This Manual is compiled of the following sections. If a section was revised during the year, each revision and date effective is listed. Ensure to use the appropriate effective date.

Evidence and Case Management Manuals in use for 2011

Number order	Procedures	Effective Date	Comments
1	Administrative Completion of Cases	5/13/2010	
2	Administrative Review	12/13/2010	
3	Case Acceptance	9/27/2010	
4	Case Management	2/9/2010	
5	Case Management	4/1/2011	
6	Case File	2/9/2010	
7	Evidence Control	10/28/2010	
8	Evidence Control	4/18/2011	
9	Evidence Examination	1/6/2011	
10	Evidence Sign-In	2/9/2010	
11	Evidence Sign-In	6/11/2011	
12	Reports	1/6/2011	
13	Subcontracting	2/9/2010	
14	Technical Review	9/24/2010	
15	Technical Review	3/28/2011	

FORENSIC BIOLOGY
EVIDENCE AND CASE MANAGEMENT MANUAL

Approving Authority: Eugene Y. Lien, Quality Assurance Manager

Procedures	Effective Date	Comments
Case Management	2/9/2010	
Case Files	2/9/2010	
Evidence Sign-In	2/9/2010	
Case Acceptance	9/27/2010	
Evidence Control	2/9/2010	
Evidence Examination	9/27/2010	
Reports	2/9/2010	
Technical Review	2/9/2010	
Administrative Review	5/13/2010	
Subcontracting	2/9/2010	
Administrative Completion of Cases	5/13/2010	

ADMINISTRATIVE COMPLETION OF CASES

DATE EFFECTIVE	APPROVED BY	PAGE
05-13-2010	EUGENE LIEN	1 OF 3

GUIDING PRINCIPLES AND SCOPE

Under certain circumstances it may be advantageous to complete a case file without issuing a technical report on the findings. Many cases submitted to the Department of Forensic Biology are resolved without relying on the data generated from the evidence. For example, plea agreements, recanted complaints, or investigative results that indicate no crime was committed are all reasons why testing results on submitted evidence may not be needed. In many of those situations cessation of testing, report writing, and/or technical review will prevent unnecessary expenditure of Forensic Biology resources.

This document describes the process to administratively close a case.

PROCEDURE

1. Cases are eligible for administrative closure if both of the following are true:

   - An appropriate entity, e.g., ADA, NYPD Liaison Unit, has provided written confirmation (letter, e-mail) that a Forensic Biology report is no longer needed.
   - Any DNA profiles that might potentially be generated from testing the evidentiary items would not be CODIS-eligible (as per the usual rules for determining CODIS eligibility).

   Unless no crime occurred, testing on items of evidence that might produce a CODIS-eligible profile testing must continue and a report must be issued.

2. The Criminalist IV supervisor responsible for the case evaluates whether the case qualifies for administrative close-out.

   - For major crimes it may be preferable to finish a report and the technical review even if the case qualifies for administrative closure. This is because the case may be re-opened, for example after an appeal, and it would be a challenge to finalize the initial results at a later date.

3. The Criminalist IV obtains approval for administrative closure from a manager

   - The manager must be able to review the written documentation confirming that the DNA report is not needed.
   - The Criminalist IV documents the approval in the case contacts.

4. Securing data and evidence

Depending on the status of the testing, different steps are required before the case can be closed. In all scenarios the evidence is returned to the Evidence Unit.

a. <u>Evidence was examined, no extraction</u>
- Remove samples from the extraction sheet(s).
- Reunite clippings with retained stains or evidence items before the evidence is returned. However, if the evidence was swabbed with 0.01% SDS the swab is extracted and tested to avoid degradation issues.

b. <u>Samples were extracted and/or quantitated</u>
- Extracts of biological fluid stains and other HSC samples are saved.
- Extracts for low level DNA items, such as a touched object, are amplified and run, but the data is not interpreted.

c. <u>Samples were amplified</u>
- The STR typing steps, including run analysis and editing, are completed, but the data is not interpreted.

d. <u>Samples were run</u>
- Electropherograms are included in the case file, but the data is not interpreted

5. Administrative Report

- All technical pages are numbered and initialed
- The productivity worksheet is filled out to capture the completed analytical steps
- The report contains the header and the evidence disposition section, but no results. The first page should have the following sentence:

> "Testing was suspended and no technical results will be reported on the submitted evidence items. This case can be reactivated upon request. Further analysis will require approximately 60 days."

- The report date is entered into the electronic case logbook.
- Enter "Admin only" into the "comments" section to indicate that this is an administrative completion that does not require a technical review.

6. Administrative Review and Report Distribution

- The case is submitted to administrative review.
- If the case is less than one year old the report is distributed in the usual manner. If the case is older than one year, the report is maintained in the case file, but is not distributed.

Revision History:

May 13, 2010 – Initial version of procedure.

ADMINISTRATIVE REVIEW		
DATE EFFECTIVE 12-13-2010	APPROVED BY EUGENE LIEN	PAGE 1 OF 15

GUIDING PRINCIPLES AND SCOPE:

An administrative review is the final evaluation (editorial review) of the report and case file documentation (notes and worksheets) and must be completed prior to the distribution of the report. It is part of the administrative review process to verify the information in the case logbook and then enter the productivity metrics reflecting the number of tests that were done for a case using the data fields in the Admin subform window.

A program of administrative review for reports issued by the Department of Forensic Biology helps to ensure that reports and case file documentation are in compliance with the guiding principles and procedures in the Department's management system. Subsequent, immediate report distribution minimizes delays through file batching and transport.

Documentation of the completion of administrative review is indicated by dating the "Administrative Review Date" line and initialing the "Administrative Reviewer" line on the last page of each report. The report can now proceed to scanning and distribution. For minor changes in the case file, such as missing page numbers or initials, the case file will be routed back to the analyst after the report scanning and distribution.

If the report itself requires corrections, or the technical review signature and/or date are missing, the administrative review is not started. The case file is returned to the reporting analyst or supervisor and is resubmitted for administrative review after all corrections have been made.

No reports can be issued without a completed administrative review; this includes high priority ("rush") cases.

Administrative reviews can be performed by the Forensic Biology Administrative Team as well as by Criminalists and other titles.

Report distribution is performed after the completion of administrative review and should be carried out on the same day as the administrative review. All original reports are scanned and saved in pdf format prior to distribution.

This procedure describes the administrative review and report distribution process for the Department. Section F discusses the subsequent routing of the case file.

ADMINISTRATIVE REVIEW		
DATE EFFECTIVE 12-13-2010	APPROVED BY EUGENE LIEN	PAGE 2 OF 15

PROCEDURE:

A. Report Readiness

Perform the following steps to decide if the case file is ready for the administrative review step.

1. Ensure the following items are accurate and complete in the report:
   a) Title block: FB# or proficiency test # / victim name / suspect name / complaint # / ME # / arrest # / NYSID # / Start Date / ME name & date of autopsy
   b) Header: FB#, the victim's or supect's name and, if applicable, an ME#. The header must appear on all pages, except the first page.
   c) Text: check footnotes and page numbering, ensure the report is signed.
   d) Evidence received and disposition: check for correct evidence itemization numbering (based on voucher or for sexual assault kits on the kit inventory), voucher #, date evidence received and description of items in the of the report; check for correct disposition statements and retained items.

2. Use the DNA/Serology Submission Tracking & Productivity Form to compare the dates to the dates in the report. Ensure there is a copy of each voucher in the file.

3. If the report is complete and ready to be issued and the Tech Review signature is in place proceed with administrative review as outlined below. If not, return file to IA or IA supervisor.

B. Administrative Review

1. Open the case record in the appropriate case logbook (Case Log Book or Suspect Log Book) database.

2. Complete the ADMIN SUBFORM field in the database as outlined below.

3. For cases where an **Amended Report** without any more work has been issued, the administrative review is only documented in the case file. Sign and date the appropriate areas on the signature page of the report. Open the case record in the Access databases merely for confirming that the new report date was added to the ADDITIONAL INFO text box. No other actions and no second case record are required.

4. For cases where an **Additional Report** was issued without additional testing, a second record will be in the logbook and the admin review must follow the steps outlined below, except that there will be no productivity data to enter.

5. For **Administrative Completion of Cases** (a case file is closed out without issuing a technical report on the findings; for example after a stop testing request) an administrative report is written and submitted for administrative review and report distribution as usual. The administrative review must be completed as usual, but please note that no technical review date is required.

6. Before proceeding with the review, check the data fields of the case log book to see if they are filled in appropriately. Obvious mistakes must be corrected. Exercise care when entering data as the Access databases are not overwrite-protected. Before entering anything, especially when updating an existing record, ensure that the right record and the correct data field is selected. Also, take a moment to double-check what was entered. See below for expected entries in some of the data fields.

7. Update the following data fields in the VOUCHER SUBFORM. Most of the fields will have been filled out by the evidence sign–in staff, whereas other fields need entries by the administrative reviewer. Please ensure that data in all fields are accurate. Use the Tab function to automatically populate the fields that have entries in the main Case Log Book window.

Voucher Subform:

FB#
- Case file #.

EU#
- Each voucher has a separate Evidence Unit or EU#.

Voucher#
- List all vouchers received.

D#

- The D# can be found on the voucher. This number corresponds to the entry in the FID/OCME Liaison Unit DNA Evidence Management Program (DEMP).

PM Sample

- Record all PM items in the following format, PM__to__. Ex: PM 1 to 7.

FBio Date Rec

- Date first item was received on the 5th fl. See Table below for exceptions.

Submitted Items

- Total # of items submitted for each voucher or PM samples. This is the number of items listed on voucher and does not have to match the number of items actually received for examination. For example, a sexual assault kit counts as one item submitted but contains many envelopes of evidence that are all counted as items received.

# of Items Examined

- Total # of items examined for each voucher or as PM samples, as listed on the DNA/Serology Submission Tracking & Productivity form.

# of Items Not Examined

- Total # of items not examined for each voucher or as PM samples, as listed on the DNA/Serology Submission Tracking & Productivity form.

Report Date

- Date of the finished report.

Testing Completed

- This date reflects the date the last technical result, as listed on the DNA/Serology Submission Tracking & Productivity form.

EU Date received

- This is the date the evidence is received in the agency. The date received for each voucher must be the date the voucher was received by the EU. This date will be the first date on the chain of custody.

Sign-in Initials

- Initials of person who signed in the evidence.

Admin. Initials

- Initials of person who performed administrative review.

8. See Table 1 below for expected values for the dates recorded in the logbook and the voucher subform.

TABLE 1

Case scenario	FBio Date Received	EU Date Received	Date Started
Outside submission, case record 1 of 1	Date first voucher is signed in on the 5th floor	Date first voucher is received at the sub level EU post	Evidence exam date for first item in the case
Outside submission, case record 2 of 2 (see note below)	Date first additional voucher is signed in on the 5th floor	Date first additional voucher is received at the sub level EU post	Evidence exam date for first additional item in the case
Cases with post mortem items	Date on red bin sample batch sheet	Date red bin was received by the EU as indicated on the chain of custody	Evidence exam date for first item in the case
Additional testing without new outside submissions	FBio = EU date Date where assignment was accepted or decided upon	See FBio date	Date where additional testing on in-house item is started
DNA testing on Sexual assault kits after a serology report	Serology report date	Serology report date	Serology report date

Case scenario	FBio Date Received	EU Date Received	Date Started
Storage cases that are activated; for example a missing persons case	FBio = EU date Date where assignment was accepted or decided upon	See FBio date	Date where additional testing on in-house item is started
Report only cases	Should be equal to Date Started	Should be equal to Date Started	Can be the date of the additional comparison, or the date of the report

Note: Additional vouchers or cases still in progress are signed in under the original case record. Second or more records are only created if the assignment is completed, a report has been written, and administratively reviewed, or if the additional evidence is scheduled for a different team (for example Mitochondrial DNA or Hybrid).

9. Complete the Admin 2007 subform section in the database. The initial fields repeat information from the main Case Log Book window; use the Tab function to automatically populate these fields. The information for the other data fields can be found on the DNA/Serology Submission Tracking & Productivity form.

From Case Log Book:

FB# (Forensic Biology)

- Already filled out. Double check number listed on report.

ME# (Medical Examiner)

- All samples received from autopsy will have this completed. Double check number listed on report.

Complaint#

- Unique identifier for criminal cases found on the voucher or lab request. Compare entry to the 61 as the official NYPD record.
- Proofread the number on the report.

Case Type

- SEXA – Sexual Assaults
- HOMI – Homicide
  Note: Sexual Assault kits collected post mortem in a homicide, case type should be homicide.
- ASSA – Assault, for attempted murder and assaults; "Robbery Assault" is also an assault.
- PATR – Case type used for paternity hold requests only.
  Note: Fetus cases or other paternities in sexual assaults should be SEXA.
- PROP – Property Crimes, Burglaries, Robbery, and Home Invasion.
- MISS – Missing person; Case type used for unidentified bodies or body parts.
- WEAP – Criminal possession of a weapon, (CPW). Also, found fire arm or reckless endangerment if weapon is not associated with another crime.
- DRUG – Drug possession or other drug related offenses.
- SEXPL – Sex crime related to public lewdness, ex. subway masturbator.
- OTHER – Catch all for other crime types such as arson, hate crimes or for non criminal activity post mortem samples. "Other" should be used if suicide or accidents are signed in, ex. PM kits. Indicate the nature of the case in the Additional Info. box for example, "suicide".
- SUSPECT – Suspect Files

Analysis Type

- HCN – Selected if scheduled testing is for regular STR's.
- HIGH SENS – Selected if increased cycle number testing is scheduled.
- HYBRID – Cases where evidence is scheduled for regular STR and increased cycle number testing
- MITO – Scheduled for mito testing.
- BODY ID – Cases where unknown bodies or body parts are actively compared to reference samples.
- ID DATA B – Where unknown bodies, body parts or reference samples are tested to be entered in CODIS database.
- INH PATR – Criminal paternity / kinship case performed in house.
- STORAGE – Inactive cases with samples being held but no testing scheduled.
- REPORT ONLY – Used for reports that does not involve any evidence examinations or DNA tests, for example additional reports.
- OTHER – Use only if no other analysis type applies. This option should be used if a file was started but the only evidence was returned without testing and is not being stored.

From DNA/Serology Submission Tracking & Productivity form or report:

IA initials

- For the majority of cases this will be the person who signed the report. Check that the same person initialed the pages on the right side of the case file and signed off on the report.
- Do not change the Case Log Book entry if the intials do not match. There are several circumstances where the Criminalist listed as the RA in Access does not sign the report.

CODIS Profile

- Check box if there is a CODIS Profile.

FBio Date Recvd

- Also in Case Log Book

Date Exam Started

- From DNA/Serology Submission Tracking & Productivity form

Report Date

- From report.

Admin Review

- Date of administrative review indicating that the case was completed,and that all levels of review have been performed.

Total # Vouchers

- The # of vouchers as documented in the casefile.

Total # Items recvd

- The actual number of items received as documented in the case file.
- Note that this is the actual number of items as counted by the Forensic Biology analyst and not necessarily match the number of items on the voucher.

