Faculty of Forensic & Legal Medicine

Forensic Science Sub-committee

NEWSLETTER July 2020

Updated versions of the following documents are available in July 2020:

- **Recommendations for the collection of forensic specimens from complainants and suspects;**
- **Recommendations for the collection of forensic specimens from complainants and suspects - the evidence;**
- **Recommendations for collecting hair samples for toxicology;**
- **Recommendations for collecting nail clippings for toxicology;**
- **Blood samples in hospital for unconscious/incapacitated patients;**
- **Recommended equipment for obtaining forensic samples from complainants and suspects.**

Questions to the FSSC

1. Why do the Recommendations state that fingernails should be frozen?

   Fingernails should be frozen alongside other samples for consistency and as there may also be body fluids on the samples these would be better preserved if frozen.

2. The importance of buccal samples was raised in light of the COVID-19 FFLM document which recommended that in relation to 'buccal DNA samples: consider NOT taking these samples during the coronavirus pandemic'.

   There is a huge variation in practice as to who takes the elimination DNA samples. However, recent experience suggests that although these can be taken at any stage, in some cases it will be important to have the elimination DNA sample taken as early as possible in the investigation.

3. Would the committee recommend the same sampling guidance for both police and self-referred cases?

   The committee advised that the same sampling guidance should be used for both police and self-referred cases.

4. Is there anything that would help to differentiate timing of sexual activity when there has been both consensual and non-consensual events with the same suspect? For example if there has been consensual sex in the previous few days then a non-consensual event, would there be scope for facilitating early microscopy to see if sperm heads are still attached as corroboration for the most recent (non-consensual) contact?

   The timing of sexual activity is covered in the Recommendations Evidence document under time since intercourse on page 3. There is also some information that may be of interest in the January 2020 Newsletter on page 4.

5. Mouth rinse sample. Rather than the water be squirted direct from the vial into the client's mouth, is it OK for the HCP to squirt water into the polypot first and then the client place the water in their mouth. It was felt that this was easier and more pleasant experience for the client.

   The committee agreed that there was no issue with using the polypot for mouth rinse samples.

6. Control skin swabs. Is it possible for some examples of what would be considered a suitable skin control site for various scenarios?

   Where control skin swabs are required it is difficult to provide definitive advice as to the best site. Such decisions need to be made on an individual case basis. All HCPs taking forensic samples should be aware that if they need to discuss recovery strategies with a forensic scientist they can obtain contact details for their area Forensic Service Provider (FSP) through the police.

7. In Gloucestershire, the Police EEKs do not contain appropriate mouth sample modules to offer perioral and oral swabs and in the main only oral swabs and mouthwash are collected. If I repeated the three mouth samples in the SARC, as per FFLM guidelines, which would be considered as a priority?

   Practitioners advised that another kit could be opened to take all the samples that were required. It is not possible to state which samples should be prioritised as ideally they should all be taken. The FSSC recognised that sometimes it was not possible to use another kit as it depended on the police procurement and what kits they had available.

   Scenesafe Stuart Wiseman thought that a new kit had been commissioned in the area and would discuss direct.

8. Could there be potential for DNA transference between the EEK and the SARC three mouth samples? Would this then be an issue in court evidence and an argument for the defence?

   If there was a discrepancy between the samples taken then the forensic scientists would be able to investigate the matter further.

9. If we repeated the mouth samples of the EEK, based on the suggestion of poor forensic sample compliance/skills by the police, should we be considering repeating all the EEK samples taken (urine not included as this is a requirement)?

   It was highlighted that the clinician would not know if the samples were taken properly by the police and the committee agreed it was a police training issue.

Some practitioners repeat the samples. If the query related specifically to urine samples - the recommendations state to take two urine samples if the incident occurred in the preceding 24 hours and one if the incident occurred more than 24 hours ago, however, some clinicians were interpreting that as an EEK was one of the urine samples.

Two urine samples were taken for toxicology so there was an ability to do back calculations for alcohol. Often a urine sample is taken in the SARC for clinical reasons e.g. pregnancy test.

10. What is the FSSC view on the evidence in only taking oral mouthwash?

The committee advised that all samples were important and should be taken.

11. Is there a move to standardise EEKs and the regular mandatory training for police officers in performing EEKs?

Work is progressing on standardising kits aiming for National Modular Kits. Training for police officers is not mandatory. The College of Policing and NPCC do not have the powers to mandate police training.

12. Is there any audit/research being undertaken to ascertain the conviction rates based on evidence collected by EEKs?

The committee advised that they were not aware of any audit/research being undertaken in the area. There is some work being planned between Merseyside and Cellmark regarding samples (i.e. what samples were taken/sent to Cellmark and processed, what the results were, etc.). This is on hold because of COVID-19. It was noted that there is limited information available throughout the process from the sample being taken to conviction.

13. Earlier on this week I had a discussion with a police colleague who was insisting on requesting perianal swabs for a male complainant who had alleged penile-anal penetration. We were now on day six after the alleged assault. It was obvious to him that we were beyond the three day mark of the anal swab collection recommendations, but he pointed to the FFLM guidance as the rationale behind his request - I have highlighted the part of the recommendations he was focusing on: *Perianal swabs: ejaculation onto/penile contact with vulva/perianum/ perineum within 7 days (168 hours).*

So my questions are:

a. If the penis has only made contact with the perineum or perianal area only (with or without anal penetration; and in the absence of vaginal penetration for female complainants) are the FFLM recommendations advising the collection of perianal swabs within 7 days?

