Clinical Guideline – Minimum Retest Intervals (Biochemistry) July 2024

Minimum Retest Intervals (MRI) can be defined as the minimum time necessary before repetition of a requested test is appropriate. These intervals are often decided based on factors such as existing clinical guidelines (eg Royal College of Pathologists), the nature and properties of the test itself, as well as the age, condition, and treatment regimen of the patient. The use of MRI is a well-established means of incorporating demand management into a clinical laboratory service.

The rationale for MRI-based rejection of requests is that in line with agreed guidance, either on a national/regional or local scale, clinicians are encouraged to consider the appropriateness of requests in relation to availability of previous results. This should lead to a reduction in unnecessary repeat requests and ultimately lead to both a more efficient and cost-effective laboratory service, in terms of reduced unnecessary workload and related reduction in use of reagents and consumables, as well as improved patient experience due to the potential for reduced instances of phlebotomy.

As part of several regional level changes to pathology services in Northern Ireland. MRIs are being incorporated into the laboratory test requesting procedure. Samples that breach MRIs will be flagged at the point of request. To enable appropriate requesting, the following guidance flow charts have been produced. These will be expanded to cover other tests within Biochemistry and the other laboratory disciplines over time.

Adherence to this guidance is an integral quality improvement initiative that will benefit our service both in clinical areas and within the laboratory. A working group has been set up to audit requesting activity in SHSCT on a regular basis. Areas found to be frequently in breach of the MRIs will be targeted for investigation and further education as required.

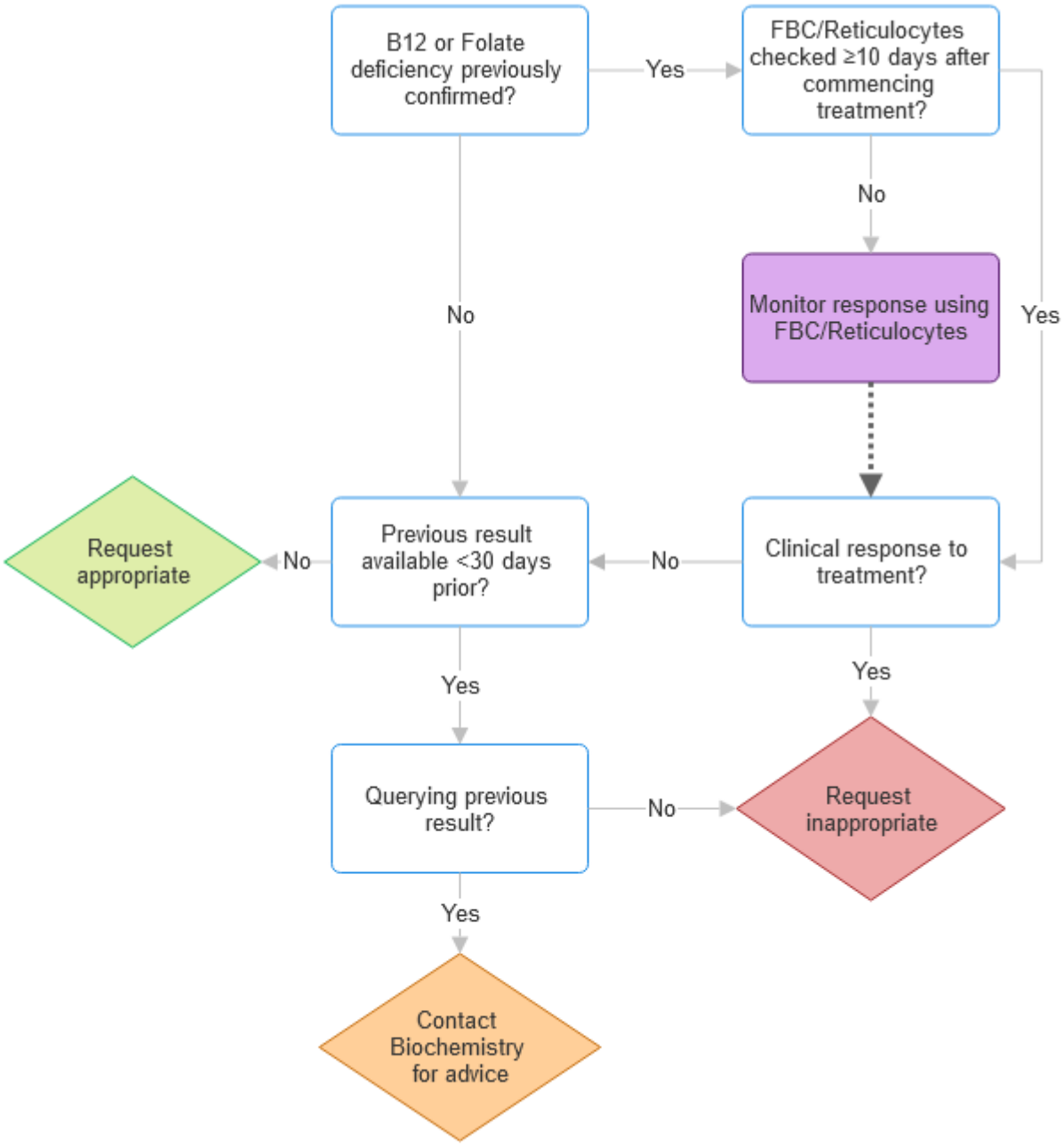
Please refer to the following flow charts when deciding the appropriateness of routine Biochemistry tests. For further information on MRIs, please contact the Biochemistry laboratory.

