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Macluumaadkaan waxaa loo heli karaa qaab kale, sida ugu akhrinta ugu fudud, ama far waa weyn, waxana laga yabaa in lagu heli luuqaado Kale, haddii la codsado. Wixii macluumaad dheeraad ah, kala hadal kooxda xarunta caafimaadka.

Bu bilgi, kolay okunurluk veya büyük baskılar gibi alternatif biçimlerde sunulabilir, ve talep üzerine Alternatif Dillerde sunulabilir. Daha fazla bilgi için klinik ekibinizle irtibata geçin.

میں پڑھنے کے لیے سہ آسانی سے دستیاب میں فراہم کیے گئے ہیں، سہ آسانی سے دستیاب میں فراہم کیے گئے ہیں، سہ آسانی سے دستیاب میں فراہم کیے گئے ہیں۔ مزید معلومات کے لیے، اپنی کلینکل ٹیم سے بات کریں۔

## Patient Advice and Liaison Service (PALS)

Please contact us if you need general information or advice about Trust services: [www.bartshealth.nhs.uk/pals](http://www.bartshealth.nhs.uk/pals)

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All our patient information leaflets are reviewed every three years.

## Patient information

# Pre-Stem Cell Transplant tests and investigations - Myeloma

A guide for patients with myeloma and related plasma cell disorders

Myeloma Team, Department of Haemato-Oncology



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## USEFUL CONTACTS

### ST BARTHOLOMEW'S HOSPITAL

#### 7A (South) Day Unit

Tel: 020 3465 6780 / 6789 / 6786

Monday to Friday: 9am–8pm; Weekends: 9am–5pm

#### 5C Ward

Tel: 020 3465 5508

#### 5D Ward

Tel: 020 3465 6777

**HAEMATO-ONCOLOGY EMERGENCY HOTLINE: 07909 002671**

This is a mobile phone serviced by a member of the team 24 hours a day for urgent out of hours medical matters

#### Myeloma and Stem Cell Transplant Clinical Nurse Specialists (CNSs)

Your CNSs remain your key workers throughout your post-transplant phase. Please feel free to contact us during normal working hours **Monday to Friday 9am–5pm**.

Please note that we may not always be immediately free to talk, but will get back to you as soon as is possible.

CNS Name: \_\_\_\_\_

CNS Name: \_\_\_\_\_

Mobile No: \_\_\_\_\_

CNS Name: \_\_\_\_\_

Email: \_\_\_\_\_

Email: \_\_\_\_\_

Clinical Research Nurse (if applicable)

Name: \_\_\_\_\_

Contact Number: \_\_\_\_\_

## Will I be told the outcome of the pre transplant tests?

Yes. Your CNS will inform you of your results when they next see you. This will be a verbal discussion rather than provision of a written report.

If there are any issues with your results, you will be informed by the CNS or doctor. Try not to worry as in many cases, this just means that a test was inconclusive (neither positive nor negative) or may need to be repeated. Similarly, it may mean that we need to assess your condition via another means.

For example, it is sometimes difficult to assess heart function by ECHO alone. If this is the case, you may be informed that you require a Cardiac MRI Scan. This does not automatically mean that there is a problem with your heart but rather, in order to perform a comprehensive assessment, we should re-assess.

## What next?

As soon as your pre transplant evaluation is complete you will be informed of the outcome.

If you are fit to proceed to transplant, your CNS will provide you with your transplant schedule.

If you are having an autologous transplant, this will include dates for your stem cell mobilization and peripheral blood stem cell harvest.

If you are having an allogeneic (donor) transplant, your CNS will be ensuring that all donor related factors are coordinated in order to provide you with your transplant schedule.

If you require more time or further treatment, this will be discussed with you fully in consultation with your Consultant at clinic.

## Introduction

You have been given this booklet as you are either considering a stem cell transplant or have already consented to this procedure.

We have prepared this booklet to help you understand why we undertake a number of medical tests as part of what we call 'pre transplant work up (or evaluation)'.

In total, these tests and investigations are undertaken in an attempt to quantify your general well-being and activities of daily life prior to undergoing high dose chemotherapy (and radiotherapy where applicable).

In other words, the work up investigations are assessing your overall general fitness for a transplant.

This booklet does not replace the face to face discussion with your Clinical Nurse Specialist (CNS) - (also known as your 'key worker'). Rather it serves as a handy reminder to all that has been discussed with you as you approach this stage of treatment.

During the pre-transplant discussion with your key worker, you are encouraged to ask as many questions as you like. Please do not think that any questions are silly. This is a significant time for you and we understand that with this, comes anxiety. It is in your best interests to ask us to explain anything which is not entirely clear.

Note: Please read this Barts Health NHS Trust booklet, alongside the booklet provided by your Clinical Nurse Specialist which is specific to the type of transplant you are preparing for e.g. 'The Seven Steps' published by Anthony Nolan (for donor transplants) or 'High Dose Therapy and Autologous Stem Cell Transplant' published by Myeloma UK)

## What tests and investigations will I need?

The bulk of pre transplant tests are the same whether you are undergoing an autologous (replacing damaged or destroyed stem cells with healthy ones donated in advance by the patient) or allogeneic (stem cells from a person other than the patient, either a matched related or unrelated donor) transplant and whether you have a diagnosis of leukaemia, lymphoma or myeloma. These are known as the 'core work up tests'.

Any disease specific or additional investigations appear in red text at the end of each section.

Tests and Investigations are as follows:

### Blood Tests

The baseline blood tests are an essential part of your assessment. We perform many tests on your blood, but for you this involves one episode of having blood taken. Some of the tests will have been done many times throughout your earlier treatment but it is important that we assess your current status following therapy.

