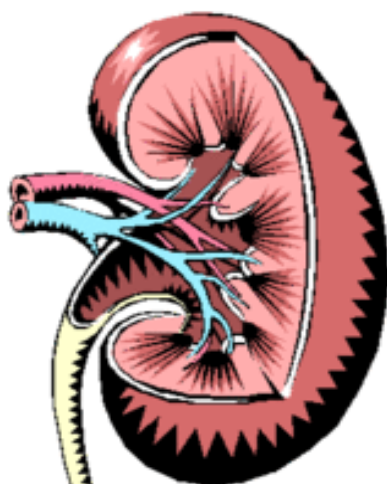


Dietary Advice after a Kidney Transplant



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The content of this booklet has been put together by the renal dietitians from Plymouth Hospitals NHS Trust, Royal Devon and Exeter NHS Foundation Trust and University Hospitals Bristol NHS Foundation Trust, and is based on guidelines published in the British Dietetic Association Renal Nutrition Group's document 'Dietary Advice Post Renal Transplantation', 2016.

Contents

Introduction	4
Food safety	5
Food Hygiene	5
Foods to avoid and safe alternatives	6
Eating out and take-aways	10
Eating abroad	11
Relaxing dietary restrictions	12
Foods which interact with your medications	12
Bone health	13
Healthy eating after a transplant	15
Useful websites	21

Introduction

Now that you have had a kidney transplant you can enjoy a much wider choice of food and drinks. This is because your new kidney is getting rid of the waste products from your body, for example, potassium, phosphate, salt and fluid. However, what you eat is still important because after your transplant you may have:

- A larger appetite which can lead to unwanted weight gain
- Increased levels of cholesterol in your blood
- Increased levels of sugar in the blood which may lead to diabetes

All these factors can lead to heart disease. A healthy diet and taking regular exercise will help to reduce the risk of developing heart disease.

You also need to be careful about food hygiene because your immune system (which normally fights infections) has been dampened down by the drugs you are taking. Occasionally these drugs can also cause the level of potassium in your blood to rise. If this happens you may be asked to cut down on high potassium foods again. The dietitian will tell you if this is necessary.

This diet sheet contains all the dietary advice needed after a kidney transplant.

You will see the renal dietitian on the ward before you are discharged after your transplant. After discharge if you need to see the dietitian again this can be arranged either at Plymouth or at your local renal unit if you are from Exeter or Cornwall.

Food safety

Following your transplant you will be started on medication to prevent your immune system rejecting your new kidney. However, this medication weakens the immune system, which can increase the risk of food poisoning. This section of the leaflet looks at how to minimise your risk of food poisoning.

<p>Cleaning Wash your hands before preparing, handling and eating food.</p> <p>Keep worktops, chopping boards and utensils clean at all times using hot soapy water, especially after contact with raw food.</p> <p>Change dish clothes and tea towels regularly and wash at 60°C. Use a separate towel for drying hands.</p> <p>Never handle food if you are ill with diarrhoea and vomiting, and do not allow others with these symptoms to handle your food.</p>	<p>Cooking Always ensure that food is cooked thoroughly and as per the manufacturer's instructions.</p> <p>When reheating food always check that it is piping hot. Do not reheat more than once.</p> <p>Eat cooked foods within an hour of cooking.</p> <p>Always follow the cooking instructions on the label.</p> <p>Do not eat food past its 'Use-by' date.</p>
<p>Chilling Maintain your fridge and freezer at the correct temperatures. Fridge: between 0-5°C Freezer: -18°C or lower</p> <p>A cool bag maybe useful when shopping to keep things cold until getting home.</p> <p>Do not overload your fridge or freezer and avoid buying foods from freezers and fridges which are overloaded.</p> <p>Cool cooked food as quickly as possible and then put in the fridge or freezer. Keep chilled food out of the fridge for the shortest time possible during preparation.</p>	<p>Cross contamination Cross contamination is when bacteria spread between food, surfaces and equipment. It is most likely to happen when raw foods touches or drips onto ready to eat food, equipment or surfaces.</p> <p>Clean and disinfect work surfaces, chopping boards and equipment prior to preparing food and after you have prepared raw food.</p> <p>Always cover raw meat/fish/ poultry and store at the bottom of the fridge.</p>

