CHILDREN'S SERVICES

Guidelines for Acute Unexpected Hypoglycaemia in Children

Diagnosis
If there is clinical suspicion or a capillary blood sugar (stick test) <2.6 mmol/l then the following samples should be taken:

1.Blood
- 2ml fluoride (Grey top)
- 8ml Li heparin (4ml in small infants) (Orange top)
- 5ml plain (Gold top)
- Extra Li heparin and plain if possible**.**

2. Blood
- 2ml plain (Gold top) after 30 minutes.

3. Urine
- 1-10 ml passed after hypoglycaemia and put in the freezer
- Ward dipstick for ketones

- Samples should be taken **whilst child is hypoglycaemic**, prior to correction
- Initially samples should be stored only; and only if hypoglycaemia is proven on a lab glucose should the following tests be ordered (in order of importance)

	Test (blood)	Sample
1	Glucose	2ml fluoride
2	Lactate, β-hydroxybutyrate, FFA	1-2ml Li Hep to laboratory within 30 minutes on ice
3	Cortisol, HGH	2ml plain
4	Insulin, C peptide	2ml plain
5	U & E's. bicarbonate, LFT's	1ml Li Hep
6	Ammonia	1 ml Li Hep to laboratory immediately on ice
7	Carnitine, specific Acyl Carnitines	1ml Li Hep + Blood spot screening card
8	Amino acids	1ml Li Hep
9	Uric acid, triglycerides, cholesterol	3-4ml plain (2nd line)

Additional blood sample to be taken 30 minutes after hypoglycaemic episode

URINE

10	Organic acids, carnitine, amino acids Toxicology screen	Plain Universal White top

Treatment

1. Initially give 5ml/kg (or 2 mls/kg in neonates) of 10% dextrose as bolus.
2. Start IV infusion of 10% dextrose to run at maintenance requirement.
3. Recheck capillary blood sugar (initially after 5 minutes) and repeat bolus if <4.0 mmol/l.
4. If persistent hypoglycaemia contact Consultant for further advice. Glucocorticoids and glucagons may need to be given

1 - 8, 10 = acute investigations
9 can await discussion with Consultant.

Reference
Dr. Assunta Albanese, St. George's Hospital, October 2002.

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