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The following numbers, if applicable, must to be entered:

- *# ITEMS EXAMINED*
- *# ITEMS NOT EXAMINED*
- *SAMPLES FOR EXTRACTION*
- *SAMPLES FOR QUANTITATION*
- *SAMPLES AMPLIFIED*

- *STR INJECTIONS ANALYZED*
- *# STR LOCI INTERPRETED*
- *MtDNA QUANTITATION*
- *LINEAR ARRAY*
- *# Mt SEQ CONTIG*
- *TOTAL AP TESTS*
- *TOTAL P30 TESTS*
- *SPERM SEARCHES*
- *TOTAL SEMEN TESTS*
- *TOTAL AMYLASE TESTS*
- *TOTAL KM TESTS*
- *TOTAL SEROLOGY TESTS*
- *TOTAL ALL TESTS*

Hospital

- Select the hospital that is listed on the Sexual Offense Kit Inventory Sheet from the drop down menu. If hospital is not listed on the drop down menu, select OTHER. If no hospital is listed on the Sexual Offense Kit Inventory Sheet then select UNKNOWN.

Admin Initials

- Admin. Reviewer's initials.

EU Date Received

- Also in Case Log Book.

10. Perform the following steps after all information is entered into the Access database:
    a) Check examination notes for analyst's initials, FB# and page#.
    b) Ensure that the FB# is written on all pages of administrative documentation on the left side of the case file.
    c) Document the administrative review by dating and initialing the administrative review lines on the last page of the report.
    d) If everything is in order the case can proceed to report scanning and distribution. Baring exigent circumstances, this must be done on the same day as the administrative review.

11. For minor the changes such as missing page numbers or initials, the case file will be routed back to the analyst after scan and upload is completed

C. Administrative Review additional information

Use the Backlog Admin Review database to capture a basic set of information on non-FB cases. This database can be found under Admin Review Forms in the Forensic Biology Access Main Switchboard.

Proficiency Test productivity information does not need to be captured in a database. However, a full Administrative Review is required prior to releasing the results to the appropriate vendor. All documentation, including a productivity form, is kept in the Proficiency Test File.

There is an additional Admin review database for cases received prior to January 1st, 2007. This database is named Admin Review Through 2006 form and can be found under Admin Review Forms in the Forensic Biology Access Main Switchboard.

D. Scanning of report(s) utilizing the scanner (Fujitsu ScanSnap S1500)

1. Check the bottom right hand corner of the computer screen where the application icons are located. The scanner is ready if a blue circle with a white "S" is displayed.
2. Place report face down and upside down on the scanner. Only one report can be scanned at a time. A route sheet is for internal purposes and will not be scanned.
3. Press the blue (scan) button to scan the report.
4. Select "scan to folder".
5. In the "specify file name" dialog box change the pdf file name from date & time to the appropriate FB# (e.g., 10S0034; 1000263; 0906754a).
6. In the "specify destination folder" dialog box save the pdf file in the appropriate reports directory via the browse button. (e.g., M:\FBIOLOGY_MAIN\ Reports\Suspect\FB10-S).
7. Select "Save". "Files were saved successfully" is displayed.
8. To cancel the scan, select "Cancel" and close out the dialog box. Select "yes" to delete the file.

E. Report Distribution

The Forensic Biology Report Route Sheet indicates where the report needs to be sent. All reports with a complaint number are uploaded to NYPD Enterprise Case Management System (ECMS). The following reports (.pdf files) are then sent to the DA's Offices using the DNALab email account:

- Homicides
- Sexual Assaults
- All other crime types where there is a "hit" in a DNA database (local, state or national).
- All other crime types where an arrest is indicated on the 61 form or other paperwork.

All crime types where the 61 form or other submitted paperwork does not indicate that an arrest has occurred are not routinely sent to the DA's Offices; this includes property crimes, assaults, and criminal possession of a weapon.

The completion of the report distribution must be documented by initialing and dating the Report Route Sheet.

Note: The original of the report is always maintained in the Forensic Biology case file.

1. OCME Records (via inter-office mail)

   For all reports with an ME#: make a copy of the report and forward it via interoffice mail to "Records Department, 4th Floor".

2. NYPD ECMS (via electronic upload)

   a) Click on the Internet Explorer icon and navigate to URL: http://10.152.144.123/ecms. This is the log in screen.
   b) On the Log in screen: enter the Login ID and Password. Then click on the "Login" button. During an initial log in, the user will be prompted to change their password.
   c) After successful log in, the NYPD ECMS Screen will appear. To upload a new Forensic Biology report, click on the "DNA Attachment" button (bottom right corner).

d) Another NYPD ECMS screen will appear. Fill in the following information: the identification date (the date that a report is being scanned and uploaded); the Forensic Biology number (format: FB09-00001); OCME number and EU number are optional (can be left blank), and the complaint number (format: year – precinct – number).

e) Click on the "View Complaint" button to compare the complaint to the one in the file. Verify that the information corresponds.

f) To attach the file (Forensic Biology report), click the "Upload" button. This will open a file browser. Browse for the file, highlight the pdf version, and click open.

g) The uploaded file can be viewed by clicking on the "View" button. If an incorrect file was uploaded then click on the "Upload" button again, browse for the correct file and click open. This will overwrite the previous attachment.

h) Once the correct report is uploaded, click on the "Save" button located at the bottom right corner of the screen. At this point, the entry will be forwarded to the case folder and a system message "The Forensics Entry is successfully inserted" appears. Click on the "Close Window" button.

i) The entry must be approved prior to being forwarded to the NYPD system. Click on the "Action" button to the right of the entry to approve. Select either the "View" option or view the entry and approve using the "Approve" button on the bottom right.

j) To delete the entry and not approve, select the "Delete" option from the "Action" button. At this point, the entry will not be forwarded to the case folder and a system message "The Forensics Entry is deleted successfully" appears. Click on the "Close Window" button.

3. DA(s) Offices (via email)

a) Click on the inbox for the DNALab mailbox.

b) From the top menu, click on "New". This will open a "New" e-mail message.

c) Click on "Send" from the top menu of the new e-mail message. On the "Send" toolbar, click the "Options" drop down menu button and select "From". This step only needs to be done the first time. Afterwards, the "From" line should appear upon clicking "New". Now place the cursor on the "From" line and type "DNALab" to send from the DNALab mailbox. Otherwise, the e-mail will be sent from the user's own mailbox.

d) Place the cursor on the "To" line and type in the designated DA Office e-mail address.

e) Place the cursor on the "Subject" line and type in the offense type and the victim's or suspect's name (e.g., Homicide / (S) Goethals Bridge). Click on the paper clip icon (top toolbar) to attach the pdf file.

f) Replace a personal e-mail signature block with the FB Dept. e-mail signature block. Do this by copying and pasting from a previous sent e-mail in the "Sent Items Archive" of the DNALab mailbox.

Department of Forensic Biology
Office of Chief Medical Examiner
421 East 26th Street
New York, New York 10016
Tel: 212-323-1200
Fax: 212-323-1590
Email: DNALab@ocme.nyc.gov
Web: www.nyc.gov/ocme

g) No text is needed in the body of the e-mail. There is one exception – if the report is meant for a specific Assistant District Attorney, the report is still sent to the main email address, but "ATTN: ADA ……name here…." Is added in the body of the email in bold block letters.

h) E-mails that are sent to DA's Offices are automatically placed in the "Sent items" of the e-mail inbox. To archive these e-mails, move the sent e-mails from the "Sent items" of the mailbox to the "Sent Items Archive" of DNALab mailbox.

4. Other (e.g., outside jurisdiction, corporation counsel, AUSA)

a) Please follow the instructions on the route sheet if the report can be sent via email.

b) Please forward the file to the A team if the report needs to be faxed or mailed as a hard copy.

F. Case file routing

1. Follow the case file routing instructions on the Report Route Sheet to direct the file to its next destination. Unless minor corrections are necessary, or additional testing needs to be scheduled, the file should be ready to be filed.

2. Use the Forensic Biology Internal File Route Sheet to indicate any destinations other than the filing bin and affix this sheet to the outside of the file. Unless there are exigent circumstances, do not use sticky notes.

3. Prepare an out-guide stating the initials of the receiving Forensic Biology staff member, team, or CODIS for all files that are not routed to either the filing bin or to the 5th floor DNA sign in area for more testing to be scheduled. Place all out-guides in the filing bin. This is necessary to have a current location for all cases that according to the Access logbook are not in progress anymore. Cases with additional testing leading to a new report will receive a new record in Access and do not need an out guide.

4. For sexual assault serology reports the file must be routed to 5th floor DNA sign in as the collection point for sexual assault kits that need to be closed or processed for DNA.

G. Troubleshooting

1. Only the database administrator can delete records in the Access logbooks or forms. The database administrator is the Forensic Biology IT Manager. If a record is accidentally created, or if a record shouldn't be there, notify the database administrator to delete the entry.

2. It has been observed that for some additional reports the original Administrative review database entry is missing form the Access database. If possible, reconstruct this entry, or notify the Forensic Biology IT Manager.

3. Open an IT help desk ticket for any scanner related problems.

4. ECMS will suspend user accounts after three unsuccessful logins. In the event this happens or there are any issues with accounts, please contact the Forensic Biology IT Manager.

5. The ECMS database connectivity may not work occasionally. Please continue with the scanning and email distribution, but make sure the case file clearly indicates that the report .pdf still needs to be uploaded to ECMS.

6. A supervisor of the Administrative Team can help with any questions regarding report distribution or file routing. For case specific questions, consult your supervisor.

Revision History:

February 9, 2010 – Initial version of procedure.

May 13, 2010 – Updated the procedure to include the evaluation of a case file to determine if it is ready for an Administrative Review (Section A); updated the Administrative Review Procedure (Section B and C); added the steps necessary for report distribution (Section D and E); and added procedures to be followed post-report distribution (Section F). Section G inserted to address troubleshooting.

December 13, 2010 – Revised Section C (Administrative Review Additional Information) to include updated procedures for reviewing a Proficiency Test.

CASE ACCEPTANCE		
DATE EFFECTIVE 09-27-2010	APPROVED BY EUGENE LIEN	PAGE 1 OF 15

A. Types of cases accepted by the Department of Forensic Biology

Case Type	Associated Samples	Case Designation
Homicide	- Evidence - Elimination exemplars*	FBYY- #####
Sexual Assault	- Evidence - Elimination exemplars*	FBYY- #####
Suspect	- Pseudo-exemplars (such as bottles, cups, cigarettes) - Exemplars (oral swab, blood)	FBYY-S####
Property Crimes	- Evidence - Elimination exemplars*	FBYY- #####
Weapons (CPW, Found Firearm)	- Evidence - Exemplars	FBYY- #####
Assault	- Evidence - Exemplars	FBYY- #####
Forensic Paternity	- Product of conception - Exemplars	FBYY- #####
Unidentified Human Remains ("Missing Persons")	- Post-mortem samples - Kinship exemplars - Pseudoexemplars (razors, toothbrushes, underwear, etc.)	FBYY- #####
Mass Disaster	- Post-mortem samples - Kinship exemplars - Pseudoexemplars (razors, toothbrushes, underwear, etc.)	D@YY-##### (where @ = One-letter borough designation)
Mitochondrial DNA Testing (mtDNA)	- Evidence - Exemplars	FBYY-#####
Outsourced	- Evidence - Exemplars	Assigned by contract lab
Proficiency	- Evidence - Exemplars	Designated by vendor

* A biological sample from a known individual (commonly a husband or consensual partner), other than the alleged perpetrator or victim, which is analyzed for purposes of identifying those portions of a forensic DNA profile attributable to the alleged perpetrator.

B. PCR DNA tests available for use

Supplier	Kit	Loci	CODIS eligible
ABI	**Identifiler***	**D8S2279, D21S11, D7S820, CSF1PO, D3S1358, TH01, D13S317, D16S539, D2S1338, D19S433, vWA, TPOX, D18S51, Amelogenin, D5S818, FGA**	**Yes**
	MiniFiler	D13S317, D7S820, Amelogenin, D2S1338, D21S11, D16S539, D18S51, CSF1PO, FGA	Yes
Promega	**PowerPlex Y***	**DYS391, DYS389I, DYS439, DYS389II, DYS393, DYS390, DYS385, DYS438, DYS437, DYS19, DYS392**	**No**
OCME	YM1	DYS19, DYS389I, DYS389II, DYS390	No
	mtDNA	HVI, HVII direct sequencing	Yes

*Systems used for routine casework

C. Scheduled analysis

Depending on the case, it may be necessary for other types of examinations to be done before or after the Department of Forensic Biology examines an item. Fingerprint processing, gun shot residue, hair and fiber examinations, etc., may be equally or more important than the presence of biological fluids.

The scheduled analysis can range from determining only the presence of semen, saliva, or blood on an item to DNA analysis of stained or touched items for comparison with victims, elimination samples, and/or suspects. The decision of what analyses are to be performed is made by a member of the evidence sign-in team or Criminalists III, IV or Assistant Director after evaluation of the evidence through review of the NYPD paperwork (vouchers, requests for laboratory examinations, and NYPD reports), discussions with the NYPD, and/or discussions with assistant district attorneys. The scheduled analysis can change if prioritized items are negative and additional evidence must be examined, or if additional evidence is accepted by the laboratory.

D. Target dates

Target dates are assigned by the evidence sign-in team and/or supervisors based on the available information.

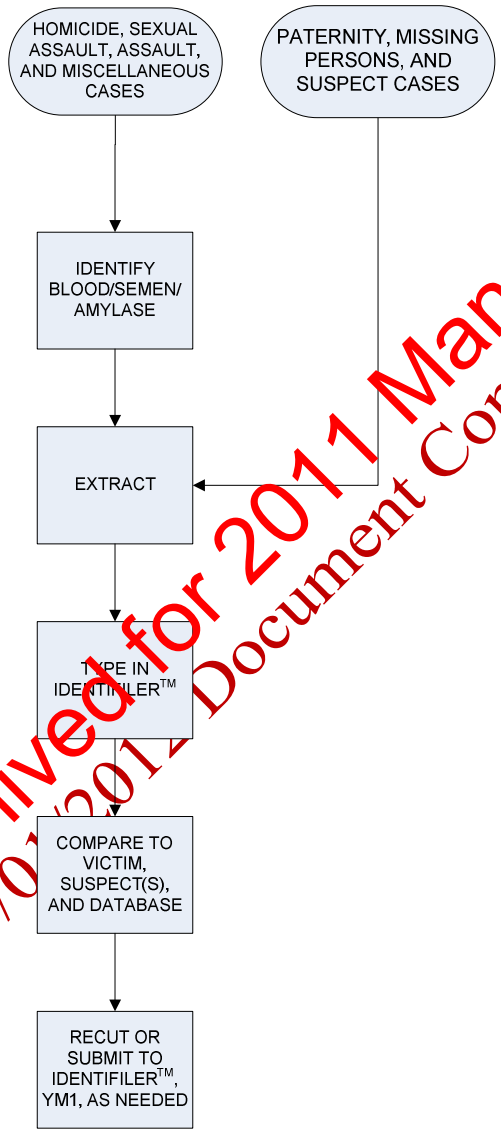
Case Type	Default Target Date
Homicide	60 days
Sexual Assault (Kit Serology Report)	30 days
Sexual Assault (Kit DNA Report)	30 days from the date of Serology Report
Sexual Assault (Additional Evidence)	60 days
Forensic Paternity	60 days
Property Crimes	60 days
Weapons	60 days
Assault	60 days
Missing Persons	30 days
Suspect	30 days
Mitochondrial DNA	90 days
Proficiency	Assigned by vendor
Miscellaneous	60 days

Target dates can fluctuate in order to accommodate court dates, investigative leads, high priority case, or if additional evidence is signed into the laboratory.

