tr>
<td>Grated cheese</td>
<td>Evaporated milk</td>
<td>Jam, honey or syrup</td>
</tr>
<tr>
<td>Margarine or butter</td>
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<td>Sugar</td>
</tr>
<tr>
<td>Yoghurt</td>
<td></td>
<td>Fruit or nuts</td>
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</tbody>
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<table>
<thead>
<tr>
<th>To potato ADD</th>
<th>To sandwiches ADD</th>
<th>To pasta &amp; rice ADD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cream</td>
<td>Mayonnaise</td>
<td>Butter</td>
</tr>
<tr>
<td>Crème fraiche</td>
<td>Butter</td>
<td>Oil</td>
</tr>
<tr>
<td>Margarine or Butter</td>
<td>Chutney</td>
<td>Full fat margarine</td>
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<tr>
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<tr>
<td>Grated cheese</td>
<td>Peanut Butter</td>
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</tr>
<tr>
<td>Pesto</td>
<td>Jam</td>
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</tr>
<tr>
<td>Olive oil</td>
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<table>
<thead>
<tr>
<th>To casseroles ADD</th>
<th>To potato-topped pies ADD</th>
<th>To baked dishes (e.g. pasta bake) ADD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double cream</td>
<td>Grated cheese</td>
<td>Cheese</td>
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<tr>
<td>Oil (if a stock-based casserole)</td>
<td>Butter</td>
<td></td>
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<tr>
<td>Beans or lentils</td>
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Sample menu

**Breakfast**
Porridge made with fortified whole milk / cream with honey or fruit
Cereal with full fat milk and sugar or dried fruit
Scrambled eggs on toast/ Beans on toast (fortified with butter, cream or fortified milk)
Buttered roll with egg, bacon, sausage or cheese
Fruit juice or Smoothie
Whole (thick and creamy) yoghurt

**Mid-morning**
Cheese and crackers
Milkshake, hot chocolate or coffee made with fortified milk

**Lunch**
Quiche and salad (for extra energy add mayonnaise, salad cream or chutney)
Sandwich with cheese/meat/tuna/eggs/hummus and salad
Jacket potato with beans or cheese
Egg on toast (enriched with butter, cream or fortified milk)
Creamy soup with buttered bread roll

Whole fruit yoghurt or tinned fruit with double cream
Rice pudding, semolina, ice-cream, crumble and custard or cream

**Mid-afternoon**
Milky drink
Slice of cake

**Evening meal**
Serving of red meat, poultry, fish, soya or pulses (for extra energy add gravy or a white / cheese sauce)
Potato, pasta, noodles or rice
Vegetables or salad (add extra butter or grated cheese)

**Supper**
Milky drink e.g. Horlicks, Ovaltine