



# Diet, nutrition and Pelvic Radiation Disease

A guide to general information on managing late effects  
of pelvic radiotherapy with adjustments to diet

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## About this guide

Radiotherapy to treat cancer can cause side effects both during and (sometimes years) after treatment, and it's important to discuss these with the team looking after your care. It may be necessary to review your medication, and to refer you to a registered, suitably experienced dietitian for advice. This guide presents some general information on managing late effects of pelvic radiotherapy with adjustments to diet.



## When to seek extra help

If you have experienced a change in your bowel habits there are some circumstances, where you **must** seek specialist advice from a gastroenterologist. These include if you:

- new rectal bleeding (or a change to existing rectal bleeding)
- have pale or greasy looking stools
- have to get up in the night to open your bowels
- have tried to make dietary changes but these have made no difference to your bowel habits
- lose weight unintentionally

Ask your GP or oncologist to refer you to a gastroenterologist with an interest in Pelvic Radiation Disease or a late effects clinic (where available). The PRDA can assist you/your GP with this.

## Pelvic Radiation Disease and diet

When we think about diet and Pelvic Radiation Disease, we are almost always talking about problems with the gut and bowels. This guide also covers general advice about Radiation Cystitis and diet (see page 15). Pelvic radiotherapy can cause damage to the gut which affects its normal function. This might mean difficulty digesting and absorbing some foods or becoming more sensitive to some foods.



If you're still experiencing bowel and bladder symptoms after your cancer treatment you may have thought about, or have already tried, changing your diet. Research shows that many people in this situation try to improve their symptoms this way, often cutting out certain foods, making changes to their meal pattern, or eating smaller meals.



These changes can be helpful, but also often lead to an unbalanced diet, resulting in a lack of important nutrients. Sometimes, the symptoms they mean to solve don't improve or even get worse.

The dietary changes discussed in this guide can be helpful for some people. If you find that adaptations to your diet help improve symptoms, it may be necessary to make these changes long-term. If you're concerned dietary restrictions are causing you to lack important nutrients, you may wish to ask for a referral to a dietitian.

## Cancer and 'Healthy Eating'

Being diagnosed with cancer frequently triggers a reflection on diet and other lifestyle choices. For example, many patients decide to increase their fruit and vegetable intake to achieve the "5-a-day" recommended for general healthy eating. If you are experiencing bowel symptoms in connection with cancer treatment, this approach may not be appropriate, and in fact could well make your symptoms worse.

If you do find that your bowel symptoms limit how much fruit and veg you can tolerate, don't be too concerned. Under those circumstances, improving your symptoms takes priority.



## Can I heal my gut with my diet?

If your radiotherapy damage is severe, diet is unable to repair this. You will need to work with your symptoms and tolerated food and drinks to reach the best diet for you.



## Do I have a leaky gut and can diet help?

The term "leaky gut" is not widely accepted in the scientific literature. It is sometimes used to refer to a theory that inflammation causes "gaps" in the bowel wall and "leakage" of toxins, which then cause inflammation in other parts of the body through activation of the immune system. It is currently subject to debate and scientific investigation.

According to this theory, this mechanism could be the reason why some people report an increase in food intolerances.

Whether or not the 'leaky gut' theory will be accepted as correct, the dietary treatment approach is, in any case, the same as for general gut health.

Unfortunately, there are no quick or specific tests for food intolerances, and the only way to really find out is by using a systematic approach of food exclusion tests. You will need help from a Dietitian or Doctor if you think you have developed food intolerances that need investigating.

## Will changing my diet help my symptoms?

### Common symptoms experienced by people with PRD

- Bloating
- Wind
- Diarrhoea
- Gurgling
- Constipation
- Needing to poo more often
- Rushing to the toilet to poo or having accidents
- Unintentional weight changes

These can be caused by damage to the usual gut functions and can be affected by different components of the diet including:

- Certain **carbohydrates** within foods for example lactose or fructose
- **Fat** – this includes both saturated and unsaturated fat.
- **Fibre** from wholegrain cereals, vegetables and fruit

Or by disturbed body functions such as:

- Difficulty digesting your foods (pancreatic enzyme or small bowel bacteria problems)
- Issues with reabsorbing bile

It is difficult to make generalisations about the best diet to follow to manage these types of bladder and bowel symptoms, because there is little scientific evidence.

If you are referred to a specialist gastroenterologist or late effects clinic you may undergo some tests to determine the underlying cause of your symptoms.

It is important that any changes to your diet are based on the results of the various tests carried out. Depending on those results, your doctor may refer you to a dietitian.

Much will depend on your individual circumstances and test results. Your doctor, radiographer or dietitian may suggest a trial of a specific diet to see if these changes are beneficial for your symptoms.

