

If you would like further dietary advice, please ask a member of ward staff to refer you to the Dietitians.

How can I help reduce healthcare associated infections?

Infection control is important to the well-being of our patients and for that reason we have infection control procedures in place. Keeping your hands clean is an effective way of preventing the spread of infections. We ask that you, and anyone visiting you, use the hand sanitiser available at the entrance to every ward before coming in to or after leaving the ward. In some situations hands may need to be washed at the sink using soap and water rather than using the hand sanitiser. Staff will let you know if this is the case.

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Healthy Eating with Spinal Cord Injury (SCI)

Patient information leaflet

If you require a translation or alternative format of this leaflet please call Patient Advice & Liaison Service on 01296 316042

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Safe & compassionate care,

every time

Introduction to eating well

Eating a balanced diet following spinal cord injury (SCI) is very important.

The dietary recommendations are very similar to that of the general population. However with SCI you are more likely to be at risk of infections, pressure ulcers, bowel changes, becoming overweight and long term diseases such as osteoporosis and cardiovascular disease.

By eating well and aiming for a balanced diet, you can achieve a healthy weight and reduce the risk of nutrition-related complications.

What is a balanced diet?

The diagram opposite shows how a balanced diet is made up. There is no single food that contains all nutrients that the body or skin needs, so eating a variety of foods is important. The diagram, on the next page, shows the ideal proportions of each food group that are needed to ensure all nutrients are provided.

Calcium

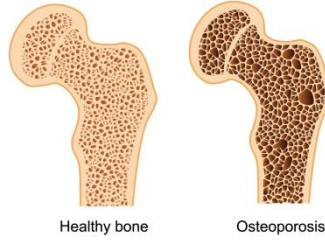
It is recommended that you have 700mg calcium per day, this is provided by 3 portions of dairy products or fortified alternatives. There are also other food sources of calcium (see table below). If you struggle to meet these calcium requirements you should consider taking a calcium supplement.

Calcium content in different foods

Food	Amount	Calcium (mg)
Milk (whole/semi/skimmed and calcium enriched alternatives)	1 glass (200ml)	240
Yogurt	1 pot (120g)	200
Cheese	matchbox size (30g)	220
Rice pudding	1/2 tin (200g)	176
Custard	1 serving (120ml)	120
Sardines (with bones)	1/2 tin (60g)	258
Pilchards (with bones)	1 serving (60g)	150
White bread	2 large slices (100g)	100
Orange	1 medium (120g)	75
Spring greens	1 serving (75g)	56
Broccoli (boiled)	2 spears (85g)	34

Bone health

Following SCI you can have an increased risk of osteoporosis (bone thinning). Nutrition and exercise are important for bone health.



You need calcium for strong bones and you need vitamin D to absorb calcium from your food. Therefore, having adequate amounts of calcium and vitamin D can help prevent osteoporosis. Please see the list of calcium rich foods on the opposite page.

Vitamin D

An increased risk of vitamin D insufficiency has been shown following SCI. One of the reasons for this is thought to be prolonged periods indoors. Most of our vitamin D is made by the action of sunlight on the skin. However you can only make vitamin D from the sunlight in the UK between May and October.

Furthermore sunscreen reduces the production by 95%. The good news is that your body stores vitamin D and exposing your skin on your face, forearms and hands for 15 minutes each day during May to October will produce enough vitamin D for the year. However, it is advisable to avoid too much sun exposure as this is associated with an increased risk of skin cancer.

You can also get vitamin D from food sources such as oily fish, egg yolks, liver and fortified margarine/spreads and breakfast cereals.

If your skin is not exposed to sun or you are >65 years old you should consider taking a vitamin D supplement.

Eatwell Guide

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

Check the label on packaged foods
Each serving (150g) contains

Energy	3.0g	1.3g	0.5g	0.9g
20%cal	LOW	LOW	HIGH	MED
13%	4%	7%	58%	15%
			Salt	

Typical values (as sold) per 100g/100kcal/100kcal of an adult's reference intake

Choose foods lower in fat, salt and sugars

Water, lower fat milk, sugar-free drinks including tea and coffee. Limit fruit juice and/or smoothies to a total of 150ml a day.

6-8 a day

Choose wholegrain or higher fibre versions with less added fat, salt and sugar

Potatoes, bread, rice, pasta and other starchy carbohydrates

Choose lower sugar products

Oil & spreads
Choose unsaturated oils and use in small amounts

Beans, pulses, fish, eggs, meat and other proteins
Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat

Soya drink
Dairy products
Choose lower sugar products

Fruit and vegetables
Eat at least 5 portions of a variety of fruit and vegetables every day

Cruciferous veg, pulses, nuts, seeds, oils, fish, eggs, meat, other proteins, beans, pulses, fish, eggs, meat and other proteins, soyabean products, dairy products, starchy carbohydrates, potatoes, bread, rice, pasta and other starchy carbohydrates, water, lower fat milk, sugar-free drinks including tea and coffee, fruit juice and/or smoothies

Eat less often and in small amounts

The importance of each food group



Fruit and vegetables

- Provide a variety of vitamins, minerals and dietary fibre.
- Opt for a rainbow of colours of fruit and vegetables, as different colours contain different vitamins.
- Aim to eat 5 portions of fruit and vegetables per day (1 portion = size of your fist).

