

# Smouldering myeloma

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**This Infosheet provides information on what smouldering myeloma is, how it is diagnosed, what the treatment is and will explain the link between smouldering myeloma and active myeloma.**

## **What is myeloma?**

Myeloma, also known as multiple myeloma, is a type of bone marrow cancer arising from plasma cells, which are normally found in the bone marrow. Plasma cells form part of the immune system.

Normal plasma cells produce antibodies (also called immunoglobulins) to help fight

infection. In myeloma, plasma cells become abnormal, multiply uncontrollably and produce a large amount of a single type of antibody – known as paraprotein – which has no useful function. Most of the symptoms related to myeloma are caused by the build-up of abnormal cells in the bone marrow and the presence of paraprotein in the blood and/or in the urine.

## What is smouldering myeloma?

Smouldering myeloma (also sometimes known as asymptomatic myeloma) is an early form of myeloma which usually progresses to active myeloma, but at a slow rate.

In smouldering myeloma abnormal cells can be detected in the bone marrow, and paraprotein can be detected in the blood and/or urine, but patients usually have none of the typical symptoms related to active (symptomatic) myeloma, no organ involvement i.e. kidney failure and generally do not require treatment.

Smouldering myeloma patients are monitored regularly for signs that may indicate progression to active myeloma.

## How is smouldering myeloma diagnosed?

Smouldering myeloma does not normally cause symptoms and can be diagnosed by chance, following a routine health check or blood tests for another condition, cancer or disease. Blood tests will show an increased level of overall protein and this will usually prompt further investigation.

To establish a correct diagnosis, tests and investigations are carried out including blood and/or urine tests, X-rays and a bone marrow biopsy.

Smouldering myeloma is related to both monoclonal gammopathy of undetermined significance (MGUS) and myeloma. Like MGUS, smouldering myeloma does not usually cause any symptoms.

Figure 1 shows the diagnosis criteria for MGUS, smouldering myeloma and active myeloma.

For smouldering myeloma to be diagnosed the blood and/or urine tests will show:

- A paraprotein measurement of greater than or equal to 30g/L in the blood (or urinary monoclonal protein of greater than or equal to 500mg per 24 hours)
- A normal calcium level
- Normal kidney function
- No anaemia

A bone marrow biopsy and X-rays will show:

- Between 10 - 60% plasma cells in the bone marrow
- No bone lesions

MGUS	Smouldering myeloma	Active myeloma
A paraprotein level in the blood of 30g/L or less	A paraprotein level in the blood of greater than 30g/L	Paraprotein in the blood and/or urine Serum free light chain ratio greater than or equal to 100
Less than 10% plasma cells in the bone marrow	Between 10 - 60% plasma cells in the bone marrow	Greater than 60% plasma cells in the bone marrow
No organ impairment i.e. normal kidney function and no anaemia. Does not require treatment	No symptoms or organ impairment i.e. normal kidney function and no anaemia and no bone lesions. Does not require treatment	Evidence of symptoms and organ damage such as kidney damage, anaemia and evidence of one or more bone lesions - requires treatment

**Figure 1.** Diagnosis criteria for MGUS, smouldering myeloma and active myeloma.

### Will smouldering myeloma develop into active myeloma?

Smouldering myeloma will at some point progress to active myeloma. However, the average time to progression from asymptomatic to symptomatic myeloma varies from patient to patient and it is not possible to say exactly when this will happen in each individual.

Clinical trials have shown that progression in smouldering myeloma is greatly influenced by the time elapsed since diagnosis. Data shows that, statistically, about one in every 10 smouldering myeloma patients progress to active myeloma every year in the first five years. Three in every 100 patients progress per year in the next five years and only one in every 100 patients progress per year thereafter.

Whether someone has progressed from smouldering to active myeloma is established through a number of factors including:

- Changes to kidney function
- Increases in blood calcium levels
- The development of anaemia
- New damage to bones seen on X-rays or other types of scans

These changes are often accompanied by an increase in the paraprotein level over time (e.g. over three or more readings).