Food safety: Foods to avoid and safe alternatives

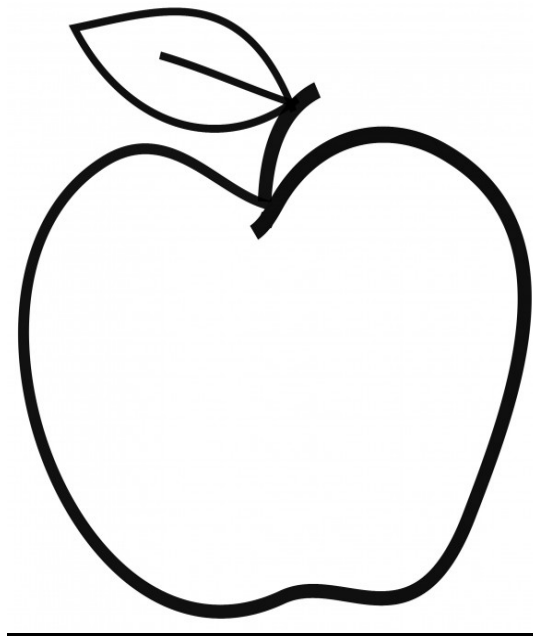
We also recommend avoiding certain foods due to the risk of food poisoning. This table should help you quickly identify which foods you should avoid and what to have instead.

Foods	High risk: should be avoided	Have instead:
Milk	All unpasteurised milks.	All pasteurised milk or ultra-heat treated (UHT). This includes cow's milk, goats, sheep milk, soya, rice, oat and nut-based milks.
Yoghurts	Yoghurt which is described on the label as 'bio' or 'probiotic'.	Any yoghurt that does not describe itself as bio or probiotic. including, plain/natural, sour cream, Greek, fruit yogurts and lassi.
	Large sharing pots of yoghurt.	Small single serving pots.
	Homemade yoghurts such as Keffir.	
Probiotics and prebiotics	Probiotic drinking yogurts such as Yakult®, Actimel®, Supermaket own versions.	Prebiotic yoghurt/product (these contain substances which promote the growth of healthy bacteria. They do not contain any live bacteria themselves).
Ice cream	Whipped ice-cream from an ice cream van.	All other purchased ice cream.
	Homemade ice-cream with raw egg.	Homemade ice cream with a pasteurised egg substitute. Caution should be taken to ensure ice-cream is not thawed and re-frozen.

Foods	High risk: should be avoided	Have instead:
Cheese	Cheese from the deli counter	Best to buy pre-wrapped cheese
		All pasteurised hard cheese Cheddar Red Leicester Edam Gouda Stilton Pecorino Parmesan Hard goats' cheese
	All unpasteurised soft cheese unless cooked until piping hot	Pasteurised soft cheese (check the label) Cottage cheese Mozzarella Feta Cream cheese Paneer, labnah Ricotta Halloumi Processed cheese such as cheese spreads (eg Dairylea®)
	Soft cheese, mould-ripened (white rind) Brie, Camembert and certain goats cheese e.g. Chevre. Blue-veined cheese e.g. Danish Blue, Gorgonzola Roquefort.	Mould-ripened (white rind) and blue-veined cheese if cooked until piping hot.
	Dolcelatte	Pasteurised version.
	Homemade cheeses e.g. labnah/paneer.	Buy shop-bought pasteurised versions.
	Meat and poultry	Raw meat and poultry.
Deli counter meat and poultry.		Sealed pre-packed meat and poultry.
Rotisserie chickens.		Cooked and sealed chicken from the chilled cabinet.
Cured meat.		Safe to use in cooking if cooked thoroughly and piping hot. Purchase in sealed packets only.
Under-cooked BBQ meat.		Ensure BBQ meat is thoroughly cooked & served piping hot.

