



Here is a brief description of the most common blood and bone marrow cancers

Acute Myeloid Leukaemia (AML) is a serious and aggressive cancer of white blood cells that is treated in hospital by chemotherapy. Without treatment, patients with this disease usually die within months. A considerable proportion of people can be cured of this disease with modern treatment. Treatment usually requires several months in or nearby Palmerston North Hospital. Some patients may need treatment with a donor bone marrow transplant, which happens in Wellington Hospital.

Acute Lymphoblastic Leukaemia (ALL) is less common than AML in adults but is equally serious and aggressive (in children, Acute lymphoblastic leukaemia is more common than AML and is usually curable with modern chemotherapy). It is a cancer of white blood cells. Treatment is improving all the time and currently involves a combination of chemotherapy, radiation therapy and sometimes donor bone marrow transplantation. Chemotherapy and radiation therapy are carried out in Palmerston North; donor bone marrow transplantation, when necessary, is carried out in Wellington Hospital.

Chronic Myeloid Leukaemia (also called chronic myelogenous leukaemia or CML) is different from acute myeloid leukaemia because patients do not usually need to be admitted to the hospital for treatment. Recently there have been major advances in the treatment of this disease and many people can now be treated at home with tablets and can continue to live a normal life while being treated. However the recent advances are so new that, so far, we are not sure whether CML can be cured with tablets, or whether they simply keep the disease under control.

Some patients cannot be treated with tablet treatment and other options including donor bone marrow transplantation are available for some people.

Chronic Lymphocytic Leukaemia (CLL) is a common type of cancer. It is unusual in that in some people, it causes no problems and requires no treatment. Other people experience some symptoms which require occasional treatment to keep the disease under control. Finally some people have more serious symptoms which can require more frequent and intensive treatment. It cannot usually be cured but often can be kept under control for many years.

Multiple Myeloma is another unusual type of bone marrow cancer. In some people it is more aggressive than others and treatment varies from person to person. For many people the disease can be kept under control for several years. In some people no treatment is required for several months or even years.

Treatment can consist of a combination of chemotherapy, radiation therapy and for some people, autologous or "self" peripheral blood stem cell transplant. People sometimes also need treatment with other, non-chemotherapy, drugs.

Other Blood and Bone Marrow Diseases; not cancers

There are many disorders of the blood and bone marrow that are not cancerous. Some are more serious than others. Palmerston North Hospital is involved in clinical trials examining the best treatment for some of these conditions; suitable patients will be told about these trials by the specialist.

Here are some of the more common blood problems.

Anaemia

Anaemia means "lack of blood" and people who are anaemic do not have enough haemoglobin (a chemical in red blood cells). They may have symptoms such as tiredness or shortness of breath, although lots of other disease can also cause these symptoms. There are many causes of

anaemia. The most common one in New Zealand is a lack of iron in the body (this is called iron-deficiency anaemia).

Haematology doctors are often asked to help diagnose the cause of anaemia, and treat it. Usually this can be done as an out patient.

Aplastic Anaemia

Aplastic anaemia is a rare type of bone marrow problem where the body fails to produce enough red blood cells, white blood cells, or platelets. It is not caused by lack of iron or any other vitamins. It is occasionally inherited but more often happens by chance, or as a result of certain medicines or infections. It often requires specialised treatment in hospital and young people may be offered a donor bone marrow transplant.

Blood Clots (Thrombophilia; Deep Vein Thrombosis; Pulmonary Embolism)

Some people can develop blood clots within their veins. The two most common blood clot problems in the veins are deep vein thrombosis (DVT, a blood clot in a large inner vein, usually in the leg) or pulmonary embolus (PE, a blood clot that has travelled to the lung). These disorders range from a minor nuisance to very serious and life-threatening problems. Anyone who has a blood clot is treated with medicines to prevent the clot spreading or breaking up and to prevent new clots from forming. Palmerston North Hospital has a nurse-led service to ensure that all patients who are diagnosed with clots receive the appropriate treatment and follow up.

Some people have a higher risk of developing blood clots than most. This can be inherited in some cases, but not all. However many people who have inherited a tendency to blood clots will never actually have one. There are some tests that can help to decide whether someone has inherited a tendency to blood clots, and these will be carried out on suitable people who develop a blood clot in the veins.

Other factors which can increase the risk of blood clots include long plane flights, pregnancy, certain operations and accidents.

Essential Thrombocythaemia (ET) (also called Primary Thrombocythaemia or PT)

ET is a disease where the bone marrow produces too many platelets (the opposite of thrombocytopenia). If untreated, this can increase the risk of having a stroke, a heart attack or other blood clots, such as deep vein thrombosis or pulmonary embolism. Fortunately there are drugs which can decrease the number of platelet cells produced. Some people with ET eventually run into the opposite sort of problem: their bone marrow stops producing enough blood cells (not just platelet cells.) When this happens it is treated like myelodysplasia. People with ET have a slightly higher risk of developing leukaemia than normal.