Laboratory guidelines for requesting Vitamin B12 and Folate

Clinical indications for requesting Vitamin B12 and Folate

1. Suspicion of B12 or Folate deficiency (e.g. fatigue, weakness, cognitive issues, peripheral neuropathy/pins and needles)
2. Follow-up where lack of response to treatment is shown
3. Nutritional screening

Decision tree for B12 and Folate requesting

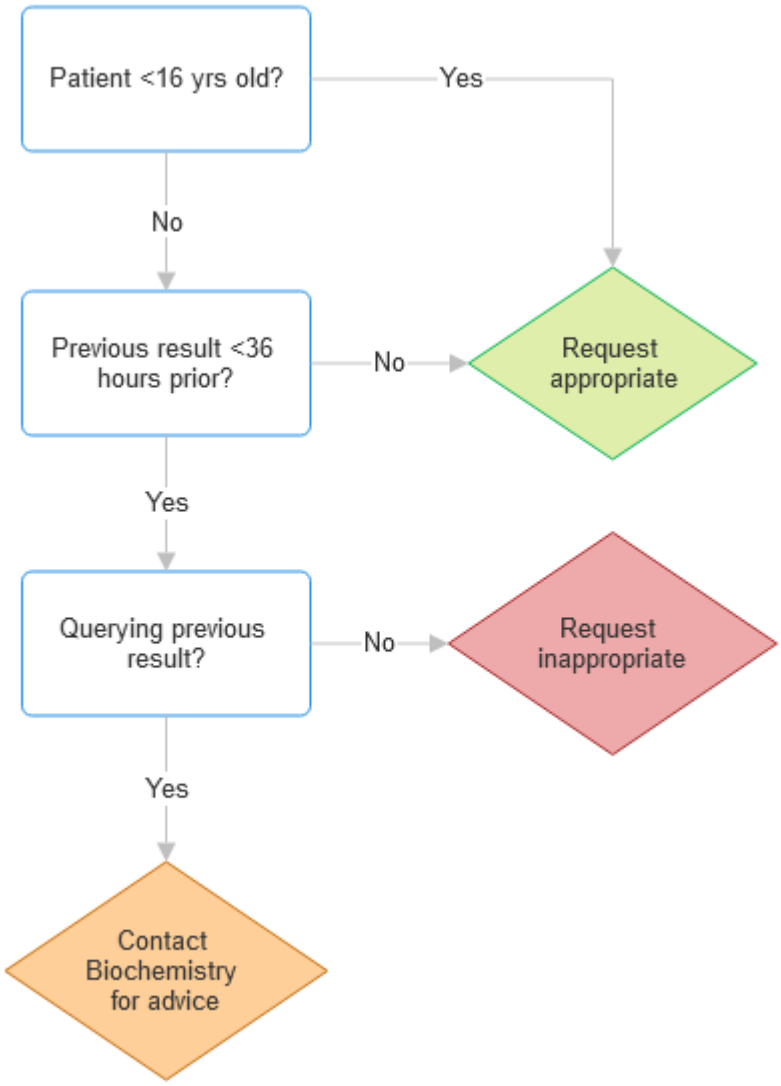


Laboratory Guidance requesting CRP

Clinical indications for requesting