Your blood is tested to assess:

- Full blood count (haemoglobin, white cells, platelets etc.)
- Blood Group
- Kidney function
- Liver function
- Thyroid Function
- Clotting factors
- Glucose
- Infectious disease such as HIV, Hepatitis B and C and herpes
- Evidence of prior exposure to viruses e.g. chicken pox
- Current infection or prior exposure to syphilis
- Presence of haemoglobinopathies e.g. Thalassaemia or

## Bone Marrow Biopsy

You will almost certainly have undergone this procedure previously and know all about it. A repeat bone marrow biopsy is not required in all cases pre transplant.

Bone marrow samples at this time serve to evaluate your marrow's function and to assess the degree of residual disease post chemotherapy treatment.

You do / do not (please circle) require a repeat bone marrow biopsy.

### Imaging

Depending on your illness, your doctor might order additional scans or x-rays which you are likely to be familiar with. The need for these will be explained to you on an individual basis.

Your imaging requirements are indicated by the ticked boxes below:

None required	
Chest X ray	
Skeletal Survey	
CT Scan	
CT PET	
MRI	
Other (please specify):	

## Electrocardiogram (ECG)

An electrocardiogram - or ECG - is a simple and useful test which records the rhythm and electrical activity of your heart. An ECG can help detect problems with your heart rate or heart rhythms – called arrhythmias.

Small sticky patches called electrodes are put on your arms, legs and chest. These are connected by wires to an ECG recording machine which picks up the electrical signals that make your heart beat. This electrical activity is recorded and printed onto paper.

The whole test takes about five minutes and is completely painless. You will need to lie still for the procedure.

## Dental Assessment

It is essential that we assess the condition of your teeth and gums prior to your undergoing a stem cell transplant. This is to ensure that any potential or current problems are identified and addressed prior to commencing high dose therapy. Your ability to fight infection will be significantly reduced throughout your transplant period and any dental problems pose a wholly avoidable risk.

Many patients will have undergone a dental examination already but the period since this checkup varies. It is our standard requirement that a dental examination, and any interventions resulting from its outcome, should be completed within one month of your transplant admission.

Your CNS will provide you with a dental checkup form to take to your dentist. If you do not have a dentist, or your dentist is unwilling to undertake any necessary intervention, please inform your key worker at the earliest opportunity in order that alternative arrangements may be made and your transplant is not disrupted.

## Additional blood tests may include:

Reassessment of paraprotein, beta 2 microglobulin and serum free light chains (Myeloma /AL Amyloid Patients)

Disease specific tumour markers (substances in the blood which serve as biochemical indicators for the presence of cancer)

Confirmatory tissue typing (for patients undergoing allogeneic transplant to confirm the compatibility or closeness of tissue match between you and your donor)

Triple Fish (undertaken for lymphoma patients, this maps the genetic material in cells)

Any specific tests which need to be added for your individual circumstances are written below together with the reasons for these tests.

No additional tests required (tick box)

## **Lung Function Tests**

These are undertaken by a respiratory physiologist located adjacent to the Bronchoscopy Department on the Fourth Floor of the King George V Wing at St Bartholomew's Hospital. These tests are non-invasive (does not involve making a break in the skin), require no preparation and take just thirty minutes to complete.

### **Spirometry**

Spirometry is a test that shows how well you breathe in and out. The device that is used to make the measurements is called a spirometer. You will be asked to breathe in fully and to blow out as hard and fast as you can into the mouthpiece of the spirometer.

### **Lung volumes**

Measuring lung volumes (the total size of your lungs) can give us more detailed results. This test involves wearing a clip on your nose to make sure that no air escapes from your nose. You will be asked to breathe into a mouthpiece similar to that of the spirometer. The test is not painful and we will be able to talk to you while it takes place.

### **Gas transfer**

This test measures the amount of oxygen that passes from your lungs into your blood. We will ask you to breathe in a harmless gas (a mixture of carbon monoxide, helium, oxygen and nitrogen) through a mouthpiece. Once your lungs are full, we will ask you to hold your breath for about 10 seconds and then breathe out the gas. The gas will be tested to see how much oxygen comes from your lungs.

The respiratory physiologist will explain each step of the test before you are asked to do it.

## **Cardiac (Heart) Function Tests**

These are undertaken by a doctor or cardiac physiologist in the Cardiology Department, also on the Ground Floor of the Queen Elizabeth II Wing at St Bartholomew's Hospital. These are also non-invasive and take just thirty minutes to complete. Again, there is no preparation required for these tests.

### **Echocardiogram (ECHO)**

An echocardiogram uses sound waves to build up a moving picture of the heart. It is similar to the ultrasound scan used in pregnancy and is extremely safe. Ultrasound waves reflect against structures in the heart to measure the size and function of your heart thereby assessing how well your heart is working. An echo can also show the direction and velocity of blood flowing through your heart and across your heart valves.

You will be asked to open or remove your clothes from the waist up and to lie on an echocardiogram bed on your back. You may also be asked to roll over onto your left-hand side during the test to assist in gaining sufficient images for the assessment.

Three small sticky pads, called electrodes, will be stuck to your chest and connected to the echo machine. A small hand-held transducer (echo recorder) is placed on your chest. This will have a lubricating jelly on it. Images of your heart will then be taken from different positions on the chest. The recorder sends high-frequency sound waves to the heart and records the echoes of sound waves reflected back from your heart. The echocardiography machine receives these echoes as electrical impulses and converts them into moving pictures of the heart.

An echo report is generated and reviewed by the haematology team prior to transplant. You will be informed if there are any concerns.