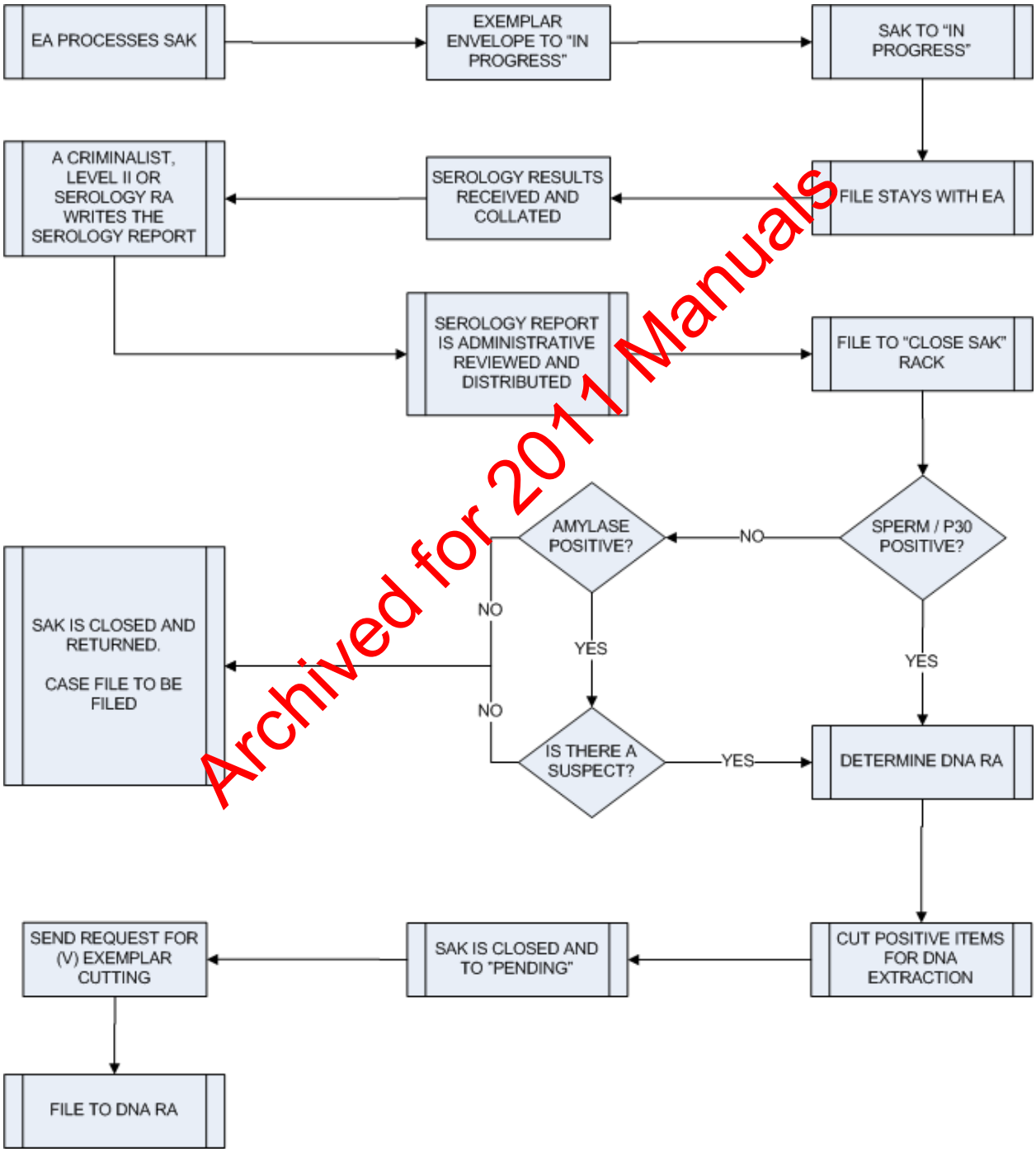
Regardless of the target date, a report should be written and submitted to a supervisor for review no later than seven calendar days after the last analytical results are available. Each supervisory level has an additional seven calendar days for review of the case and forwarding to the next reviewer.

E. Case flow

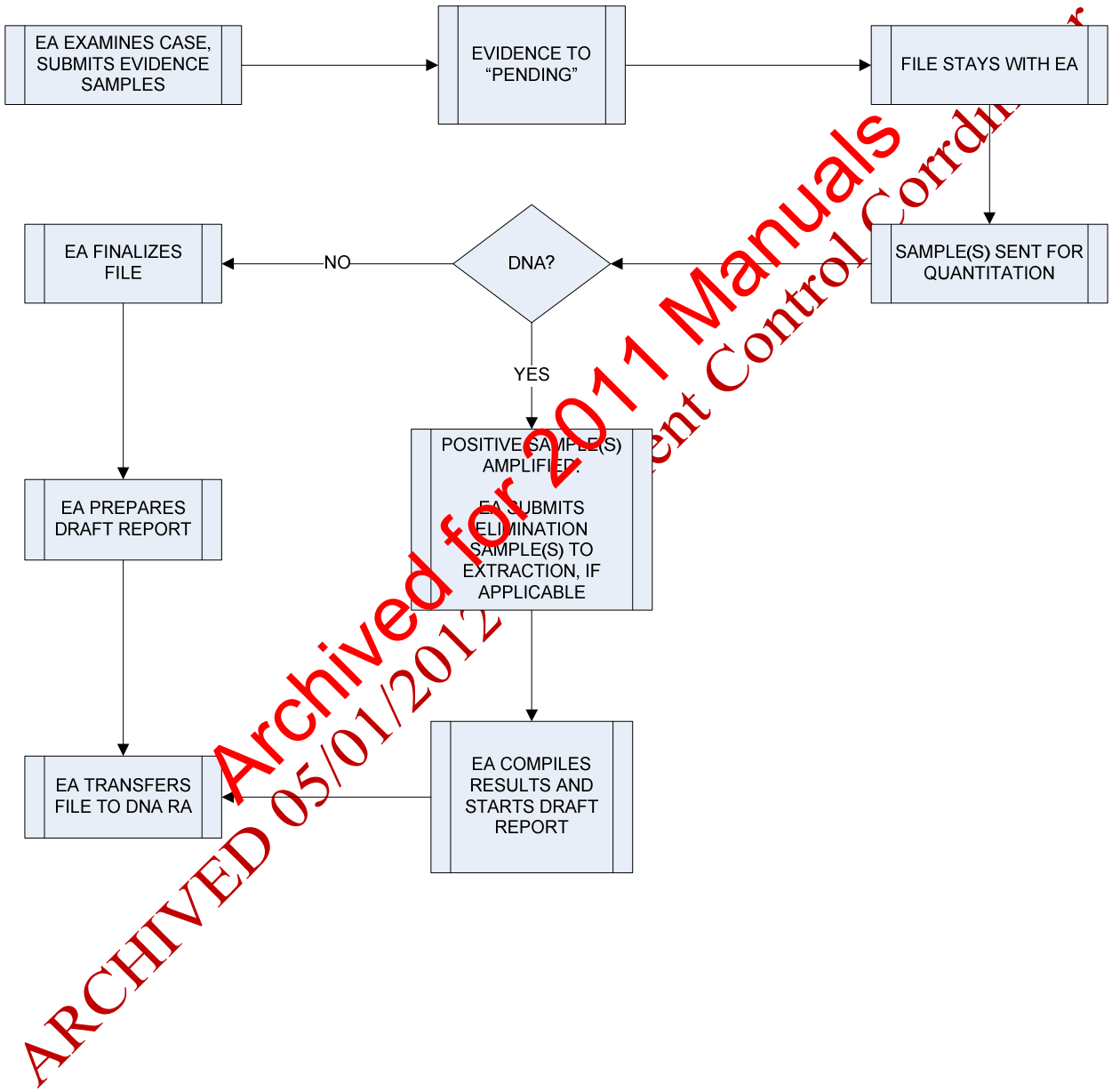
General Processing Flow Chart



Sexual Assault Kit (SAK) Processing Flow Chart



Property Crimes Processing Flow Chart



F. Sample Scheduling and Submission for High Sensitivity Testing and Case Transfer

High Sensitivity testing is an additional type of testing that is available for samples from all case types. Candidate samples for this testing are touched objects which likely consist of only skin or epithelial cells, and samples that were found to contain biological fluid but did not yield results with HCN DNA testing techniques. Samples with low amounts of DNA template are referred to as Low Template DNA (LT-DNA) samples, while those with high amounts of DNA template are called High Template DNA (HT-DNA) samples.

The High Sensitivity Team may accept cases with touched clothing for homicide, assault, and sexual assault cases if this is the only evidence in the case or if this is the evidence of last resort after all other testing options have been exhausted.

Touched objects often yield potential LT-DNA samples and as such should be tested with High Sensitivity methods. Cases tested initially for HT-DNA may also contain samples with the potential for High Sensitivity testing. When HT-DNA testing has been completed, the Reporting Analyst and/or supervisor should evaluate the case for potential High Sensitivity testing.

Detecting DNA on a touched object simply indicates the presence of DNA and does not infer the mechanism of deposition of that DNA. If DNA is not detected on a touched object, this does not indicate lack of contact. Therefore, the relevance of generating a DNA profile(s) on an item should be carefully considered prior to testing. For most cases, if informative profiles are produced with HT-DNA testing, additional High Sensitivity testing is not warranted. Even if there are no informative profiles in a case, before initiating High Sensitivity testing, if there is an arrested suspect, the ADA assigned to a case should be consulted. If there is no arrested suspect, and no or insufficient informative profiles, High Sensitivity testing may be attempted.

1. Sample Triage

   A sample may be designated for High Sensitivity testing upon initial acceptance or following testing with HT-DNA testing which does not yield sufficient DNA or a robust profile. A supervisor must approve submission of a previously processed sample for High Sensitivity testing. Since DNA extracts degrade with time, High Sensitivity testing may commence prior to completion of standard testing and its review.

a. Samples that would potentially yield low amounts of DNA are typically objects that have been handled and do not contain biological fluid such as blood, semen, saliva, or even sweat. If an analyst is swabbing such an item, the High Sensitivity swab and swabbing procedure should be utilized. These samples may include but are not limited to:

1) Any touched object
   a) Side of bottles, cans or containers (not mouths)
   b) Business, credit, identification, metro, or phone cards
   c) Keyboards or computer mice etc
   d) Keys
   e) Handles of various items such as brushes, combs etc
   f) Jewelry
   g) Letters or envelopes
   h) Pens or markers
   i) Pouches for cell phones, glasses, PDAs, MP3 players etc
   j) Ropes, strings, tape, zipties, or objects used for binding or strangulation
   k) Wallets, purses, or bags including garbage bags
   l) Wrappers for condoms or candy etc
   m) Weapons
      i) Bat, broom, hand saw, ice pick handles
      ii) Bombs
      iii) Gun handles, triggers, magazines
      iv) Knife handles

2) Finger or palm prints

3) Swabs that were previously taken from touched objects such as:

   a) Counters or banisters (these may often yield mixtures and should be accepted as a last resort item)

   b) Headboards

   c) Portals such as window sills or door handles

   d) Switches for lights etc

   e) Steering wheels or handles of car doors

4) Swabs taken by the latent print laboratory prior to fingerprint treatment unless it is specified that possible blood, semen, or saliva was recovered with the swab. (If the swab is KM positive upon examination for High Sensitivity testing, the sample should be sent for HT-DNA typing if enough DNA is recovered.)

b. There are some samples that may not easily be categorized as either High Sensitivity or HT-DNA testing appropriate; sample triage will depend upon the specifics of the case. Nevertheless, as a general guideline, consider samples that are handled to be High Sensitivity samples whereas samples that could potentially contain saliva, sweat, blood or semen should be deemed HT-DNA samples. If HT-DNA samples do not yield DNA, they can be subsequently transferred for High Sensitivity testing.

1) Some examples of samples that typically contain low but sufficient amounts of DNA for HT-DNA testing are:

   a) Cell phones (particularly the mouth piece)

   b) Clothing that will be scraped

   c) Food items that have been partially consumed

   d) Gloves

2) If an analyst is swabbing such an item, the High Sensitivity swab and swabbing procedure should be utilized.

c. If a case does not produce an informative DNA profile with HT-DNA testing, the following samples should be considered for submission to High Sensitivity Testing pending approval of a supervisor:

1) Those with insufficient DNA for PCR DNA typing, but

a) Amylase, P30, or KM positive

b) Scrapings or swabs of any handled objects

2) Those that produce a poor STR profile despite a sufficient quantitation value

3) Note that if HT-DNA testing indicates the presence of a mixture, at best LT-DNA testing can only generate the profile of the major component of the mixture. Minor components may be used for comparisons, but cannot be deduced unless the sample is an intimate sample.

d. For cases with touched clothing, specific information is needed on where the individual was touched ("On the arm" or "On the neck" is acceptable; "somewhere on the shirt" is not acceptable). Exemplars from the victim(s) must be submitted prior to any touched clothing is tested.

2. Sample Scheduling

a. When a case is submitted for High Sensitivity DNA testing, all relevant logbooks and databases should be completed as with HT-DNA testing. If the case already has an entry in the database for HT-DNA testing, a second entry should be made for the High Sensitivity DNA testing portion. In this instance, the date received is defined as the date the case was transferred to the High Sensitivity team. However, if the evidence is not stored in the Forensic Biology Department, the date received is defined as the day the evidence returns to the lab.

b. High Sensitivity cases have a 60 day target date.

c. If cases only contain LT-DNA-type items scheduled for examination, the case should be transferred directly to the High Sensitivity team for examination. A rack is situated in the evidence exam room for these files. These items are scheduled with the letter on the Scheduled Analysis designated for "High Sensitivity testing".

d. If HT-DNA type evidence is the only type of evidence scheduled in the case, but LT-DNA-type evidence is also included, the LT-DNA items(s) should be scheduled with the appropriate letter for "Do not schedule for examination until supervisor establishes case status." OR if, in general, 5 or fewer HCN type items are scheduled along with 5 LT-DNA items, the case may be assigned as a "Hybrid" case. See Section F below.

1) After HT-DNA testing has been completed and case circumstances suggest that LT-DNA testing should be done on some items/samples, the Reporting Analyst and/or supervisor may submit the file to the High Sensitivity team for evaluation..

a) If there is an arrested suspect, first contact the ADA assigned to determine whether High Sensitivity DNA testing is warranted.

b) If there is no suspect, consult the relevant agency investigating the incident.

3. Case Files and Transfer

a. If HT-DNA testing has already been started or completed in a case, a second file may be generated when items are tested by the High Sensitivity team. The HT-DNA testing results may be located in file 1 of 2, and the second file may contain High Sensitivity DNA testing results.

b. If HT-DNA testing has concluded and the report has been reviewed, forward the file to the High Sensitivity DNA team for evaluation..

c. High Sensitivity DNA testing may begin prior to completion of HT-DNA technical review, upon supervisory approval. It is advantageous to perform High Sensitivity DNA testing promptly since small amounts of DNA likely degrade with time, and thus, over time, the probability of a good result may decrease. See below for details pertaining to case transfer.

d. Transfer of a sample for High Sensitivity DNA testing for a case also undergoing HT-DNA testing or technical review involves the following:

1) The HT-DNA analyst should submit the case file to a High Sensitivity supervisor so that copies of the contact sheet to date, the 61 report, and relevant laboratory requests and vouchers can be made and included in the High Sensitivity file.

