Sexual Assault Workflow: Reminders and Updates

8/22/2019
Current versus Historic Sex Crimes

• How do I know what items to work from the kit?
  • Unless instructed otherwise, follow the sex crimes workflow for ALL SART kits
    • This applies to both current and ‘historic’ cases.
    • We are done with the code 1 and 11 historic cases. As a result, all sex crime cases will be sampled in the same way.

• How many historic cases are left to work?
  • ≈50 cases identified through Jennifer’s working group.
    • These have been identified by Mary (Mariann Misleh) on the request, “Stranger cases from historic review.” *(verbiage subject to change)*

• Will we continue to work batches of ‘historic’ cases going forward?
  • Plan: Sex crimes had been submitting historic cases in large batches. Moving forward they will be submitting them in real time. (This relates to codes 1, 6, and 11.)
    • Advantages (1) prevent spikes of sex crime submissions (2) better access to the case information to include task relevant information and the availability of consensual partner references
Sex Crimes Workflow: Informed Triage

• **Diff: 3 Samples**
  • Vaginal, External Genital, & peri-anal
    • Unless scenario dictates otherwise
      • For example: case states only anal penetration or suspect ejaculated on victim externally

• **Non-diff with DTT: 3 samples**
  • Mons pubis, right breast, & left breast
    • Unless scenario dictates otherwise
      • For example: Suspect licks or kisses victim’s neck

• **Diff 5 samples for situations where there are either:**
  1. Multiple perpetrators
  2. One perpetrator and a consensual partner (but a consensual partner reference has not been submitted)
  • Cervical, Vaginal, External Genital, Peri-anal, & Anal/rectal
    • Unless scenario dictates otherwise
**Differentials**

2 vaginal swabs in a single 2.0mL Qlagen Lyse&Spin tube

- Add 900uL digest buffer and 360uL proK
- Incubate in theromixer at 56C for 1-2 hours
- Transfer swabs to a Promega Spin basket and place back in the 2mL L&S tube
- Centrifuge at max RPM for 9min
- Remove NS fractions TO 2.0mL EZ1 tube
- Purification in EZ1s or QiaSymphony
- Elute in 40uL

* - In multiple perpetrator or case with consensual partner, but no CP ref, cervical, and anal/rectal swabs (or appropriate swabs based on case scenario) will also be sampled

** - Add this amount to all reagent blanks in extraction set

**Revision date 8-22-2019**

- Add 400uL digest buffer and 20uL proK
- Incubate in theromixer at 56C for 1-2 hours
- Tranfer liquid to QiaCube compatible tube, QiaCube w/ Lysis Protocol *
- Incubate in theromixer at 70C for 15min
- Purification in EZ1s or QiaSymphony
- Elute in 40uL for sperm fractions

*If making slides, use No Lysis QiaCube protocol. Slides only made when original sample will be consumed for testing

**Non-Differentials**

External swabs (mons pubis, L/R breast) 1 swab each in single 2.0mL L&S tubes

- Add 500uL digest buffer + 20uL proK + 20uL DTT
- Incubate in theromixer at 56C for 3 hours
- Purification in EZ1s or QiaSymphony
- Elute in 40uL

**General Workflow (samples amped may be scenario dependent):**

No presumptive testing of any swabs.

Quantification: Quant 8uL of all samples (S and NS fractions)
Do you have male DNA?

Yes

More than 0.0005 ng/μL?

Yes

Is the H:M <75:1?

Yes

Consider Y-STR testing if a male reference is available (Considering scenario, sample type, references, and charges)

***

No

No

Discontinue

No

Do you have other samples going forward for amp?

Yes

Discontinue

No

Consider resampling and combining with the current extract

***Note: NS fractions can now be discontinued if the S fraction is amplified***
Can I upload the foreign profile to CODIS?

According the case scenario or medical report in the kit, has the victim had consensual sex within 5 days?

- No (No consensual activity within 5 days of the assault) → Upload any foreign profiles into CODIS

- Unsure (No information is available in the medical report or case scenario) → Is this a historic case as indicated per the request?
  - Yes → No CODIS uploaded
  - No → Request a reference from the Detective. (This should be documented on request or comm log)

- Yes (Consensual sex within 5 days of assault) → Has the Detective indicated on the request a reference is not available from the consensual partner?
  - Yes → Upload any foreign profiles into CODIS
  - No → Has a reference been requested?
    - Yes → Yes (This should be documented on the request or in a comm log)
    - No → Request a reference from the Detective. (This should be documented on request or comm log)

Upload any foreign profiles into CODIS
Workflow Highlights

• Non-Differential samples (eg. mons-pubis & breast swabs) must have DTT added to them

• Swabs of possible semen stains (eg. Stomach swabs) should have a differential extraction

• It is ok to discontinue the non-sperm fraction if the sperm fraction is being carried forward for DNA analysis
  • Considering case scenario

• If a sperm fraction from one sample is analyzed, that does not justify discontinuing other sperm fractions from the same case
  • Example: The vaginal and peri-anal sperm fractions both have male DNA above 0.0005ng/μL with a ratio less than 75:1
    • Both the vaginal and peri-anal sperm fractions should be continued on for analysis
Workflow Highlights, continued

• Most scenarios support testing the vaginal, external genital, peri-anal, mons pubis, and breast swabs.
  • Task relevant information *may* dictate alternate or additional samples should be tested

• Update: Stickers will no longer be put on the request
  • Supervisors don’t usually have access to the medical report to make this decision ahead of time.
  • Use the workflow flow chart along with the tables¹ and task relevant information to decide what samples should be analyzed.
  • Should you be unsure what to do in a particular situation, ask your supervisor.

¹Male DNA Obtained from Different Sample Types & Samples types sent forward for DNA
FileonQ: EVIDENCEonQ (EOQ) versus SARTonQ

• ALL victim (male and female) kits must be documented in FOQ
  • There are two databases in FOQ: EOQ and SARTonQ

Kits collected prior to 1-1-2018 are documented in EOQ
  • Comments Section: list kit contents
  • Not Tested Reason: 19 – Lab Tested – Yes
  • SART Kit Tested: Yes
  • SART Kit Tested: date

Kits collected on or after 1-1-2018 are documented in SARTonQ
  • Notes Section: list kit contents
  • Not Tested Reason: 19 – Lab Tested – Yes
  • SART Checked Out: date
  • Kit Screened: Yes
  • Male DNA Present: Yes, No, or NA (m/m)
  • DNA Analyst: Your Name
  • CODIS Uploaded: Yes or No
  • Upload Date: date or blank
  • CODIS Hit: Yes, Suspect Include, or No (blank is used the same as No)
  • DNA Report Date: date
  • Technical Review Date: date**
  • Admin Review Date: date**

**Entered in at Admin Review, though all fields are checked during Admin Review