Faculty of Forensic & Legal Medicine

Forensic Science Sub-committee

Newsletter JULY 2024

Updated versions of the following documents are available:

Recommendations for the collection of forensic specimens from complainants and suspects

- There have been several changes highlighted in the July version.

Recommendations for the collection of forensic specimens from complainants and suspects – the evidence

- No changes

Forensic Science Subcommittee (FSSC) Newsletter

- Please see responses from over 20 questions submitted to the FSSC

Recommended equipment for obtaining forensic samples from complainants and suspects

- Please note there is now a Mons Pubis Kit
- FSR's Guidance documents have been updated

Forensic medical examination form – Complainant

- This has been amended to remind clinicians to document whether the patient is taking any hormones other than those for contraceptive use
- Swabbing the proctoscope and/or speculum has been removed

Operational procedures and equipment for forensic medical examination rooms in Sexual Assault Referral Centres (SARCs)

- This document has had a minor amendment to highlight that the FFLM Safe and Secure Handling and Supply of Medicines in Sexual Assault Services for Adults and Children has been updated.

There is a new document:

Recommendations on the order of ano-genital sampling when obtaining forensic specimens from complainants and suspects of sexual offences

There were five questions to the FSSC in recent months about the order of sampling when obtaining forensic specimens from complainants and suspects and so a new document has been produced by Bernadette Butler, Laura Dean, Amy Hamm and Cath White to cover this in detail.

General Updates

FFLM Position Statement on the Management of Non-Police (self-) Forensic Records (Forensic Notes, Samples and Photographs)

- This was released on 03 June 2024 *FFLM Position Statements* in response to recent issues arising from a change in a SARC provider. The concern was in relation to a private provider of SARC services who is exiting the SARC marketplace and so there is an issue about the ongoing storage of non-police forensic samples.
- The FFLM's view is that the forensic samples and the forensic medical records (written and/or electronic), which may include photographs and intimate images should be managed together. Separating these records (between services/providers) is not best practice and is a risk for patient safety and future possible prosecutions.
- The commissioners of sexual assault services must ensure that, in any commissioning of, and contract issued for a service, the management and storage of non-police (self-) referral forensic samples and the associated records is explicitly addressed, and they are managed together and not separated.

Flow charts – Guide to establishing urgency of sexual offence examination

A query had been received regarding whether it was necessary to have separate Pre- and Post-Pubertal flow charts.

The flowcharts are aimed and written for use by forensic clinicians who make the decision about the examination and that decision is best made with as much information as is possible. This is also a requirement in the Forensic Science Regulator's Statutory Code under paragraph 102/7/1 (see: *Forensic science activities: statutory code of practice*)

'The decision to undertake a forensic medical examination shall be made by a forensic healthcare practitioner.'

Pubertal development is wider than simply menstruation and for some girls, menstruation can start at age 8-9 years. It is a clinical assessment and discussion. As the flowcharts are aimed at forensic clinicians it was decided that no changes were necessary at this time.

Conflict of interests

The FFLM received a question from a forensic nurse examiner for advice on a potential conflict of interest. The nurse had recently been offered a full-time position as a 'liaison and diversion' practitioner within the NHS. She felt there was a conflict of interests within the roles, as she could not guarantee she wouldn't come across a suspect within custody, or see a complainant linked to a suspect in a SARC. She had mentioned her concerns to her new employers, and she was aware of potential cross contamination issues which could be mitigated by following guidelines and the appropriate PPE. She was concerned that if she was required to give evidence would there be any detrimental effects.

As with any potential conflict of interest if the clinician has a concern this should be raised with their employer/contracting authority. Advice could also be obtained from the relevant regulators, senior colleagues, and defence organisation.

There will be areas in the UK (and in other parts of the world) where the clinicians working with the police may well see and assess an individual known to them.

The role of a clinician working in a SARC, custody, or in other forensic areas, is one of independence from the authorities with the overriding consideration the therapeutic management of the patient. The clinician must be non-judgmental. (See *The Role of the Healthcare Professiona*l January 2024)

The nature of the conflict of interest will determine what the clinician must do, e.g. when seeing a detainee who maybe a partner or member of close family, the police should be informed, and a colleague asked to take over the assessment.