Foods	High risk: should be avoided	Have instead:
Fish and Shellfish	Fresh fish and shellfish from fishmongers or deli counters	Pre-packaged fish, shellfish and smoked fish. Eat within 24 hours of opening if eaten cold or cooked until piping hot.
	Raw fish and shellfish e.g. sashimi, oysters and caviar.	Raw fish and shellfish should be cooked until piping hot
Pate	Meat and vegetable pate.	Tinned meat and vegetable pate is fine
Rice	Rice from a take-away.	Cook your own rice at home when ordering a take away
	Reheated rice.	Rice should be served hot and eaten immediately after it is first cooked
Sushi		<p>Shop-bought sushi</p> <ul style="list-style-type: none"> • Check the use by date • Buy from the chiller cabinet and ensure packaging intact. • Store in fridge until eaten. <p>Home-made sushi Ask your dietitian for further advice if you wish to eat home-made sushi.</p>
Eggs	<p>Uncooked eggs.</p> <p>Partially cooked eggs.</p> <p>Sauces or desserts that may contain raw or undercooked eggs e.g. mayonnaise or chewy meringue.</p> <p>Raw cookie dough or cake batter.</p>	<p>Thoroughly cooked eggs. Lion-stamped brands.</p> <p>Store in the fridge.</p>
Pre-packed sandwiches or take away freshly made sandwiches	Avoid high risk fillings e.g. unpasteurised cheese and cured meats.	Pre-packaged sandwiches. Eat within the use by date. Toasted sandwiches must be served piping hot.

Foods	High risk: should be avoided	Have instead:
Fruit, vegetables and salad	Unwashed fruit, vegetables and salad.	All other fruit, vegetables and salad providing they are washed thoroughly to remove all traces of soil and visible dirt.
	Raw sprouted seeds e.g. beansprouts.	Cooked sprouted seeds
Drinks	Unpasteurised fruit juice or smoothies. Slush puppies.	Pasteurised fruit juice and smoothies. Homemade juices and smoothies if all fruit and vegetables thoroughly washed before use.



Food safety: Eating out and takeaways

Eating out or consuming takeaways within the first 6-8 weeks after transplantation should be avoided. After this period, eating out can be enjoyed when following these basic principles:

- Check the eating area is clean and tidy
- Avoid all high risk foods on the menu
- Try to order a plated meal that is cooked fresh to order rather than a carvery, salad bars or buffet
- Ensure your meal is piping hot and thoroughly cooked when it arrives
- Avoid rice that has already been cooked; ask for it to be cooked fresh or choose another option such as potato, pasta, chips, chapatti or noodles.
- Beef burgers should be well done, even if they are freshly made.
- If you need to eat from a buffet it is recommended you try to be the first in the queue and not to go back for further servings as there is a risk the food may have been contaminated by other diners.
- Caution should be taken when eating food from a street vendor. The food may have been stored at incorrect temperatures allowing perfect environment for the growth of food borne bacteria.
- Consider the previous advice about raw egg in sauces, desserts and other foods as previously listed.
- The Food Standards Agency website (<http://ratings.food.gov.uk>) provides information with regard to the overall cleanliness of a business and whether it is a suitable place to eat at.



Food safety: Eating abroad

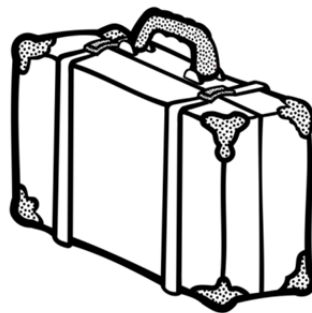
It is especially important to be very vigilant with food safety when eating abroad. The following tips will help reduce risk of food poisoning:

Drinks

- Avoid tap water, ice and beverages made from tap water and fresh fruit juice.
- Drink bottled or canned and processed beverages.
- Boil tap water if it is to be used.
- Some people may prefer to brush their teeth with bottled or cooled boiled water to prevent any risk of contamination.

Food

- Hot food should be served piping hot.
- Avoid any foods that may have been washed in tap water such as salads and fruit.
- Select vegetables and fruit that can be peeled.
- Caution should be taken with hotels offering buffet style restaurants as described in the 'Eating out and Takeaways' section.