1. Initial diagnosis of infection in high risk patients (e.g. fever, inflammation, pain, post-surgery)
2. Suspicion of severe inflammation
3. Monitoring for flare ups of chronic inflammatory conditions (e.g. rheumatoid arthritis)

Decision tree for requesting CRP

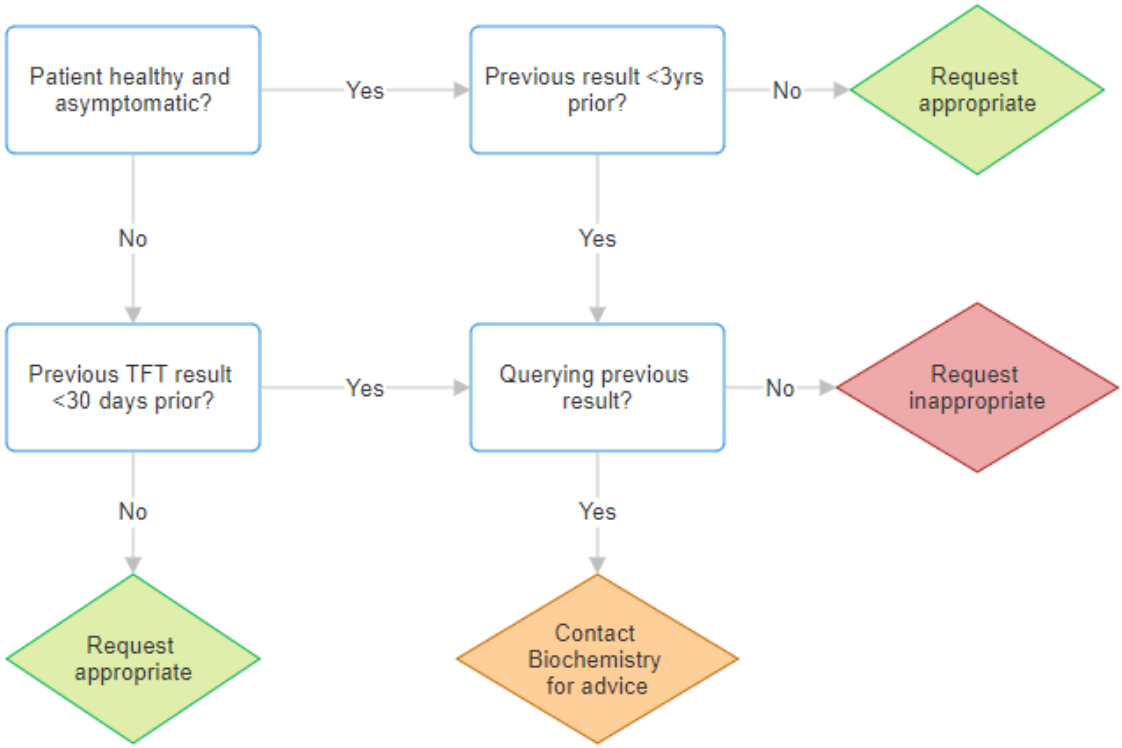


Laboratory Guidance for requesting Thyroid Function Tests (TFT)

Clinical indications for requesting TFT

1. Diagnosis of hypo-/hyperthyroidism
2. On active treatment for thyroid conditions
3. Receiving treatment which necessitates monitoring TFT
4. Antenatal monitoring

