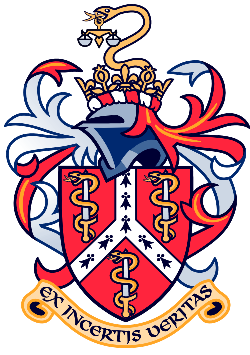


Faculty of Forensic & Legal Medicine

Forensic Science Sub-committee

NEWSLETTER July 2023

Updated versions of the following documents are available in July 2023:

- **Recommendations for the collection of forensic specimens from complainants and suspects:**
  - Advice has been provided in relation to lubricants (page 1) and it is therefore no longer required to submit the opened tube/sachet of lubricant.
- **Recommendations for the collection of forensic specimens from complainants and suspects - the evidence**
- **Forensic Science Subcommittee (FSSC) Newsletter**
- **Recommended equipment for obtaining forensic samples from complainants and suspects:**
  - Advice has been provided on suitable cleaning agents as validated by the Forensic Capability Network (FCN);
  - The examinee's gown does not need to be forensic DNA grade (FDG). For further information see the FCN-SAR-REP-004 PPE contamination Risk Report.
- **Recommendations for taking nail clippings for toxicology**
- **Recommendations for taking hair samplings for toxicology**
- **Blood samples in hospital for unconscious/ incapacitated patients**
- **Forensic medical examination forms - Complainant and Suspect:**
  - **Following a query from a member, these forms have been amended to increase the space for the exhibit and TEB numbers.**

Non-fatal strangulation: in physical and sexual assault

This *guidance* has been amended following advice from forensic scientists.

Low adhesive tape is often used to successfully recover fibres, other debris and DNA from the skin surfaces of deceased individuals at a crime scene. However, the general consensus is that if an individual is mobile following non-fatal strangulation there is such a low expectation of the persistence of fibres on a skin surface (expect to be lost through movement of the individual, contact with other surfaces, etc.) that tape samples from an area of bruising etc., would unlikely recover significant material.

If there is an injury such as an abrasion and fibres are visible within the wound, then forceps/tweezers would be a more appropriate method of recovery.

If consideration is for DNA recovery only then swabs would be the most appropriate sampling method.

Timescales for taking forensic samples

Over the past six months we have received queries regarding the timescales for taking forensic samples.

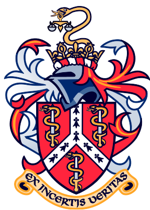
Members will be aware that on page 1 of the recommendation document it states that:

'Forensic specimens should be taken as soon as practicable (for complainants see Relevant Flowchart *'Sexual Offences Post-pubertal and Pre-pubertal'*). The timescales stated are based on the maximum seen in published persistence data to date. There must be a discussion with the examining clinician/person in order to make a decision on a case-by-case basis, as exceptions are possible; for example, if the examinee has been bed-bound or has not washed since the incident. Information from other sources will inform the decision regarding which samples are relevant. Officers submitting samples may have further information regarding the circumstances which will direct the forensic strategy and assist with decisions regarding the relevance and submission of items for forensic analysis.'

If samples are taken outside of the recommended time frame this could be seen as an unnecessary medical process.

It is essential that the officer in the case makes time to discuss the circumstances with the forensic clinician tasked with taking the forensic samples so that a decision is made on a case-by-case basis, as exceptions are possible, as given in the examples above.

There must be initial training of forensic clinicians, work-placed based supervision by appropriately trained clinical/educational supervisors and continuing professional development of staff. There should be access to consultant advice to provide high quality services to the police and the examinees.



Questions to the FSSC

1. **Toxicology is required on a toenail to test for beta-hydroxybutyrate (BHB) and acetone, the presence of which could be linked to long term alcohol use. The lab told us this couldn't be done, and nails are only tested for drugs. Could you find out any more on this topic?**

   Nails are not tested for BHB and acetone. There is no reference range for these substances in nails. The research has been done on blood, urine and vitreous humour, but blood is by far the most commonly used (and informative) medium for BHB interpretation.

2. **When testing hair or nails for drugs, what time frame can you say the drug was taken over? For example, you get hair which is cut 5 weeks post incident on the 12 February. Are you able to say, 'this drug was probably taken on 01 to 03 January' or is it more like 'between the 20 December and 10 January'? Does this also work for alcohol? Is it different for nails because it's spread over the entire nail bed at the time of consumption?**

   The results from hair cannot be accurately dated, they generally relate to the length of segment of hair analysed, usually between 1 centimetre (= one month at an average rate) and 3 centimetres (= three months at an average rate). However, it is important to note that rates of hair growth can vary quite considerably so these should not be taken as "accurate" time intervals.