Other cancer treatments such as systemic anti-cancer treatments and surgery will also impact your symptoms and a full treatment history should be taken into account when looking into which test may be completed.

The dietitian will assess your diet and work with you on any necessary changes, based on the results of your tests, as well as your individual needs and food preferences.



It can be useful to keep a food and symptom diary for analysis by your doctor, dietitian, radiographer or nurse. Use our symptom diary and bring it with you when you attend clinic.

## Symptom diary

### **Tips for completing your symptom diary**

- Record each time you experience any symptoms
- Write down everything you eat, including snacks, drinks and any medications but also make a note of any skipped meals
- Keep your symptom diary for at least 2 weeks
- Incorporate into your daily life as this will help when trying new foods

Not all healthcare professionals specialise in managing the late effects of radiotherapy. If you are concerned that your doctor may be unaware of your condition, the PRDA can offer support:

## PRDA - how we can help

## **Diet Restrictions**

You may have been asked to follow a specific diet on a temporary basis, for example to reduce your fibre intake. For most people, such restrictions are only meant to be short term measures, and normal food reintroduction should be attempted. Only if the reintroduction of a normal diet causes renewed symptoms should the restriction be re-instated. It is best to get specialist advice and support with this if at all possible. You could keep a diary to note down any symptoms you have with the foods and drink you consume.

## **Bile acid diarrhoea/malabsorption**

While waiting for a detailed assessment you should follow a general healthy diet with reduced fat, but do not overly restrict your intake until you have been seen by a dietitian. With the right medication you may not need to be as restrictive with fat



Being overly restrictive can cause malnutrition and other complications in the longer term. If you are restricting fats it is important to reduce all fats, including the healthier unsaturated fats as well as reducing saturated fats (fats from animal and plant sources).



You may wish to discuss with the dietitian things like:

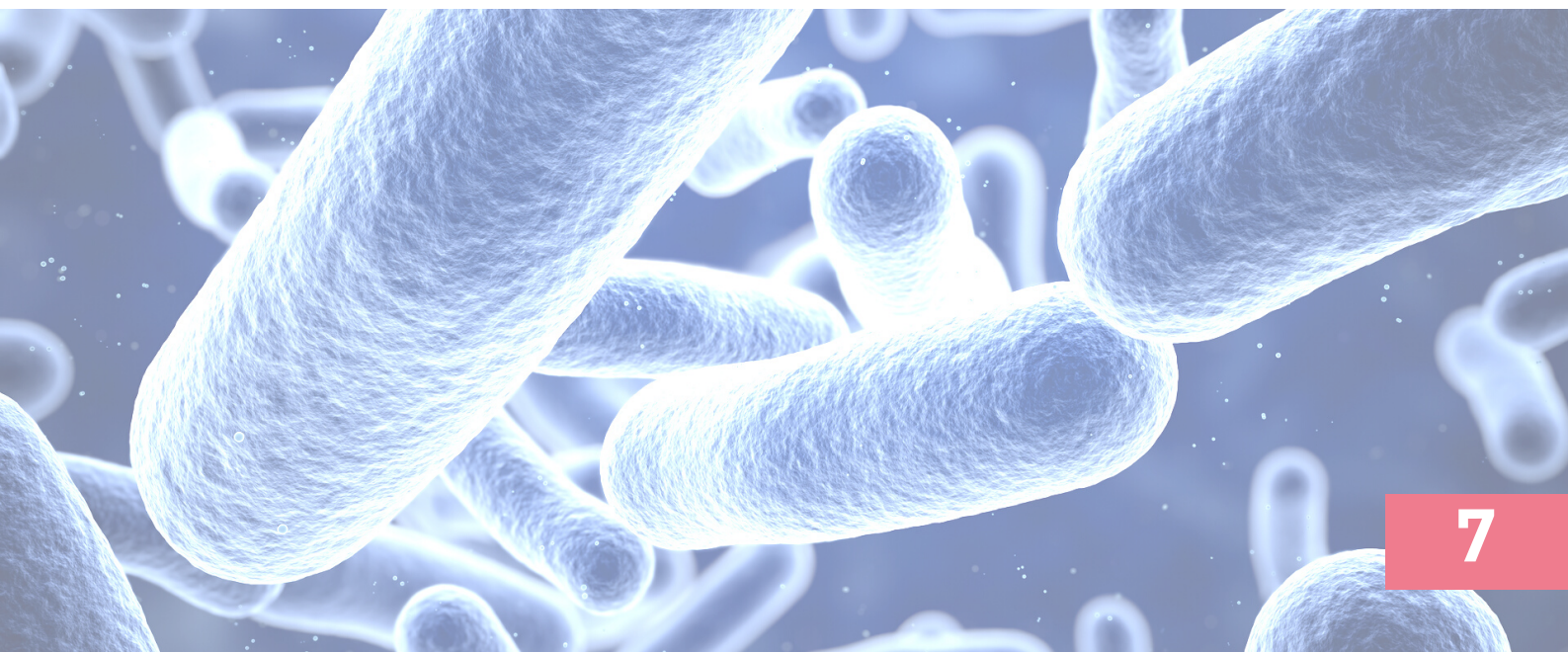
- how much you need to reduce your fat intake
- how this may impact on cooking and eating out
- getting ideas and examples of suitable recipes

You can find practical advice on reducing fat with the BDA Healthy Eating food fact sheet.

