

# Nutrition

## Information and advice & neutropenic diets Fact sheet for Myelodysplastic Syndrome (MDS) Patients

### Nutrition and MDS

Symptoms of MDS and your MDS treatments may place extra physical and mental demands on you. It is important that the food you eat provides you with the energy and nutrients necessary to help meet these demands. Proper nutrition also helps the body to produce blood cells. There are many benefits to a balanced, healthy diet, including helping to prevent future illnesses. Eating and drinking well may help you to:

- Cope better with side effects (such as fatigue) and treatment
- Recover more quickly following treatment
- Have more energy and feel less tired
- Maintain your body weight
- Fight infection by boosting your immune system
- Repair damaged tissues, affected by treatment
- Improve your sense of wellbeing and your quality of life

Following healthy eating guidelines is important. This includes:

- **Alcohol** MDS patients should consider limited alcohol intake. In bone marrow failure conditions, alcohol intake does suppress blood cell production causing a reduced number of stem cells and cell abnormalities. The result is a reduced number of normally functioning cells, especially platelets. MDS patients should consider drinking less than the standard government alcohol guidelines.
- **Plenty of fruit and vegetables** A vital source of vitamins and minerals used for the body's growth and maintenance, government guidelines recommend we eat 5 portions of fruit and vegetables a day.
- **Drink plenty of water** Water is essential for the body's growth and maintenance. Guidelines recommend between 1.5 – 3 litres of water a day (6-8 medium glasses of fluid). Fluid from tea, coffee or squash also count towards the fluids the body needs each day.
- **Low saturated fat, sugar and salt and maintain a healthy weight**

**Always check with your doctor or nurse if you are unsure about your nutritional needs.**

### Appetite

You may experience appetite loss due to symptoms, treatments, co-existing conditions or feelings of anxiety, stress or depression which can be associated with your MDS.

The thought of cooking or eating alone may be off putting and can lead to some people skipping meals. If you are finding it hard to be motivated to cook and eat meals, try new recipes that interest you or recipes which don't require much preparation, such as using frozen foods. Eating out every so often can help you to become more interested in food and can provide company. Consider a meal service so that you do not have to prepare food but still get nutritious meals. Make mealtime pleasant by setting the table and try switching on the television or listening to the radio while you eat.

If you are struggling to eat, it is important to always try and stay hydrated by drinking plenty of fluids. Try eating smaller portions of fluid meals and eating whenever you get hungry, as opposed to at set meal times. If you are finding it hard to find motivation to prepare meals, try having easy to prepare and nutritious snacks. Having certain snacks can help those with a poor diet get the nutrition and energy they need:

- **Savoury snacks** Soups, cheese and crackers, baked beans on toast, jacket potato, tinned spaghetti, rice or rice porridge with cooked meat, sandwiches, breakfast cereals (eaten at any time), toasted muffins, meat dumplings, processed cheese such as cheese triangles or slices, roasted nuts, crisps and dips.
- **Sweet snacks** Chocolate or plain sweet biscuits, individual bars of chocolate/ sweets, thick and creamy yoghurts/ fromage frais, individual cold desserts/ tinned puddings, hot cross buns or sweet waffles.

## Neutropenia

Neutrophils are white cells circulating in the blood and are needed for defence against bacterial infections. Neutropenia is when the number of neutrophils in the blood is too low. Patients with neutropenia are more susceptible to bacterial infections.

**Not all MDS patients will have neutropenia. Only patients whose neutrophil counts are below certain levels are neutropenic. Ask your doctor or nurse if you are unsure about your neutrophil count.**

There are two categories of severity in neutropenia:

**Grade 1 Neutropenia** Grade 1 neutropenia is diagnosed when the neutrophil count is **below  $1.5 \times 10^9$ /litre**. If your doctor uses different levels, patients should be guided by these.

**Profound Neutropenia** Neutrophil counts below **less than  $0.5 \times 10^9$ /litre** are categorised as profound neutropenia. At these levels, the risk of developing an infection greatly increases.

## Food safety and dietary advice: Grade 1 and Profound Neutropenia

All patients who are neutropenic should follow general food safety guidelines to help reduce risk of infection.

- When shopping for food avoid damaged or broken packaging, food from over packed fridges or freezers (as the food might not be cold enough) and always check best before dates
- Be careful when storing food by checking fridge temperatures and freezer temperatures. Refrigerators should be kept between 0°C and 5°C and freezer temperatures should be below -18°C. Thaw frozen meat and poultry in the fridge and not at room temperature to prevent bacteria growth. Make sure defrosting meats are stored on the bottom shelves in the refrigerator and cooked foods are on the top shelves.
- Take care to wash your hands thoroughly before and after preparing food.
- Make sure all foods are cooked all the way through and are piping hot. Do not reheat cooked food.
- When eating out, choose freshly prepared foods and ensure food is cooked all the way through.

Patients with neutropenia should follow guidelines for foods to avoid to help prevent infection.

Patients with profound neutropenia should follow extra guidelines for further precaution.

Applies to...	Foods to avoid	Alternative Foods
Grade 1 Neutropenia AND Profound Neutropenia	Soft ripened cheese (e.g. Brie, Camembert, goats cheese) and blue veined cheese (e.g. Stilton)	Processed cheese (e.g. Philadelphia, DairyLea), vacuum packed pasteurised and hard cheese (e.g. Cheddar or edam)
	Raw or lightly cooked shellfish	Well cooked, tinned or vacuum packed meats and fish (such as packed ham or turkey or tinned tuna)
	Smoked/raw/undercooked meat or sushi	
	Cold, loose meats from a deli or counter	
	Raw eggs or undercooked egg	Hard boiled eggs
	Pro-biotic, live or bio products	Pasteurised plain or fruit yoghurts
	Paté	Pasteurised paté and pastes in jars or tins
Profound Neutropenia	All unpasteurised dairy products	Any pasteurised milk or cheese
	Raw unpeeled fruit or vegetables including salad and daw dried fruit and uncooked nuts (e.g. muesli, unpasteurised fruit juice)	Good quality fruit and vegetables cooked and peeled, long-life fruit juices, cooked dried fruit (e.g. Cereal bars), cooked nuts.
	Uncooked herbs, spices and black pepper	Cooked herbs, spices and black pepper
	Unpasteurised honey and honeycomb	Pasteurised honey
	Non-drinking water, bottled mineral or spring water	Freshly run tap, filtered, sterilised, carbonated water

## References and further reading

Leukaemia Research (2009) *Dietary advice for patients with neutropenia* ● Natasha Jones, Specialist Dietitian – Haematology & Palliative Care  
Healthy Eating & Neutropenic Diet, (2011) *Healthy Eating & Neutropenic Diet (presentation prepared for MDS UK)* ● NHS (2008) *Clinical Guideline for Dietary Management Of Neutropenic Patients* ● Alcohol Health & Research World

Please note this fact sheet is a guide and should not replace the advice of your clinical team. Date Published April 2016v2