

CMF chemotherapy



This factsheet explains about the chemotherapy combination CMF, when it may be used, how it works and what side effects may occur. CMF is a combination of three chemotherapy drugs: cyclophosphamide, methotrexate and 5 fluorouracil (also known as 5FU). CMF takes its name from the initials of the drugs.

Introduction

There are several combinations of drugs used to treat breast cancer, CMF is one of them. Your specialist team will decide which combination is best for your type and stage of breast cancer.

It is a good idea to read this factsheet with our **Chemotherapy for breast cancer** booklet, which describes chemotherapy treatment in general, explains possible side effects and discusses some frequently asked questions.

Who might be offered CMF chemotherapy?

CMF chemotherapy is used to treat people with primary breast cancer (breast cancer that is found in the breast and/or in the lymph nodes (glands) under the arm and which has not spread anywhere else in the body). It may be given before surgery, known as neo-adjuvant treatment, or after surgery, known as adjuvant treatment.

You will usually be offered chemotherapy if cancer cells have been found in the lymph nodes under the arm. Even if there is no disease in the lymph nodes, chemotherapy may be recommended by your specialist based

on other factors including the size and grade of your breast cancer (how different the cells are to normal breast cells and how quickly they are growing). For more information on this, please see our booklet **Understanding your pathology report**.

However, whether you receive chemotherapy or not will depend on your individual circumstances. If you have any concerns regarding your treatment, it is important to discuss these with your specialist team.

How does CMF treatment work?

All cells divide and grow continually which enables growth and repair of body tissues, but cancer cells grow by dividing in a disorderly and uncontrolled way. Chemotherapy destroys cancer cells by interfering with their ability to divide and grow.

Different chemotherapy drugs work in different ways and attack the cancer cells at different stages of their growth. This is why a combination of drugs is often used instead of one single drug.

How is it given?

Apart from the drug cyclophosphamide, which can also be given in tablet form, CMF drugs are given directly into a vein (intravenously). A small plastic tube called a cannula is inserted into a vein in the back of the hand or lower arm and the diluted drugs are injected into the tube in turn over a period of several minutes each. Occasionally a special intravenous device is used, for example a skin-tunnelled catheter (a fine tube inserted into a large vein through a small cut in the chest wall), which stays in place throughout the course of the treatment.

Your specialist will decide how your chemotherapy will be given and explain the procedure to you. There are four different ways of giving CMF and each of these 'courses' or 'cycles' is repeated four to six times. The options are as follows:

Method one – All three drugs are given intravenously on the same day. This cycle is then repeated every three weeks.

Method two – The cycle begins with all three drugs given intravenously the same day. One week later methotrexate and 5FU are given intravenously again. This cycle is

repeated from the beginning every three weeks.

Method three – The cycle begins with all three drugs given intravenously on the same day. One week later all three drugs are given intravenously again. This cycle is repeated from the beginning every three weeks.

Method four – The cycle begins with methotrexate and 5FU given intravenously on the same day. One week later they are given again. On the first day of the cycle a two-week course of cyclophosphamide tablets is also started. This cycle is repeated from the beginning every four weeks.

The dose of chemotherapy is calculated for each individual, based on their weight and height. The total length of treatment is usually four to six months.

You will normally be given your treatment as an outpatient so you will be able to go home the same day. Each time you have chemotherapy you should expect to be at the hospital for most of the day to allow for waiting time, blood tests, the drugs to be prepared and to be given the treatment.

What are the side effects of CMF?

Like any treatment, CMF chemotherapy can cause side effects. Everyone reacts differently to drugs and some people have more side effects than others. These side effects can usually be controlled. However, if you are concerned about side effects, it is a good idea to talk to your chemotherapy nurse or someone in your specialist team. Also, if you notice any side effects not listed here that concern you, we recommend you seek further help.

Some people find complementary therapies helpful in controlling some of the side effects. It is important to tell your specialist team if you are taking any herbal supplements or remedies as some may react with the treatment. For more information see our **Complementary therapies** publication.

Common side effects

Effects of administering CMF

While the drug cyclophosphamide is being injected you may feel hot or flushed and slightly dizzy, and have an itchy nose or a metallic taste in your mouth. These feelings usually go when the injection is finished, but tell your

nurse if you experience any of these. Asking to have the drug given more slowly can sometimes help.

Bone marrow suppression

Chemotherapy drugs can also affect healthy cells within the body.

Blood cells are made by your bone marrow to replace those which are naturally used up within the body. Chemotherapy can affect the bone marrow, reducing its ability to make new blood cells. Your number of white blood cells can become low making you prone to getting infections, being less able to fight infections means you could become very ill. It is important to tell your specialist team straight away if you develop any signs of infection such as a high temperature (above 38 degrees), feeling unwell or a sore throat.

Before each course of chemotherapy begins (or sometimes during a course) you will have a blood sample taken to ensure that the levels of these cells are within safe limits for you to have the next treatment. Sometimes treatment may be delayed for a few days to allow your blood cells to recover.

Nausea and vomiting

You may experience nausea, which can start immediately after chemotherapy or several hours later. It may last for several hours or may even

persist for several days. However, it can usually be controlled or lessened with anti-sickness drugs.

Anti-sickness drugs are routinely prescribed with chemotherapy to help prevent nausea. If these don't work, other drugs such as steroids may be prescribed.

Diarrhoea

You may experience diarrhoea during your chemotherapy treatment. Let your specialist team know, as medication can be prescribed to help control it. It is important to drink plenty of water.

