

## MGUS

### What is MGUS?

MGUS stands for Monoclonal Gammopathy of Unknown Significance and is characterised by the presence of an abnormal protein in the blood and / or urine, called paraprotein (also known as M-protein or M-component). Paraprotein is produced by plasma cells, which are cells in the bone marrow that produce antibodies to fight infection. Paraprotein is an abnormal antibody or immunoglobulin.

In MGUS one particular type of plasma cell overgrows and produces too much of one type of abnormal antibody (paraprotein).

Since paraprotein can be found in patients with other medical conditions, such as myeloma, it is important to distinguish between these as there are several differences. The major difference is that patients with MGUS do not require any treatment.

MGUS is a common condition in older people and is present in about 3% of people over 70 years of age. It can however occur in people below the age of 70. The reasons it develops are not known.

### Symptoms

The patient has no symptoms and, in the absence of other medical conditions, remains well.

### How is it diagnosed?

The abnormal protein is usually discovered by chance during routine or unrelated blood tests.

It is particularly important to distinguish between MGUS and early myeloma. Myeloma is a type of cancer of the plasma cells and is associated with problems, such as bone pain and anaemia, which do not occur in MGUS.

The type of tests that are used to distinguish between MGUS and myeloma include blood and / or urine tests. Rarely, bone marrow biopsy and X-rays are required.

In MGUS the blood and / or urine tests will show:

- A paraprotein or M protein level of 30g/l or less
- A normal calcium level
- Very little or no protein in the urine
- Normal kidney function
- No anaemia

Myeloma UK  
Broughton House  
31 Dunedin Street  
Edinburgh EH7 4JG

Tel: 0131 557 3332  
Fax: 0131 556 9785  
Myeloma Infoline:  
0800 980 3332

[www.myeloma.org.uk](http://www.myeloma.org.uk)

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If a bone marrow biopsy or X-rays are carried out these will show:

- Fewer than 10% plasma cells in the bone marrow
- No bone damage

If the paraprotein is very low, there are no symptoms, and blood tests show normal calcium and kidney function the diagnosis is almost certainly MGUS.

## **Prognosis and treatment**

Although MGUS can progress to a malignant disease, most people will remain stable for many years and will not require treatment. Data suggests that if MGUS remains stable for two years then, on average, it will remain stable for 10 years before any transition into a more active disease state.

Newly diagnosed MGUS patients should have a detailed medical examination and their paraprotein level monitored. Ongoing monitoring is dependent on the level and type of paraprotein at time of diagnosis and the age of the patient.

Recent guidance recommends that following a diagnosis of MGUS, patient checks should occur every 3 - 4 months for the first year. These checks can then be reduced to every 6 - 12 months as long as no new symptoms develop.

The paraprotein levels can fluctuate somewhat in MGUS. However, any steady increase in paraprotein level or new symptoms requires further tests to ensure that MGUS has not progressed to myeloma or another malignant disease.

A clinical study completed in 2002 identified a progression rate of 1% per year to myeloma, AL amyloidosis or Waldenström's macroglobulinaemia from the time of confirmed diagnosis. That means that after 15 years only 15% of patients will have developed one of these more serious diseases, while 85% will have remained with stable MGUS. The incidence of MGUS rises with age.

Unfortunately there are no definite indicators at diagnosis to show who will progress to a malignant disease and who will remain stable long term.

*Myeloma UK has a range of information available on AL amyloidosis and Waldenström's macroglobulinaemia.*

## **The future**

There is much that we still do not know about MGUS. Researchers are looking closely at risk factors that may be associated with MGUS. It is hoped that this will lead to a greater understanding of what prompts MGUS to develop into a more serious condition, and this understanding may lead to treatments which prevent the change from occurring.

Newer, more sensitive tests have been developed to better monitor people with MGUS. These include serum free light chain assay or Freelite™ test.

*For further information see Myeloma UK's Serum Free Light Chain Assay Infoguide.*

## **Other information available from Myeloma UK**

Myeloma UK has a range of Essential Guides, Infoguides and Infosheets available, covering many areas of myeloma, its treatment and management. To order your free copies, contact the **Myeloma Infoline** on **0800 980 3332**. This information is also available to download at **[www.myeloma.org.uk](http://www.myeloma.org.uk)**.

To talk to someone about any aspect of myeloma, call the **Myeloma Infoline** on **0800 980 3332**. The Myeloma Infoline is open from Monday to Friday, 9am to 5pm, and is free to phone from anywhere in the UK. From outside the UK, call +44 131 557 3332 (charged at normal rate).

**Author:** Ellen Watters, Myeloma UK

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