Relaxing your pre- transplant dietary restrictions

Before your transplant you may have been advised to cut down on foods and drinks high in potassium and phosphate. Once your new kidney is working well many of these restrictions may be relaxed.

Although unlikely, it is important to be aware that some patients may need to continue a potassium or phosphate restriction after their transplant. This would normally be in the first few days or weeks post-transplant. Speak to your dietitian, consultant or specialist nurse if you are unsure.

Foods which interact with your medications

Some foods and herbal remedies can interact with immunosuppressive medications and reduce their ability to function. It is not recommended to take any 'alternative' medicines (e.g. herbal or homeopathic) or high dose vitamins without first discussing it with the transplant team.

Grapefruit and grapefruit juice, pomelo, pomelo juice and star fruit can cause Ciclosporin, Tacrolimus and statin levels to become elevated and therefore these should be avoided.



Bone health

Following your renal transplant you may be at increased risk of diseases which affect your bones. Steroid therapy and some immunosuppression can weaken bones. It is therefore important to minimise the risk of your bones thinning and of fractures by ensuring that you have an adequate intake of calcium and vitamin D. The list below contains foods that are rich in calcium. Aim to have a minimum of 3 - 4 portions of calcium rich foods each day.

High sources of Calcium

- Milk, if choosing non-dairy milk such as soya or rice milk check the labels to make sure that they are fortified with calcium.
- Cheese
- Yoghurt and yoghurt drinks
- Tofu
- Tinned fish especially sardines, pilchards and salmon (if the bones are eaten)
- Sesame seeds and tahini (sesame seed based paste)
- Ready Brek® or own brand hot oat cereal fortified with calcium

Moderate sources of Calcium

- Cottage cheese
- Pulses especially baked beans, soya beans, broad beans, red kidney beans and chick peas
- Nuts, almonds, brazil nuts, hazel nuts
- Dried figs
- White bread and white flour products
- Fortified breakfast cereals

If you are struggling to meet the recommended amount of calcium through diet alone, a calcium supplement may be appropriate, your dietitian will advise.



Vitamin D

Vitamin D helps you to absorb calcium from your food.

The main dietary sources of vitamin D are:

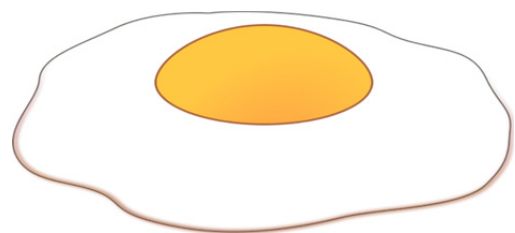
- Skimmed milk powder (with added vitamin D)
- Margarine and low fat spread
- Oily fish such as mackerel
- Fortified breakfast cereals
- Eggs

The best source of vitamin D is safe sun exposure. However, transplant patients need to be careful as the immunosuppression medication you take can increase the risk of skin cancer. If you are concerned then your vitamin D level can be measured and a supplement can be prescribed by your doctor if required.

Lifestyle and bone health

Incorporating the following lifestyle habits can also have a positive effect on your bone health:

- Weight bearing, high impact and strengthening exercises (eg walking, tennis, dancing, weight training)
- Not smoking
- Drinking less alcohol or within current guidance
- Maintaining a healthy body weight (Body Mass Index 20-25kg/m²)



Healthy eating after a transplant

Once your kidney transplant is working well, previous dietary advice such as potassium, phosphate and fluid restrictions will no longer be necessary. However, looking after your diet and lifestyle are still important.

This is because some people develop side effects from their medication, such as:

- Increased appetite
- Weight gain
- Increased blood cholesterol
- Increased blood sugars

These can all increase your risk of heart disease or developing diabetes known as NODAT (New Onset Diabetes after transplant).