Sore mouth

You may develop a sore mouth or gums, or mouth ulcers. Good mouth hygiene is very important during treatment. If you already have a dental problem such as cavities or gum disease, see your dentist so that it can be sorted out before treatment starts.

Fatigue (extreme tiredness)

You may be very tired during your treatment and this may last for several months after treatment has finished. If you become anaemic (have a low amount of red blood cells), you may be more prone to fatigue, but it can still occur even if your blood levels are normal. Gentle exercise such as walking can help relieve fatigue. You

may find that your concentration is affected by treatment. If you work during treatment, this can be frustrating however most people find this generally improves following treatment.

Sore eyes and runny nose

CMF can cause dry, sore, gritty feeling eyes. Sometimes eye drops can be prescribed to relieve the soreness. Or you may notice that your eyes water or you get a runny nose.

Bladder irritation

It is important to drink plenty of water when you have your treatment as chemotherapy drugs (cyclophosphamide particularly) can irritate the lining of the bladder. Tell your specialist if you notice any irritation, a burning sensation or pain when passing urine.

Hair thinning

You may notice that your hair thins during your treatment. On very rare occasions you may lose all of your hair. It is important to remember that it will grow back once treatment is finished. Your hair is likely to thin more if you are having cyclophosphamide injections rather than tablets. For further information see our booklet

Breast cancer and hair loss.

Infertility (temporary or permanent)

Some younger women who are pre-menopausal may find that their periods become irregular or stop temporarily while they are having chemotherapy. Others may find that they stop completely, which indicates a chemotherapy-induced menopause and permanent infertility. This often depends on your age (women around 40 and above are less likely to get their periods back after completing chemotherapy than women under this age). This may result in menopausal symptoms such as hot flushes and vaginal dryness. If you are experiencing menopausal symptoms you may find our factsheet **Menopausal symptoms and breast cancer** helpful.

Research also shows that CMF is more harmful to the ovaries than some other types of chemotherapy. If you are concerned about your fertility, it is important to talk to your specialist team before treatment begins. It is also important to remember that some women can still become pregnant when receiving chemotherapy even if their periods have temporarily stopped as a result of treatment, so effective barrier contraception such as a condom must be used.

If you have concerns around preserving your fertility, see our

Fertility issues and breast cancer treatment factsheet.

Further support

If you have any concerns about CMF chemotherapy you can talk to your specialist or breast care nurse. You may also find it helpful to talk to someone who has had a similar experience to you. You can do this one-to-one or in a support group. For more information on individual support or support groups in your area call our helpline.

Further help from Breast Cancer Care

For further medical information, emotional support, and details of our services, call our helpline free on **0808 800 6000** (for Typetalk prefix **18001**).

Breast Cancer Care's website has an email enquiries service called Ask the nurse, along with forums and live chat sessions where you can share your views with people in a similar situation. For more information about these services and other online support, visit **www.breastcancercare.org.uk**

We run courses and activities for people with breast cancer, which aim to provide information and support and give people the chance to meet others in a similar situation. For more information about these events, call our helpline or contact your nearest Breast Cancer Care centre details on the reverse.

Breast Cancer Care also has a wide range of publications to guide you from diagnosis to living well after treatment. You can download and order our publications at **www.breastcancercare.org.uk** or call our helpline on **0808 800 6000** for a printed order form.

campaigning for better cancer care. Their Cancerbackup Helpline team can provide up-to-date information on diagnosis, symptoms, treatments, clinical trials and more. The Macmillan CancerLine provides information and emotional support. Other services include cancer information booklets, Macmillan nurses and a website.

Other organisations

Macmillan Cancer Support

89 Albert Embankment,
London SE1 7UQ

Telephone: 020 7840 7840
Macmillan CancerLine: 0808 808 2020
Cancerbackup Helpline 0808 800 1234
Textphone: 0808 808 0121
Email: cancerline@macmillan.org.uk
Website: www.macmillan.org.uk

Macmillan Cancer Support improves the lives of people affected by cancer by providing practical, medical, emotional and financial support, and

This factsheet has been produced by Breast Cancer Care's clinical specialists and reviewed by healthcare professionals and people affected by breast cancer.

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Registered charity in England and Wales
1017658
Registered charity in Scotland SC038104
Registered company in England 2447182

Central Office

Breast Cancer Care

5-13 Great Suffolk Street

London SE1 0NS

Telephone 0845 092 0800

Fax 0845 092 0820

Email info@breastcancercare.org.uk

Centres

London and the South East of England

Telephone 0845 077 1895

Email src@breastcancercare.org.uk

Wales, South West and Central England

Telephone 0845 077 1894

Email cym@breastcancercare.org.uk

East Midlands and the North of England

Telephone 0845 077 1893

Email nrc@breastcancercare.org.uk

Scotland and Northern Ireland

Telephone 0845 077 1892

Email sco@breastcancercare.org.uk

About Breast Cancer Care

Breast Cancer Care is here for anyone affected by breast cancer. We bring people together, provide information and support, and campaign for improved standards of care. We use our understanding of people's experience of breast cancer and our clinical expertise in everything we do. Visit www.breastcancercare.org.uk or call our free helpline on **0808 800 6000**. Calls may be monitored for training purposes. Confidentiality is maintained between callers and Breast Cancer Care.

Donations from the public make it possible for us to provide publications like this one free to people affected by breast cancer.

If you would like to make a donation, please send your cheque to: Breast Cancer Care, RRKZ-ARZY-YCKG, 5-13 Great Suffolk Street, London SE1 0NS. Or donate via our website at www.breastcancercare.org.uk