Faculty of Forensic & Legal Medicine

Forensic Science Sub-committee

NEWSLETTER January 2023

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

- **Recommendations for the collection of forensic specimens from complainants and suspects;**
- **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;**
- **Operational procedures and equipment for forensic medical examination rooms in Sexual Assault Referral Centres (SARCs);**
- **Operational procedures and equipment for clinical and forensic examination rooms in police stations;**
- **Guidance on Paternity Testing.**

Accreditation support for SARCs, Forensic Capability Network (FCN) Newsletter, November 2022

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'To help sexual assault referral centres meet regulatory requirements FCN has set up a national SARC network comprised of specialists from the SARC community including medical professionals, DNA scientists and quality experts *https://www.fcn.police.uk/news/2022-10/accreditation-support-sarcs*

We've identified key risks and challenges as SARCs work towards meeting ISO standards and the Forensic Science Regulator's requirements. In response, FCN has developed five projects to address the challenges and benefit every SARC in England and Wales. This all follows an exercise set-up by FCN in 2021 to help SARCs validate their forensic consumable items and processes, working in collaboration with forensic service provider Cellmark Forensic Services and consumables supplier SceneSafe.'
https://www.fcn.police.uk/sarc-accreditation-support-network

The Commission of Inquiry into Forensic DNA Testing in Queensland

See: https://www.dnainquiry.qld.gov.au

On 06 June 2022, Premier Annastacia Palaszczuk announced an independent Commission of Inquiry into Forensic DNA Testing in Queensland. The Inquiry was established to ensure transparency, identify opportunities for improvement and ensure public confidence in the collection of DNA and the testing and analysis undertaken in Queensland, and in the criminal justice system more broadly.

The Commission of Inquiry was being conducted by the former President of the Court of Appeal, retired judge Mr Walter Sofronoff KC.

The Commission commenced on 13 June 2022, and received submissions and held both public and private hearings.

On 13 December 2022, the final report was provided to the Commissioner for Police, Premier and Minister for the Olympic and Paralympic Games, the Minister for Health and Ambulance Services, and the Attorney-General and Minister for Women and Minister for the Prevention of Domestic and Family Violence.

Read the *final report*, and the *government response* to the final report.

Warning: Caution Required

The FSSC has been made aware of the following which took place in a SARC.

A complainant was seen by a Forensic Nurse Examiner (FNE) following a police referral. The complainant had little recollection of events and there was concern that she may have been raped. She told the FNE that she had not had any consensual sex over the previous two weeks.

After the forensic medical examination (FME), the FNE advised the police officer and the complainant, that 'there was what looked to be a lot of semen in the vagina, some high up, and that she (the complainant) had clearly had sex recently.' The complainant was very distressed to hear this news as, based on her own knowledge that she had not has sexual intercourse in the past two weeks, she concluded that 'something' had happened to her with regards to a possible rape.

The results following analysis of the forensic samples were that no blood or semen was detected on the victim's intimate swabs.

Initial training for clinicians undertaking FMEs should cover the fact that there are many causes of vaginal discharge. Vaginal discharge may be normal, or the result of inflammation or infection, for example. The detection of semen in the vagina can only be confirmed scientifically.

Questions to the FSSC

1. **I recently dealt with a query about hair control samples and now I look at it, I think it needs clarifying. The custody nurse who contacted me thought it was a hair DNA ref sample, probably as the method of sampling mentions roots. The reference to 5 hairs also implies DNA testing whereas for a microscopic comparison it should be closer to 25 hairs. As hair to hair comparisons are rarely done these days, I would advise that hair controls are not taken. Microscopic comparisons are not very useful as evidence and have been largely discredited in the USA as evidence on their own. I can't see why hairs would be taken as a DNA reference instead of a PACE sample.**

   The committee discussed and agreed that the control sample for hair comparison was no longer required and could be removed from the Recommendations (amendments have been made to the January 2023 version).

2. **The Recommendations (for sampling) state in paragraph 4 page 1 that gloves should be worn by the complainant to take a self-sample and these gloves should be exhibited. But the FFLM documents on the collection of self-taken vaginal swab/anal swabs/penile swabs do not make reference to the exhibiting of gloves. Should these self-sampling documents be updated to include the exhibiting of gloves?**

   Should the same process, as above, of wearing and exhibiting gloves be required for the recovery of urine and sanitary items by the patient, or just the requirement for the patient to wash their hands prior to providing these samples (provided any required hand swabs have already been taken)? There is potential for example that drugs from the patient hand could contaminate the urine or DNA from the patients' hands could contaminate the sanitary item or toilet tissue.