A complainant and suspect should be examined by different clinicians where forensic specimens are to be collected. However, if this is not possible the FSR has provided guidance on how to manage such a situation. (*DNA contamination controls: Forensic medical examinations FSR-GUI-0017* – January 2024). There needs to be an acknowledgement of the risk of contamination, raising it with those involved in the case, and clearly documenting the steps that have been taken to reduce the risk. Forensic scientists should be made aware of all relevant information and there should be full disclosure in any statement for court.

See also: BMA guidance *Forensic and secure environments ethics toolkit*

This toolkit is designed to help you navigate the main areas of ethical concern you are likely to encounter in your practice as a forensic physician, including consent, treating vulnerable patients and working with dual loyalties.

Swabbing of proctoscopes and speculum

- In the January 2024 update of the Recommendations document the need to swab the proctoscope and/or speculum was removed. This was because the forensic scientists advised that the swabs taken were rarely tested.
- This has also been removed from the FME form – complainant.

Controversy on the timescale for the taking of penile swabs

- There has been controversy about the timescales for the taking of penile swabs. Previous questions to the FSSC have illustrated this.
- At the meeting in June six months of swab data from transfers onto the accused/suspect's penis [taken after 48 hours and before 72 hours] – a total of 129 samples had been analysed by the forensic scientists from Scotland.

They found in relation to transfer from female complainer onto suspect that:

A transfer from the female complainer was detected on 16 of these swabs (12.4%)
10 of these transfers were from the shaft swab (7.7%)
6 of the transfers were from the sulcus/glans swab (4.7%)

In addition to transfer from female complainer onto suspect's penis we also noted the following transfers that:

1 sample showed a transfer from suspect 1 onto suspect 2's penis (0.7%) – shaft swab

2 samples (from 1 case) gave an UK female profile (1.5%) – shaft and glans/sulcus swabs

2 samples (from 1 case) gave a profile of the suspect's partner (1.5%) – shaft and glans/sulcus swabs

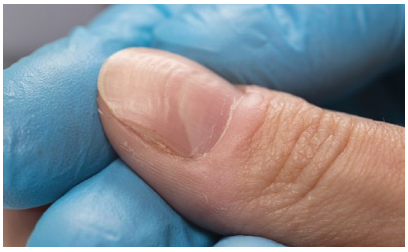
The FSSC agreed that the sampling window would remain at 72 hours as cutting the sampling window to 48 hours would risk missing potential evidence.

Questions to the FSSC

The questions to the FSSC often raise issues of concern as to the quality of initial training, ongoing supervision, and clinical audit of forensic clinicians. It is essential that if you are involved in training, you keep up-to-date with developments in forensic & legal medicine and in the changes in relation to the Recommendations for the collection of forensic specimens from complainants and suspects. It is important to take an appropriate history from the complainant/suspect to ensure that the correct forensic specimens are taken, e.g. Where were you touched/licked? It is not possible to be proscriptive as each case should be dealt with on an individual basis.

1. **Regarding the section on fingernails: there is a need to freeze fingernail swabs and nail clippings if they are taken for body fluid examination, e.g. faeces or blood, otherwise nail clippings must not be frozen or refrigerated. They must be STORED DRY at normal room temperature.**

The Recommendations document has been amended to make this clear.



2. **A suggestion was received to amend the Recommendations for the collection of forensic specimens from complainants and suspects. Under Hair (head/pubic, etc) and the reason for analysis there should there be a sentence to say 'if no pubic hair go to mons pubis sample' (now listed separately).**

The Recommendations document has been amended to this effect.

There is also now a specific Mons Pubis Kit (G91613-V) available with the following contents:
2 x Forensic DNA Grade MW102 Rayon Tipped Swabs FDG
1 x Forensic DNA Grade 5ml ampoule of water
1 x Tamper Evident Bag

See: *FFLM FSSC National Kits*

3. **With regard to the blood samples for toxicology taken in the SARC - I feel sure we discussed only taking one sample rather than the recommended two? I think we said two was for road traffic bloods. If this was the case, can we add one for SARC toxicology?**

The National Toxicology kits (used for taking toxicology samples in SARCs and custody (for drug facilitated crime) currently contain two blood bottles and the blood sample is taken via a vacutainer system, but it is one sample.