In general, no. The advice will depend on the circumstances of the case and persistence data, and the appropriate application of the recommendations. In this case, a male, the DNA would be on the perineum and peri-anal area. If there was any degree of ejaculation, or release of pre-ejaculate, then, even if sperm migrated into the anus, drainage would mean the material, including the DNA should be lost by/within 72 hours. Assuming this is an area which is warm, moist and frequently wiped, (and bacteria on the skin and within the anal canal would break down cellular material), it would seem that it is unlikely DNA would persist beyond 72 hours.

b. If so, what is the rationale for this? Moreover, given that if the penis had only made contact with the skin of the thigh/groin crease for example, the recommendations for skin swabbing would be 48 hours. (The same query would also arise if a complainant reports direct penile contact with only the external vulva, would perianal swabs within 7 days be a reasonable request according the recommendations).

Probably not, but again the circumstances of the case might support sampling beyond 48 hours, e.g. if the patient had not washed/wiped and been immobile, or if there was any suggestion of ejaculate being deposited, and no washing etc.

c. If there was penile-anal penetration of a male complainant with ejaculation onto/into the anus/perianal area, are the FFLM recommendations advising the collection of perianal swabs even from day 4 to day 7? This would mean that whilst we would not collect any anal/rectal swabs beyond 72 hours, we would however collect perianal swabs only from day 4 to day 7 - and is there evidence for this?

The FSSC were not aware of any evidence either way, but again thinking of the circumstances of the case, sampling beyond 72 hours would seem inappropriate. Sperm/DNA from the ano-rectum would have drained away by then and/or been broken down, +/- the effects of washing, wiping etc.

d. In the case of children, if the penis only makes contact with the vulva/perineum/perianum (without penetration of the anatomical vagina) are the recommendations that perianal swabs should be taken up to 7 days? This would have significant implications for paediatric forensic medical examinations.

Again, depends on the circumstances of the case. The above 72 hours would apply to boys and pre-pubertal females.

e. Lastly, regarding vulval swabs, the FFLM recommendations do not make a distinction for vulval swab collection for prepubertal children (cf low and high vaginal sampling) - does that mean vulval swabs should be taken for prepubertal children up to 7 days?

This decision needs to be made on a case by case basis considering the stage of puberty of the child.

14. A complainant of domestic violence has alleged that her partner has been injecting bleach and nail polish into her. The police requested samples for toxicology. Can the forensic lab test for this with the substrate in the toxicology bottles we have?

Testing for nail polish remover is possible, as acetone should be detectable in blood and urine samples but

testing for bleach in blood and urine is usually not possible.

There are no special requirements for the vials – the usual toxicology sample vials will suffice. Standard toxicology testing will probably also be requested so "normal" samples would be required for this – blood and urine. If possible, please collect both preserved and unpreserved blood samples.

As with all toxicology samples it is really important to complete the FME form with as much information as possible to assist the toxicologist, such as the time interval between incident, admission to hospital and sampling, if known.

15. My colleagues and I have significant concerns about police requests for blood and urine toxicology from the recently bereaved parents of deceased babies and infants - where no suspicion of intoxication or wrong doing exists. Is there any advice for the HCPs called to take samples in this situation?

FSSC Newsletter July 2018 provided an answer to a similar question see Question 10.

The committee discussed and advised that this is a consent issue and the situation should be clearly explained to the parents so that they could give appropriate informed consent.

There is guidance in England and Wales for police working under the PACE Act please see below.

(Advice received from Detective Superintendent Jonathan Holmes from the Child Death Working Group, June 2020):

Suspicious Circumstances	**Non-suspicious Circumstances**
Arrest and make request in custody under s62 PACE as intimate sample (blood or urine)	Voluntary basis only. Presumption should be that samples are sought in all SUDC reports unless circumstances suggest no practical value (e.g. teenager drowning – parents at work). Samples could be of significance in other proceedings, e.g. coronial / family law.
To avoid arrest and custody if sole purpose is to exercise powers under Section 62 PACE, alternatively caution and obtain samples at hospital In case of refusal, move to arrest	Points to consider: • Requests to be made with compassion and sensitivity. • Requests to be made ethically. • Use form of words provided by National Child Death Investigation Working Group. • No caution to be used (non-suspicious = not suspects).

Recommended form of words to be used for voluntary samples request

This form of words should be used where no criminal offences are suspected. The purpose of this form of words is to provide a framework that facilitates an ethical request for consensual samples. In addition, officers are asked to consider that this request be made with compassion and sensitivity and that no caution is used in making the request of parents/other relevant persons.

I now need to ask you if you are willing to provide blood or urine samples for use in the investigation into the death of your child.

You do not need to provide these samples and I have no legal power to compel this. However, these samples can assist us in investigating the tragic circumstances of a child's death. I do need to make you aware that there are certain circumstances where the presence of drugs or alcohol can render someone liable to prosecution for criminal offences. Do you provide consent for blood or urine samples to be taken?

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