   Gloves should be worn by complainants when self-sampling, and suspects if handling the penis as this would help reduce the risk of contamination. Gloves should only be exhibited if there is obvious material on them. The requirement to exhibit gloves should be decided on a case by case basis.

3. **We have been made aware that the comb in the standard hair collection kit is not suitable for certain hair types e.g. afros, and cannot be used. Could we consider SceneSafe providing forensic DNA grade afro combs as a single item, that could then be used in this case? Is this something that has been considered before?**

   SceneSafe have been looking into providing afro combs. This would probably be a stand-alone item rather than added into kits.

   There was another query from a police force regarding the use of 'seeded combs' (a comb with cotton wool) asking why they were no longer recommended. It is possible that the cotton wool would introduce non-biological matter to samples, however, it was highlighted that cotton wool may be good at picking up fibres and particulates. More research is needed before recommending the use of seeded combs.

4. **Have you heard much around N2O testing in blood? We have had some communications from a couple of forces about a rise in abuse of this and they are seeking to do some toxicology? I did some research and whilst it is possible, and also in urine, there are some logistics around refrigeration/freezing etc. Has it ever come up at the FSSC?**

   It is *possible* to test for nitrous oxide but as it evaporates rapidly from bodily samples it is unlikely to be detected. Any sample would have to have been taken very quickly to detect it. There is a difference between the antemortem and post-mortem samples. Nitrous oxide would disappear too quickly in a live person for it to be detected in a sample. There appears to be a reported increase in people taking nitrous oxide and driving. It Is important to take blood samples if suspects fulfil the relevant criteria (condition due to a drug/alcohol under Section 4 RTA) as there may be other drugs in the system.

   See the recent EMCDDA Report - Recreational Use of Nitrous Oxide – a growing concern for Europe: *https://www.emcdda.europa.eu/publications/rapid-communication/recreational-use-nitrous-oxide-growing-concern-europe_en*

5. **The recommendations state that two dry swabs should be taken from the rectum (following an allegation of digital or penile anal penetration), however, the SceneSafe anal swab kit Ref G91613-E contains labels that state the rectal swabs are one wet and one dry. I queried this with my clinical lead who states that she takes one wet and one dry rectal swab. Please would you ask the committee to clarify whether the FFLM recommendations or the SceneSafe kits and my clinical lead are correct?**

   The current recommendations are correct and SceneSafe will amend the kits.

6. **I'd like to ask a question about using printed labels for swab bags and swabs. Does anyone use them, would we be able to use them for legibility purposes? My writing deteriorates after writing the client's name approx. 70 times in an examination.**

   The labels produced by a printer would not be DNA free and the labels in the kit are DNA free as they had been treated with ethylene oxide.

7. **I have been asked by a colleague in South Yorkshire who is doing some research on Road Traffic Act Bloods, if there is any documentation about transporting samples. I am fairly confident that it was suggested ordinarily if they are not to be transported too far, they should be suitable to do so with no extra precautions. However, I seem to remember a cool bag/box being mentioned if they are going to be transported some distance. I just wondered if there was any documentation/policy in respect of this either at the Havens or in FFLM publications?**

   Advice re the transport of samples is on Page 1 of the Recommendations document: 'Biological samples will degrade if not kept cool. Therefore samples should be stored and transported appropriately, e.g. in a cool box.'

   If a blood or urine sample is not taken by the detainee, then it is the police's responsibility to store and arrange transport to the forensic laboratory.

If the detainee takes the sample, the HCP needs to advise how to dispose of the sample if the detainee decides not to have the sample tested and does not take it to an approved forensic laboratory.

8. **We noted there has been a change in the specimen collection guidance quite some time ago around swabbing the speculum or proctoscope used, rather than exhibiting the actual item, would someone be able to explain the rationale for this and benefits of swabbing it rather than sending the item?**

   Would you also be able to point me in the right direction on guidance for the collection of complainant clothing and whether this must be in brown paper bags or can be retained in our plastic scene safe exhibit bags.

   We also note the requirement for all medic child examiners to hold MFFLM rather than be working towards it, which puts our service at significant risk of not being able to examine children. Although we are able to source appropriate training, the sitting of membership exams which only run once per year is prohibitive for some of our doctors who are also in other roles and sitting other post graduate examinations alongside preparing for MFFLM. Can the rationale for this change be explained to us please?

