Treatment to control myeloma

Your doctors will carefully plan your treatment options to help control your myeloma. You may be offered one or more of the treatments on this page. Usually a combination of these treatments will be given.

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Chemotherapy

Chemotherapy is the use of anti-cancer (cytotoxic) drugs and is one of the main treatments used to control myeloma. Chemotherapy drugs stop cancer cells dividing and reproducing themselves. They circulate in the blood and can reach myeloma cells all over the body.

Treatment often involves a combination of two or more chemotherapy drugs. These may be given with other drugs such as steroids and targeted therapies. The treatment is given for a few days, followed by a rest period of a few weeks.

The treatment and the rest period make up a cycle of treatment. Between four and six cycles will make up a complete course of treatment, which can take 4-6 months.

During the course of treatment, you'll have regular blood tests to check the effect of the drugs. The dose of the drugs may be altered according to the results of your blood tests.

Chemotherapy may be given to you as an outpatient, but you may sometimes need to spend a few days in hospital.

Chemotherapy drugs used to treat myeloma include:

- melphalan (Alkeran®)
- cyclophosphamide
- doxorubicin
- idarubicin (Zavedos®)
- bendamustine (Levact®).

Some chemotherapy drugs for myeloma are given as tablets or capsules (orally). Others are given by injection into a vein (intravenously).

The drugs melphalan and cyclophosphamide are commonly used to treat myeloma and are usually given as tablets or capsules, but can also be given into a vein. They are most often given with steroid tablets. When given as tablets, these drugs can have fewer side effects. This makes them more suitable for people who aren’t able to have stronger treatments.

Side effects of chemotherapy

Everyone reacts to chemotherapy in different ways. Not all drugs cause the same side effects and some people may have very few side effects. Your doctor will tell you about any problems your treatment may cause.

Risk of infection
While the chemotherapy drugs are acting on the myeloma cells in your body, they also reduce the number of normal cells in your blood for a while. When the number of white blood cells is low (known as neutropenia), you’re more likely to get an infection.

Your resistance to infection is usually at its lowest 7-14 days after chemotherapy. The number of your white blood cells will then increase steadily and usually return to normal before your next cycle of chemotherapy is due.

If your temperature goes above 38˚C (100.4˚F), or if you suddenly feel ill, even with a normal temperature, contact your doctor at the hospital straight away.

You’ll have a blood test before having more chemotherapy, to make sure your cells have recovered. Occasionally, your treatment may need to be delayed if your blood count is still low.

**Bruising and bleeding**

Chemotherapy can reduce the number of platelets in your blood. Platelets are cells that help the blood to clot. If you develop any unexplained bruising or bleeding, such as nosebleeds, bleeding gums, blood spots or rashes on the skin, contact your doctor or the hospital straight away.

**Feeling sick**

Chemotherapy tablets usually cause very mild feelings of sickness (nausea). With some of the injected drugs, this may be worse, and they may even cause vomiting.

Your cancer specialist will prescribe anti-sickness (anti-emetic) drugs to prevent this. Let your doctor or nurse know if your anti-sickness drugs aren’t helping, as there are several different types you can try.

**Sore mouth**

Some chemotherapy drugs can make your mouth sore and may cause ulcers. Keeping your mouth and teeth clean and using mouthwashes regularly is important. Your nurse will show you how to use these properly.

You can watch a video about mouth care during chemotherapy [here](#).

**Anaemia (low level of red blood cells)**

If the level of red blood cells in your blood is low, you may become anaemic. This can make you feel very tired and you may also become breathless.

**Losing your hair**

Hair loss is more common with chemotherapy given into a vein than with chemotherapy tablets. If your hair falls out, it usually grows back within three months after treatment.

**Tiredness (fatigue)**

You’re likely to become tired and have to take things slowly. Try to pace yourself and save your energy for things that you want to do or that need doing.

Balance rest with some physical activity - even going for short walks will help increase your energy levels.

