

Chain of Evidence (COE) Samples in Children

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Background

- A “Chain of Evidence” is a means of assuring that samples have been handled to the standard that allows submission for court / legal reasons.
- It demonstrates who has handled the sample along its way to being processed, accounting for the safe-keeping and processing of a sample, the implication being that likelihood of tampering / contamination is extremely low.

If you think that a positive sample may have criminal or child protection implications then it is best to use COE at the outset. This guide covers Toxicology samples.

Examples

- a) pre-school child who presents with carer as lethargic or unusual behaviour AND senior paediatrician concerned enough to perform toxicology for accidental or deliberate ingestion.
- b) assaulted teenager who reports drink being “spiked” at a club. Discuss with police as case would be referred to them. First sample obtained to be sent via police to their forensics department.

NB) Children brought by police / social worker to CED / CP medical, e.g. “found at home and concern for acute neglect and drug paraphernalia in the home”, then urine toxicology samples should be sent via police to their forensics lab (using their COE process). **Hair analysis is via police and RACH do not become involved with this.**

Who can you send toxicology samples WITHOUT COE (a standard form will suffice)?

- i) Teenagers attending with history of drug use or accidental or deliberate overdose
- ii) If a **carer self-reports** that child has ingested a substance (this is because the ingestion is already reported / suspected and COE cannot prove intent - it just makes the likelihood of a false positive from tampering / sample mix-up but much less likely)
- iii) 13 year old with behavioural outburst / acute confusional state (may have been using illicit substance).

Practical Process

1. **Print this COE form:** https://www.frontierpathology.nhs.uk/pug/biochemistry-immunology/requests-and-results#Drug_testing
2. **Fill in patient and sample details on the CoE form (LIA-BTX-COEFORMH)**, ensuring all sections are completed fully.
3. **Obtain CONSENT** - and document in the medical notes. Complete tick box on the COE form

Verbal consent – explain that you are testing urine to check for infection or accidental ingestion of medication or a substance that might explain the symptoms. Remember to ask what medications (prescribed or not prescribed) are in the home.

The only reason to withhold informed consent from a carer about toxicology testing is if you have concerns about deliberate induction of symptoms in a child – i.e. where FII is suspected. Document your reasons in the medical notes. There is a relevant box to tick on the COE form.

- 4. Pour the urine sample into two separate, labelled plain 20 mL containers**
- 5. Seal the around the lid of both samples** (e.g. using surgical or masking tape) to create a tamper-proof evidence seal. **Sign along the tape seal.**
- 6. Samples should be obtained in working hours and must reach the lab prior to 16:45.** Contact the laboratory before sending all chain of evidence samples. **These must be received in normal working hours.** If in any doubt please contact laboratory before obtaining the samples

- **09:00 – 16:45 Monday to Friday** – see link to BSUH COE form. Every person who transports / handles the sample must sign this form.
- **AFTER 17:00 or at the weekend – use the form BUT:**
 1. Store the sample with form attached on Level 8. Speak to the HDU Nurse in Charge so they can put child's name on their handover list and place sample in the PICU fridge located just behind HDU in the PICU bays. The room says "Clean Utility" (but also referred to as "PICU Drug Room"). There is a red box in the fridge labelled "COE".
 2. **Update the job list to state:** "sample to be sent from PICU fridge next standard working day".
 3. ONLY take the sample to biochemistry lab the next normal working morning (Mon-Fri)
 4. **You must contact the lab in the morning and speak to technician before delivering sample. The person delivering the sample to the lab the next working morning must also sign the form.**

Drugs are stable and storage in fridge over the weekend does not affect the processing. Samples do not need to be frozen.

- 7. Results:** If you need a result urgently (with 24-48hrs): please speak to Amber Crampton.

MICROBIOLOGY

Currently there is no set-up at BSUH for sending micro samples by COE. In daytime working hours, **if you speak directly to the on-call micro technician IN HOURS, it may be possible** for your sample to be hand delivered to the lab technician and for it to be placed in a secure fridge for processing - remember to sign at every "handover" of the sample. You could use this form- BUT cross out TOXICOLOGY and write MICROBIOLOGY where relevant https://www.frontierpathology.nhs.uk/pug/biochemistry-immunology/requests-and-results#Drug_testing

e.g.) suspected FII and deliberate contamination of a wound

e.g.) swabs being performed for STI screening in child disclosing or with suspected CSA (Child Sexual Assault) and where EUA is deemed necessary after discussion with SARC Dr.