   The recommendations were changed to swabbing the speculum as this presented less of a storage problem.

   Clothing should be exhibited in a breathable bag; wet clothing should preferably be dry before it is exhibited and stored. Each SARC will have a unique approach as not all SARCs have areas where this is easily achieved. Not all SARCs have enough storage facility for clothing for self-referrals. There are for example, SARCs who exhibit clothing for self-referrals and then ask clients to take the bag home to store securely until such time they either decide to report and hand over to the Police or discontinue keeping the bag forensically secure. This is a solution which every SARC must try and address locally. It is also advisable to contact your local police forensic department and discuss with them what they support regarding storage of clothing for police cases.

   Recruitment of clinicians in all areas of forensic medicine is very challenging currently and the Faculty recognises the strains services are under. As a service it is important to always work towards the *FFLM Quality Standards*. Achieving these standards requires consistent effort and is time consuming. It is essential to have competent clinicians that understand the needs of the child and that are able to provide safe care. The examination of children requires special skills in what is a highly specialised area and depending on where you are in the country it is low volume work. The Home Office determined the FFLM is responsible for setting standards in forensic healthcare and examinations. The Quality Standards outline the required competency levels for clinicians working in GFM/SOM and PSOM as set by the FFLM. These were developed in response to Violence Against Women and Children Taskforce Report along with the Government's interim response to that report.

9. **In the *FFLM non-fatal strangulation document* we currently recommend in the section Forensic medical assessment: 'Consideration of fibre sample, e.g. with low adhesive tape, if available, if a ligature was used.' Do the scientists know of any cases where this has been useful? Should we continue to recommend this?**

   The committee discussed and agreed that the recommendation should remain in the document. It was noted that low adhesive tape is not routinely supplied at SARCs or custody but that this can be obtained from CSIs.

10. **I have had a request from a provider, where they want to move over to the national kits but feel a possible enhancement could be made by adding the following. With Vaginal swabs, the order is:**

    Mons-pubis, vulval perineum, low vaginal, high vaginal, endocervical and peri-anal.

    No swab left for speculum, should we add an additional swab for the mons pubis as at present they are mentioned in skin swab section of the recommendations.

    The committee discussed and agreed it was logical to include the mons-pubis swab with the vaginal swabs. An additional swab and bag can be added to the national kit and the Recommendations table has been revised.

11. **Does the FFLM have a master document list, listing all of the currently published FFLM guidance documents and their version numbers or current version published date?**

    The reason I ask is because in order to comply with the ISO 15189 and FSR document control requirements, all the SARCs will need to reference the FFLM guidance documents in their procedures and they will need to have a copy of the latest version of the FFLM guidance documents saved within their quality management systems. Each SARC will need to maintain this list of reference documents ensuring that they have the latest versions saved at all times. Therefore if the FFLM hold and maintain a master document list which is available to the SARCs, it will allow for the SARCs to easily check this against their list of reference documents to check they have all of the latest versions saved within their quality management system.

    The FFLM archive old documents and these are available on the *FFLM website*.

Research Papers of Interest to Members

1. Smith PA., Jetten K., Lovell C.
   Set up to 'fail'? Implementing contamination minimisation procedures and environmental monitoring in a Sexual Assault Referral Centre. JFLM 90 (2022) 102377 [August 2022]

   This paper will be of particular interest to those preparing for SARC accreditation. **Access via FFLM Website when logged in.**

2. Tiry, E., Zweig, J., Walsh, K., Farrell, L., Yu, L.
   Beyond Forensic Evidence: Examining Sexual Assault Medical Forensic Exam Mechanisms that Influence Sexual Assault Case Outcomes. Journal of Interpersonal Violence 2022, Vol. 37(7-8)

3. Mullan, H.
   Characteristics of sexual assault among young people aged under 18 years of age. International Journal of STD & AIDS 2022, Vol. 33(5) 503–507

4. Dowdeswell, TL.
   Forensic genetic genealogy: A profile of cases solved. Forensic Science International: Genetics 58 (2022) 102679

5. Cross, TP., Siller L., Vlajnic, M., Alderden, M.
   The Relationship of DNA Evidence to Prosecution Outcomes in Sexual Assault Cases. Violence Against Women 2022, Vol. 28(15-16) 3910–3932

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