Osmotic Fragility Testing

The osmotic fragility test is, due to its non-specific nature, no longer recommended as a screening test for hereditary spherocytosis. The osmotic fragility test will show an increase in osmotic lysis due to the spheroidal shape of the red cells independent of the cause of spherocytes.

For the diagnosis of hereditary spherocytosis the British Society for Haematology Guidelines recommends the following:

Patients who fit the following criteria do **not** require any additional testing:

- **Laboratory indices**
  - spherocytes
  - increased MCHC
  - increase in reticulocytes
  - negative DAT

- **Typical clinical features**
  - anaemia
  - splenomegaly
  - jaundice

- **Family history**

- **No other reason for haemolysis**

Additional testing for confirmation of hereditary spherocytosis is indicated when these diagnostic criteria are not met and other causes for haemolysis are excluded.

If further testing is required a screening test with a high predictive value for hereditary spherocytosis should be performed. The recommended screening tests are the cryohaemolysis test and the EMA binding test. The usefulness of each can be improved when the results are interpreted in conjunction with clinical information and red cell indices.

If possible when investigating neonates it is best to delay testing until 6 months of age or older.

For advice regarding the appropriate tests to confirm a diagnosis of hereditary spherocytosis, contact a haematologist at Canterbury Health Laboratories via (03) 364 0300.

The Specialist Haematology laboratory at Canterbury Health Laboratories is currently introducing the cryohaemolysis test as a replacement for the osmotic fragility test. Please contact the specialist haematology laboratory for further information via (03) 364 0375.