The High Sensitivity supervisor should then evaluate the case to determine which samples need LT-DNA testing. If items need additional examination, the High Sensitivity supervisor will schedule those items for examination, create a new database record, and transfer the relevant chain of custodies to the new High Sensitivity case file. (Following examination, the High Sensitivity analyst should return the original chain of custody to the original case file).

2) If the sample has already been extracted, the extract location, and the name and location of the relevant extraction or microcon negatives will be noted by the High Sensitivity supervisor. When the samples are brought into the LT-DNA laboratory, state "transferred to HiSens" (or a similar statement indicating the transfer) in the DNA tracking sheet. The High Sensitivity team will temporarily transfer the extract tube to the LT-DNA facility, where it will be stored in a cryobox labeled "transferred from HSC testing". A new tracking sheet will specify all aliquots for High Sensitivity testing and will be kept in the High Sensitivity file. Upon completion of High Sensitivity PCR DNA testing, the original extract tube will be returned to its original storage location with a note on the tracking indicating its transfer.

3) When necessary, the High Sensitivity team may re-cut a sample whose chain of custody is in the original case file. The High Sensitivity team member will arrange with the original HT-DNA case analyst, if necessary, for temporary possession of the file in order to gain custody of the sample.

4) The original HT-DNA analyst should notify the High Sensitivity team regarding the victim's profile, if available.

5) The High Sensitivity team should be notified immediately of any relevant suspect profiles.

4. **Report Notations**

In both reports, a reference to the other report should be made according to the following situations:

a. HT-DNA report: If the case file will be submitted to the High Sensitivity team for evaluation, state "This case will be forwarded to the High Sensitivity group for further evaluation."

b. High Sensitivity DNA report:

1) If the HT-DNA report, was already issued state "This is an additional report. For previous results, evidence received, and disposition, see report dated…."

2) If the HT-DNA report was not yet issued, the HSC report will be an additional report to that of the High Sensitivity report.

5. Communication

When a case is processed for High Sensitivity and HT-DNA testing simultaneously, analysts of both teams must communicate and share results. Moreover, when testing occurs subsequently, the High Sensitivity DNA analyst should relay results to the HT-DNA analyst.

Communication between analysts sharing cases facilitates such necessary tasks as the following:

a. Comparison of foreign profiles in either file to mixtures suitable for comparison in the other
b. Assignment of foreign profile monikers (i.e. Male Donor A, B, C…)
c. Establishment of report dates and report order

G. Sample Scheduling and Submission for Hybrid Testing

Hybrid cases are those cases classified as either a homicide or assault and which include informative HT-DNA and LT-DNA type items. In general, the number of each type of sample scheduled is limited to 5 HT-DNA and 5 LT-DNA type items (for a total of ten items per case). In some instances, it may be appropriate to split the case into HT-DNA and High Sensitivity portions and to process the samples separately. However, in these situations, the results of each type of testing will need to be compared with each other as with any other case split between two groups for testing. Refer to the appropriate sections in this manual for scheduling of High Sensitivity and HT-DNA items.

1. Examples of cases appropriate for Hybrid testing are as follows:

   - Assault allegedly committed by a person or persons unknown to the victim

   - Cases including gun swabs, plus 5 or fewer HT-DNA type items

2. Examples of cases that are NOT appropriate for Hybrid testing are as follows:

   a. Assault or homicide cases where the HT-DNA evidence is likely to be more informative to the investigation than the High Sensitivity evidence.

   b. Assault cases with weapons such as knifes, bats, sticks, etc., for which there is an arrest and/or the individuals involved obviously knew each other (i.e., mother- daughter, husband-wife) **should NOT** be scheduled as hybrid cases. The handle of the weapon should NOT be scheduled for High Sensitivity testing

   These cases should be assigned for HT-DNA testing only; if in the future, testing of the handle of the weapon is requested, this can be done by the High Sensitivity team.

3. Homicide cases with arrested suspects SHOULD have weapons scheduled for High Sensitivity testing (if applicable).

4. If knifes, bats, etc., are found in suspect's homes, cars, or on the suspect's person, these should be scheduled for blood and HT-DNA testing only as well

5. Sample Scheduling

When a case is submitted for Hybrid testing, all relevant logbooks and databases should be completed as with any other testing. If the case already has an entry in the database for testing with the same or another group within the lab, a second entry should be made for the Hybrid testing portion. In this instance, the date received is defined as the date the case was transferred to the Hybrid team. However, if the evidence is not stored in the Forensic Biology Department, the date received is defined as the day the evidence returns to the lab.

Hybrid cases have a 60 day target date.

A "Hybrid" rack is situated in the evidence sign in area for these files.

The Schedule of Analysis for a Hybrid evidence item may indicate that no High Sensitivity samples are to be collected and/or sent for extraction unless a KM+ stain has been identified on that item. The likelihood that a given item of evidence is truly associated with a perpetrator should be considered when making the above determination. For example, in an assault case where the victim was stabbed, no further testing would typically be performed on a knife from which no KM+ stains were found unless it is somehow clear from the available information that the knife was handled by a perpetrator (and there is no other evidence in the case from which the identification of the perpetrator's DNA profile is likely to be more successful and/or significant).

a. Sometimes, in addition to the actual evidence item, swabs collected from that item by the NYPD are also received for testing. In these situations it is often appropriate for the Schedule of Analysis to indicate that KM testing on the item is not necessary if one of the associated NYPD swabs is found to be KM+.

6. If other evidence is included in the case that does not warrant testing, these items should be scheduled: "Do not schedule for examination until supervisor establishes case status."

Revision History:

February 9, 2010 – Initial version of procedure.

September 27, 2010 – Added MiniFiler and PowerPlex Y to the list of PCR DNA Tests Available for use (Section B). Added information for touched clothing acceptance.

CASE MANAGEMENT		
DATE EFFECTIVE 02-09-2010	APPROVED BY EUGENE LIEN	PAGE 1 OF 10

GUIDING PRINCIPLES AND SCOPE

Case management is the process by which an analyst shepherds the evidence samples through the testing process. It is the responsibility of the analyst to ensure that samples receive the necessary analysis, analytical results are evaluated promptly, any analytical problems resolved, the results interpreted, and the final report written - all within the time frame dictated by the target date.

Since the Department has different teams, this section discusses the process in general. Refer to the specific procedures within the technical manuals, if necessary.

PROCEDURE

A. Rotation system

1. Many of the processes described in the following sections are handled by the rotation staff and not the interpreting analyst. One goal of the rotation system is to rapidly and efficiently extract, quantify, and amplify samples. Automatic submission of sexual assault samples to extraction and "autoaliquot" for amplification are two examples of this. Workflow and paperwork is coordinated by the supervisors and distributed to the interpreting analysts.

2. It is the responsibility of the analyst to examine the **samples and paperwork** for completeness and accuracy of case numbers, sample identifiers, etc. Any discrepancies, inconsistencies, or omissions must be resolved by the analyst, in consultation with a supervisor if needed, before obtaining a witness and/or commencing testing.

3. It is the responsibility of the witness to examine the **samples and paperwork** for completeness and accuracy of case numbers, sample identifiers, etc. As above, resolve any issues prior to commencing testing.

B. Case assignment

Case management begins as soon as an analyst picks up a file for evidence examination.

1. Cases are self-assigned by the analyst by taking the next case in target date order. Once the analyst accepts a case for examination, the file is given to a member of the evidence sign-in team who will update the log book with the initials of the examining analyst and/or reporting analyst, supervisor, and assistant director along with the date the case is picked up.

2. Review the case file (see evidence exam - general guidelines).

   If this is additional evidence or an exemplar on a previously reported case, evaluate the earlier work.

   a. It may be necessary to submit earlier DNA extracts for additional testing.

   b. If an exemplar is submitted, type it in all DNA systems necessary for comparison.

3. Obtain the evidence from the evidence storage area and sign the chain of custody.

C. Initial analyses

1. Examine the evidence (see Evidence Exam).

2. Submit samples for P30, amylase, or DNA extraction as needed. Ensure that "true exemplar" samples and "pseudo-exemplar" samples are submitted on exemplar extraction sheets and that evidence samples are submitted on the appropriate non-exemplar extraction sheets.

3. At this point, a draft report should be started by the analyst. Fill in the top block, evidence received section and the signature block at a minimum.

4. A case tracking worksheet may also be started by the analyst. These worksheets allow for tracking of samples, including analytical results, dates of submission for the different tests, etc.

5. When P30 or amylase results are returned to you, review the paperwork for completeness and accuracy; any discrepancies or omissions need to be corrected by the analyst who performed the test. Check especially for correct FB number, swab description or stain description.

The P30 and amylase results must be properly interpreted; review the interpretation guidelines in the Biochemistry Manual if necessary.

If P30 results are less than but close to the 2ng level (for body cavity swabs) or the 0.05 level (for other samples), a slide should be prepared from the sample and a sperm search done.

6. When extraction and quantitation results are returned to you, review the paperwork for completeness and accuracy; any discrepancies or omissions need to be corrected by the analyst who performed the test. Check especially for correct FB number, swab description or stain description. In addition, review all the quantitation results for your case. The following information should be checked:

   a. Does the extraction negative contain DNA?

   b. If neat and dilution results were tested, do the results correlate with each other?

   c. Is the DNA concentration too high?

   d. Was there a problem with inhibition and/or background fluorescence preventing a determination of the DNA concentration? If so, the sample may need cleaning up using a Microcon followed by Quantitation.

If re-quantitation is needed due to any of the aforementioned reasons, this is generally taken care of automatically by the Quantitation rotation. Ensure that the extract tracking form has been signed.

If Microcon is needed, this may be performed either by the analyst, or as part of the rotation. The auto-aliquot of extraction sets do not wait for Microcon samples. Therefore, these samples should be aliquotted for amplification by the analyst.

D. DNA typing and case evaluation

1. Once acceptable Quantitation results are available, the DNA samples requiring amplification must be aliquotted. This is generally taken care of automatically by the STR rotation, or a similar rotation, for the initial extraction sets of evidence for Identifiler. Any additional testing, reamplifications, etc. are taken care of by the IA.

    a. In some groups, the duplication process of amplification is automatically performed by the STR rotation. If this duplication is not performed and is necessary, or if the sample needs reamplification, the sample must be placed on an amplification aliquot worksheet on the network.

    b. Fill out the electronic amplification worksheet, listing the samples and their concentrations. Make sure to use the correct tab of the worksheet for the appropriate amplification kit (Identifiler, Y's, etc.).

    c Fill out the DNA extract tracking form once you are notified that your sample has been aliquoted and sent for amplification. Note the purpose the aliquot(s) was taken (Identifiler, Y's, etc.).

2. Once amplification and DNA typing results are returned to you, review the paperwork for completeness and accuracy; any discrepancies or omissions need to be corrected by the analyst who performed the test. Check especially for correct FB number, swab description or stain description. In addition, review all the electropherograms for your case.

    a. Review the STR 3130xl Control Review Worksheet to ensure that the the positive control, amplification negative, and extraction negative (if applicable) gave the expected results. If not, the samples may need to be re-amplified or even re-extracted.

    b. Did your samples amplify? If not, it may be necessary to re-amplify with more DNA extract or less DNA extract (if PCR inhibitors are suspected), or perform a microcon procedure.

    In some situations, it may be necessary to start the DNA analysis over at the DNA extraction step or consider organic extraction.

c. Was a partial DNA profile detected in your sample? If so, it may be necessary to perform further testing.

Depending on the system, a complete DNA profile may be obtained by re-running the sample with more amplification product or a longer injection time. If so, add it to the list of samples to be re-run and specify how much amplification product should be run or increased injection time. Racks to hold samples to be re-run are in the amplified DNA refrigerators. This is generally taken care of automatically by the STR rotation.

Alternatively, it may be necessary to re-amplify with more DNA extract or less DNA extract (if PCR inhibitors are suspected), or perform a microcon procedure.

d. Was your sample over-amplified? If so, was the sample added to the list of samples requiring re-run? This is generally taken care of automatically by the STR rotation.

Alternatively, submit the sample for amplification again with less DNA extract.

e. Were your samples properly edited? Evaluate any editing that was done on your samples; examine the electropherograms for artifacts, over-amplification, or other problems. If the sample was not edited properly, ask the analyst to re-edit and reprint the electropherograms; make sure the new editing is added and dated on the editing worksheet.

g. Is there a mixture of DNA in your sample? If so, it <u>may</u> require duplication in a DNA system (the same one or a different one). Mixtures may also be amplified with more template DNA for better results.

h. Are there other samples that may require duplication? If so, identify those samples and start the appropriate steps (i.e., re-extraction or re-amplification).

i. Do the DNA results make sense in the context of the case and/or sample? If not, there may have been a sample mix-up at the aliquot, amplification, or DNA typing steps. Discuss with your supervisor.

Review the DNA typing paperwork as soon as possible so that ample time remains to deal with any analytical problems.

3. Once initial DNA results are obtained, compare them to the LINKAGE database for potential matches. This may require you to determine the DNA profile(s) present in a mixture, and may require consultation with a supervisor.

There are two ways to perform the comparison with LINKAGE; either or both may be used. It is possible for potential matches not to be found using LINKAGE especially when partial profiles are being considered; this is due in part to the inability of LINKAGE to handle more than two alleles per locus. *Any potential case-to-case matches not identified in LINKAGE will be picked up by LDIS once the profile is entered there.*

If a sample from your case matches a sample from a previous case, consult with your supervisor and follow the current local hit notification guidelines.

a. Scan LINKAGE visually for your profile.

This example assumes that LINKAGE is arranged, from left to right, using Cofiler and Profiler Plus loci order. To scan LINKAGE visually for your profile, place the cursor in the D3S1358 field and press Ctrl-Z (zoom), then enter your D3S1358 value (e.g. 15 space 16, or 15) and click on OK. This will take you to the part of LINKAGE where all profiles beginning with that value reside. Move the cursor to the D16S539 column, then page/scroll down to see if your D16S539 value is represented. Repeat for each locus until you discover a potential match or determine there is none.

It is not necessary to scan the partial profiles listed at the beginning of LINKAGE.

b. Perform a query in LINKAGE

This approach may be used for full or partial profiles. Under the File menu, select "NEW", then select "QUERY"; select the LINKAGE database as the database to query. Place a checkmark in **all loci**, FB # and Backlog #. Type in the desired values (e.g., some or all of the alleles in each locus). Enter values for as many or as few loci as wanted; understand, however that entering few may yield a large number of potential matches to evaluate and entering many may miss a potential match that is lacking one or more loci. It may be helpful to choose rarer alleles when performing a query. Run the query by pressing F8, clicking on the "blue gears" on the menu bar, or choosing "Run Query" from the Query menu.

When entering values for the DNA alleles, do not use commas or more than one space between alleles. It will cause a potential match to be missed!

4. Not all samples require DNA analysis in all available DNA systems; in fact, the majority of samples require only Identifiler. Submission of samples for Y STR typing is case dependent.

5. The DNA system chosen for additional testing may depend on the nature of the case.

   a. Were the only DNA alleles detected in a semen-containing sample those of the victim? If so, amplification using Y STR's may be needed.

   b. Does it appear that there are multiple semen donors? If so, amplification in Y-STR's may be needed.

   c. Does the case involve a body identification of a male, and are there paternal relatives available for testing? If so, amplification using Y STR's may be needed.