The requirement for blood samples under the Road Traffic Act is different.

See *National Kit Alcohol/Drug Blood Kit contents*

4. **There is some confusion around urine samples for toxicology, the guidance states: 'Take a sample for drugs and/or alcohol if incident occurred within 5 days (120 hours)' and then it also states, 'Should be obtained if incident is a suspected drug-facilitated crime within preceding 14 days.'**

   If someone attended and reported voluntarily consuming alcohol and being intoxicated at the time of assault, you would want a toxicology sample to measure the level of alcohol (5-day window) but this could also be considered an opportunistic DFSA so would it fall under the 14 day window? Or would you only take a sample up to 14 days for certain drugs?

Please take a urine sample if DFSA/DFC incident within last 14 days. However, it will not be the most desirable sample to analyse first – after 3 days, a hair sample (for toxicology) becomes the most desirable sample to analyse initially. But as some drugs can be detected in urine for longer than 3 days, we advise storage of urine samples taken up to 14 days – these can then be requested for analysis if anything of significance is detected during the hair analysis (and we think we have a chance of still detecting it in the urine after the time interval involved).

5. Please could SceneSafe add a label in the Mouth Collection Kit for the mouth rinse pot and add two labels per pot for the urine for Toxicology Kits (2 in the single urine kit and 4 in the double urine kit) so we can label the glass bottle and the outer plastic pot.

Scenesafe have reviewed the Kit contents and increased the labels in the urine kits from 2 to 4 labels on the double kit and from 1 to 2 on the single kit. On the mouth collection kit, an additional label for the mouth rinse pot has been added and should be available on the next production run.

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6. Testosterone can dry out the vagina and cause vaginal atrophy thereby potentially causing discomfort or even micro abrasions during sampling. When caring for a transgender male (assigned female at birth) who is on testosterone but has a vagina, would it be worth using moist and then dry swabs on vaginal sampling? Has there been consideration for a sampling guide for transgender patients? As this would be useful for clinicians when sampling for someone after vagina/ vulvoplasty and phalloplasty as well as having considerations such as the impact of testosterone.

Recommended practice is to use a moist swab if the area is dry. There are other reasons, not just transgender patients, where this would need to be considered, e.g. for a post-menopausal woman with possible vaginal atrophy the recommendation would be to use a moist swab.

The FSSC did not think that specific guidance for sampling for transgender patients was needed. There is currently limited evidence in relation to forensic sampling results in transgender patients, or how hormones and the various surgical procedures e.g. construction of a vagina, affects the retention of semen.

However, it is important that a fully medical history, including medication, especially hormonal medication, is taken and documented.

The FME form – Complainant has been amended to remind clinicians to document whether the patient is taking any hormones other than those for contraceptive use. This may affect the interpretation of any findings.

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7. How long after oral sex (mouth to vagina) should swabs be recovered? Although I think the answer is in here, I did find it a little confusing and it led to some concern they may not be taken appropriately.

I was thinking perhaps oral sex (mouth to vagina) should be listed as a reason to take a vulval swab alongside all the other reasons... and that perhaps saliva should be mentioned in the hand swabs section? And that mons pubis should be as per hand AND skin swabs given the mention of oral is in skin swabs not hands? It seems to me that if unwashed the suggested cut off is 48 hours but up to 7 days if unwashed.

The recommendations have been amended to cover these points.

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8. What would be the best forensic sample to obtain following non-consensual object penetration to the vagina or anus?

Object penetration and digital penetration could be considered the same in that you have an object that potentially has DNA on it being introduced to the vagina or anus so the Recommendations document has been amended to reflect this (digital/object).

9. Does the FFLM have a stance/advice on pre-moistening the swabs (that need to be moist) a few seconds/minutes before they're needed and putting them back into the swab sleeve, until needed. Allowing for a slightly smoother process of swab-taking for a patient (i.e. not having the pause to have to moisten the swab just before it touches the skin). It's not a practice I've come across before and just wondered if the FFLM had any concern about the re-sheathing of swabs?

The FSSC felt that this was not a good idea as it would introduce the potential for error/contamination. It is easier to moisten the swab, use it to take a sample, and then put it back in the swab tube. Otherwise, there may be questions as to how long before had the swab been moistened. Had the swab dried out, is it still moist? Each time the swab is resheathed you may touch the outside of the tube with potential risks or cross contamination.