Haemochromatosis

People with this disease have too much iron stored in their body. Most people absorb what iron they need from their diet and excrete the rest. People with haemochromatosis absorb more iron than normal so that it builds up in the liver over many years. Very high levels of iron can be toxic to the body. Many people with this problem never have symptoms but some can develop liver, heart or joint problems. Fortunately it is easily treated by removing blood (just like being a blood donor). When blood is removed, the body uses some of the iron stored in the liver to make new blood cells, and if blood is removed regularly over several months, all the excess iron can be used up. People with haemochromatosis need to continue having blood removed from time to time lifelong to prevent the iron building up again. However this is a quick and easy procedure.

Haemochromatosis is hereditary so people have it from birth. However it only tends to cause problems as people get older, because it takes many years for the iron to build up to toxic levels. Women tend to be less badly affected than men because regular periods remove iron from their bodies every month.

Further information about Haemochromatosis.

Haemophilia is an inherited disease in which there is a deficiency of one of the proteins that cause the blood to clot when we are injured. There are different types of haemophilia but none of them are common. Most people with haemophilia have a deficiency of a protein called Factor VIII

(Factor eight, sometimes abbreviated to FVIII). It cannot be cured but can be treated, usually by replacing Factor VIII through a drip. Treatment varies from person to person and is decided with the help of the consultant haematologist. Most people with haemophilia can be taught to give themselves their own treatment at home, so they only need to come to hospital for serious problems.

Haemophilia almost always affects males.

Myelodysplasia (also called Myelodysplastic Syndrome or MDS)

MDS is a disease mainly affecting older people where the bone marrow does not work properly. Normally bone marrow produces blood cells; when the bone marrow is not working, not enough blood cells are produced. There are several different types of MDS, some more serious than others. Some people have few, if any, symptoms and do not need any treatment. However most people do develop symptoms relating to anaemia, thrombocytopenia and/or neutropenia. There is usually no cure for MDS but symptoms can be treated. People with MDS have a higher risk of developing leukaemia than normal.

Neutropenia

Neutropenia means "not enough neutrophils". Neutrophils are a type of white blood cell. White blood cells help to fight off infections. Neutropenia is not a common problem, and is most often caused as a side effect of certain drugs, usually chemotherapy drugs. However people can occasionally develop it for other reasons, including a number of bone marrow disorders.

People with neutropenia are very susceptible to infections. If the neutropenia is severe enough, even very mild infections can become life-threatening within hours. If you have severe neutropenia and you feel unwell, you should contact a doctor urgently. Your specialist will be able to tell you if you are at risk of infection.

Polycythaemia

Polycythaemia means too much blood, and people with this problem have too many red blood cells (the opposite of anaemia) Although this might sound like a good thing, it actually increases the "sludginess" of the blood and makes it more likely to clot, causing headaches or even heart attacks, strokes, and other abnormal blood clots. Polycythaemia can be treated by removing blood, just like being a blood donor. Some people need to take tablets instead of or as well as having blood removed. There are different causes of polycythaemia and they require different types of treatment.

Sickle Cell Disease

Sickle cell is an inherited disease in which an abnormal form of haemoglobin, the chemical in red blood cells that carries oxygen, is produced. The red blood cells tend to form unusual shapes and do not flow through blood vessels as easily as normal. This causes the cells to break down faster than usual causing anaemia and can also cause pain when blood vessels become blocked with abnormally shaped cells. The severity of sickle cell disease can be very variable. Sickle cell disease is found in people who come from parts of the world where malaria is common (parts of Asia and Africa), and the descendants of these people. There are very few people in New Zealand with this disease.

Thalassaemia

Thalassaemia is caused by an underproduction of one of the component parts of haemoglobin, the chemical in red blood cells that carries oxygen. There are a variety of different types of thalassaemia, some more serious than others. The type of thalassaemia depends on which part of the haemoglobin molecule is under produced. All types are inherited, and are much more common in people who come from parts of the world where malaria is found, or descendants of these people (especially parts of Asia, Africa and the Mediterranean). Red blood cells do not last as long as usual, causing anaemia, and other serious problems can occur, depending on the specific type.

Thrombocytopenia (FIFTEEN)

Thrombocytopenia means “not enough platelets”. Platelets are cells which help the blood to clot. People with thrombocytopenia may have easy bruising or a tendency to nose bleeds or other types of bleeding. However other problems can also cause these symptoms. One cause of thrombocytopenia is called Immune Thrombocytopenic Purpura (also called ITP, for short) and patients with this condition sometimes need to be treated as in-patients in hospital. In children, it usually gets better spontaneously but in adults it often does not without treatment. However there are a variety of treatments available.

Von Willebrand Disease

In this disorder a problem with one of the clotting proteins in the blood leads to symptoms such as easy bruising, heavy periods or nosebleeds. Mild Von Willebrand Disease is very common and seldom causes serious problems although it can be a nuisance. A few people have a more severe type of Von Willebrand Disease and may require advice and treatment, for example if they are having an operation.