It is therefore important that patients are regularly monitored by their doctor. It is recommended that smouldering myeloma patients should have blood tests every three to four months. This should also be balanced with the needs and preferences of patients. If patients, for whatever reason, wish to be monitored more regularly then this should be accommodated.

The development of signs and symptoms such as pain, fatigue or weight loss can coincide with changes to test results so it is important for patients to be vigilant about any new symptoms and report them promptly to the doctor.

## What is the treatment for smouldering myeloma?

Currently, the majority of smouldering myeloma patients are not treated until active myeloma develops. This is because, for the majority of patients, the benefit of treatment is outweighed by its risks due to potential side-effects. Furthermore, evidence from clinical trials has demonstrated that early treatment does not provide a significant benefit to the majority of patients in terms of delaying progression to active myeloma.

There is, however, a growing body of evidence to suggest that early treatment of a subgroup of 'high-risk' smouldering myeloma patients (see p5) can potentially delay progression to active myeloma and extend patients' lives. 'High-risk' patients are those patients who are likely to progress to active myeloma within the first two years after diagnosis. However, this is still an area of research which requires further investigation.

For the majority of smouldering myeloma patients, however, monitoring remains the standard of care.

## Treatment of 'high-risk' smouldering myeloma patients

Recent (2014) research has been published that re-classifies a small proportion of smouldering myeloma patients as active myeloma patients (i.e. patients who should start treatment). This is because, statistically, this group of 'high-risk' patients have a high chance of developing myeloma which will require treatment in the next 12 - 24 months. It is thought that starting treatment for this group of patients is to prevent damage to kidneys or bones that may not be reversible. Also, as stated above, there is some evidence to suggest that early treatment of this group of 'high-risk' patients can potentially delay progression to active myeloma and extend patients' lives.

Early treatment may be recommended on the basis of results from a number of tests, including:

- Greater than or equal to 60% of plasma cells in the bone marrow
- Abnormal serum free light chain assay result (with a ratio of greater than or equal to 100)

- Evidence of more than one area of bone damage on an MRI scan even if X-rays are normal (i.e. do not show any damage)

## Coping with the diagnosis

This is often a difficult and uncertain time for patients and their families. Smouldering myeloma is even rarer than myeloma and dealing with a diagnosis can feel isolating. It can also be an emotional and challenging time for a patient to be told they have smouldering myeloma, but that treatment is not yet recommended.

As discussed earlier, however, there is currently no data that supports early treatment of the majority of patients in terms of delaying progression to active myeloma.

Many patients find talking with their nurse at the hospital clinic helpful and supportive. You can also call the **Myeloma Infoline** on **0800 980 3332**, or join the Myeloma UK Online Discussion Forum and speak directly to other patients who have been diagnosed with smouldering myeloma.

## Future directions

Research is ongoing into different ways of identifying which smouldering myeloma patients are at higher risk of progression to active myeloma. Steroids, immunomodulatory drugs and monoclonal antibodies are among a number of drugs being researched in clinical trials to identify their potential role in the treatment of high-risk smouldering myeloma patients.

## About this Infosheet

The information in this Infosheet is not meant to replace the advice of your medical team. They are the people to ask if you have questions about your individual situation. All Myeloma UK publications are extensively reviewed by patients and healthcare professionals prior to publication.

## 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 or to talk to one of our Myeloma Information Specialists about any aspect of myeloma, call the **Myeloma Infoline: 0800 980 3332** or **1800 937 773** from Ireland.

The Myeloma Infoline is open from Monday to Friday, 9am to 5pm and is free to phone from anywhere in the UK and Ireland. From outside the UK and Ireland, call **0131 557 9988** (charged at normal rate).

Information and support about myeloma is also available around the clock at **[www.myeloma.org.uk](http://www.myeloma.org.uk)**

# Notes

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**Myeloma Awareness Week 21 - 28 June**