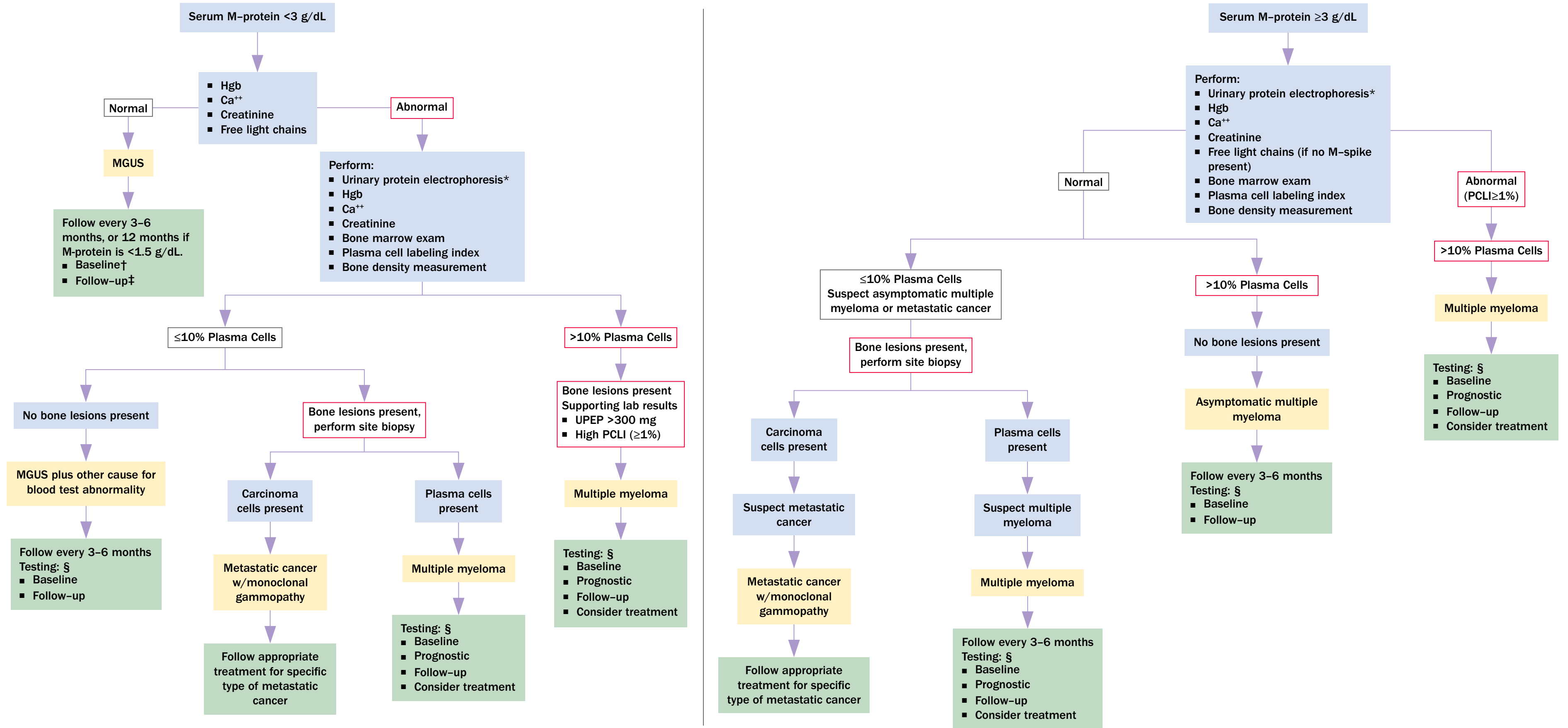


**An Expanded Algorithm for the Laboratory Evaluation of Suspected Multiple Myeloma**



- Baseline Tests:**
- Hemoglobin (Hgb)
  - Serum protein electrophoresis (SPEP)
  - Urine protein electrophoresis (UPEP)
  - Calcium (Ca<sup>++</sup>)
  - Creatinine
  - Immunoglobulin free light chains
  - Complete blood count (CBC)
  - Beta<sub>2</sub> microglobulin
  - Free light chains (if no M-spike present)
  - C-reactive protein
  - Myeloma cells (circulating neoplastic plasma cells)
  - Lactate dehydrogenase (LDH)

- Baseline Tests continued:**
- Cytogenetic analysis-standard
  - Cytogenetic analysis-FISH
  - Immunoglobulin testing (A, M, G)
  - Immunoglobulin free light chains (FLC)
  - Bilirubin
  - Glucose
  - Sodium
  - Potassium
  - Uric acid

- Prognostic Tests:**
- Beta<sub>2</sub> microglobulin
  - Plasmablastic morphology evaluation (bone marrow)
  - LDH
  - Myeloma cells
  - Plasma cell labeling index (PCLI)
  - Cytogenetic analysis-standard
  - Cytogenetic analysis-FISH
  - Immunoglobulin free light chains

- Follow-up Tests:**
- SPEP
  - UPEP
  - Ca<sup>++</sup>
  - Creatinine
  - CBC
  - Beta<sub>2</sub> microglobulin
  - C-reactive protein
  - Myeloma cells
  - IgA or IgG
  - Free light chains (if no M-spike present)

- Ancillary Tests:**
- PCLI
  - Myeloma cells
  - Magnetic resonance imaging (MRI) (optional)

**Legend**

- Diagnosis
- Treatment or Follow-up

\* Free light chains (FLC): #84190 Immunoglobulin Free Light Chains, Serum. Results are affected by renal function; in addition to knowing the kappa and lambda levels, the kappa/lambda ratio must be known. FLC can also be used for follow-up, as well as screening for relapse.

§ See test listings

† No cytogenetic studies

‡ Immunoglobulin studies if M-protein is small or otherwise difficult to measure (eg, beta migrating IgA.)

Algorithms are designed to assist in the investigation and monitoring of disease. Due to the evolutionary nature of medical science, algorithms evolve and change over time. This algorithm is designed to be used in conjunction with clinical judgement, based on the clinical presentation of the patient.