Decision tree for TFT requesting

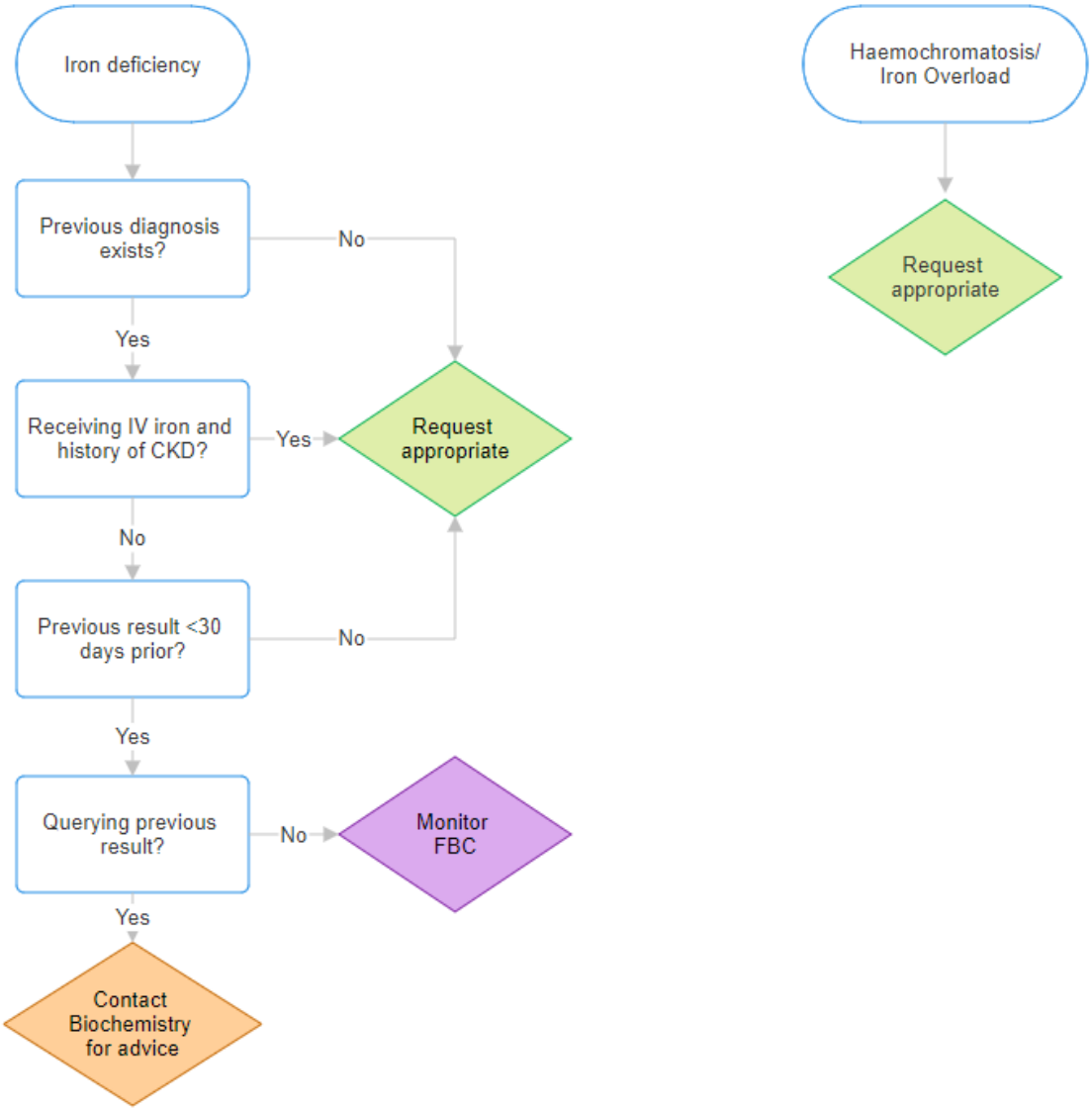


Laboratory guidance for requesting Ferritin and Iron studies

Clinical indications

1. Initial diagnosis of iron deficiency anaemia
2. Haemochromatosis/Iron overload
3. Diagnosis of Iron toxicity
4. Receiving Iron therapy

