

**NEONATAL HYPOGLYCAEMIA INVESTIGATIONS**
**Indications**

- Persistent hypoglycaemia (>2 glucose results <2.6 mmol/L within first 48hr of life)
- Severe hypoglycaemia (<1.0 mmol/L) at any time
- Signs of acute neurological dysfunction at any time

**Investigations**

Ideally samples should be taken during an episode of hypoglycaemia

- If there is high clinical suspicion of an inherited disorder, samples referred to external laboratories can be sent urgently and prioritised for analysis by arrangement with the biochemistry laboratory
- If samples are small, please indicate clearly which tests should be prioritised by the laboratory

Blood Samples	Bottle	Paediatric bottle colour	Lab	Quantity needed	Referral location	Expected TAT
Glucose (& lactate)	Fluoride	Yellow	Biochem	1mL	In house	Same day
Insulin & C-peptide	LiHep	Orange	Biochem*	1mL	St Thomas'	2 weeks
Cortisol	LiHep	Orange	Biochem	Full tube	In house	Same day
Growth hormone						1 week
ACTH	EDTA	Red	Biochem*	Full tube	Royal London	2 weeks
Amino acids, free fatty acids & 3BOHB	LiHep	Orange	Biochem*	Full tube	GOSH	2-4 weeks
Ammonia	EDTA	Red	Biochemistry <b>*deliver immediately to lab*</b>	1mL	In house	Same day
Acylcarnitine profile	Guthrie card/ NBS card		Biochemistry	1-2 full spots	GOSH	2-4 weeks
Blood gas analysis (electrolytes, glucose, Hb, lactate, bilirubin)	Capillary gas tube			Full tube (45 uL)	N/A	
Ketones (3 OH butyrate only)	Finger prick - Point of care testing Ketone meter on Wagtail ward					

\* Must be delivered to the lab ASAP for processing (within 30 minutes)

Blood Sciences

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**PF-BSM-CF-7**

<b>Urine Samples</b>	<b>Bottle</b>	<b>Quantity needed</b>	<b>Referral Location</b>	<b>Expected TAT</b>
Organic acid profile	White capped universal	2mL Clean catch	GOSH	4 weeks
Ketones	Plain urine	Dipstick – Point of care testing		

- Review need to screen for/treat sepsis (see **Infection in the first 72 hours of life** guideline)
- Further investigations based on results of initial screen and following specialist advice
- Transient hypoglycaemia: as 1 glucose 1.0–1.9 mmol/L within the first 48 hr of life

Time critical samples prior to the administration of Glucose

- Glucose
- Free fatty acids
- Insulin and C-peptide
- Cortisol
- Lactate
- Ketones

Other bloods can be taken post correction, if necessary

**Contacts:**

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