However, as with all areas of clinical practice there may be exceptional occasions when pre-moistened swabs may be used to save time, e.g. for mobile children who may be less likely to remain still. It is essential that clinicians have the capabilities to adapt to the variable circumstances and the individual patient. Where this happens it is essential that clinicians keep a full contemporaneous note of what they have done so they are able to justify the reason for their deviation.

10. In NSW, the most populous state in Australia, fingernail sampling in cases of sexual assault is limited to 48 hours post incident and only if the assailant is not known to the complainant. This guideline recognises the potential for DNA transfer through activities other than assault. Early Evidence Kits are very useful with the first void urine samples resulting in impressive results for the detention of sperm. Smith et al 2014 so why not in all eds?

The forensic scientists advised that when assessing and interpreting the findings from cases there will always be consideration of any prior contact to interpret the findings.

There are other ways in which DNA can be transferred and so they look at the levels and the type of material, etc., so just to rule something out because they're known to each other and may have had legitimate contact was felt not to be appropriate. There may be some cases where there is support for there being digital penetration/other form of contact by looking at fingernail samples even when the assailant and complainant are known to each other. There may be occasions where someone whose bail conditions mean that there should be no contact, someone who has recently been released from prison. It's about the context – someone who hasn't had recent contact OR in terms of quantity of tissue under nails both for the alleged assailant and the complainant. Also, sometimes when either suspect or complainant are examined the full story of the incident is not known so the scientists would rather have the sample and not examine it than not to have the sample and wish they could have examined it.

11. Taking Blind High Vaginal Swabs in Pregnant Ladies. Our current guidance suggests low vaginal, and blind high vaginal swabs with no speculum or endocervical swabs.

I have recently employed a number of midwifes who have always been taught to use a speculum in pregnancy to avoid any chance of damage i.e. a low-lying cervix. They are declining to follow our current process as it goes against all their training. I'm looking to get our SOP changed and re-educate staff on this examination process. Can you help with this please?

12. Is it possible to provide clear guidelines on internal forensic swabs to be undertaken in pregnant women? Although generally midwives agree that a speculum is safe, there seems to be confusion about taking blind vaginally swabs. I seem to remember some teaching on not making contact with the cervical os. Could this be clarified please?

In relation to Questions 11 & 12 - with every examination the starting point is patient consent following discussion and an explanation that the cervix may bleed more easily in pregnancy, however vaginal examinations won't cause a miscarriage. If the patient accepts a speculum being passed, and the HVS and endo-cervical (EC) swabs are to be taken, the advice is to keep the proximal end of the EC swab visible as the swab is taken, so that it isn't passed very far into the canal (and that is in the current guidance but not specific to pregnancy).

EC swabs are taken in pregnancy for STI screening, e.g. culture and sensitivity for gonorrhoea. In addition, (non-routinely) cervical smears, or even biopsy, may be required.1,2,3 Advice has been sought from Consultants in Genito-Urinary Medicine and Obstetrics, and their views are that it is reasonable to ask to take EC swabs, if they are forensically indicated. However, due regard must be given to contraindications, for example, placenta praevia (a placenta covering the internal os), membranes bulging through the cervix and a cervical cerclage (stitch in the cervix). Clearly the later in pregnancy the lady is, information about placental position should be known.

A new document on the Order of Sampling when obtaining forensic specimens from complainants and suspects will also cover advice re taking samples in examinees who are pregnant. There will be a link to this on page 1 of the Recommendations document.