Bread and other cereals and potatoes

- Provide energy, fibre and B vitamins.
- Opt for wholegrain options to help to fill you up and maintain good bowel habits.
- Aim to have a serving of one of these foods with every meal e.g. 2-3 heaped tablespoon of cooked rice/pasta, 2 medium potatoes, 1 slice bread, 40g cereal.

Milk and dairy foods

- Provide calcium which is important for strong bones (see page 10-11).
- Low fat dairy products still have as much calcium as full fat alternatives.
- Aim to have 3 portions a day e.g. match box size of cheese, glass of milk or a pot of yogurt.

Pressure Ulcers

Immobility and prolonged periods of sitting following SCI increases the risk of developing pressure ulcers, as well as being underweight or overweight. To reduce the risk of developing pressure ulcers, it is important to aim for a healthy weight (see BMI chart) and to consume a balanced diet (as described on page 4-5). A balanced diet provides the nutrients needed to maintain good circulation and keep the skin supple.

If you develop a pressure ulcer your protein and energy requirements increase, please refer to our 'The Role of Diet in Healing Pressure Ulcers' diet sheet or request to be referred to a Dietitian.

Bowel management

Dietary fibre

You should try to maintain a balanced diet that is high in fibre, this will help provide good stool consistency and prevent constipation. Fibre is found in fruit, vegetables, beans, lentils, nuts and wholegrain carbohydrates such as wholemeal bread, whole-wheat cereals, whole-wheat pasta and brown rice.

For further advice please refer to our 'Healthy Bowels Following Spinal Cord Injury' healthy eating plan or ask to be referred to a Dietitian.

Do not forget fluid!

Aim for 2-3litres fluid a day (any drinks except alcohol). Fluid is important to help keep the skin elastic and so reduces the risk of developing pressure ulcers. It also helps to prevent hard stools and constipation.

Energy Balance

Overweight/underweight

You need energy to stay alive, grow, keep warm and move around. Energy is provided by food and drink. The amount of energy you need is determined by the amount of energy you use while at complete rest, the energy required to digest and absorb food, and also the energy used in physical activity.

Energy needs are different for everyone and have recently been shown to be reduced for patients with SCI.

You may have found that your weight dropped very quickly immediately after your injury. This is the body's natural response to the injury. In the longer term you may experience weight gain as a result of using less energy.

Being underweight or overweight may result in poor health and increase the risk of medical conditions such as pressure ulcers, infections and osteoporosis. It is important to monitor your weight regularly. There are wheelchair scales available at the outpatient department of the NSIC. You can check your BMI on the BMI chart on page 6-7.

Underweight

If you are only able to eat small amounts, it is important to ensure that the food you do have, is as nourishing as possible. Aim to have high energy foods (high in fat or sugar) and have high protein foods (dairy, meat, eggs, nuts and beans). It may be easier to aim for meals little and often.

Overweight

To aid weight loss, aim to eat 3 meals a day, avoid snacks, have a healthy balanced diet with foods from each food group and reduce intake of energy dense foods (fats/sugars).

If you are underweight or overweight and wish to seek further advice please asked to be referred to a Dietitian.

Meat, fish and alternative protein sources

- Provide essential proteins, minerals and healthy oils.
- Aim to have a portion from this food group at each meal.
- Aim to have 2 portions of oily fish per week, such as mackerel, pilchards or salmon.
- Aim to have meat free meals each week, meals can include eggs, beans, lentils, soya mince, Quorn, tofu or nuts.
- Limit consumption of red meat and processed meats (<70g/day) such as beef, lamb, pork, sausages and pies.

Foods containing fat or sugar

- These foods are high in calories (energy) and can encourage weight gain.
- Choose unsaturated fats, such as olive, rapeseed, vegetable or sunflower oil as these are healthier for the heart.

Salt

- Too much salt can increase blood pressure. You should have no more than 6g/day (1tsp).
- Avoid foods high in salt (especially processed foods)
- Avoid adding salt at the table and in cooking.
- Use herbs and spices instead for flavour.

