Faculty of Forensic & Legal Medicine

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

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Introduction

The Recommendations for the Collection of Forensic Specimens from Complainants and Suspects - FFLM gives advice regarding the order in which swabs should be taken from particular areas in order to minimise iatrogenic contamination of evidence.[1] The aim of these recommendations is to provide supplementary guidance and further detailed explanation of evidence and reasoning.

In this document the words complainant, complainer and suspect, will be referred to as examinee, unless a distinction between suspect and complainant needs to be made.

The overriding priority must be informed consent from the examinee to any samples obtained in any setting. The focus of this guidance is the forensic aspect of the examination, but due regard should also be taken to consider the therapeutic aspects, but which is beyond the scope of this guidance.

Injury documentation and skin sampling

Where there is a concern that an examinee may be unwell, the medical needs always take priority. Any observations or clinical examination required take priority over forensic sampling.

Medical devices such as saturation probes, stethoscopes and otoscopes may be used during the examination, but are not single use and are challenging to clean to forensic standards. These devices may pose a risk of introducing forensic contamination. Therefore, any forensic specimens required should be obtained prior to their use, whenever possible. For example, if hand swabs are required, these should be obtained prior to using a pulse oximeter, unless there is an overriding clinical need.

Body surface examination can take place prior to, or following, intimate forensic sampling, depending on the needs of the individual examinee. However, if a site, such as an injury, requires forensic swabbing, the swabs should be obtained prior to measuring the injury.

Intimate sampling

It is essential the forensic clinician receives appropriate training and supervision to have the competencies to perform the forensic medical examination and obtain the relevant forensic samples.[2,3] When forensic samples are obtained, forensic DNA grade (FDG) kits, (containing, e.g. swabs, water, lubricant and instruments) must be used.

Where there has been an allegation of anal assault in a post-pubertal female, the recommendations state the forensic clinician should obtain consent to take a full set of ano-rectal swabs and a full set of vaginal swabs. Due to natural drainage and underwear movement during normal daily activities it is expected there may be forensic evidence transfer between the anal and vaginal areas. In order to determine the area where ejaculation is likely to have taken place, the forensic scientist would examine the distribution of forensic evidence.

If vaginal sampling is undertaken first, there is a risk of fluid displacement upon withdrawal of the speculum, which might be transferred to the peri-anal skin.

In order to minimise or avoid this issue; the following options indicate considerations to be taken into account when deciding on the order of sampling/examination, in a post-pubertal female; but one option is not superior to the other.

However, when determining the order of sampling; the forensic clinician must explain to the examinee the risk of fluid contained within the speculum, when it is removed, which may then be deposited on the peri-anal skin, and take into account the views, needs and consent of the examinee.

Option A

1. Peri-anal swabs
2. Anal swabs (if indicated)
3. Rectal swabs (if indicated)
4. Mons pubis swabs (if indicated)
5. Vulval and perineal swabs
6. Swab examination of hymen (if indicated)

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7. Low vaginal swabs
8. Speculum insertion using a FDG lubricant
9. High vaginal swabs
10. Endo-cervical swabs
11. Foley/balloon catheter examination of the hymen (if indicated)

Option B

1. Peri-anal swabs
2. Mons pubis swabs (if indicated)
3. Vulval and perineal swabs
4. Swab examination of hymen
5. Low vaginal swabs
6. Speculum insertion using a FDG lubricant
7. High vaginal swabs
8. Endo-cervical swabs
9. Foley/balloon catheter examination of the hymen (if indicated)
10. Anal swabs (if indicated)
11. Rectal swabs (if indicated)

Adaptations to minimise the risk of contamination, where vaginal swabs are obtained prior to the anal samples, could include examining the examinee in the left lateral position.

If the vaginal swabs are obtained prior to the anal samples, and lubricant or fluid is visibly transferred to the peri-anal skin, this must be documented within the clinical notes and on the FME (or equivalent) form, to inform the forensic scientist.