Reducing your risk of heart disease and developing NODAT

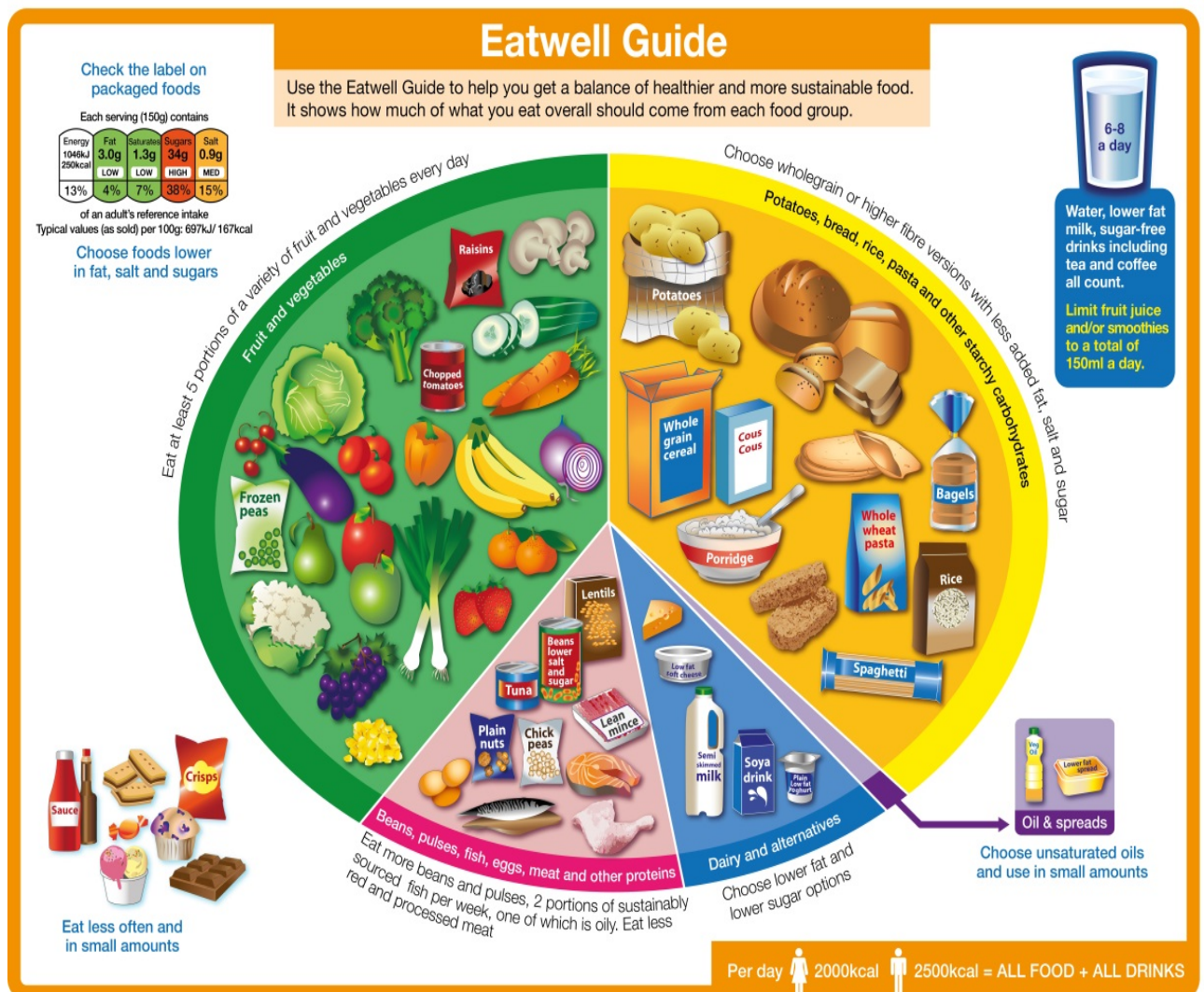
Dietary and lifestyle changes can be made which will help reduce your risk. These could be:

- Maintain a healthy weight
- Increase activity
- Stop smoking
- Healthy eating

If you would like individual dietary advice regarding healthy eating, weight reduction or diabetes, please speak to your dietitian or ask your doctor to refer to a dietitian.

What is healthy eating?

Healthy eating is often described using 'The Eatwell Guide' shown below. Our diet consists of different types of foods, and a healthy diet is made up of foods from ALL food groups.



