

72 Hour Fast - Summary Clinical Guideline

(Document Code: CHISCG35)

**THIS TEST IS ONLY TO BE PERFORMED FOLLOWING DISCUSSION WITH
A CONSULTANT BIOCHEMIST OR ENDOCRINOLOGIST**

INDICATIONS

Confirmation and differential diagnosis of suspected fasting hypoglycaemia.

CONTRAINDICATIONS

- Hypoglycaemic drugs for diabetes
- Severe acute illness - critical illness can be associated with hypoglycaemia due to sepsis, hepatic, renal or cardiac failure- **this test should not be used in these circumstances.**
- Untreated adrenal insufficiency

SIDE EFFECTS

Nil, but test potentially unpleasant due to severe hunger

PRECAUTIONS

Exclude adrenal insufficiency- this will need cortisol measurement and often Short Synacthen Test with review of results prior to undertaking the fast.

PREPARATION

Discontinue all non-essential medications on day of commencing test- referring doctor to advise of medications to be omitted.

PROCEDURE

Patient eats or drinks normally leading up to the test- including breakfast on the day of the test. No food to be eaten and no caffeine or calorie-containing drinks to be taken during the test.

Day & Time	Action	Extra bedside testing	Laboratory bloods
1 09:00	Check bedside blood glucose	Also check bedside blood sugar at any time when patient reports symptoms compatible with hypoglycaemia.	If capillary blood glucose <3.3 mmol/L send bloods to lab urgently for analysis.
15:00	Check bedside blood glucose		
21:00	Check bedside blood glucose		
2 03:00	Check bedside blood glucose	Testing should be increased to every 2hrs when blood sugar levels drop to <3.3 mmol/L.	Send one yellow top and one grey top and request glucose, insulin, C-peptide and sample STORE.
09:00	Check bedside blood glucose		
15:00	Check bedside blood glucose		
3 03:00	Check bedside blood glucose	Do not end fast unless lab glucose confirmed <2.5 mmol/L when patient has symptoms or <2.2 mmol/L without symptoms	Phone the lab to check the glucose result before ending the test.
09:00	Check bedside blood glucose		
15:00	Check bedside blood glucose		
4 03:00	Check bedside blood glucose		

Fast ends when ANY of the following apply:

- Lab glucose is < 2.2 mmol/L
- Lab glucose is < 2.5 mmol/L and the patient is symptomatic or displaying signs of hypoglycaemia (e.g. includes confusion if hypoglycaemia unaware patient)
- 72 hours have elapsed since the start of the test
- Do not end the Fast on the basis of a bedside sugar test

Stopping the Fast:	Send two yellow tops and two grey tops and request glucose, β -hydroxybutyrate, insulin, C-peptide and sample STORE. Then give 1 mg Glucagon iv.
10 min post injection	Send grey top for glucose
20 min post injection	Send grey top for glucose
30 min post injection	Send grey top for glucose
Patient can now eat and drink as desired	

Stopping the fast

The principle of the test is to induce hypoglycaemia and assess the patient's symptoms and biochemical response to the low blood sugar so it is important that the test is not terminated before this information can be derived. Exceptions to this would include where consciousness level drops or the patient develops chest pain suggestive of cardiac ischaemia in which case the test should be terminated without delay and an urgent medical review requested.

The Fast ends when any of the following apply;

1. **Laboratory** glucose is less than 2.2 mmol/L
2. **Laboratory** glucose is less than 2.5 mmol/L and the patient is symptomatic or displaying signs of hypoglycaemia (e.g. includes confusion if hypoglycaemia unaware patient)
3. 72 hours have elapsed since the start of the test

Do not end the fast on the basis of a bedside sugar test.

Regardless of the reason for stopping the Fast it is vital to send bloods before reversing hypoglycaemia. Send two yellow tops and two grey tops and request glucose, insulin, C-peptide, β -hydroxybutyrate and sample STORE. The lab will add on proinsulin or sulphonylureas only if appropriate after discussion with Consultant Endocrinologist.

If it is judged necessary to treat hypoglycaemia urgently due to severe or dangerous symptoms obtain samples as above and then administer carbohydrate (oral route if conscious, i.v. route if unconscious or chest pain).

After the last fasted sample is collected as above, give 1mg glucagon i.v. and measure send blood for glucose (grey top) after 10, 20 and 30 minutes. The patient can now eat and drink as desired. It is advisable to obtain the samples from the i.v. cannula during this part of the test in view of the frequency of testing required. Ensure that 5 - 10 mL of blood is discarded before the test sample is taken on each occasion in order to avoid contamination. Flush the line with a small volume of saline after each sample to maintain patency.

INTERPRETATION - see full clinical guideline