   Alcohol analysis in hair generally only looks for heavy alcohol use. It is generally used for those that are on an alcohol abstinence programme to indicate whether or not they are complying with the programme. The guidelines specify the length of hair segments that should be used (for comparison to the reference ranges) and the analysis should not be varied from these.

   It is different for nails because drugs are incorporated over the entire nail bed from the blood stream. This means that the results for nails cannot be dated; it has resulted from the time period over which the whole nail has grown - generally many months (or even years for toenails).

3. **Would you be able to help with what specification a good colposcope should have or what we should be asking for? For the SARC accreditation we need to be able to say what criteria or spec we want so we know we are getting at least the minimum acceptable specification. I am not really sure what a good or acceptable colposcope can do or what status the providing company should have? Any advice or direction would be greatly appreciated.**

   The FFLM do not provide guidance on the specific requirements a colposcope must have or which colposcope meets those requirements, for the taking of images of sufficient quality. Doing so carries the risk of the FFLM aligning itself to specific colposcope provider companies which would be inappropriate.

4. **I just wondered if there was a FFLM FSSC view on the practice of printing sticky labels to be adhered to the TEBs of the intimate swabs recovered during a medical examination or whether it was felt that this is down to individual SARC processes.**

   When labelling forensic samples it is best to follow the *FFLM Recommendations – Labelling Forensic Samples*, January 2022.

   The problem with attaching sticky labels is that depending on the time frame these may be 'lost' (removed/fall off) prior to testing in the laboratory whereas if the information is written on the tamper evidence bag, then that will still be visible.

5. **I am looking for guidance as to if it is acceptable to refreeze SARC samples once they have been defrosted?**

   This advice would be for:

   - Biological swabs – freeze again as soon as possible;
   - Blood and urine – this doesn't matter.

   For more information see also *January 2019 FSSC Newsletter*.

   Where it states: Any interruption to the correct/normal storage of frozen exhibits needs to be recorded in as much detail as possible (see below).

6. **The Recommendations for the Collection of Forensic Specimens from Complainants and Suspects recommends collection of female genital swabs in cases of anal intercourse (even if condom purported to have been used) within 3 days (72 hours). Is there any benefit in collecting female genital swabs in additional to the ano-rectal swabs where the allegation is of digital-anal penetration only?**

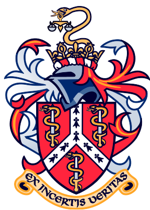
   Part of the rationale behind the recommendation for taking female genital swabs in a case of anal intercourse was because of the chemotactic response for the sperm to go into the vagina. If the complainant was unaware or unsure of what had happened, then female genital swabs should be taken. If there is any uncertainty, then a discussion would need to take place first before taking genital swabs. The committee thought this was a training issue and that the recommendations did not need updating.

7. **We discussed the following question as Senior Doctors with our Forensic Service Provider (FSP), and didn't find a conclusive answer, hence the decision was made to put it to you for consideration:**

   In a case of anal rape within the forensic timeframe, while we are arranging an FME or the NPR (non-police referral) client is still debating whether to report, the EEK does not include any samples from the anus.

   I have often asked police to advise clients to use the tissue (provided for wiping after their urine sample) to wipe the perianal area before their first opening of the bowels, as afterwards there's obviously a much smaller chance to obtain useful material than it would have been beforehand.

   (Obviously this only makes sense if they had not already opened their bowels by the time the police speak to them, and if they could not stop it from



happening before coming for FME). So, we wondered whether there is a reason that something similar is not routinely done as part of the EEK? Or: should an anal wipe be part of the EEK in a case where anal penetration occurred or cannot be excluded?

If in theory you would agree with this being a useful part of early evidence, how about NPR cases?

Which material should they be wiping themselves with to make it possible for the FSP to use (NPR clients would not have the EEK, hence no suitable tissue)? I presume toilet paper is less than ideal.... I suggested that they used the knickers they wear (putting them to the skin with a bit of pressure and motion), and then change into a different pair after the bowel movement (BM), while preserving the pair used to "wipe" before BM for evidence at a later stage. That made sense to me, but may be completely inappropriate - so we wondered what would be the best material to use for an anal wipe to provide early evidence?

