The ROYAL MARSDEN
NHS Foundation Trust

DT-PACE chemotherapy for myeloma

Myeloma Unit

Patient Information

NHS

Introduction

Your doctors have suggested that you are likely to benefit from chemotherapy treatment. They are recommending a standard form of treatment called DT-PACE chemotherapy. They have weighed the expected benefits, in terms of bringing your myeloma under control, against the possibility of side effects. Your doctor will have discussed these with you. If you are still unsure about the benefits, then please ask. This booklet explains what you can expect from the chemotherapy you will receive.

Treatment plan

DT-PACE is a combination of six drugs. They are as follows:

Dexamethasone: a steroid tablet which can kill myeloma cells

Thalidomide: a tablet which has also been shown to kill myeloma cells

We will give you further information about thalidomide as there are special guidelines which you will need to follow.

Cisplatin: a type of **P**latinum based chemotherapy

Doxorubicin (also known as **A**driamycin): a type of chemotherapy

Cyclophosphamide: a type of chemotherapy

Etoposide: a type of chemotherapy

You will be admitted to one of the haematology wards to start your treatment. You will need to have a skin tunnelled catheter (sometimes called a Hickman line or a central venous catheter) so that we can give you your drug treatment into one of your larger veins. Please see The Royal Marsden booklet *Central venous access devices* for further information.

This treatment is given continuously over a four day period (a cycle). After you have completed the chemotherapy, you may be able to go home for a few days if you are well enough.

You will need to come back to the hospital for regular blood tests and we will monitor you for side effects. If you become unwell, there will be a bed available for you to be admitted.

The chemotherapy will be given in bags of fluid, through your central venous catheter, continuously over four days. Adriamycin is given on its own in a bag and cisplatin, cyclophosphamide and etoposide are mixed together in a bag. You will also have a bag of fluid for hydration running at the same time, to help your kidneys to work. You will be given dexamethasone as a tablet during these four days. You will also be given thalidomide as a capsule to take every day throughout your treatment.

You will probably have two cycles of DT-PACE. After the second cycle you will have a bone marrow biopsy to see how well the treatment has worked.

Side effects

All drugs can have some side effects and this includes DT-PACE chemotherapy. These vary and for some people they may not occur.

The more common side effects are:

- **Low blood count** – chemotherapy temporarily reduces the rate at which blood cells are produced in your bone marrow.

This may cause:

  - Anaemia (low red cell count) – you may need blood transfusions.
  - Neutropenia (low white cell count), which may increase your risk of developing an infection.
  - Thrombocytopenia (low platelet count) - which may increase your tendency to bruising and bleeding – you may need platelet transfusions
  - If you have a headache for more than 24 hours, you must inform your doctor or clinical nurse specialist.

If you feel unwell at any time or have a temperature (37.5^{0}C / 99.5^{0}F or higher), you should contact the hospital immediately as you may need to be admitted for intravenous antibiotics. For further information, please refer to The Royal Marsden booklet *Chemotherapy; your questions answered.*

- **Numbness and tingling –** a feeling of tingling (pins and needles) or a loss of feeling (numbness) in the hands and feet. You must tell your doctor if you are experiencing this. This is called peripheral neuropathy and can be caused by thalidomide and cisplatin.
- **Nausea and vomiting** – chemotherapy sometimes causes this. It can usually be managed with anti-sickness (anti-emetic) drugs. If you are unable to drink, you may need to have intravenous fluids.
- **Hair loss** – temporary hair loss usually happens with DT-PACE chemotherapy. For further information, please refer to the Macmillan booklet *Coping with hair loss*.
- **Sore mouth** – keep your mouth clean and healthy by drinking plenty of fluids and carrying out good oral hygiene. If you develop a sore mouth, we can prescribe mouthwash to help with this.
- **Constipation** – both thalidomide and the chemotherapy can cause this. Tell the doctor or nurse if it is a problem for you as it can be relieved with medication.
- **Diarrhoea** – tell the doctor or nurse if this happens more than four times in 24 hours. Drink plenty of fluids.
- **Changes in the way your kidneys work** – you will be given intravenous fluid with the chemotherapy. It is also very important that you drink plenty of fluids to keep your kidneys working well. Doxorubicin (adriamycin) is red in colour and may change the colour of your urine whilst you are receiving the chemotherapy. This will stop when the chemotherapy has finished.

