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When do you need to do a bone marrow biopsy in the management or assessment of multiple myeloma?

1. In general, routine bone marrow biopsies not required in myeloma since multiple myeloma involves proteins that circulate in the blood

2. Specific times when bone marrow biopsies are required
   a. At diagnosis
      i. Assessment of overall disease burden
      ii. Evaluation of cytogenetic risk stratification

   b. Prior to enrolling patient in a clinical trial: usually obtained to evaluate patient prior to study, and for correlative work

   c. Patient has deep response to therapy
      i. Evaluate for minimum residual disease (MRD)
      ii. MRD analysis accomplished through a variety of techniques, including next-generation sequencing and next-generation flow cytometry

   d. Patients with non-secretory myeloma
      i. Disease burden is not reflected in the paraprotein in the blood
      ii. Bone marrow biopsy and aspirate are key ways of monitoring these patients' ongoing therapy and response

   e. Presence of unanswered questions
      i. When cytopenias are present that are not explained by either disease or chemotherapy
         1. To evaluate for oligosecretory disease, if serum and urine monoclonal protein levels are below normal
         2. To evaluate whether lowered blood counts are due to another bone marrow disorder such as myelodysplastic syndrome