6. Ensure that the laboratory concordance policy is satisfied.

7. Prepare a profile generation sheet or table of results, if applicable.

8. Prepare a PCR Statistics sheet, if necessary. Enter all alleles that meet the allele calling criteria.

9. Prepare a DNA Profile Evaluation form, if necessary. Follow the guidelines listed for eligible profiles to determine how many (if any) alleles to enter at each locus.

10. Search the CODIS/LINKAGE profile(s) against Lab Types. Initial and date the DNA Profile Evaluation form.

11. Fill out a DNA Productivity Sheet.

12. Do a review of the file to ensure that all the necessary paperwork is present and is organized in a logical format.

13. Finalize the report. Before submitting it to a supervisor for review, make sure the report is logical, consistent, accurate, and complete.

E. Case Completion

A case is considered complete when the analytical work is done, the report is written, the case file passes technical and administrative reviews and the report is distributed to the requesting agency. The following are items required prior to the dissemination of the report

1. Return Evidence

   Bring the original voucher(s) to the Evidence Unit. The Evidence Unit will obtain the item(s), attach the voucher(s), and prepare the item(s) for "pending release to the Property Clerk" using their normal procedures. This process removes the items(s) from the cages and transfers them to barrels and/or boxes. With the exception of post-mortem items and exemplars, there should no longer be retained samples indicated on the chains of custody.

2. Finalization of case file

Examination documentation is usually generated by the laboratory and includes reference to procedures followed, test conducted, standards and control used, diagrams, printouts, photographs, documentation of observations, and results of examinations on evidence. The case number and the handwritten initials of the Reporting Analyst must appear on each page of the examination documentation. Additionally, the handwritten initials of the person generating the examination documentation must appear on each page generated by that person.

Page numbers are placed at the bottom margin of the pages on the examination documentation (right-hand side) of the casefile, starting with the bottom page. The last page should be the productivity worksheet, which will have the highest page number and be on the top. Continue the page numbering if additional analyses are done after a report has been issued and/or if there is more than one file folder for a case. Do not start over with page one.

The case number must also appear on the Administrative Documentation (left-hand side) of the case file.

F. Report Routing

The Reporting Analyst is responsible for completing the Forensic Biology Report Route Sheet to indicate which agencies are to receive the report. Reports are scanned by the administrative team, uploaded to the NYPD Electronic Case Management System (ECMS) and sent via email to the appropriate agencies. In addition to ECMS reports are distributed as follows:

1. Deaths: Reports are supplied to the OCME Records Department. Optional: The reports may also be supplied to the District Attorney's Office (to the assigned ADA) and/or NYPD units (to the assigned Detective).

2. Sexual Assaults and Suspect files for Sexual Assaults: Reports are supplied to the Bureau Chief of the appropriate Sex Crimes Bureau.

3. Miscellaneous and all other Suspect files: Reports are supplied to the District Attorney's Office (to the assigned ADA) and/or NYPD units (to the assigned Detective).

4. Property Crimes and Weapons case reports are only supplied to the District Attorney's offices if a suspect has been arrested.

Revision History:

February 9, 2010 – Initial version of procedure.

CASE MANAGEMENT		
DATE EFFECTIVE 04-01-2011	APPROVED BY EUGENE LIEN	PAGE 1 OF 10

GUIDING PRINCIPLES AND SCOPE

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A. Rotation system

1. Many of the processes described in the following sections are handled by the rotation staff and not the interpreting analyst. One goal of the rotation system is to rapidly and efficiently extract, quantify, and amplify samples. Automatic submission of sexual assault samples to extraction and "autoaliquot" for amplification are two examples of this. Workflow and paperwork is coordinated by the supervisors and distributed to the interpreting analysts.

2. It is the responsibility of the analyst to examine the **samples and paperwork** for completeness and accuracy of case numbers, sample identifiers, etc. Any discrepancies, inconsistencies, or omissions must be resolved by the analyst, in consultation with a supervisor if needed, before obtaining a witness and/or commencing testing.

3. It is the responsibility of the witness to examine the **samples and paperwork** for completeness and accuracy of case numbers, sample identifiers, etc. As above, resolve any issues prior to commencing testing.

B. Case assignment

Case management begins as soon as an analyst picks up a file for evidence examination.

1. Cases are self-assigned by the analyst by taking the next case in target date order. Once the analyst accepts a case for examination, the file is given to a member of the evidence sign-in team who will update the log book with the initials of the examining analyst and/or reporting analyst, supervisor, and assistant director along with the date the case is picked up.

2. Review the case file (see evidence exam - general guidelines).

   If this is additional evidence or an exemplar on a previously reported case, evaluate the earlier work.

   a. It may be necessary to submit earlier DNA extracts for additional testing.

   b. If an exemplar is submitted, type it in all DNA systems necessary for comparison.

3. Obtain the evidence from the evidence storage area and sign the chain of custody.

C. Initial analyses

1. Examine the evidence (see Evidence Exam).

2. Submit samples for P30, amylase, or DNA extraction as needed. Ensure that "true exemplar" samples and "pseudo-exemplar" samples are submitted on exemplar extraction sheets and that evidence samples are submitted on the appropriate non-exemplar extraction sheets.

3. At this point, a draft report should be started by the analyst. Fill in the top block, evidence received section and the signature block at a minimum.

4. A case tracking worksheet may also be started by the analyst. These worksheets allow for tracking of samples, including analytical results, dates of submission for the different tests, etc.

5. When P30 or amylase results are returned to you, review the paperwork for completeness and accuracy; any discrepancies or omissions need to be corrected by the analyst who performed the test. Check especially for correct FB number, swab description or stain description.

The P30 and amylase results must be properly interpreted; review the interpretation guidelines in the Biochemistry Manual if necessary.

If P30 results are less than but close to the 2ng level (for body cavity swabs) or the 0.05 level (for other samples), a slide should be prepared from the sample and a sperm search done.

6. When extraction and quantitation results are returned to you, review the paperwork for completeness and accuracy; any discrepancies or omissions need to be corrected by the analyst who performed the test. Check especially for correct FB number, swab description or stain description. In addition, review all the quantitation results for your case. The following information should be checked:

   a. Does the extraction negative contain DNA?

   b. If neat and dilution results were tested, do the results correlate with each other?

   c. Is the DNA concentration too high?

   d. Was there a problem with inhibition and/or background fluorescence preventing a determination of the DNA concentration? If so, the sample may need cleaning up using a Microcon followed by Quantitation.

If re-quantitation is needed due to any of the aforementioned reasons, this is generally taken care of automatically by the Quantitation rotation. Ensure that the extract tracking form has been signed.

If Microcon is needed, this may be performed either by the analyst, or as part of the rotation. The auto-aliquot of extraction sets do not wait for Microcon samples. Therefore, these samples should be aliquotted for amplification by the analyst.

D. DNA typing and case evaluation

1. Once acceptable Quantitation results are available, the DNA samples requiring amplification must be aliquotted. This is generally taken care of automatically by the STR rotation, or a similar rotation, for the initial extraction sets of evidence for Identifiler. Any additional testing, reamplifications, etc. are taken care of by the IA.

    a. In some groups, the duplication process of amplification is automatically performed by the STR rotation. If this duplication is not performed and is necessary, or if the sample needs reamplification, the sample must be placed on an amplification aliquot worksheet on the network.

    b. Fill out the electronic amplification worksheet, listing the samples and their concentrations. Make sure to use the correct tab of the worksheet for the appropriate amplification kit (Identifiler, Y's, etc.).

    c Fill out the DNA extract tracking form once you are notified that your sample has been aliquoted and sent for amplification. Note the purpose the aliquot(s) was taken (Identifiler, Y's, etc.).

2. Once amplification and DNA typing results are returned to you, review the paperwork for completeness and accuracy; any discrepancies or omissions need to be corrected by the analyst who performed the test. Check especially for correct FB number, swab description or stain description. In addition, review all the electropherograms for your case.

    a. Review the STR 3130xl Control Review Worksheet to ensure that the the positive control, amplification negative, and extraction negative (if applicable) gave the expected results. If not, the samples may need to be re-amplified or even re-extracted.

    b. Did your samples amplify? If not, it may be necessary to re-amplify with more DNA extract or less DNA extract (if PCR inhibitors are suspected), or perform a microcon procedure.

    In some situations, it may be necessary to start the DNA analysis over at the DNA extraction step or consider organic extraction.

c. Was a partial DNA profile detected in your sample? If so, it may be necessary to perform further testing.

Depending on the system, a complete DNA profile may be obtained by re-running the sample with more amplification product or a longer injection time. If so, add it to the list of samples to be re-run and specify how much amplification product should be run or increased injection time. Racks to hold samples to be re-run are in the amplified DNA refrigerators. This is generally taken care of automatically by the STR rotation.

Alternatively, it may be necessary to re-amplify with more DNA extract or less DNA extract (if PCR inhibitors are suspected), or perform a microcon procedure.

d. Was your sample over-amplified? If so, was the sample added to the list of samples requiring re-run? This is generally taken care of automatically by the STR rotation.

Alternatively, submit the sample for amplification again with less DNA extract.

e. Were your samples properly edited? Evaluate any editing that was done on your samples; examine the electropherograms for artifacts, over-amplification, or other problems. If the sample was not edited properly, ask the analyst to re-edit and reprint the electropherograms; make sure the new editing is added and dated on the editing worksheet.

g. Is there a mixture of DNA in your sample? If so, it <u>may</u> require duplication in a DNA system (the same one or a different one). Mixtures may also be amplified with more template DNA for better results.

h. Are there other samples that may require duplication? If so, identify those samples and start the appropriate steps (i.e., re-extraction or re-amplification).

i. Do the DNA results make sense in the context of the case and/or sample? If not, there may have been a sample mix-up at the aliquot, amplification, or DNA typing steps. Discuss with your supervisor.

Review the DNA typing paperwork as soon as possible so that ample time remains to deal with any analytical problems.

3. Once initial DNA results are obtained, compare them to the LINKAGE database and/or LDIS for potential matches (exact or partial). In addition, it may be necessary to compare DNA profiles within a case to other profiles in the case, and to any suspects submitted for that case, to identify partial matches. This may require you to determine the DNA profile(s) present in a mixture, and may require consultation with a supervisor.

Only single-source profiles (clean or deduced) with ≥10 CODIS core loci should be compared for the purposes of discovering partial matches. Only such profiles are eligible for evaluation of any partial matches found.

To compare a profile to LDIS, perform a keyboard search. Only profiles that meet the necessary number of loci and statistical threshold for entry into LDIS should be searched in LDIS.

See the CODIS Manual for more detailed information regarding DNA matches.

There are two ways to perform the comparison with LINKAGE; either or both may be used. It is possible for potential matches not to be found using LINKAGE especially when partial profiles are being considered; this is due in part to the inability of LINKAGE to handle more than two alleles per locus.

Any potential case-to-case matches not identified in LINKAGE will be picked up by LDIS once the profile is entered there.

If a sample from your case matches a sample from a previous case, consult with your supervisor and follow the current local hit notification guidelines.

a. Scan LINKAGE visually for your profile.

This example assumes that LINKAGE is arranged, from left to right, using Cofiler and Profiler Plus loci order. To scan LINKAGE visually for your profile, place the cursor in the D3S1358 field and press Ctrl-Z (zoom), then enter your D3S1358 value (e.g. 15 space 16, or 15) and click on OK. This will take you to the part of LINKAGE where all profiles beginning with that value reside. Move the cursor to the D16S539 column, then page/scroll down to see if your D16S539 value is represented. Repeat for each locus until you discover a potential match or determine there is none.

It is not necessary to scan the partial profiles listed at the beginning of LINKAGE.

b. Perform a query in LINKAGE.

This approach may be used for full or partial profiles. Under the File menu, select "NEW", then select "QUERY"; select the LINKAGE database as the database to query. Place a checkmark in **all loci**, FB # and Backlog #. Type in the desired values (e.g., some or all of the alleles in each locus). Enter values for as many or as few loci as wanted; understand, however that entering few may yield a large number of potential matches to evaluate and entering many may miss a potential match that is lacking one or more loci. It may be helpful to choose rarer alleles when performing a query. Run the query by pressing F8, clicking on the "blue gears" on the menu bar, or choosing "Run Query" from the Query menu.

When entering values for the DNA alleles, do not use commas or more than one space between alleles. It will cause a potential match to be missed!

4. Not all samples require DNA analysis in all available DNA systems; in fact, the majority of samples require only Identifiler. Submission of samples for Y STR typing is case dependent

5. The DNA system chosen for additional testing may depend on the nature of the case.

   a. Were the only DNA alleles detected in a semen-containing sample those of the victim? If so, amplification using Y STR's may be needed.

   b. Does it appear that there are multiple semen donors? If so, amplification in Y-STR's may be needed.

   c. Does the case involve a body identification of a male, and are there paternal relatives available for testing? If so, amplification using Y STR's may be needed.

6. Ensure that the laboratory concordance policy is satisfied.

7. Prepare a profile generation sheet or table of results, if applicable.

8. Prepare a PCR Statistics sheet, if necessary. Enter all alleles that meet the allele calling criteria.

9. Prepare a DNA Profile Evaluation form, if necessary. Follow the guidelines listed for eligible profiles to determine how many (if any) alleles to enter at each locus.

10. Search the CODIS/LINKAGE profile(s) against Lab Types. Initial and date the DNA Profile Evaluation form.

11. Fill out a DNA Productivity Sheet.

12. Do a review of the file to ensure that all the necessary paperwork is present and is organized in a logical format.

13. Finalize the report. Before submitting it to a supervisor for review, make sure the report is logical, consistent, accurate, and complete.

E. Case Completion

A case is considered complete when the analytical work is done, the report is written, the case file passes technical and administrative reviews and the report is distributed to the requesting agency. The following are items required prior to the dissemination of the report

1. Return Evidence

   Bring the original voucher(s) to the Evidence Unit. The Evidence Unit will obtain the item(s), attach the voucher(s), and prepare the item(s) for "pending release to the Property Clerk" using their normal procedures. This process removes the items(s) from the cages and transfers them to barrels and/or boxes. With the exception of post-mortem items and exemplars, there should no longer be retained samples indicated on the chains of custody.

2. Finalization of case file

   Examination documentation is usually generated by the laboratory and includes reference to procedures followed, test conducted, standards and control used, diagrams, printouts, photographs, documentation of observations, and results of examinations on evidence. The case number and the handwritten initials of the Reporting Analyst must appear on each page of the examination documentation. Additionally, the handwritten initials of the person generating the examination documentation must appear on each page generated by that person.

   Page numbers are placed at the bottom margin of the pages on the examination documentation (right-hand side) of the casefile, starting with the bottom page. The last page should be the productivity worksheet, which will have the highest page number and be on the top. Continue the page numbering if additional analyses are done after a report has been issued and/or if there is more than one file folder for a case. Do not start over with page one.

   The case number must also appear on the Administrative Documentation (left-hand side) of the case file.

F. Report Routing

The Reporting Analyst is responsible for completing the Forensic Biology Report Route Sheet to indicate which agencies are to receive the report. Reports are scanned by the administrative team, uploaded to the NYPD Electronic Case Management System (ECMS) and sent via email to the appropriate agencies. In addition to ECMS reports are distributed as follows:

1. Deaths: Reports are supplied to the OCME Records Department. Optional: The reports may also be supplied to the District Attorney's Office (to the assigned ADA) and/or NYPD units (to the assigned Detective).