The forensic scientists advised that it is usually unclear what was wiped with the tissue in the EEK. It would be useful if there was a way of specifying where/how was wiped. Advice is to retain clothing/underwear in case of any drainage and any tissue wipe used should be retained and exhibited. Other toilet tissue (whilst less than ideal) would still capture some of the drainage if an EEK was not available.

8. **We have had a few staff mention that they are needing to use Butterfly needles and can a needle be added into the FFLM approved Drugs/Alcohol/Blood kits. Currently a separate needle is being used where needed but we wanted to make sure they were needles approved and in line with yourselves.**

   As this is blood for toxicology (and therefore no problem with DNA) you can use a butterfly needle if required and/or another needle and syringe.

9. **I am currently reviewing our practice guidelines for self-collection of intimate vaginal samples. This review has been prompted by our looking to better serve the trans and gender-diverse community who are at increased risk of sexual violence and assault compared to the general population. This community has unique needs and barriers when it comes to forensic examination and specimen collection. We have sought an opinion from our DPP, completed a literature review and of course have reviewed the FFLM Recommendations for the collection of forensic specimens from complainants and suspects. I have a couple of questions regarding what is written in the recommendations: "Best practice would always be for a clinician to take intimate samples but if the complainant/complainer will only consent to taking self-swabs, s/he must wear double gloves & be advised how the sample should be taken; the forensic practitioner should witness the sample being taken if the examinee agrees. It must be made clear on the FME/FSP forms what was done and by whom. Retain the outer gloves used during this component of the examination and package in separate tamper-evident bag. These samples remain the practitioner's exhibits".**

   What is the purpose and justification for retaining the outer gloves in self-collected intimate samples?

   The FSSC discussed the recommendation for retaining outer gloves and decided this was not required as the forensic scientists have never looked at gloves from self-referral cases.

   Can both vaginal and anal swabs be self-collected? We have thought vaginal only given likelihood of perianal contamination in self-collected anal swabs.

   Yes, both vaginal and anal swabs can be self-collected.

   Does FFLM have a written guideline about how patients self-collect these samples? We have developed a draft guideline but would welcome further input if it is available.

   There is *written guidance*; this guidance was prepared during the pandemic but is available in the archive.

   The FSSC reiterate that the forensic clinician should take the swabs if possible. This is important not just for the integrity of the forensic samples but to provide a full assessment of the patient and check for injuries, provide treatment and further management as appropriate for the individual which might not occur otherwise.

10. **We had a clinical discussion today within our SARC teams and wondered if there was any clarification around the forensic times specific to oral sex on both a penis and vagina. The guidelines indicate that this would be 72hr for penile swabs and 7 days for vulval swabs as it is for 'recovery of bodily fluids'. There was some school of thought that it would be 48hr because it is collection of saliva and could be considered within the skin swab time frame? If someone would be able to verify this for us it would be most appreciated.**

    Yes, the timeframe would be 48 hours as it is a skin swab. The Recommendations table has been amended (see page 3).

11. **I'm hoping you can help me: we have been using Chemgene as our cleaning product for SARC cleans (examination rooms, bathrooms etc). I have recently been asked by the current Cleaning Contractor, that they swap from Chemgene to Seldon Selgiene, and they state in their email that this acceptable and agreed signed off by FFLM. Before I agree to this request I'm seeking guidance as to whether it is suitable?**

    The FCN have now validated a number of cleaning products which are commonly used in SARCs, and these are:

    - Virkon
    - Chemgene HLD4H solution
    - Microsol4
    - Selgiene Ultra
    - Virusolve +
    - Distel High Level Laboratory Disinfectant solution

12. **When 'off site' forensic examinations are undertaken is there any value in taking environmental monitoring swabs as 'control' swabs. Perhaps after measures to minimise the risk of DNA transfer have been undertaken a swab might be taken from the sterile field used or/and from other areas of equipment e.g., bed controls or lighting handles.**

    No, there would be no value in taking environmental monitoring swabs.

13. **Is there value in mentioning considerations when examining transgender patients (complainers and suspects) in the sampling guidance? This may possibly be more around ensuring documentation includes a note of any hormonal medications that might be pertinent to the interpretation of findings such as quantities of semen by the forensic scientist rather than any changes to sample sites.**

    The FME forms for complainants and suspects have mention of transgender on page 1. There is also space on both forms for a drug history to include prescribed medication and alcohol to be documented.

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