# MYELOMA DIAGNOSIS PATHWAY

- A recently published study showed that myeloma is the MOST DIFFICULT of all cancers to diagnose[1]
- 51% of patients visited their GP at least three times before a confirmed diagnosis by a haematologist
- 38% of myeloma patients were diagnosed via an emergency admission or referral, compared to an average of 23% across all cancers
- 10% of patients die within 60 days of diagnosis – rapid diagnosis is key to ensuring fewer complications, improved quality of life and better survival outcomes

## Think myeloma:

**Common presentations (one or more of the following):**

**C**alcium raised or hypercalcaemia* – vomiting, nausea, constipation, confusion, bone pain and polyuria

**R**enal impairment or failure*

**A**naemia – fatigue and shortness of breath

**B**one lesions, fractures or spinal cord compression* – bone pain, particularly non-improving back and/or rib pain, or sudden and/or severe onset of pain, loss of height, or osteoporosis in a man or rapid onset in a woman

**Immune suppression** – recurrent or persistent infections

**Weight loss** and/or loss of appetite

**Night sweats**

**Less common presentations:**

**Peripheral neuropathy** – paresthesia or numbness

**Hyperviscosity** – headache, visual disturbances, confusion and mucosal bleeding

(* medical emergency, refer immediately)

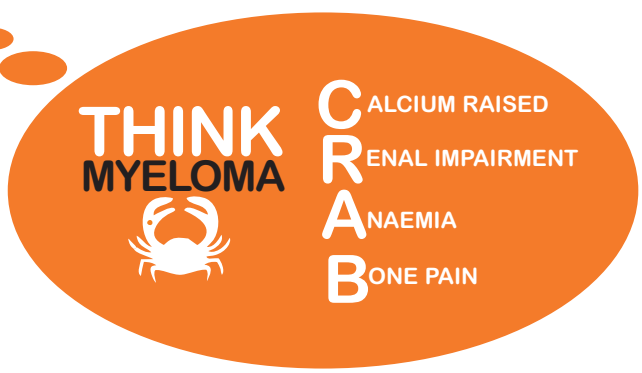
**If no symptoms present, or general malaise and blood results show the following:**

**Anaemia**

**Persistently raised plasma viscosity/ESR**

**High total protein**

**High calcium**




## If further investigation is warranted, undertake all of the following:

- Full blood count normocytic anaemia found in 50% of patients
- ESR or plasma viscosity usually raised but may be normal in Bence Jones* myeloma
- U&E and creatinine levels renal impairment in 20%
- Calcium raised in 10%
- Serum protein electrophoresis (SPEP) raised serum globulin and presence of paraprotein
- Urine protein electrophoresis (UPEP) AND Serum Free Light Chain Assay (SFLC Assay) if available may show light chains in the urine or an abnormal SFLC ratio – one of these tests is essential for detecting Bence Jones myeloma
- X-ray of symptomatic area may show lytic lesions or osteoporosis

*Bence Jones myeloma produces light chains only ( ~ 20% of cases) and very rarely is non-secretory

**If investigations show abnormal results or in cases of unresolved presenting symptoms you should** contact the haematology clinic for advice and to arrange further investigation and/or referral

Visit **www.myeloma-academy.org.uk/GP** to download and view resources on the diagnosis and management of myeloma

# ARE YOU THINKING ABOUT MYELOMA?

## About the Myeloma Diagnosis Pathway

- Myeloma UK has produced a Myeloma Diagnosis Pathway to assist GPs in recognising the presenting signs and symptoms of myeloma and guide them when ordering investigatory tests
- Its relative rarity means GPs will usually only encounter one or two cases in their entire career
- The Pathway is meant to improve timeliness of diagnosis by refreshing GPs' knowledge, acting as a reference tool and triggering suspicion when a patient presents at clinic with the symptoms outlined overleaf

## About myeloma

- Around 4,700 people are diagnosed with myeloma (also known as multiple myeloma) each year in the UK
- The median age at presentation is approximately 70 years, although 15% of patients are aged <60 years
- It is a type of bone marrow cancer arising from plasma cells. In myeloma, abnormal malignant plasma cells divide and expand uncontrollably. These cells produce only one type of immunoglobulin (monoclonal) called paraprotein (or M-protein), which has no useful function. The paraprotein is a hallmark of myeloma and may be detected in the blood and/or urine and is usually how myeloma is suspected, diagnosed and monitored
- Myeloma usually affects multiple bones in the body where bone marrow is normally active, i.e. within the bones of the spine, skull, pelvis, the rib cage and the areas around the shoulders and hips. The myeloma cells also secrete (or stimulate secretion by other cells) chemical messages (called cytokines) triggering other complications, such as myeloma bone disease
- Myeloma is almost always preceded by an asymptomatic monoclonal gammopathy of undetermined significance (MGUS)
- It is currently incurable, but treatable, with chemotherapy, radiotherapy, targeted novel treatments and high-dose therapy/stem cell transplant all offering multiple lines of treatment and variable periods of remission

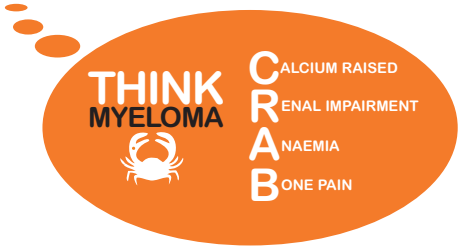
## Myeloma diagnostic criteria

The International Myeloma Working Group has developed the criteria below to classify MGUS and myeloma:

| MGUS | Asymptomatic myeloma | Symptomatic myeloma |
|---|---|---|
| Serum M protein < 30 g/l | Serum M protein > 30 g/l | M protein in the serum or urine |
| < 10% clonal plasma cells | > 10% clonal plasma cells | > 10% clonal plasma cells |
| No related organ and tissue impairment | No related organ and tissue impairment | Related organ and tissue impairment* |
| No other B cell lymphoproliferative disorder | – | – |
| No treatment – monitor | No treatment – monitor | Treatment required |

* The four criteria commonly used to define myeloma (and requirement for treatment) can be grouped by the mnemonic **'CRAB'**, which stands for:

1. Hyper**C**alcaemia: elevated serum calcium
2. **R**enal dysfunction: abnormal serum creatinine
3. **A**naemia: Hb 20g/l below lower limit of normal
4. Lytic **B**one lesions




## About Myeloma UK

Myeloma UK has a broad range of innovative services covering every aspect of myeloma, from information and support to improving standards of treatment and care through research, education, campaigning and raising awareness. Our Myeloma Academy™ is an online portal providing information and educational resources on myeloma to healthcare professionals, including GPs, and can be accessed at **www.myeloma-academy.org.uk**

**Reference:** 1. Lyratzopoulos G et al. (2012) Variation in number of general practitioner consultations before hospital referral for cancer: findings from the 2010 National Cancer Patient Experience Survey in England. Lancet Oncol. 13(4):353-65.

Myeloma UK Broughton House, 31 Dunedin Street, Edinburgh EH7 4JG

**www.myeloma.org.uk**

Charity No. SC 026116