2. Sexual Assaults and Suspect files for Sexual Assaults: Reports are supplied to the Bureau Chief of the appropriate Sex Crimes Bureau.

3. Miscellaneous and all other Suspect files: Reports are supplied to the District Attorney's Office (to the assigned ADA) and/or NYPD units (to the assigned Detective).

4. Property Crimes and Weapons case reports are only supplied to the District Attorney's offices if a suspect has been arrested.

CASE FILES		
DATE EFFECTIVE 02-09-2010	APPROVED BY EUGENE LIEN	PAGE 1 OF 4

The first step in proceeding with casework is evidence examination. The results of the evidence examination, in addition to the scheduled analysis, determine subsequent laboratory testing. Submission of samples and evaluation of analytical results becomes the responsibility of the Interpreting Analyst (IA) for the case. After testing is completed, the IA writes the report for the case. The analyst who signs the report will typically testify in court when necessary. In subcontracted cases, where testing has been completed, the first Criminalist to review the case becomes the IA and will write additional reports and testify as needed.

Serial or pattern cases (see description below) are transferred to the IA who managed the first case in the pattern.

General Guidelines

Each incident has a unique Forensic Biology (FB) number, which usually means one case file per victim. Exceptions include *multiple incidents* (homicide/suicide, assaults/sexual assaults with more than one victim, or mass disasters); for example, a double-homicide is still one incident, so there would be a file with two victims. *Serial or pattern crimes* (more than one homicide, sexual assault, or assault but over a period of time) have individual case files per victim. All evidence associated with each incident will use the same FB number. Should both HSC and High Sensitivity or mtDNA testing be performed on evidence in the same case, the secondary type of testing should be included in a second file for the case associated with the same FB number.

All information regarding a case must be kept in the case file, in a neat and organized manner. There should be no loose pages, Post-Its, etc. If a case file becomes very large, divide it into separate file folders, labeled "1 of 2," "2 of 2," etc. Often, this occurs when extensive DNA testing or crime scene reconstruction is done on a case; the separate file folders may hold the different types of analyses done. Notes should be legible and organized.

If corrections are made on examination documentation (right side of file), a strike-through must be drawn through the error; initialed and dated by the person making the changes. Additional notations, including interlineations, made on the examination documentation must also be initialed and dated. **Never** obliterate, including using "white-out," any notes or entry in a worksheet.

Exemplars or pseudo-exemplars from suspects are analyzed separately, since they may be associated with more than one victim. The file is arranged in the same format as evidence files, containing all the handwritten notes, worksheets, etc. for the analysis of the exemplar. These results stand-alone and do not need to be included in any other case files.

The suspect DNA typing report also stands alone, and is issued separately from the report describing the DNA typing of the evidence. If the suspect does not match any previous cases, a report is written stating that conclusion. If the suspect does match previous cases, a report is written listing all the matching cases along with a summary of the analytical results from the previous cases. All cross-referenced cases should be written on the outside of each file.

Case files created by a contract laboratory will not contain much of the information listed below. The administrative paperwork, analytical paperwork, report format, etc. will differ from case files created by the Department of Forensic Biology.

1. All administrative documentation (left side) **must** be identified for association to the case record (e.g., FB number); multipage (stapled together) administrative documents may be identified with a single case number. The following are clipped to the left-hand side of each file from bottom to top:

   a. Case contact forms, documenting:
      - Basic information on the victim (and suspect, if applicable)
      - Discussions with detectives, attorneys, or others

   b. Scheduled analysis form, documenting:
      - What items are to be analyzed and in what manner
      - Target date and review dates, etc.
      - What items are not to be analyzed

   c. Copies of NYPD paperwork: 61 form (NYPD complaint report), request for laboratory examination forms, ECT collection forms (if present), evidence vouchers (documentation of evidence collected), contracts with outside jurisdictions

d. Miscellaneous correspondence, such as, **copies** of sexual assault kit paperwork or memos to and from outside laboratories.

e. Chain of custody forms, documenting evidence received and released

f. DNA extract tracking forms

g. Forensic Biology laboratory reports, route sheet, and any fax confirmation sheets.

h. CODIS paperwork generated during or after the analysis.

2. All pages of examination documentation **must** have the **case number and date, the handwritten initials of the interpreting analyst for the case, the handwritten initials of the analyst performing a particular test, and page numbers**. The following are clipped to the right-hand side (analytical side) of each file from bottom to top:

a. Autopsy case worksheet, if applicable.

b. Exemplar processing worksheets

c. Handwritten notes, worksheets, and photos documenting the evidence examinations.

d. P30 ELISA and/or amylase worksheets

e. DNA extraction, amplification, and typing results

f. Quantitation worksheets

g. Results table/profile generation sheet (if applicable)

h. PCR statistics worksheets

i. The case productivity worksheet, documenting the total number of examinations and tests for laboratory statistical purposes.

For each piece of evidence examined there **must** be an entry in the productivity sheet, even if no tests were performed (for example, a shoe with no stains). Whether an actual analysis is performed it takes time to examine the evidence and each examination represents, for statistical purposes, a test. The total number of tests from previous summary sheets should **not** be included in any subsequent summary sheets.

The case productivity worksheets are not intended as a summary of the analytical results and test results should not be indicated here.

Revision History:

February 9, 2010 – Initial version of procedure.

EVIDENCE CONTROL		
DATE EFFECTIVE 10-28-2010	APPROVED BY EUGENE LIEN	PAGE 1 OF 9

GUIDING PRINCIPLES AND SCOPE

Chain-of-custody refers to the documentation that tracks the receipt of evidence (either post-mortem autopsy specimens or physical evidence obtained through investigations), through the analytical process, until it leaves the control of the laboratory.

The laboratory receives evidence primarily from the OCME Evidence Unit. The Evidence Unit assigns a number (EU number) to the evidence and stores it under lock and key. Only Evidence Unit personnel have access to these locations.

The NYPD and other agencies and jurisdictions may bring evidence directly to the laboratory. Evidence from the OCME is received from all of the OCME locations via the Evidence Unit. Normally, at the conclusion of the scientific testing, the evidence is returned to the Evidence Unit, if an NYPD case, or returned directly to the submitting agency. For specifics, see the Case Management Manual.

There may be conflicts concerning what constitutes "evidence" versus "work product." The Department of Forensic Biology defines work product as information generated during the course of a scientific examination such as graphs, 35 mm slides, photographs, extracted DNA, amplified DNA, electropherograms, FTIR cards, or stained slides.

PROCEDURE

A. Case numbers

Case numbers are discussed in depth in the Case Acceptance procedure.

B. Item numbers

An item refers to a single piece of evidence received by the laboratory. Each item is assigned a unique number, and can be cross-referenced to a police voucher number, i.e., Item 1 on voucher H996103.

C. Evidence Seals

A **proper seal** is a seal that prevents loss, cross-transfer, or contamination while ensuring that attempted entry into the container is detectable. This could include heat seals, tape seals, or a lock with the initials of the person creating the seal being placed on the seal or across the seal onto the container. **Staples alone are not a proper seal.**

The preferred type of proper seal used internally by the Department is a tape seal that bears the initials of the person who created the seal on the seal or across the seal and onto the container, and the date. **Staples alone are not an acceptable seal**, although they may be used in conjunction with tape to make it easier to apply a tape seal to a container**.**

If evidence that is received by Department does not have a proper seal, an Evidence Deficiency/Discrepancy Form must be completed and forwarded to a supervisor for approval. The condition of the seal is also documented in the Evidence Packaging Worksheet.

All evidence returned to the Evidence Unit must be properly sealed. Supplement improper original seals with a laboratory seal; however, preserve the original seals (including the initials of the person who created the seal) as much as possible. If this is not possible, consult with a supervisor for the best course of action.

D. Evidence receipt

Most evidence is accepted into the OCME by the Evidence Unit and is assigned an Evidence Unit number. All evidence received in the laboratory must be properly sealed. All evidence must be packaged in breathable paper or Tyvex when the laboratory receives it.

The paperwork transferred with the evidence is reviewed to ensure that the evidence belongs in the Forensic Biology Department. Generally, the following items are not accepted:

(1) Items requiring fingerprint exams
(2) Items intended for hair/fiber exams
(3) Items intended for gunshot residue exams
(4) Hair, fiber, or other trace evidence
(5) Clothing from the deceased

E. Signatures

Evidence from user agencies is transferred from the Evidence Unit, where it is stored, to a member of the Forensic Biology Department. The chain-of-custody form is filled out to reflect this. All dates are recorded contemporaneously. The following reflect how a chain-of-custody form is completed.

1. For evidence delivered from an outside agency directly to a member of the Forensic Biology Department. **This is not a routine occurrence.**

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
F123456	1-6	**Det. Smith**	4567	**P. Ryan**	1/2/99
F123456	1-6	**P. Ryan**	----	**Evidence Unit**	1/2/99
F123456	1-6	**Evidence Unit**	----	**Shelf B** (storage)	1/2/99

2. For evidence delivered from an outside agency, the Evidence Unit signs in the evidence then signs it over to the Department of Forensic Biology when it is ready to be examined.

3. Evidence from the OCME is received in sealed boxes containing a chain-of-custody form. This evidence is taken into the laboratory by a Criminalist assigned to this task and then assigned an appropriate FB Number.

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
-------	PM 1-3	**autopsy PM specimens**	----	**P. Ryan**	1/2/99
-------	PM 1-3	**P. Ryan**	----	**PM storage**	1/2/99

F. Storage of evidence

Evidence is stored in a secure location until it is assigned for analysis. Normally, evidence is delivered to the Evidence Unit, assigned an EU number, stored in the Evidence Unit and then transferred to the Forensic Biology Department for examination. Evidence in progress (pending examination, pending review, etc.) is securely stored with the Evidence Unit.

G. Disposition – NYPD vouchered items

After the analytical work is completed, reports are written, and technical reviews are complete, the Evidence Unit is notified that the evidence may be returned to the NYPD .

H. Disposition – retained items

Retained evidence items must be properly sealed and documented in the Chain of Custody form of the case.

All DNA extracts are retained and have a separate tracking sheet, which is part of the casefile.

I. Disposition – non-NYPD cases

If a case comes into the laboratory from a non-NYPD agency, all evidence, with the exception of retained items, is returned directly to the submitting agency.

J. OCME transport of specimens from outer boroughs

Autopsy evidence sent from the OCME offices in Manhattan, Brooklyn, Queens, The Bronx, and Staten Island is received in sealed, plastic containers. Inside each container is a Transport Manifest that has a Transport Container Number and is dated. Pasted to that Transport Manifest are stickers with case numbers and/or bar codes for those specimens inside the container.

K. Sample tracking in the laboratory

After samples are removed from the evidence, a witnessing procedure may be used to show that testing is being performed on the correct sample. Witnessing occurs at several points during the analysis: when exemplar whole bloods are removed from a blood tube and made into a dried stain, P30 detection, Amylase detection, DNA extraction, DNA quantitation, amplification set-up, and during capillary set-up stages to insure that the sequence of tubes containing DNA or sample matches the appropriate worksheet. The witnessing person must initial the worksheet.

L. Consumption of a sample

If possible, the entirety of an item or sample should not be consumed during analysis. It is recommended that at least 25% of the sample be saved for future analysis, if needed. However, if in the opinion of the analyst, consumption of the sample is necessary to have the best chance to obtain results, the item or sample may be consumed; the notes must clearly state this.

M. Specific guidelines for different evidence types

1. Forensic Biology Cases

   a. Whole blood and post-mortem blood

   A stain is prepared on stain cards and is retained in the laboratory. Eventually the stain cards are transferred to long-term storage. For disposal and disposition guidelines, see Forensic Biochemistry Manual, version 4.0,

   b. PM sexual assault evidence

   Sexual assault evidence obtained after an autopsy is secured until processed. Following the guidelines in the Case Management Manual, all items are returned to the Evidence Unit. This will be reflected in the chain-of-custody.

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
-------	PM 1-3	Autopsy	----	P. Ryan	1/2/99
-------	PM 2D-H	P. Ryan	----	Retained samples	1/6/99
-------	PM 2A-C	P. Ryan	----	W. Morrow	1/6/99
-------	PM 1-3	P. Ryan	----	Evidence Unit	1/2/99

c. Other PM items

Hairs, fingernails, tissues, etc. may also be received from the autopsy and then retained. Specimens with a dried bloodstain may be discarded, which will be reflected on the chain-of-custody form.

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
-------	PM 1-3	Autopsy	----	P. Ryan	1/2/98
-------	PM 1-2	P. Ryan	----	PM storage	1/2/98
-------	PM 3	P. Ryan	----	PM freezer	1/2/98
-------	PM 3	PM freezer	----	P. Ryan	1/20/99
-------	PM 3	P. Ryan	----	Discarded	2/3/99

Tissues obtained for disease diagnosis will be retained frozen. Bones for subsequent missing person identification will be retained.

2. Non-Forensic Biology cases

a. Blood

The Forensic Biology department receives EDTA blood, if available, from most autopsies. Most of these do not fall within the mission of the Department of Forensic Biology because they are not the subject of a felony investigation or body identification. For disposition and disposal guidelines of these samples, see the Forensic Biology Serology Manual.

b. Other PM items

Other post-mortem items are occasionally received on non-FB cases. These items are usually discarded within two months.

3. Additional analysis on retained samples

When analysis is done on samples that were previously retained, the chain-of-custody will reflect this:

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
F123456	1-6	A. Anzalone	----	P. Ryan	1/2/99
F123456	1-6	P. Ryan	----	Shelf B	1/2/99
F123456	1-6	Shelf B	----	F. Baldi	2/4/99
F123456	1-6	F. Baldi	----	R. Burgos	2/4/99
Retained	Items	F. Baldi	----	Retained storage	2/4/99
Retained	Items	Retained Storage	----	P. Buffolino	3/4/99
Retained	Items	P. Buffolino	----	Retained Storage	4/4/99

4. Items transferred to or from other OCME departments

Specimens are sometimes brought into the laboratory from other OCME departments. For example, sometimes evidence is received on cases for which autopsy specimens are not received by the Department. In these instances, appropriate specimens may be obtained from the Forensic Toxicology Department, the Histology Laboratory, or from DNA database specimens. The chain-of-custody must reflect this:

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
toxicol.	Blood	**B. Marker** (toxicology)	----	**M. Samples**	1/2/99

Evidence is occasionally transferred to another OCME department, such as a knife to a medical examiner, who wishes to examine it. The chain-of-custody must reflect this:

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
F123456	1-6	A. Anzalone	----	P. Ryan	1/2/99
F123456	1-6	P. Ryan	----	Shelf B	1/2/99
F123456	1	**Shelf B**	----	**P. Ryan**	1/3/99
F123456	1	**P. Ryan**	----	**Dr. Gilson**	1/3/99
F123456	1	**Dr. Gilson**	----	**M. Samples**	1/3/99
F123456	1	**M. Samples**	----	**Shelf B**	1/3/99

5. Unlabeled items

Occasionally autopsy specimens are received with no identifying case numbers, specimen types or other identifying information. These specimens are discarded.

6. Submittal to other agencies

Instances arise that require the Department of Forensic Biology to send evidence to other agencies or laboratories. Under most circumstances this is accomplished using overnight mail services; the shipping paperwork is kept in the case file. The chain-of-custody will reflect this.