A lubricated speculum is used to obtain high vaginal and endo-cervical swabs.

The high vaginal swabs are obtained by carefully inserting a swab past the end of the speculum, beyond where trace evidence might have been transferred during speculum insertion. The fornices are sampled, taking care to avoid any part of the swab touching the edges of the speculum.

The same considerations apply when taking the endo-cervical swabs; remembering the proximal end of the swab must remain visible when placed into the cervical os.

Adherence to this method aims to reduce the risk of iatrogenic contamination.

The process is similar in taking rectal swabs with a lubricated proctoscope. The swabs are obtained from beyond where the tip of the obturator would have been, but it is often not possible to swab rectal tissue which has not already been in contact with the obturator. Again, care must be taken to avoid any part of the swab being in contact with the rim or inner surface of the proctoscope.

'Blind' swabs may be taken from the high vagina without the use of a speculum and rectal swabs without the use of a proctoscope, when an examinee declines the use of such instruments. In these circumstances, there is a risk of forensic contamination, which must be documented on the FME (or equivalent) form, to inform the forensic scientist.

Hymen examination

If indicated, the hymen or hymenal remnants should be examined during a forensic medical examination.

The pre-pubertal hymen is sensitive to touch. Examination of a pre-pubertal hymen using a swab, Foley/balloon catheter or speculum is never done, with the possible exception when the child is having an examination under anaesthetic.

Otherwise, examination of the hymen in a pre-pubertal child is through non-touch, positional techniques.[4]

Where an examination of the hymen is undertaken, initially, a swab, which may be moistened, would usually be used (see Options A and B above). Then, if indicated, for example, due to a limited or incomplete view of the hymen, and the examinee consents, a Foley/balloon catheter may be used; and the tip of the catheter may be lubricated

The consensus regarding when to use the Foley/balloon catheter is it should be used after the forensic swabs have been taken, to minimise the risk of forensic contamination.[4,5,6,]

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There is limited evidence on the prevalence of iatrogenic injury during speculum examination.[7] However, a recent informal and unpublished survey amongst forensic clinicians suggests it is uncommon and when it did occur, injury was usually to the posterior fourchette or in the fossa navicularis. The survey suggests the risk is higher when infection, inflammation or skin conditions are present, and the skin is friable.

In order to help determine whether there were injuries present prior to the start of the examination, consideration may be given to video recording the examination, using a special medical video-camera, (e.g. a colposcope) and with the consent of the examinee.

Pregnancy

Pregnant examinees should receive an equitable service when accessing forensic medical services.

Speculum insertion, high vaginal and endo-cervical sampling is safe in pregnancy, unless there are medical or obstetric complications affecting the cervix (such as placenta praevia or cervical cerclage).

Endo-cervical swabs are taken in pregnancy for sexually transmitted infection (STI) screening and non-routine cervical neoplasia screening. When required, colposcopy with or without biopsy has low complication rates.[8,9]

Therefore, it is reasonable to obtain endo-cervical swabs with consent when forensically indicated, keeping the proximal end of the swab visible, as described above.

The RCN guidance on Genital Examination in Women states: '*Swabs for sexually transmitted infections can be taken from pregnant women, without the need for a speculum examination, using a self-taken vulvovaginal swab'* [10].

Penile Samples

Where penile swabs are indicated, the order and method of sampling are described here: Recommendations for the Collection of Forensic Specimens from Complainants and Suspects - FFLM.[1]

References

1. Recommendations for the Collection of Forensic Specimens from Complainants and Suspects - FFLM
2. FFLM Quality Standards in Forensic Medicine - FFLM
3. FFLM Quality Standards for Clinicians Undertaking Paediatric Sexual Offence Medicine (PSOM) - FFLM
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5. Jones JS, *et al*. Adolescent Foley catheter technique for visualizing hymenal injuries in adolescent sexual assault. *Acad Emerg Med*. 2003 Sep;10(9):1001-4.
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