Decision tree for requesting

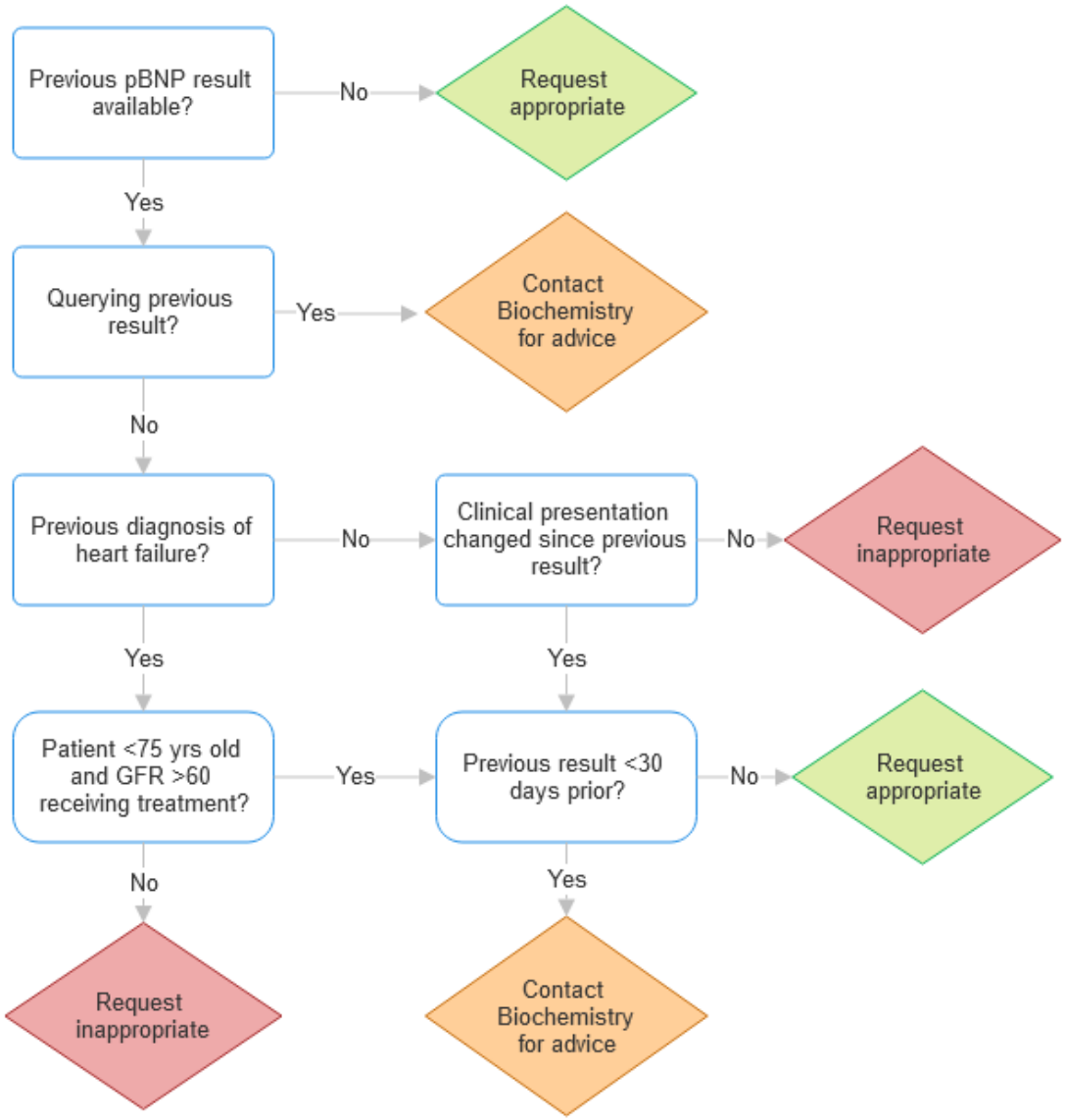


Laboratory guidelines for requesting pBNP

Clinical indications for requesting BNP

1. Suspicion of heart failure (e.g. breathlessness, oedema, fatigue, light-headedness)
2. Titration of treatment for heart failure