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
Retained	Items	**M. Samples**	----	**FBI via FedEx**	1/2/99

When the evidence is returned to the Forensic Biology Department through mail services, the chain-of-custody must be filled out similarly.

If additional items, such as DNA extracts, are returned, a new chain-of-custody form must reflect that.

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
Retained	Items	M. Samples	----	FBI via FedEx	1/2/99
Retained	Items	**FBI via reg mail**	----	**M. Samples**	1/4/99
Extracts	----	**FBI via reg mail**	----	**M. Samples**	4/4/99
Extracts	----	**M. Samples**	----	**DNA storage**	4/4/99

Revision History:

February 9, 2010 – Initial version of procedure.

October 28, 2010 – A definition of proper seal is inserted and more direction is provided regarding what must be done if evidence is received by the laboratory without a proper seal.

EVIDENCE CONTROL		
DATE EFFECTIVE 04-18-2011	APPROVED BY EUGENE LIEN	PAGE 1 OF 8

GUIDING PRINCIPLES AND SCOPE

The appropriate tracking and storage of evidence and work product is critical for ensuring that the value of the Department's testing results is not compromised. Chain-of-custody refers to the documentation that tracks the receipt of evidence (either post-mortem autopsy specimens or physical evidence obtained through investigations), through the analytical process, until it leaves the control of the laboratory.

The laboratory receives evidence primarily from the OCME Evidence Unit. "Evidence" is equivalent to a "test item". The Evidence Unit assigns a number (EU number) to the evidence and stores it under lock and key. Only Evidence Unit personnel have access to these locations.

The NYPD and other agencies and jurisdictions may bring evidence directly to the laboratory. Evidence from the OCME is received from all of the OCME locations via the Evidence Unit. At the conclusion of the scientific testing, the NYPD evidence is usually returned to the Evidence Unit and other evidence is returned directly to the submitting agency.

The Department of Forensic Biology defines "work product" as information generated during the course of a scientific examination of evidence, such as graphs, 35 mm slides, photographs, extracted DNA, amplified DNA, electropherograms, FTIR cards, or stained slides prepared from sample extracts.

PROCEDURE

A. Case numbers

Case numbers are discussed in depth in the Case Acceptance procedure.

B. Item numbers

An item refers to a single piece of evidence received by the laboratory. The item identification system is discussed in the Evidence Examination procedure, Section A.3.

C. Evidence Seals

A **proper seal** is a seal that prevents loss, cross-transfer, or contamination of evidence while ensuring that attempted entry into the evidence container is detectable. Proper seals could include heat seals, tape seals, or a lock with the initials of the person creating the seal being placed on the seal or across the seal onto the container. **Staples alone are not a proper seal.**

The preferred type of proper seal used internally by the Department is a tape seal that bears the initials of the person who created the seal on the seal or across the seal and onto the container, and the date. **Staples alone are not an acceptable seal**, although they may be used in conjunction with tape to make it easier to apply a tape seal to a container**.**

If evidence that is received by Department does not have a proper seal, an Evidence Deficiency/Discrepancy Form must be completed and forwarded to a supervisor for approval. The condition of the seal is also documented in the Evidence Packaging Worksheet.

All evidence returned to the Evidence Unit must be properly sealed. Supplement improper original seals with a laboratory seal; however, preserve the original seals (including the initials of the person who created the seal) as much as possible. If this is not possible, consult with a supervisor for the best course of action.

D. Evidence receipt

Most evidence is accepted into the OCME by the Evidence Unit and is assigned an Evidence Unit number. All evidence must be appropriately packaged as suitable for the item type when the laboratory receives it. In general, most evidence should be placed in breathable paper or Tyvek. Sometimes evidence may be received in foil or foil-like containers, cardboard boxes, and plastic containers. All evidence received in the laboratory must be properly sealed.

The paperwork transferred with the evidence is reviewed to ensure that the evidence belongs in the Forensic Biology Department. Generally, the following items are not accepted:

(1) Items requiring fingerprint exams
(2) Items intended for hair/fiber exams
(3) Items intended for gunshot residue exams
(4) Hair, fiber, or other trace evidence

(5) Clothing from the deceased

Autopsy evidence sent from the OCME offices in Manhattan, Brooklyn, Queens, the Bronx, and Staten Island is received in sealed, plastic containers. Inside each container is a Transport Manifest that has a dated Transport Container Number. Pasted to the Transport Manifest are stickers with case numbers and/or bar codes for the specimens inside the container.

E. Chain of Custody

Evidence from user agencies is transferred from the Evidence Unit, where it is stored, to a member of the Forensic Biology Department. The chain-of-custody form is filled out to reflect this. All dates are recorded contemporaneously. The following examples reflect how a chain-of-custody form is completed.

1. The example below shows the chain of custody for evidence delivered from an outside agency directly to a member of the Forensic Biology Department. **This is not a routine occurrence.**

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
F123456	1-6	**Det. Smith**	4567	**P. Ryan**	1/2/99
F123456	1-6	**P. Ryan**	----	**Evidence Unit**	1/2/99
F123456	1-6	**Evidence Unit**	----	**Shelf B** (storage)	1/2/99

2. The Evidence Unit signs in evidence delivered from an outside agency and then signs it over to the Department of Forensic Biology when it is ready to be examined.

3. Evidence from the OCME is received in sealed boxes containing a chain-of-custody form. This evidence is taken into the laboratory by a Criminalist assigned to this task and then assigned an FB Number if appropriate.

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
-------	PM 1-3	**autopsy PM specimens**	----	**P. Ryan**	1/2/99
-------	PM 1-3	**P. Ryan**	----	**PM storage**	1/2/99

For detailed information on post-mortem specimens, see the "Processing of Post-Mortem Specimens" procedure in the Forensic Biology Serology Procedures Manual.

4. The example below shows the chain of custody for items that were previously retained:

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
F123456	1-6	A. Anzalone	----	P. Ryan	1/2/99
F123456	1-6	P. Ryan	----	Shelf B	1/2/99
F123456	1-6	Shelf B	----	F. Baldi	2/4/99
Retained	Items	F. Baldi	----	Retained storage	2/4/99
Retained	Items	Retained Storage	----	P. Buffolino	3/4/99
Retained	Items	P. Buffolino	----	Retained Storage	4/4/99

5. Specimens are sometimes brought into the laboratory from other OCME departments, such as evidence on cases for which autopsy specimens are not received by the Department. In these instances, specimens may be obtained from the Forensic Toxicology Department, the Histology Laboratory, or from DNA database specimens. The chain-of-custody reflects this as follows:

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
toxicol.	Blood	**B. Marker** (toxicology)	----	**M. Samples**	1/2/99

6. Evidence is occasionally transferred to another OCME department, for example, a knife to a medical examiner or skeletal remains for analysis by a forensic anthropologist. The chain-of-custody reflects this as follows:

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
F123456	1-6	A. Anzalone	----	P. Ryan	1/2/99
F123456	1-6	P. Ryan	----	Shelf B	1/2/99
F123456	1	**Shelf B**	----	**P. Ryan**	1/3/99
F123456	1	**P. Ryan**	----	**Dr. Gilson**	1/3/99
F123456	1	**Dr. Gilson**	----	**M. Samples**	1/3/99
F123456	1	**M. Samples**	----	**Shelf B**	1/3/99

7. Instances arise that require the Department of Forensic Biology to send evidence to other agencies or laboratories. Under most circumstances this is accomplished using overnight mail services; the shipping paperwork is kept in the case file. The chain-of-custody reflects this:

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
Retained	Items	**M. Samples**	----	**FBI via FedEx**	1/2/99

When the evidence is returned to the Forensic Biology Department through mail services, the chain-of-custody is filled out similarly.

8. If additional items or work product, such as DNA extracts, are returned, a new chain-of-custody form reflects the transfers:

VOUCHER	ITEM(S)	RECEIVED FROM	SHIELD	RECEIVED BY	DATE
Retained	Items	M. Samples	----	FBI via FedEx	1/2/99
Retained	Items	**FBI via reg mail**	----	**M. Samples**	1/4/99
Extracts	----	**FBI via reg mail**	----	**M. Samples**	4/4/99
Extracts	----	**M. Samples**	----	**DNA storage**	4/4/99

F. Sample witnessing in the laboratory

After samples are removed from the evidence, a witnessing procedure occurs at several points during the analysis to help ensure that testing is being performed on the correct sample. The witnessing step in the following procedures verifies that the sequence of tubes containing DNA or sample matches what is recorded on the applicable worksheet: bloodstain preparation from whole bloods, P30 detection, amylase detection, DNA extraction, DNA quantitation, amplification set-up, and capillary set-up. The witness initials the worksheet.

G. Sample consumption

If possible, the entirety of an item or sample should not be consumed during analysis. It is recommended that at least 25% of the sample be saved for future analysis, if needed. An item or sample may be consumed if the analyst determines that consumption of the sample is necessary to have the best chance to obtain results; the examination notes must clearly state this.

H. Evidence storage and disposition

Evidence is stored in a secure location until it is assigned for analysis. Most evidence is delivered to the Evidence Unit, assigned an EU number, stored in the Evidence Unit and then transferred to the Forensic Biology Department for examination. Most evidence that is not being actively examined, but is still considered to be "in progress" (pending examination, pending review, etc.) is properly sealed and securely stored with the Evidence Unit.

The Department may use secure, locking "cages" within the laboratory for the temporary storage of evidence, such as exemplars, that are being actively examined.

Retained evidence. Evidence items retained for long-term storage, e.g., victim exemplars from sexual assault evidence kits, must be properly sealed and their storage location documented in the Chain of Custody of the case.

I. Retention, return, and disposal guidelines for evidence and work product

1. Post-Mortem Specimens

a. **PM sexual assault evidence** is returned to the Evidence Unit after examination.

b. Other PM specimens

	Bloodstain?	Non-Blood?	Retention Schedule
FB cases	Y	Y	Retain all indefinitely.
Non-FB cases	Y	Y	May discard non-blood after 1 year; May discard bloodstain after 4 years.
	N	Y	May discard non-blood after 4 years.
	Y	N	May discard bloodstain after 4 years.
Unlabelled autopsy specimens			May discard
POC/Fetus (criminal activity)	n/a	Y	Retain a small piece and discard the remainder*

*For more detailed information on the retention of products of conception (POC), refer to the "Evidence Examination-Products of Conception" section of the Evidence Examination procedure in the Evidence and Case Management Manual.

Bloodstain cards are retained in the laboratory at room temperature.

- Disposal and disposition guidelines for the residual liquid blood are found in the "Bloodstain Preparation from Whole Blood" procedure in the Forensic Biology Serology Procedures Manual.

Non-blood PM items include things such as hairs, fingernails, tissues, bones, etc. Non-blood PM items may be stored at room temperature, refrigerated or frozen.

2. NYPD (Vouchered) Evidence

After the analytical work is completed, reports are written, and technical reviews are complete, the Evidence Unit is notified that the evidence may be returned to the NYPD.

3. Non-NYPD Evidence

All evidence submitted from non-NYPD agencies, with the exception of retained items, is returned directly to the submitting agency.

4. DNA Extracts

a. Retained DNA extracts are stored either refrigerated or frozen.

b. Retention guidelines for DNA extracts:

Extract Source	Suggested Retention
FB evidence, non-exemplar	Retain indefinitely
FB exemplars and pseudoexemplars	May discard after one year
FB missing person cases	May discard after one year*
Labtypes--NYPD personnel	Return extract to NYPD representative
Labtypes--OCME employees, visitors, interns	May discard after one year unless the signed consent form specifies a different retention period

* A due-diligence check on the status of a **missing person case** should be performed prior to discarding extracts. This review will mainly cover post-mortem items and reference samples submitted for Missing Persons, such as razors and toothbrushes, to avoid disposing of DNA extracts in situations where the actual item may have been consumed and the only samples left for re-testing are the extracts.

c. Extract Tracking Forms

An extract tracking form (see Tracking Forms in the Extraction Forms section of the Forms Manual) is used to note the general location of DNA extracts while in testing or storage status. The tracking forms are retained in the FB case file.

d. Extract Disposal

The disposal of DNA extracts is documented, either on the extract tracking sheet in the case file or via a memo or similar document which contains sufficient information to provide traceability to specific extracts, e.g., a list of Cryoboxes from which extracts were discarded. The latter method is suggested for use when large quantities of extracts are being discarded.

Disposal of Labtypes DNA extracts is documented in the LabTypes electronic database.

5. Amplified DNA

Amplified DNA is stored refrigerated. Once final analysis of the amplified DNA is complete, the amplified DNA can be discarded. Documentation of disposal is not required.

Revision History:

February 9, 2010 – Initial version of procedure.

October 28, 2010 – A definition of proper seal is inserted and more direction is provided regarding what must be done if evidence is received by the laboratory without a proper seal.

April 18, 2011 – Added a section on Retention and Disposal guidelines for evidence, DNA extracts, and amplified DNA; revised retention schedules for post-mortem samples; renamed “signatures” section as “chain of custody”; added updated references to applicable management system documents; combined all chain of custody examples into one section; deleted “OCME transport of specimens from outer boroughs” section and moved the info into the “Evidence Receipt” section; deleted the “Specific guidelines for different evidence types” section, and moved the material into various sections within this revision.

EVIDENCE EXAMINATION		
DATE EFFECTIVE 01-06-11	APPROVED BY EUGENE LIEN	PAGE 1 OF 65

GUIDING PRINCIPLES AND SCOPE

Specific methods to examine evidence varies by case type. Guidelines for the examination of the common types of evidence are presented in this section. If an analyst encounters any type of evidence not presented in this section, a supervisor shall be consulted for further guidance.

PROCEDURE

A. Note taking – general guidelines

Note taking and evidence documentation is the most important aspect of casework. Done improperly, it can jeopardize any analysis that follows. The notes are used to document the condition of the packaging and evidence, describe stains that may be found, present the results of presumptive and/or visual tests, support the conclusions of the report, and refresh the analyst's memory when required to testify in court. Never use pencil for note taking.

1. Note taking starts with a description of the evidence packaging; a worksheet is available to document critical information about the packaging, including:

   a. Type of package – paper bag, manila envelope, zip-loc bag, etc.
   b. Condition of package – wet, bloody, etc.
   c. Type of seal – stapled, taped, unsealed.
   d. Identifying marks – a brief description of labels, tags, handwritten notations, etc.

   Each package **must** be hand marked by the analyst with the case number, voucher number, date, and his/her initials. Finding the marks in court is easier if the analyst always chooses the same location to put his or her marks.

2. Next is a description of the contents, the evidence itself. Specific suggestions concerning different types of evidence will be discussed later.

Discrepancies between the voucher, laboratory request form, and the items in the package must be clearly documented and a discrepancy form filled must be completed as necessary. This includes items that were submitted but were not included on the voucher. These items may also need to be examined. Give the item the next item number. If upon opening a package it was discovered that the description on the voucher was incorrect (for example, a tank top was submitted, but the voucher says "T-shirt"), use the correct description in your notes and subsequent analyses. Do not perpetuate the mistake.

Standardized worksheets are available with diagrams of pants, shirts, shoes, etc., to aid in documenting stain patterns. If a diagram must be hand-drawn, make sure it is large enough to allow room to document all of the stains present. It is preferable to have only one diagram per page.