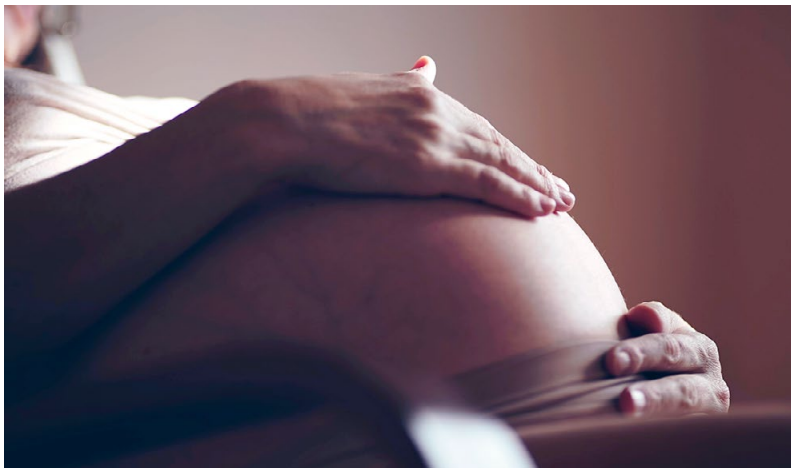
It is essential that this area of clinical practice is covered in detail in initial training.

Further Reading:

Cervical smears and pregnancy RCOG

5. Management of cases relating to pregnancy, menopause, contraception and hysterectomy GOV.UK (www.gov.uk)

The effectiveness and safety of two cervical cytologic techniques during pregnancy Stillson T, Knight AL, Elswick Jr RK. J Fam Pract. 1997 Aug;45(2):159-63. PMID: 9267375w



13. The shaking of the blood samples for toxicology

I have a challenge to the FSSC – the issue of the 'shaking RTA blood samples for 30 seconds' has become a major irritating issue for staff being called to court. I would just be robust and state that if I say "I shook it for 30 seconds, then I shook it for 30 seconds and what credible evidence do you have to challenge otherwise" and have done so.

However, our HCPs are not as robust so we need to ask of the scientists where did this originate from? What was the sample and statistical evidence to show that it was necessary to shake vials for 30 seconds to ensure that all the preservative was dissolved? Where is the published data to support this because I have failed to find it having trawled through multiple databases. It is quoted in lots of police SOPS but there is no original evidence from which to quote.

Can the scientists please produce the goods because I am not asking my staff to start recording times e.g. 01.25.00 to 01.25.30 because the next question will be how vigorously it was shaken.

The powder in the blood vials is actually two different substances; sodium fluoride (a preservative), and potassium oxalate (an anti-coagulant). The potassium oxalate can continue to work during transit, so even if there was a clot immediately after sampling, it may have become unclotted before arrival at the laboratory. However, if the preservative doesn't get fully mixed at the beginning, the Defence argument is that some alcohol could have been produced by bacteria in the sample before the fermentation was stopped, so the powder must fully dissolve as soon as possible after the blood has been added. So the Defence would not accept an unclotted sample as proof that the vial was properly shaken.

Dozens of tests were carried many years ago now allowing for different volumes of blood, timings, shaking effort, watches, clocks, plus a 'time buffer' and a pragmatic decision was made of the time of 30 seconds that is currently recommended in the MGDD B form under section B10: Shake containers for at least 30 seconds and until the white preservatives adhering to the side of the vial dissolve. This prevents coagulation/ bacterial action which could interfere with any alcohol analysis. (See: *Manual of guidance drink and drug driving (MGDD)*. This is then an empirical, objective measure which can be used to demonstrate to the court that the vial had been shaken enough to mix the blood with the anti-coagulant and preservative.

However, the HCP should also at the time document that they have fully, and comprehensively, inspected the sides of the vial to check that all of the white powder has been fully removed from the sides, and dissolved throughout the blood in the vial.

14. In cases of oral rape, if the complainant has brushed their teeth, do we have to advise them to keep the toothbrush and give it as evidence to police or to a SARC if they are seen as a non-police referral.

Yes please.