Decision tree for BNP requesting



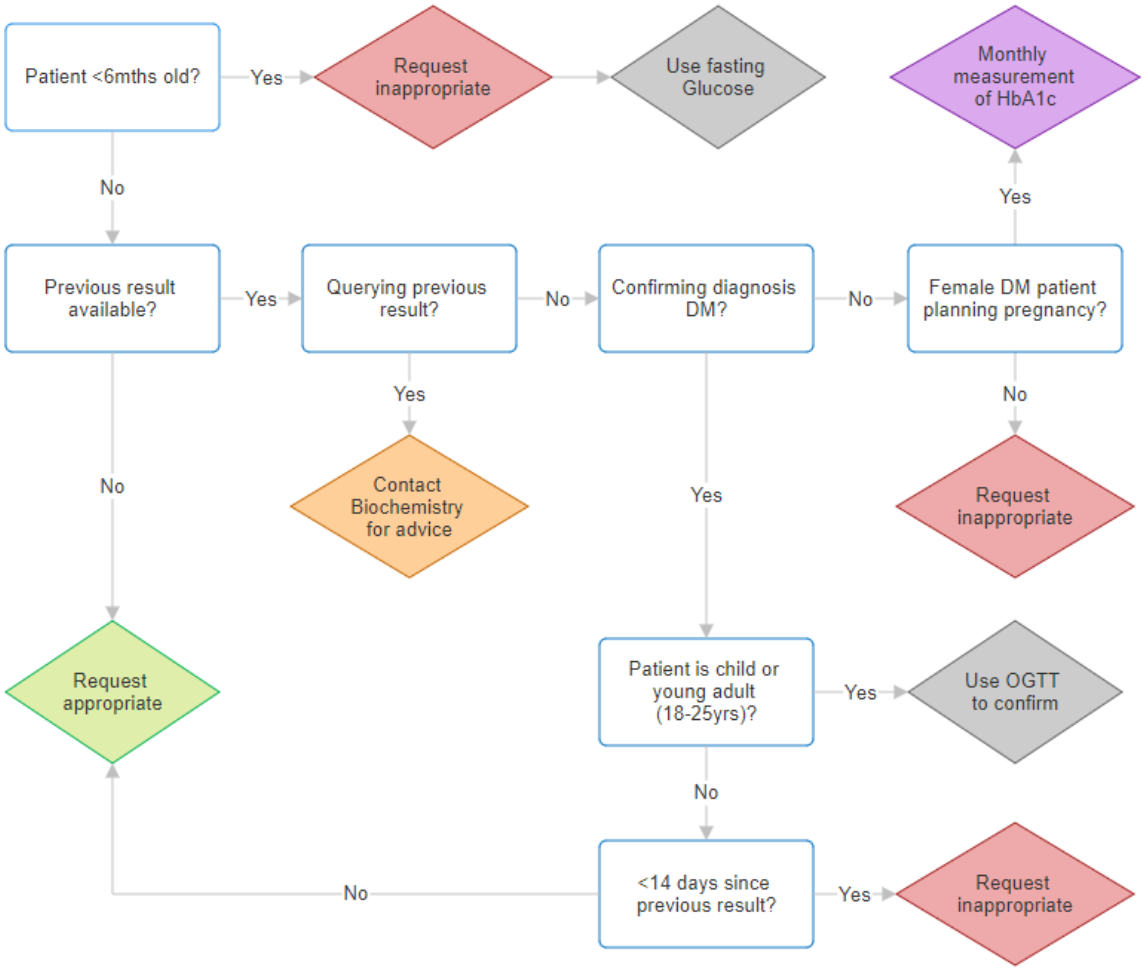
Laboratory guidelines for requesting HbA1c

Clinical indications for requesting

Note - HbA1c inappropriate for patients <6 months old

1. Diagnosis and monitoring of Type 1 and 2 Diabetes Mellitus (DM) e.g. fatigue, frequent urination, weight loss, increased thirst
2. Antenatal monitoring of diabetic patients

Decision tree for HbA1c requesting



Laboratory Guidance for requesting Protein Electrophoresis

Clinical Indications for requesting

1. Diagnosis of plasma cell dyscrasia e.g. Multiple Myeloma
2. Suspicion of monoclonal gammopathy of undetermined significance (MGUS)
3. Monitoring of response to active treatment

Decision tree for requesting