[!\[\]\(d66ff64371a51729ac8c1cdaa685ba6f\_img.jpg\) BDA Healthy Eating food fact sheet](#)

## **Digestive (pancreatic) enzyme deficiency**

You do not need to alter your diet when taking digestive enzymes. It is better to adjust the amount/dose of enzymes depending on what you are eating rather than restrict your diet intake. It may take time for you to know the best dose for each meal, snack and nourishing drink but keep a record and this can help with new meal choices.



For some, having different dose enzymes or trying different brands can help if they don't appear to be working as well as they should. Ask your doctor or dietitian for advice on how best to take these capsules.

## Bacterial overgrowth

The treatment for this condition requires antibiotics.

Scientific evidence has not found any dietary changes that can be proven to help with this condition. However, some people find that, in addition to medical treatment, complementary approaches such as probiotics, and following some exclusion and reintroduction diets can help. There is limited evidence for this and generally eating a healthy diet with good hydration is the best approach unless your health care team have recommended otherwise.

## Lactose

Lactose is a type of sugar found in milk and milk products. For it to be absorbed in the intestine, the body first has to break it down into its components. If this process doesn't happen properly, the lactose cannot be absorbed and instead may cause water to be pulled into the intestine. This can cause discomfort and watery diarrhoea.



It is not clear how often radiotherapy causes this problem, but it is thought to affect a small number of people.

There is no scientific basis to recommend people with radiotherapy late effects of the bowel should routinely avoid lactose. Dairy foods are a main source of calcium, and if you choose to avoid some milk products you should make sure you get sufficient calcium from other sources. Your dietitian can help with this.



## Low FODMAP diet

FODMAP stands for Fermentable, Oligo-saccharides, Di-saccharides, Mono-saccharides and Polyols (all types of carbohydrate).

For some people, adopting a low FODMAP diet can bring improvement to symptoms.



The low FODMAP diet should only be attempted under the supervision of a dietitian trained in this method, because there is a risk of inadequate nutrition and long-term problems with bowel bacteria if done incorrectly. Followed under supervision, a temporary low FODMAP followed by gradual reintroduction of excluded foods can be helpful.

## Dietary supplements

### Probiotics

There is a lot of interest in the balance of gut flora or bacteria, but we do not know enough at present to be able to recommend pre or probiotics in Pelvic Radiation Disease.

Probiotics contain live bacteria which may be beneficial to the health of the gastrointestinal tract. They are sold as yoghurts, drinks, powders or capsules.

Some studies have examined probiotic use during radiotherapy, with encouraging results. However, the probiotics used were generally mixtures of different types of probiotics and contained higher doses than most products available in supermarkets.



In addition, there is not yet enough data to say for certain if probiotics are helpful after radiotherapy. If you choose to try a probiotic product, select a reputable brand and take it for no longer than a month.



It is common to feel a little more discomfort in the first few days of starting probiotics, but this should settle quickly - if it continues after a week, stop taking it. You should also stop the probiotic if you don't see a clear improvement in your symptoms.

### Examples of Probiotics

- Kefir (made from fermented milk)
- Kimchi
- Supplements
- Live yoghurts
- Fermented products (live)



Although they can be helpful, for some people certain probiotic products can make their symptoms worse. There are many different strains and strengths available, and you may wish to get professional advice to determine which are best for you. **People with a compromised immune system may be at risk and should seek advice before taking prebiotics or probiotics.**

Here is a fact sheet from the British Dietetic Association (BDA) with more information:

 [BDA probiotics food fact sheet](#)

## Prebiotics

Prebiotics are foods or substances that help promote growth of beneficial bowel bacteria (as opposed to probiotics, which contain the bacteria themselves). Some prebiotic foods and drinks can upset people with certain bowel conditions, however if you can tolerate them, they are good to include as part of a healthy diet.

A Mediterranean or a plant-based diet rich in nuts, seeds, and a variety of fruits and vegetables is considered the optimal diet for health and reducing inflammation including oily fish (or seed alternatives if you cannot eat fish). Variety is key to ensure all essential micronutrients and fatty acids are included.