- **Changes in the way your heart muscle works** – doxorubicin (adriamycin) given in large doses can affect the way your heart muscle works. The total dose that we use is relatively low and therefore the risk is small. Your doctor will advise you if there are any problems with your heart.
- **Tiredness or lethargy** – during your chemotherapy, you may become tired more easily after normal activities. This is quite normal and usually occurs with all types of chemotherapy. Your tiredness should resolve in time.
- **Skin rashes** - this may be caused by the thalidomide or two other drugs, allopurinol and co-trimoxazole. The rashes are usually red, itchy and all over the body. If you develop a rash, you must inform either your doctor of clinical nurse specialist. We may need to stop some of your medication in order for the rash to resolve.
- **Side effects of steroids** – as dexamethasone is a steroid, there are a number of side effects you may experience when taking it. Most of these will go away once treatment is finished. Other than those mentioned above, you may notice the following:
    - Fluid retention – you may notice swelling of your ankles (ankle oedema). Usually, this is mild and goes away when treatment ends.
    - Mood changes, euphoria or difficulty in sleeping - you may find it helpful to discuss with your doctor which time of day is best to take your steroids. It is usually best to avoid taking them in the evening, if possible.
    - Blurred vision – tell your doctor if this happens.
    - Irritation of the lining of the stomach – dexamethasone may cause stomach pain, however you will be given drugs to prevent this from happening. It may also cause increased appetite and weight gain.
    - Steroid induced diabetes – this may be permanent.

Please refer to The Royal Marsden booklet *Chemotherapy; your questions answered* for details about these side effects and managing them.

It is important that you contact the hospital if you experience any of these side effects (see contact details on page 8). With certain side effects, a treatment break or dose reduction may be necessary.

Fertility, pregnancy and breastfeeding

We do not know what effect DT-PACE has on fertility or a developing baby. Therefore we recommend the following advice given for chemotherapy drugs.

- **Fertility** – chemotherapy can damage the testis or ovary. This may affect your ability to conceive (or father a child). Infertility can be temporary or permanent. Sometimes, in women, chemotherapy can lead to premature menopause. If relevant to you, you may wish to discuss the issue of fertility with your doctor before treatment is started.
- **Pregnancy** – during chemotherapy and for up to a year afterwards, if sperm or eggs are produced they may be abnormal. Treatment can also harm an unborn child. We recommend that you or your partner use a barrier method of contraception (such as condoms) during treatment and for one year afterwards. If you know you are pregnant before starting treatment or become pregnant during treatment, you must tell your doctor immediately.
- **Breastfeeding** – there is a risk of harm to a child who is being breastfed since the drug may be concentrated in the milk. It is very important that women do not breastfeed while receiving chemotherapy.

As you will be taking thalidomide, there are certain precautions that you will need to take. Your doctor or clinical nurse specialist will discuss these with your before you start your treatment.

Blood clots

Some cancers increase the risk of developing blood clots. Chemotherapy drugs can also cause an increase in the risk of patients developing blood clots whilst they are on treatment. The most common place for blood clots to form is in the calf. This is called a deep vein thrombosis (DVT) and causes the leg to swell. If a part of the clot breaks free, it may travel to the lungs, causing shortness of breath or chest pain. This is called a pulmonary embolus (PE).

Blood clots can be life threatening and treatment with blood-thinning drugs (anti-coagulants) is usually given to help ‘dissolve’ the clot and prevent further problems. Please inform your doctor immediately if you are worried you may have a blood clot.

Airline travel is also associated with an increased risk of blood clots. It is important that you inform your hospital team of any travel plans whilst you are on treatment.

As thalidomide can increase your risk of developing blood clots, you will be given aspirin or low molecular weight heparin, (given as a small injection in the abdomen, under the skin) to try to prevent this from happening.

We have listed the most common side effects of this chemotherapy. You may experience some or several of these side effects listed above and they may be mild, moderate or severe. Some can occasionally be life-threatening or lead to death. All side effects will be discussed with you, however please raise any questions that you may have with your medical team or Clinical Nurse Specialist (CNS). As with all drugs, there may be other side effects not mentioned here that you may experience; because of the risk of side effects, it is important that you:

- **Always** tell your doctor if you suffer from any of these side effects, or if you have experienced any new symptoms since your last visit. Your doctor can help you by giving you medication or advice, to reduce or stop these side effects from occurring in the future.
- **Always** tell your doctor about any other medicine you are taking or planning to take, including herbal and complementary therapies.
- **Always** consult your doctor before having any other procedure, for example, dental work or vaccinations.

Contact details

If you have any questions about your treatment or side effects, please contact us.

Clinical Nurse Specialist, Myeloma:	020 8661 3657
Bud Flanagan Outpatients:	020 8661 3773
Bud Flanagan East:	020 8661 3776
Bud Flanagan West:	020 8661 3144
Night Sisters:	020 8642 6011 bleep 017

Medicines Information Service
You can contact the service via The Royal Marsden Macmillan Hotline (details below).

or

Email: *medicines.information@rmh.nhs.uk* giving full details of your enquiry and a contact telephone number.

Alternatively, please call:

The Royal Marsden Macmillan Hotline: 020 8915 6899
(available 24 hours a day, 7 days a week)

Notes and questions

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References

This booklet is evidence based wherever the appropriate evidence is available, and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre

Telephone:	Chelsea	020 7811 8438 / 020 7808 2083
	Sutton	020 8661 3759 / 3951
Email:	patientcentre@rmh.nhs.uk	

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Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

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