## 5. Abnormal glycated haemoglobin measurements

In the context of establishing the diagnosis of diabetes based on the HbA1c, an inappropriately low result is the major concern as the diagnosis will be missed. In all patients having an HbA1c performed, the possibility that the patient may have an associated medical condition that may render the HbA1c measurement invalid should be considered. These conditions have been previously discussed [1]. In summary, HbA1c may not be the appropriate test in patients with any significant chronic medical disease, any anaemia or any abnormality of red blood cell structure or turnover (Box 1). This possibility should certainly be considered in any patient who has a high AUSDRISK score with an unexpectedly low HbA1c. A full blood count (FBC) may reveal red blood cell abnormalities suggestive of a haemoglobinopathy or haemolytic anaemia but a normal FBC does not exclude the possibility. Some medications (e.g. dapsone) can also lead to erroneously low HbA1c results.

## SUMMARY

The use of the HbA1c for diagnosis overcomes many practical problems associated with traditional blood glucose measurements. However, the test is not without its own limitations of which the medical practitioner needs to be aware. The possibility of having a medical condition that may interfere with the test should always be considered, even though these are rare in most Australian communities. Appropriately used, it provides a cost-effective, efficient and simple tool for the early diagnosis of type 2 diabetes.