Alcohol

- Limit alcohol to 14 units per week
- 1unit = 1 spirit shot, ½ pint of beer, ½ glass of wine.
- Have at least 2 alcohol free days per week.
- Alcohol is high in calories (energy)
- Do not save up units for one day

Body Mass Index (BMI) Chart– SCI Specific - weight categories differ from able bodied (general) population

height in m height in ft/inches

1.93 6ft 4"	9	9	10	10	11	11	12	12	13	13	14	15	15	16	16	17	17	18.2	18.7	19	19	20	20	21	22	22	23	23	24	24	25	25	26	26	27	28	29	30	31	32	33	34	34	35	37	37	38	39	40
1.88 6ft 2"	9	10	11	11	11	12	13	13	14	14	15	15	16	16	17	18.1	18.6	19	19	20	20	21	22	22	23	23	24	24	25	26	26	27	27	28	29	30	31	32	33	33	35	36	36	37	39	39	40	41	42
1.82 6ft"	10	11	11	12	12	13	13	14	15	15	16	16	17	18.1	18.7	19	19	20	21	21	22	22	23	24	24	25	25	26	27	27	28	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	42	44	45
1.77 5ft10"	11	11	12	12	13	14	14	15	15	16	17	17	18.5	19	19	20	21	21	22	22	23	24	24	25	26	26	27	28	28	29	30	30	31	31	33	34	35	36	37	38	39	40	41	42	44	44	45	47	47
1.75 5ft9"	11	12	12	13	13	14	15	15	16	16	17	18.2	18.9	19	20	20	21	22	22	23	24	24	25	26	26	27	28	28	29	30	30	31	32	32	33	35	35	37	38	39	40	41	42	43	45	45	46	48	48
1.72 5ft8"	11	12	13	13	14	14	15	16	16	17	18.2	18.9	19	20	20	21	22	22	23	24	25	25	26	27	27	28	29	29	30	31	31	32	33	33	35	36	37	38	39	40	41	43	43	45	46	47	47	50	50
1.7 5ft 7"	12	12	13	13	14	15	15	16	17	17	18.6	19	20	20	21	22	22	23	24	24	25	26	26	27	28	29	29	30	31	31	32	33	33	34	35	37	38	39	40	41	42	44	44	46	47	48	49	51	51
1.67 5ft6"	12	13	13	14	15	15	16	17	17	18.6	19	20	20	21	22	22	23	24	25	25	26	27	27	28	29	30	30	31	32	32	33	34	35	35	37	38	39	40	42	43	44	45	46	48	49	50	50	53	53
1.66 5ft 5.5"	12	13	14	14	15	15	16	17	18.1	18.8	19	20	21	21	22	23	23	24	25	26	26	27	28	29	29	30	31	31	32	33	34	34	35	36	37	39	39	41	42	43	44	46	47	48	50	50	51	53	54
1.65 5ft5"	12	13	14	14	15	16	16	17	18.3	19	19	20	21	22	22	23	24	24	25	26	27	27	28	29	30	30	31	32	33	33	34	35	35	36	38	39	40	41	43	44	45	47	47	49	50	51	52	54	55
1.62 5ft 4"	13	14	14	15	16	16	17	18.2	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	32	32	33	34	35	35	36	37	38	39	41	41	43	44	45	47	48	49	51	52	53	54	56	57
1.6 5ft 3"	13	14	15	15	16	17	17	18.7	19	20	21	21	22	23	24	25	25	26	27	28	28	29	30	31	32	32	33	34	35	35	36	37	38	39	40	42	42	44	46	46	48	50	50	52	53	54	55	57	58
1.57 5ft 2"	14	15	15	16	17	17	18.6	19	20	21	21	22	23	24	25	25	26	27	28	29	30	30	31	32	33	34	34	35	36	37	38	38	39	40	42	43	44	46	47	48	50	51	52	54	55	56	57	60	60
1.52 5ft"	15	16	16	17	18	19	19	20	21	22	23	24	25	25	26	27	28	29	30	31	32	32	33	34	35	36	37	38	38	39	40	41	42	43	45	46	47	49	51	52	53	55	56	57	59	60	61	64	65
1.47 4ft 10"	16	17	18	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	32	33	34	35	39	37	37	38	39	40	41	42	43	44	45	46	48	49	50	52	54	55	57	59	60	62	63	64	65	68	69
1.34 4ft 5"	19	20	21	22	23	24	25	26	27	28	30	31	32	33	34	35	36	37	38	40	41	42	43	44	45	46	47	49	50	51	52	53	54	55	57	60	61	63	65	66	69	71	72	74	76	77	79	82	83
1.21 4ft 2"	23	25	26	27	28	30	31	32	34	35	36	38	39	40	42	43	45	46	47	49	50	51	53	54	56	57	58	60	61	62	64	65	66	68	71	73	75	77	80	81	84	87	88	91	84	95	96	101	102
weight in lbs	77	81	85	88	92	97	101	106	111	115	119	124	128	133	137	141	146	150	155	159	164	168	172	177	181	186	190	194	199	203	208	212	216	221	230	238	243	252	261	265	274	282	286	295	304	308	313	326	330
weight in kg	35	37	39	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	104	108	110	114	118	120	124	128	130	134	138	140	142	148	150

Key

	Underweight <18.5
	Normal 18.5-22
	Overweight 22-25
	Obese >25
	morbid obesity >40