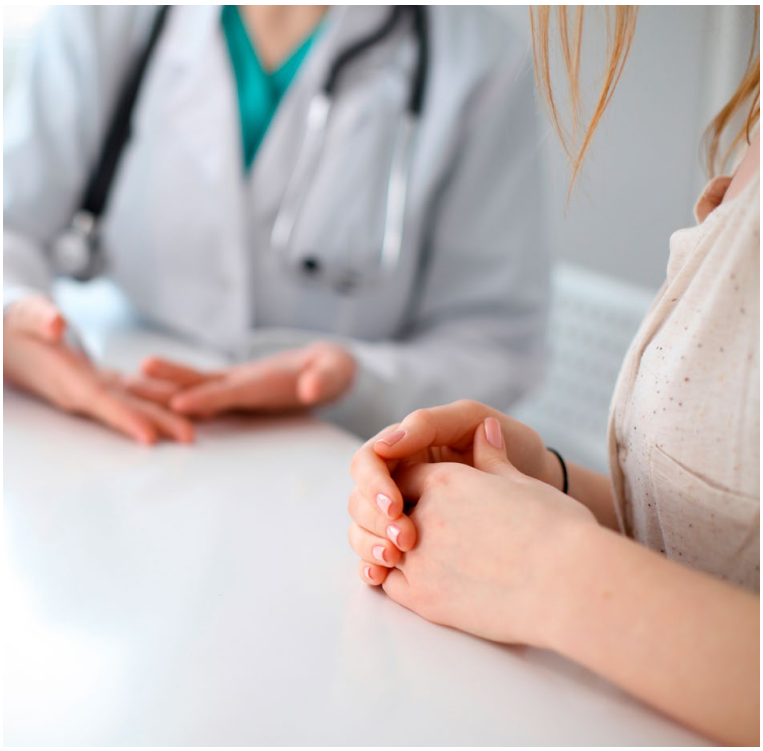
15. We provide advice to non-police referrals on the phone to keep condoms/tampons/ pads used at the time of assault or just after. Is it better to advise to let them dry and put them in an envelope/paper bag or to put them in a plastic container (as we do in police cases)?

For non-police referrals these items should be placed in a paper envelope and brought to the SARC where they should be frozen as soon as possible.

16. **The issue of female suspects of sexual assault has raised itself again and with the unhelpful and frankly obstructive position being taken by most SARCs that they do not want their clinicians to be involved with suspect medical examinations, even although it is same physical examination as required for a complainant, there are a limited number of options available for the obtaining of forensic samples in the event that the individual consents to their collection.**

NHS England have been also extremely unhelpful in this regard despite protracted conversations with Health and Justice. The situation in all of our contracts with the exceptions of where we hold the SARC contracts and immediately adjacent areas is that female suspects in custody will not receive the same level of examination/ sample collection as would a complainer and this is obviously not in keeping with the expectations of an equitable forensic process. We are now advising that self-swabbing by the female suspect will need to be the default position as it is impossible to have a pool of staff who would be undertaking sufficient suspect examinations to keep their skills honed. In this regard I am requesting that the existing self-swabbing publication which is written for female complainants be amended to include female suspects as the mechanics of the process are exactly the same as are the samples collected.

The FFLM position remains that there should be equitable access to services and that blind swabs are not an appropriate course of action. It is essential when providing general forensic medical services in custody centres that there is the availability of appropriately trained clinicians.



17. **I've just noted a change request in clinical practice to minimise unsatisfactory cervical cytology. Is a switch to Comfigel an option or is there another lubricant that's approved that doesn't contain 'carbomers'?**

There is a cost implication if we switch for all forensic exams so we might perhaps just use when we are performing opportunistic cytology.

Please see below:
Last year there were 35 unsatisfactory smears attributed to the use of Optilube (which contains carbomers). For smear taking, we will order in Comfigel sachets. As this is more expensive, please use only when a smear is planned.

Comfi-Gel can be tested to see if it can be added to the approved list. We changed the guidance away from naming products to accredited/ batch tested products.

18. We have SOLO officers in Cleveland, who are all expected to be able to use EEK kits to ensure the early capture of forensic evidence from victims, in line with the relevant guidance.

We have noticed that the guidance has changed and that swabs are also to be taken prior to taking a mouth rinse (3 stage approach). Previously our officers have only ever used the mouth rinse and subsequently have not been trained in swabbing techniques etc. some of the newer kits we have been sent now also contain kits to take samples from hands. With the impacts of accreditation etc. I am just wanting to discuss the changes to the processes and sequential sample taking from victims, to ensure our in-force processes and training capture everything we need.

The changes have been made in line with what is now considered best practice. The view is that hand and nail swabs are often forgotten/missed/not considered as part of 'early evidence' (which is more than just an EEK), and after taking a urine sample people wash their hands and so an opportunity is potentially missed. There is evidence that the perioral swab along with the mouth rinse is best practice.