You may like to watch our video on how to cope with fatigue.

**Risk of blood clots**

Cancer can increase your risk of developing a blood clot (thrombosis) and having thalidomide and chemotherapy may increase this risk further. A blood clot may cause symptoms such as pain, redness and swelling in a leg, or breathlessness and chest pain. Blood clots can be very serious so it’s important to tell your doctor straight away if you have any of these symptoms.

Most clots can be successfully treated with drugs that thin the blood. Your doctor or nurse can give you more information.
Although side effects can be hard to deal with, they usually disappear gradually when your treatment finishes.

**Targeted therapies**

Targeted (or biological) therapies are treatments that work by targeting specific proteins that are found either on the surface of cancer cells or within the cell itself.

Targeted therapies that are used as part of initial treatment for myeloma are thalidomide and bortezomib, which are discussed next.

**Thalidomide**

The drug **thalidomide** has been shown to be effective in treating myeloma. It’s thought that it stops cancer cells from developing new blood vessels. This reduces the cancer’s supply of oxygen and nutrients, and can stop the cancer growing or make it shrink.

Thalidomide is given to treat newly diagnosed myeloma in people who can’t have high-dose treatment. It’s given in combination with the chemotherapy drug melphalan and the steroid prednisolone, or with cyclophosphamide chemotherapy and the steroid dexamethasone.

**Side effects of thalidomide**

Thalidomide is taken daily, usually in the evening, as a tablet. Side effects can include:

- constipation
- drowsiness
- an increased risk of developing blood clots in the veins in the legs, known as deep vein thrombosis (DVT).

Sometimes, thalidomide can damage nerves, which can cause tingling in your hands and feet, known as peripheral neuropathy.

You may notice that you have difficulty fastening buttons or doing similar fiddly tasks. Your hands and feet may also become more sensitive to the cold. Tell your doctor if you notice any of these symptoms. They usually disappear slowly after treatment ends, although it can sometimes take months.

We have more information about [peripheral neuropathy](#).

Thalidomide can cause birth defects, so it should not be given to pregnant women. People taking thalidomide who are sexually active must use a highly effective form of contraception.

You will be given further advice about this by your doctor.

Your doctor and nurse will help you manage any side effects of thalidomide. Sometimes, the side effects outweigh any benefits, and the dose of thalidomide will be reduced and may occasionally need to be stopped.

**Bortezomib (Velcade®)**

**Bortezomib** is a type of treatment called a proteasome inhibitor. Proteasomes are a group of enzymes found in all cells in the body. They have an important role in controlling cell function and growth. By interfering with the function of proteasomes, bortezomib may cause cancer cells to die and may stop the cancer from growing.

Bortezomib is mainly given to people who have already had chemotherapy treatment, but whose myeloma has come back or continued to develop. They may also have already had, or be unsuitable for, high-dose treatment with stem cell support.

Some people may have bortezomib as a first treatment for myeloma when thalidomide or a bone marrow transplant isn’t suitable.

Bortezomib is given as an injection into a vein (intravenous) or under the skin (subcutaneous). It’s usually given twice a week over two weeks followed by a 10-day rest period. This makes up a cycle of treatment. You may also be given steroids.
Side effects of bortezomib include tiredness, nausea, diarrhoea, numbness or tingling in the hands and feet (peripheral neuropathy) and a tendency to bruise or bleed more easily, which is caused by a low platelet count.

**Steroids**

**Steroids** are drugs that can be used as part of your treatment to help destroy myeloma cells and make chemotherapy more effective. The two most commonly used steroids to treat myeloma are prednisolone and dexamethasone. They may be used on their own or in combination with other drugs. Steroids are usually taken as tablets, but liquid preparations or dissolving tablets can be given if you have difficulty swallowing.

Taking small doses of a steroid usually has few side effects.

If you need larger doses for a longer period of time, some side effects may occur. Steroids can irritate the lining of the stomach and cause indigestion or heartburn. Taking your tablets with food or milk can help prevent this.

