

# Plasma Cell Dyscrasias

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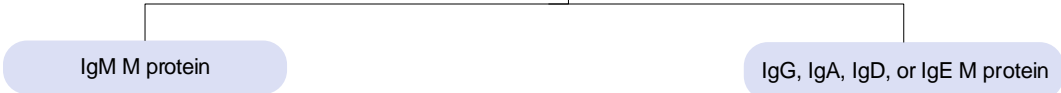
- BASELINE SCREENING**
- CBC plus differential
  - Complete metabolic panel
  - LDH

**INDICATIONS FOR TESTING**  
Individual signs and symptoms suggestive of plasma cell dyscrasia

**ORDER**  
[Monoclonal Protein Study, Expanded Panel, Serum](#), which includes the following components:

- SPEP: quantifies M protein
- SIFE: characterizes M protein
- Serum kappa and FLC ratio

If primary amyloidosis is suspected, also order [Monoclonal Protein Study, 24 hour, Urine](#) (UPEP)



- M protein <3 g/dL
- No organ/tissue damage
- <10% clonal bone marrow plasma cells

IgM MGUS

- M protein (any size)
- ≥10% clonal bone marrow plasma cells
- Evidence of organ/tissue damage (anemia, hepatosplenomegaly)

Waldenström macroglobulinemia

- M protein ≥3 g/dL
- OR
- Elevated FLC ratio

**ORDER**  
Bone marrow biopsy  
Imaging studies

- ≥10% clonal bone marrow plasma cells
- No myeloma-defining event or CRAB feature

Smoldering multiple myeloma (asymptomatic)

- ≥10% clonal bone marrow plasma cells
- ≥1 myeloma-defining event or CRAB feature

Active multiple myeloma (symptomatic)

Treat and monitor for disease

- M protein <3 g/dL
- AND
- No end-organ impairment (see CRAB Features)

MGUS likely

Repeat evaluation in 3-6 months

**OTHER DIAGNOSES**

**Solitary Plasmacytoma**

- Single lesion on imaging confirmed by biopsy showing plasma cells
- No CRAB features
- Normal bone marrow biopsy
- Normal skeletal survey

**Primary Amyloidosis**

- Amyloid-related systemic syndrome attributed to a plasma cell proliferative disorder
- Positive amyloid staining by Congo red of any tissue
- Evidence that amyloid is light-chain related
- Evidence of monoclonal plasma cell proliferative disorder

**Abbreviations**

BM	Bone marrow
CRAB	Calcium (elevated), renal insufficiency, anemia, bone lesions
CT	Computed tomography
FLC	Free light chain
LDH	Lactate dehydrogenase
MGUS	Monoclonal gammopathy of undetermined significance
MRI	Magnetic resonance imaging
PET	Positron emission tomography
SIFE	Serum immunofixation electrophoresis
SPEP	Serum protein electrophoresis
UPEP	Urine protein electrophoresis

**CONSIDER**

- SPEP, UPEP, SIFE, FLC ratio ([Monoclonal Protein Study, Expanded Panel, Serum](#) and [Monoclonal Protein Study, 24 hour, Urine](#))
- Bone scan
- [Multiple Myeloma Minimum Residual Disease by Flow Cytometry](#)

**Myeloma-Defining Events**

- Clonal bone marrow cells ≥60%
- Serum involved:uninvolved FLC ratio of ≥100
- >1 focal lesion on MRI ≥5 mm

**CRAB Features**

- Elevated calcium: serum calcium >11 mg/dL
- Renal insufficiency: serum creatinine >2 mg/dL or creatinine clearance <40 mL/min
- Anemia: hemoglobin value <10 g/dL
- ≥1 lytic lesion on skeletal radiography, CT, or PET-CT