These are recommendations so the officers need to have training to make the necessary assessment for individual patients and it may not be appropriate to take samples, or the patient may not agree of course. It is recognised that training is variable. Some SOLOs will have training regarding dealing with early evidence as a strategy (rather than just the early evidence kit), communication with the investigating officer, know why the samples need to be taken, know how to label, package, and to establish rapport with the victim in the case and obtain informed consent. However, there is a shortage of SOLOs and often it is the first response officers who are dealing with it all and some don't have basic early evidence training. As we move into the era of accreditation, there appears to be a two-tier effect going on.

The FSSC do have concerns about the training now offered to police. There has been contact with the College of Policing but there needs to be greater clarity about the syllabus for police officers whether they are first responders or SOLOs. There is now requirement for any police force in England and Wales to follow College of Policing standards. Operation Soteria in England and Wales should make a difference.

The FSSC felt that there should perhaps be a National Video Resource to ensure high quality DNA/Forensic evidence is obtained and thereby increase convictions. This would require funding. The FFLM will endeavour to set up a working group of clinicians, police, and forensic scientists to address this matter.

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19. I have a question regarding the FFLM guidance. If an anal assault by penis has occurred, but the victim has had consensual vaginal sex, are we still required to take the vaginal sequence. I don't feel it's clear on the guidance and wondered if you could clarify this. On the guidance, it states if anal assault only has occurred then vaginal samples are recommended but does not appear to say what we do if the vaginal sex was consensual.

The forensic scientists advised that if an anal assault occurred following consensual vaginal sex, the requirement would be to take the vaginal sequence. The clinician may not know the whole story. It is important to establish the levels of semen and the distribution of semen in the vagina and anus to give a proper interpretation and conclusion.

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20. For vulva/low/high vaginal samples in relation to 'contact (touch) with outside areas (skin) within 48 hours' I would treat these as per hand swabs and consider taking up to 7 days if they have not washed, however, it does not make this clear – is this correct or should it just be 48 hours?

Yes, the forensic scientists confirmed that this is as per hand and skin swabs for up to 7 days. Hands are an area that might make contact with different things, changing underwear, washing etc. and there maybe circumstances where people may not washing/change clothing.

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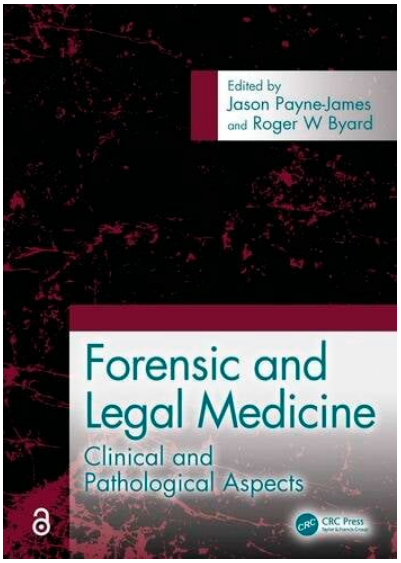
21. It appears that as the information within the EEKs is lifted directly from the FFLM guidelines some first responders are taking information directed at clinicians as instructions for themselves. Obviously if intimate samples are taken during the EEK process this can impact on the samples taken during the SARC examination. I believe this is most likely a regional training issue. However, as responsibility for purchasing and distribution of kits varies greatly between forces I wondered if we need to clarify on any of our guidance who should be taking what? Alternatively does the information provided with the kits need to be adapted?

The contents of the kits has been modified in recent years as the Recommendations document changes every 6 months so it was thought it was more efficient to have a QR code linked to the full Recommendations document.

Best practice is for an appropriately trained competent clinician to take the intimate samples with consent. The FSSC agreed that this a police training issue and that the current contents of the EEK are appropriate. It is essential the forensic specimens are considered holistically in relation to skin, hand, fingernail swabs and early evidence kits. Non-clinicians should not be taking any intimate swabs.

Page 1 of the Recommendations document has been amended to say that intimate samples should be taken in a SARC by trained clinicians.

Publications of interest



Evidence Sampling
Stark MM. & Nittis M. In Forensic & Legal Medicine: Clinical & Pathological Aspects, edited by Jason Payne-James and Roger Byard
CRC Press 2024

Produced by Prof Margaret Stark
on behalf of the Faculty of Forensic & Legal Medicine

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