If you get any stomach pains after taking steroids, it’s important to let your doctor or nurse know, as they can give you medicine to help with this.

Other side effects can include feeling irritable, an increased appetite, feeling more energetic and difficulty sleeping. If you’re taking steroids for some time, you may have other temporary side effects including water retention, high blood pressure and a slightly greater risk of getting infections. You may also develop an increased level of sugar in the blood. If this happens, your doctor will prescribe daily tablets or injections of insulin to bring your blood sugar level back to normal. You may need to do a simple daily test to check for sugar in your urine.

Your nurses will show you how to do this.

It’s unusual for people with myeloma to have to take steroids for a long time but, if you do, you may notice that you put on weight, especially on your face, waist and shoulders. The side effects of steroids are temporary and will disappear as the dose is reduced.

**Having treatment**

Chemotherapy is often combined with targeted therapy and steroids. Drug combinations that are used include:

- cyclophosphamide, thalidomide and dexamethasone (CTD)
- melphalan, prednisolone and thalidomide (MPT)
- cyclophosphamide, bortezomib (Velcade®) and dexamethasone (CVD)
- melphalan, bortezomib and prednisolone (MPV).

If you’re having your treatment by drip (infusion), your doctor may suggest you have a plastic tube inserted into a vein in your chest (central line) or the crook of your arm (PICC line).

This can stay in place throughout the course of your treatment, and used for each treatment session. The tube is threaded along the vein until the end of it sits just above your heart.

It means you won’t have to have injections every time you have treatment.

Your nurses will show you how to care for the line when you’re at home.

Sometimes, an implantable port is used. This is a thin, soft plastic tube that’s put into a vein in the chest and has an opening (port) just under the skin of the chest or arm.

The length of treatment will depend on the stage of your myeloma and how well it responds to the drugs, but a course of treatment usually takes 6-9 months to complete.

**High-dose treatment with stem cell support (transplant)**

High-dose treatment with a stem cell transplant may benefit some people with myeloma. If your doctor thinks that this treatment is suitable for you, they’ll discuss it with you in more detail. Stem cell transplants are generally only carried out in specialist cancer treatment centres.

A stem cell transplant allows you to have much higher doses of chemotherapy than usual. Some people are
also given radiotherapy. This can help to improve the chances of controlling your myeloma in the long term.

As well as destroying any myeloma cells, the high-dose treatment also destroys the healthy stem cells in
the bone marrow, which develop into blood cells. To help you recover from the high-dose treatment, you’ll be
given a drip (infusion) of stem cells afterwards. The stem cells find their way to the bone marrow where they
start producing new blood cells.

The stem cells are mainly collected (harvested) from the blood, but can also be collected from the bone
marrow. In myeloma, it’s more common to use your own stem cells (autologous transplant) than stem cells
from a donor (allogeneic transplant).

The first stage of the treatment is called induction chemotherapy, which puts the myeloma into remission
(where there are no signs of the cancer). Once it’s in remission, your stem cells will be collected and stored
until they’re given back to you after treatment.

Other treatments involving the use of stem cells are being researched in some hospitals. These include:
allogeneic transplants from a donor; having a second transplant if myeloma recurs; mini-transplants, which
involve less intense chemotherapy; and tandem transplants, where a second transplant is given straight after
the first.

Maintenance treatment

Maintenance treatment may be used to try to keep the myeloma in remission for as long as possible. Your
doctor will discuss with you the best options for yourself. One of the factors to consider will be the treatment
you’ve already had. Doctors are looking into whether thalidomide, bortezomib and lenalidomide help keep
myeloma in remission.

You may find our online community helpful while you’re having treatment for myeloma. Visit our online
community to chat to people any time who know what you’re going through. You can also give support to
others.

Watch videos about the information in this section

- Slideshow about avoiding infection
- Bengu’s story of hair loss
- Denton’s story of coping with fatigue
- David’s story of high dose treatment with stem cell support.

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