Source: Public Health England in association with the Welsh Government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

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Fruit and vegetables

Aim to eat at least five portions of a variety of fruit and veg each day. Choose from fresh, frozen, canned, dried or juiced. A portion is 80g or any of these: 1 apple, banana, pear, orange or other similar sized fruit, 3 heaped tablespoons of vegetables, a dessert bowl of salad, 30g of dried fruit (count as a maximum of one portion a day), or a 150ml glass of fruit juice or smoothie (counts as a maximum of one portion a day).

Bread, rice, potatoes and pasta

Starchy food is a really important part of a healthy diet and should make up just over a third of the food we eat. Choose higher-fibre, wholegrain varieties when you can by purchasing whole-wheat pasta, brown rice or simply leaving the skins on potatoes.

Meat, fish, eggs, beans, pulses and meat alternatives

These foods are high in protein, eat 2 portions from this group each day.

- To reduce fat intake in this group, choose lean cuts of meat or trim excess fat.
- Beans, peas and lentils (which are all types of pulses) are good alternatives to meat because they're naturally low in fat, and high in fibre, protein and vitamins and minerals.
- Aim for at least two portions (2x140g) of fish a week, including oily fish.
- Reduce your intake of fatty processed meat products such as sausages, pies and burgers.

Milk and dairy

Milk and dairy foods provide good sources of calcium but opt for reduced fat varieties such as skimmed or semi-skimmed milk. Most other dairy products have low fat options such as cheese, yoghurts and cream.

Healthy fats

All fats will contribute calories to your diet regardless of whether they are healthy or not, so always use fat sparingly.

Ideally you should reduce saturated fat intake found in the following foods:

- Butter, lard and ghee
- Removing visible fat from meat before cooking
- Choosing low fat dairy items i.e. semi-skimmed milk, low fat/fat free yoghurts and reduced fat cheeses
- Having items such as crisps, chocolates, pastries and biscuits as treats and not regularly in the diet.

Replace saturated fats with healthier polyunsaturated and monounsaturated fats such as olive oil, rapeseed oil, sunflower oil and spreads.

Reduce sugar

Too much sugar in your diet can increase your risk of becoming overweight and having high blood sugars that can lead to diabetes.

Most people eat too much sugar. If you don't consider yourself to have a sweet tooth, you may still be eating more sugar than you think. Many foods that we don't consider to be sweet contain a surprisingly large amount of sugar, for example:

- Breakfast cereals, bread, crackers
- Fruit juices, bottles of flavoured water, fizzy carbonated drinks, sports drinks
- Low-fat foods, for example low-fat yoghurt, custard, milk puddings
- Condiments such as tomato ketchup and salad dressings
- Tinned soups, pasta sauces, ready meals and pizzas
- Cereal bars, cakes, desserts, chocolate and crisps

Limiting sugar applies to all sugars added to food, as well as sugar naturally present in honey, syrup and fruit juices. The sugars that occur naturally in foods such as whole fruit and milk are not included in this and you should continue to eat these as part of a healthy diet. For tips on how to reduce the amount of sugar you eat speak to your dietitian.

Eat less salt

Much of the salt in our diets come from processed foods; so eating less processed foods and more home cooked foods will help you to reduce your salt intake.

A little salt in cooking is OK, but try not to add any to your food at the table.

- AVOID: Salt substitutes e.g. Losalt, Solo, Saxa So-low and supermarket own brands.
- Limit salty food e.g. sausages, ham, ready meals, crisps and salted nuts, smoked and tinned meat and fish
- Try to use alternatives e.g herbs, spices, lemon juice, garlic, vinegar or mustard for flavouring food.

Fluid

It is important to keep your new kidney healthy, the doctors will tell you how much to drink each day.

- Water, tea, coffee and herbal teas without added sugar are the best options.
- Try to limit your intake of sugary drinks.
- If struggling to drink enough try a variety of sparkling waters or sugar free squash and diet fizzy drinks.

