Myeloma Diagnostic Tool

Locally adapted for North Mersey Primary Care supported by Liverpool Clinical Laboratories (LCL) and Clatterbridge Cancer Centre (CCC)

With Thanks to

Guidance for Primary Care

Myeloma is a cancer of bone marrow plasma cells that secrete abnormal antibodies (paraprotein and free light chains (FLC)). This may result in multiple signs and symptoms, including anaemia, non-specific pain originating in the bones, fatigue, infections, and kidney damage. Although these signs and symptoms may seem unconnected, it is important to remember that myeloma usually presents with vague symptoms that are progressive. Early diagnosis is key to preventing end organ damage and improving survival.

**When to suspect myeloma**

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| **Any of the following blood test abnormalities:** | **Important factors to consider:** |
| * Raised **C**alcium * **R**enal impairment * **A**naemia * Raised ESR | Symptoms and findings persist without  explanation or despite initial interventions.  Red flags for myeloma investigation include **unexplained** symptoms and **more than one** symptom.  The **CRAB** criteria for myeloma. |
| **Symptom or finding:** |
| * **B**one pain – usually presents as unexplained pain, generalised or localised * Back pain – persistent or severe/atypical * Generally unwell – fatigue, weight loss, suspicion of underlying cancer * Recurrent infections * Spontaneous fractures including osteoporotic vertebral fractures * Breathlessness – unexplained |

**What tests to request :**

* Serum protein electrophoresis for paraprotein
* Serum free light chain (sFLC) assay
* Serum immunoglobulins (IgG, IgA and IgM)
* If unavailable, urine Bence Jones protein (BJP)
* Full blood count
* Corrected serum calcium
* Serum creatinine

**"Myeloma Screen" bundle on RLUH ICE**

**You may wish to use**

**Myeloma Diagnostic Tool:** Guidance for Primary Care (LUHFT)

**Response to results**

Any paraprotein/abnormal sFLC ratio **with** significant symptoms indicative of an urgent problem (e.g. spinal cord compression, acute kidney injury)

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Recommend **IMMEDIATE Referral** to local Hospital Emergency Dept

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Moderate concentration of paraprotein

(IgG >15 g/L, IgA or IgM >10 g/L)

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| Recommend  **2ww Referral**  to Clinical Haematology: use e-RS |

Identification of an IgD or IgE paraprotein

(regardless of concentration)

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Significant abnormal sFLC ratio

(< 0.1 or > 7)

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Identification of BJP

Minor concentration of paraprotein (IgG < 15 g/L, IgA or IgM < 10 g/L) **without** relevant symptoms

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| Recommend  **ROUTINE referral** to Clinical Haematology:use e-RS |

Minor abnormal sFLC ratio

(>0.1 and <7, but outside normal range)

This pattern is common in elderly patients

If results not clear or concerns use

Haematology Advice and Guidance on e-RS

or **Discuss** with your Clinical Haematology

Department

* No serum paraprotein
* Normal sFLC ratio (0.26–1.65)**\***
* No Bence Jones Protein
* Normal immunoglobulin levels

Myeloma very **unlikely** but symptoms may still need to be investigated

with other clinical specialties

**\*** RLUH reference range, labs may vary

NICE guideline [NG12] Suspected cancer: recognition and referral <https://www.nice.org.uk/guidance/ng12> NICE guideline [NG35] Myeloma: diagnosis and management <https://www.nice.org.uk/guidance/ng35>

For any queries or additional resources for healthcare professionals on myeloma and related conditions, please visit [**academy.myeloma.org.uk**](https://academy.myeloma.org.uk/) or email us at [**earlydiagnosis@myeloma.org.uk**](mailto:earlydiagnosis@myeloma.org.uk)

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