### Examples of Prebiotics

- Leeks
- Garlic
- Onions
- Jerusalem artichokes
- Asparagus
- Banana
- Chicory root
- Flaxseed/linseeds
- Legumes (beans and lentils)
- Seaweed
- Cabbage



For more information on a vegetarian diet see the BDA food fact sheet:

[!\[\]\(de95854c7ee024cfadc48187bbb781b2\_img.jpg\) BDA Plant based diet food fact sheet](#)

## Vitamin and mineral supplements

If you are managing to eat a healthy, balanced diet, then generally you do not need to take any extra supplements, but there are some exceptions.

If your bowel symptoms limit how much fruit and veg you can eat, taking a one-a-day multivitamin supplement in this situation can help compensate for the reduced intake of vitamins and minerals.

A suitable supplement would be one which meets your daily requirements for most vitamins and minerals, but does not provide unnecessarily high doses of any individual vitamin.



The following brands are examples of suitable supplements, and can be purchased over the counter:

- Boots® General Health A-Z
- Centrum® Advance Complete A to Zinc
- Sanatogen® A – Z Complete
- Superdrug® A – Z multivitamins and minerals



If you are unsure, please ask your pharmacist or a registered dietitian for guidance.

Speaking to a specialist dietitian can also greatly help you to increase variety and nutrient content of your diet, as well as prevent and manage symptoms.



## Vitamin D

Most people in the UK need additional vitamin D due to limited sunshine exposure and safety concerns about skin cancer.



10-25µg (400-800IU) per day is probably beneficial, especially during winter months, unless you have been advised otherwise. 10µg is the best dose to take. Some people need more than this so speak to your health care professionals to check.

## Calcium

Some people need extra calcium alongside vitamin D, but it is best to get this from your diet.

We need 700-1500mg of calcium per day depending on your condition. Take a look at the BDA food fact sheet:

[!\[\]\(003082e50e3009141f59bd5df831749f\_img.jpg\) BDA food fact sheet - Calcium](#)



If you have problems with **diarrhoea**, or need **pancreatic enzymes** or **bile binders**, you are at higher risk of not digesting all your vitamins and minerals.

Your doctor/pharmacist/dietitian should be able to support you with more specific advice on any supplements or blood tests that may be required.

## Radiation cystitis and diet

Although there is no published evidence for diet and radiation cystitis, some general advice would include:



Try to drink

- water
- diluted fruit juice
- herbal/fruit teas.



Try to avoid

- alcohol (especially spirits)
- fizzy drinks
- caffeine (tea, coffee, cola and cocoa)
- artificial sweeteners ('diet' or 'light' drinks)

Some people try diets which exclude certain foods to see if this helps. There is currently limited evidence to say any of these work. Some exclusions commonly tried include:

- Lower sugar diets
- Low yeast diets
- Low vaso-active amines diets
- Avoiding drinks thought to cause acidity



The best way to figure out if any foods trigger your cystitis is via a structured food exclusion, ideally with the support of a dietitian. For more information on this see the BDA fact sheet:

[!\[\]\(9c2e8d1b5bd77cb5c9f83b7a9cff79fd\_img.jpg\) BDA food fact sheet Food allergy and intolerance](#)

Information specifically for Prostatitis (inflammation of the prostate gland)

[!\[\]\(f60b7a900783ac3fd531bfd9c111be6d\_img.jpg\) Prostate Cancer UK - Prostatitis information leaflet](#)

## Points to remember

- When making any dietary changes it is important that these are for a limited period of time and discontinued if they do not seem to be helpful.
- If you make any changes to your diet, it is best to keep a diary to see if they are helpful. Do not continue with dietary changes that are not helpful.
- If your doctor has suggested any dietary changes, you should let them know whether they are working or not.
- If you have lost weight or feel that you do not know what to eat then ask for a referral to a dietitian.

The process of finding the best diet for your symptoms and longer-term health can take time and requires a systematic approach. Random food exclusions often lead to an unnecessarily restrictive diet, and can trigger unhelpful anxiety over the foods we eat. That is why dietitians use a step-by-step process to make sure reintroductions are made in the right order, which reduces confusion over what foods may be causing problems.



## How to find a registered dietitian

PRDA have a list of specialist dietitians working with expertise in PRD, both privately and within the NHS, if you would like help finding one please [get in touch](#)

You can ask your healthcare team to refer you to an NHS dietitian making sure they have experience in PRD.

Alternatively you can find a private/freelance dietitian via the BDA website freelance group ensuring they have experience in PRD.


[BDA Freelance Dietitian Directory](#)

Always ensure your dietitian is HCPC registered. You can check on the UK register:

[HCPC - Health and care professionals register](#)







This guide has been adapted from the original version by Dr Clare Shaw, Consultant Dietitian and Olivia Smith, RD, The Royal Marsden NHS Foundation Trust, 2018

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