Alcohol

No-one can say that drinking alcohol is absolutely safe, but by sticking within these guidelines, you can lower your risk of harming your health:

- Men and women are advised not to regularly drink more than 14 units a week.
- Spread your drinking over three days or more if you drink as much as 14 units a week.
- Have several drink-free days each week.

Alcohol also contains lots of calories, another reason to limit your intake.

What is a unit of alcohol?

The number of units in a drink is based on the size of the drink as well as its alcohol strength. For example, a pint of strong lager contains 3 units of alcohol, whereas the same volume of standard lager has just over 2 units. Fourteen units is equivalent to six pints of average strength beer or 10 small glasses of low strength wine.

You can work out how many units there are in any drink by multiplying the total volume of a drink (in ml) by it's alcohol percentage and dividing the result by 1000.

Percentage (%) x volume (ml) ÷ 1,000 = units

For a quicker method, use Alcohol Concern's unit calculator.

Tips to cope with hunger

- Have regular meals, including breakfast. Try to include foods high in fibre such as vegetables, wholegrain bread, cereals, pasta and flour and potatoes in skins as they are most filling
- Try to avoid eating between meals. If you are hungry, low sugar, low fat drinks can be used to fill you up, such as tea, coffee, reduced sugar squash and cordial, diet fizzy drinks or low calorie soups
- Before you snack between meals, check whether you are really hungry or just eating out of habit or boredom
- Fruit is a useful low calorie snack. Check with your dietitian if you are on a potassium restriction
- Avoid shopping when you are hungry
- Wait at least 5 minutes after you finish eating before you decide whether to have second helpings.



Useful websites

Alcohol

- <http://www.drinkaware.co.uk>
- www.nhs.uk/livewell/alcohol
- <http://www.nhs.uk/Change4Life/Pages/alcohol-lower-risk-guidelines-units.aspx>

Bone health

- <http://www.nhs.uk/Livewell/healthy-bones/Pages/exercises-for-strong-bones.aspx>

Eating out

- Food Standards Agency: Hygiene rating, ratings.food.gov.uk
- www.scoresonthedoor.org.uk

Food Safety

- National Health Service (NHS): www.nhs.uk
- Food Standards Agency: <http://www.food.gov.uk>

General information

- Guys & St Thomas' Hospital, everything you need to know about kidneys and healthcare: www.mykidney.org

Health eating/lipid lowering/lifestyle

- Consensus Action on Salt and Health: www.actiononsalt.org.uk
- Action on Sugar: www.actiononsugar.org
- British Nutrition Foundation: www.nutrition.org.uk
- The Cholesterol charity: www.heartUK.org.uk

- Diabetes UK: www.diabetes.org.uk
- National Health Service (NHS):
<http://www.nhs.uk/livewell/healthy-eating>
- British Heart Foundation:
<http://www.bhf.org.uk/heart-health/preventing-heart-disease/healthy-eating>

Renal transplant support groups

- National Kidney Federation (NKF):
www.kidney.org.uk
- Nationals Kidney Patient Association:
www.kidney.org.uk/kpa
- British Kidney Patient Association:
www.britishkidney-pa.co.uk
- Kidney Research UK: www.kidneyresearchuk.org

Skin Health

- BAD (British Association of Dermatologists)
www.bad.org.uk/shared/getfile.ashx?id=133&itemtype=document

Smoking cessation

- www.smokefree.nhs.uk

Travelling abroad

- National Travel Health Network and Centre (NATHNAC)

Weight loss

- NHS Choices Weight Loss Guide:
<http://www.nhs.uk/livewell/weight-loss-guide/Pages/weight-loss-guide.aspx>
- British Dietetic Association Weight Wise eating plan: <http://bdaweightwise.com/>
- The British Heart Foundation produce a booklet called 'Facts not fads: Your simple guide to healthy weight loss': You can send for it for free from:
<https://www.bhf.org.uk/publications/healthy-eating-and-drinking/facts-not-fads---your-simple-guide-to-healthy-weight-loss>
- Calorie and activity tracker: www.myfitnesspal.com

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This leaflet is also available in large print
and other formats and languages
contact number as above
or contact: Administrator
Tel. 01752 432243

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