Standardized worksheets are also available for the documentation of cigarette butts, drink containers, touched items, and swab evidence.

Digital, 35 mm, or Polaroid photography may be substituted for diagrams. Each photograph **must** have a ruler visible in the frame, either a plain straight ruler or an x, y axis ruler.

Each item of evidence **must** be hand marked by the analyst with the case number, date, and analyst's initials. Marking may be done by affixing a tag with the information or by writing directly on the item.

3. Each stain **must** be given a unique identifying number, clearly shown in the notes. A standard approach should be taken:

   a. An item listed as “item 1” on the voucher should be “item 1” in the notes. The first stain removed from it is “stain 1A,” the second is “stain 1B,” etc.

   b. If there are several items submitted as one, give them all individual identifiers. For example, on a voucher, socks were identified as “item 1.” Upon opening the package, there were three; they should be given the identifiers 1A, 1B, and 1C. The first stain removed from sock 1A should be given the identifier 1A1, second stain 1A2, etc.

      For multiple samples (such as swabs from a crime scene) it may make sense to use the identifiers given by the NYPD, such as “S1” or “HG8”. *Ensure that the same identifier is not also used on another voucher in the case.*

Each stain **must** be hand marked by the analyst. Marking may be done by affixing a tag with the information or by writing directly on the item.

4. For DNA analyses, make use of all appropriate worksheets. Make sure all worksheets are filled out completely and legibly. If there is any deviation from the written protocol, it must be noted.

   For most tests, original worksheets are stored in a central location; photocopies are supplied for each case file.

B. Preparing for evidence examination

Before examining evidence, certain preparations should be made:

1. Review the Schedule of Analysis form for analyses to be performed on the item(s) in the case. Review all the information provided in the case file. This includes the case contact form, vouchers, requests for laboratory examination, any previous laboratory reports, and police reports. If further information or clarification is needed, obtain it before beginning analyses.

2. Plan your approach to the case. Certain items may have greater potential information value than others, or may need to be analyzed first as an investigative aid.

3. Ensure that you are wearing the proper Personal Protective Equipment.

4. Prepare the work area. The bench must be clean and free of clutter. It should be wiped down with 10% bleach, distilled water, and 70% ethanol.The work area should then be covered with paper to prevent the loss of small particles of evidence and to prevent the cross-transfer of materials from one item to another. Change the paper when a new case is begun, between different types of evidence within a case (such as between victim's and suspect's belongings), or when necessary.

5. Make sure the necessary tools and reagents for the examination are clean and conveniently located, that there is adequate lighting available, and that note taking materials are at hand to record your observations. Also make sure that all reagents used have passed QC and have not expired.

C. Evidence examination – general guidelines

The examination of objects will be described in a general sense, covering a broad range of topics applicable to most items of evidence.

Use an Evidence Packaging Worksheet for initial documentation of each item.

NOTE: All cutting utensils, tweezers, etc. must be cleaned before and after each use. The recommended cleaning method is 10% bleach, distilled water, and 70% ethanol. Gloves should be changed between each item, and as needed.

1. Individual evidence packages that all relate to one case may be packaged in a mesh bag for convenience. This mesh bag should not be examined or counted as a packaging material. No documents, labels, or notes should be attached or written on the mesh bag. For the individual evidence packages, verify that outer packaging corresponds to lab request/voucher. Open the packaging. Avoid breaking existing seals when possible.

2. Remove items from packaging with care. Remember, materials of evidentiary value may adhere to the item and/or the packaging. Opening the evidence over bench paper will prevent the loss of these materials.

3. Examine one item at a time.

   If it is known that an item still requires trace evidence examinations, place an additional sheet of thin (newspaper weight) paper on top of the regular paper prior to opening an item of evidence. When done examining the item, wrap it up in the thin paper and place the entire bundle back into the original packaging. Any trace evidence that was dislodged from the item must be retained within the thin paper.

4. Be certain that the previous item has been re-packaged before opening another item on the work surface.

5. If an item of evidence is found to be wet when opened, the item should be allowed to air dry. The item should not be heated or exposed to direct sunlight. If the item has become foul smelling, allow it to dry in the hood with the fan running. If mold is present, a supervisor must be consulted to determine if further testing is suitable.

6. The initial evaluation of the evidence is a visual inspection. It may be necessary to use a high intensity light source, UV light source, or alternate light source during the inspection, especially if semen or saliva is suspected. Magnification may be necessary.

7. A tactile examination is sometimes helpful for locating some biological stains, notably semen stains. Using gloved fingertips, lightly brush over the surface of the object, feeling for changes in surface texture or stiffness.

8. Remove any easily visible surface debris such as hairs, fibers, wood fragments, etc. and return to the original package. The location on the item of all trace evidence removed should be documented by diagram, photography, or described in the notes.

9. Perform the appropriate screening tests, such as Kastle-Meyer or Acid Phosphatase. The lot numbers of all reagents must be recorded in the notes.

10. All positive biological stains **must** be documented by notes, diagrams, and/or photography. Note the location of the stain, size, heaviness (soaked into fabric, surface smear, etc.). Each photograph **must** have a ruler visible in the frame, either a plain straight ruler or an x, y axis ruler.

    If it is apparent that there is a spatter pattern, consult a supervisor or SIU member for guidance. Select appropriate stains for further testing based on any spatter analysis.

    Document whether or not the biological stains exhibit directionality.

11. Cut, scrape, and/or swab the stain from the evidence item at the time of examination for the purpose of further testing. It is no longer necessary to retain the stain within the laboratory.

When swabbing an area, the number of swabs collected **must** be recorded and each swab given a unique identifying number. Refer to the unique number when analyzing the swab. Swabbing should only be done when cutting a stain is not practical or recommended.

12. When the examination of an item or voucher is complete (body fluid identification complete and appropriate "sub-items" submitted for DNA testing), seal the packaging with its permanent seal. The original packaging must be sealed, dated, and initialed across the seal. If multiple items of evidence are separately packaged for a single case, these items may be collected and stored in a mesh bag. This mesh bag is used only for the sake of convenience in grouping related evidence, and should not be tagged, labeled, or have any documentation attached to the mesh bag itself. Transfer the evidence to the Evidence Unit for storage in the "pending report review" area.

    Since post-mortem items are not vouchered, transfer them to retained storage once they are ready for storage.

    Each time a retained sample is removed for analysis, the chain of custody must reflect this. The retained sample package must be opened and re-sealed according to Departmental guidelines.

13. Unless there is case information to the contrary, all samples will be processed as if DNA typing is to be performed.

    a. For possible bloodstains that have tested positive with a presumptive test for blood, a portion of the stain or swab may need to be submitted immediately for DNA extraction, depending on the case type.
    b. For possible semen stains that have tested positive with a presumptive test for semen, a portion of the stain or swab is submitted immediately for P30 ELISA.
    c. For sexual assault kit swabs with accompanying slides, a portion of the swab is submitted directly for DNA extraction if sperm are found on the slides.
    d. For sexual assault kit swabs without accompanying slides, a portion of the stain or swab is submitted for P30 ELISA.
    e. For possible saliva samples, a portion of the stain or swab is submitted for amylase testing.

14. If a sample is positive for P30 or amylase, a portion of the stain or swab is submitted for DNA extraction.

15. To prepare samples for DNA extraction, label microfuge tubes with case number, sample identification, the analyst's initials and add one of the following:

    a. Blood – portion of bloodstain or swab about 3mm square, enough scrapings to give a light straw colored extract, or 3µL whole blood
    b. Semen – portion of semen stain about 5mm square, one third of a swab, or 3µL of whole semen
    c. Amylase – portion of stain about 5mm square or one third of a swab.
    d. Scrapings (of clothing items)

    Transfer the microfuge tubes containing the samples to the Chelex extraction refrigerators; add the information to the appropriate extraction worksheet (exemplars, bloodstains, semen stains, other evidence or one-step). Placing a sample on an incorrect Chelex extraction worksheet may lead to the subsequent results being declared inconclusive; see a supervisor if you have any questions about whether a particular sample is evidence or an exemplar.

    When handling each sample:

    a. Use a clean cutting surface for each sample, such as a Kimwipe.
    b. Use clean scissors for cutting each sample.
    c. Use Kimwipes to open sample tubes and blood tubes.
    d. If possible, the entirety of an item or sample should not be consumed during analysis. It is recommended that at least 25% of the sample be saved for future analysis, if needed. However, if in the opinion of the analyst, consumption of the sample is necessary to have the best chance to obtain results, the item or sample may be consumed; the notes must clearly state this.

16. During the normal course of examination in a limited access laboratory, evidence need not be sealed when left unattended for a short period of time (such as when the analyst takes a lunch break). However, measures must be taken to prevent the unattended evidence from coming into accidental contact with other items of evidence or personnel. For example, swabs and small clothing items should be returned to its containers, and larger items (such as bed sheets on an examination hanger) should be moved to areas of the laboratory where accidental contact by other personnel will be limited.

    Questions regarding what prevention measures should be taken shall be directed to a supervisor prior to the evidence left unattended.

17. Evidence in the process of examination may not be left unattended overnight without first consulting with a supervisor. Without prior approval from a supervisor, all evidence must be properly sealed and returned to the Evidence Unit for storage at the end of the day.

    Under certain circumstances, the supervisor may allow evidence in the process of examination to be left unattended overnight. However, this practice is to be limited based on the necessity, and the risk of accidental contact with other items of evidence or personnel must be minimized (see Paragraph 16, above). For example, a supervisor may approve evidence to be left unattended overnight if an item of evidence is found to be wet when opened and must be air dried or dried in a hood with the fan running. However, the supervisor must ensure that all risks of accidental contact with other items of evidence or personnel are minimized.

D. Evidence examination – weapons

Weapons are frequently submitted for bloodstain or tissue examinations or for the recovery of DNA from skin cells. Be aware that latent prints may be present on the weapon. That possibility should be discussed with the detective handling the case, and a decision made whether processing for prints should be done prior to examinations by the Forensic Biology laboratory.

Weapons can consist of knives, guns, bottles, baseball bats, and numerous other items. Be aware that blood and hairs can flake off from a non-porous surface quite easily.

Weapons should be thoroughly described and examined. Follow the general guidelines for note taking and evidence examination when examining any weapon.

Ensure that firearms have already been unloaded by the NYPD. The Police Department will enclose a certification indicating that the firearm has been checked and unloaded. If this certification is not present, or if you are unsure whether or not this check has been done, see the Evidence Examination supervisor.

Beware of sharp objects that have penetrated their packaging and/or are loose inside their package and could inflict injury.

Use an Evidence Packaging Worksheet for initial documentation of each item.

1. Describe the general condition of the item, such as presence of rust or fingerprint powder.

2. Measure the physical dimensions of the item. In the case of a knife, this should include description of knife blade such as thickness, shape, cross-sectional shape, length, width, number of blades, brand names, etc. Trace and/or photograph the knife.

3. If necessary, examine under a magnifier or stereomicroscope for traces of fibers, hairs, blood, or other materials of evidentiary value. All trace evidence removed should be documented in the notes using either diagrams and/or photography.

4. Look carefully for directional spatters of blood on weapons. Discuss any directional stains with a supervisor before performing any analyses.

5. Knives, sheaths, or other weapons may be dismantled as necessary for further examination. Always photograph or diagram the intact items before dismantling.

6. All stains **must** be documented by notes, diagrams, and/or photography. Note the location of the stain, size, heaviness (soaked into fabric, surface smear, etc.), and any directionality of the stain pattern. Each photograph **must** have a ruler visible in the frame, either a straight ruler or an x, y axis ruler.

   If stains do not exhibit directionality, note that as well.

7. After examining a knife or other sharp object, package it in a safe manner for return to the Evidence Unit.

E. Evidence examination – clothing

Clothing is often submitted to the Forensic Biology laboratory for examination. Follow the general guidelines for note taking and evidence examination when examining any item of clothing. Use an Evidence Packaging Worksheet for initial documentation of each item. Use a Clothing Description Worksheet for documentation of each clothing item.

1. Describe the color or pattern of the item of clothing, fabric type (denim, corduroy, etc.), fabric make-up (cotton, polyester, etc., from label, if present), and size (if marked on item). If an item is submitted inside-out, record this information.

2. Spread out the item of clothing, looking carefully at the front, back, and inside for any possible evidentiary material.

3. Describe the general cleanliness of the item of clothing. Note any defined soiled areas (biological and/or non-biological) on the garment, for example, knees, buttocks, or cuffs. Note whether the garment appears freshly washed or not (for example, wet or damp).

4. Describe any damage to clothing, which may have evidentiary value. For example, torn or missing buttons, torn or cut areas, damaged areas, or burned areas should be described.

5. Note the presence of any suspected stab holes or bullet holes. Diagram the location, orientation, size, and shape of any holes. Do not overlook the possibility that more than one hole may be caused by a single stab or shot due to the folding of the fabric. When sampling a stain from the area of a suspected stab hole or bullet hole, DO NOT cut through or otherwise disturb the hole. Take a sample away from the existing hole.

6. Carefully examine any pockets, inside and out. CAUTION IS ADVISED WHEN PLACING THE HAND IN A POCKET. An unexpected sharp object could cause serious injury.

7. Carefully examine the waistband, lining, cuff area, and collar area. This may require turning an item inside out.

8. Examine shoes very carefully. Shoes are less often discarded than other items of clothing. They also have many crevices, which could retain material of evidentiary value. Look carefully in the groove between the sole and upper shoe. Shoes with tongues should be checked for blood, which may have fallen between the shoelaces.

   Shoes may be dismantled as necessary for further examination. Always photograph or diagram the intact items before dismantling.

9. All stains **must** be documented by diagrams and/or photography. Note the location of the stain, size, heaviness (soaked into fabric, surface smear, etc.), and any directionality of the stain pattern. Each photograph must have a ruler visible in the frame, either a plain straight ruler or an x,y axis ruler.

F. Evidence examination – clothing (for skin cells)

Clothing items that are scheduled to be examined for the DNA of the individual who wore the item should be processed using the scraping method. This method has been shown to yield more DNA than a cutting or a swab. Follow the general guidelines for note taking and evidence examination when examining any item of clothing.

Use an Evidence Packaging Worksheet for initial documentation of each item.

Use a Clothing Description Worksheet for documentation of each clothing item.

After the steps described in E., do the following:

IMPORTANT: Do not perform this procedure near an air conditioning unit – the preferred site is the Lumalite room. In addition to new lab coats and new gloves, the analyst should wear masks/face shields and hair guards.

1. Make sure bench-top is covered with paper. Take a piece of white bench paper (paper side up) and fold the edges on each of the four sides up to form a 1/2 to 3/4 inch high rim. Tape the corners to maintain the raised edges. For small items the bench paper should be folded in half before doing this. This will serve as a collection device for the scrapings.

2. Use a clean unused razorblade to vigorously scrape the inside of the item, paying special attention to friction areas such as the cuffs and the neck line. Do not scrape too hard or you will produce too much lint. Make sure to cover the complete surface. *If the item also contains biological stains, it is important not to include these areas when scraping.*

   The best way of doing this is to fold each item symmetrically, lay it down flat in the collection bin, and scrape the surface. Re-fold and repeat until the complete inside has been scraped. This procedure will produce lint that contains the skin cells; consider this lint as a carrier for the cells.

3. Collect the lint by brushing the fibers into one corner of the bench paper (use razorblade), use tweezers to transfer material into an extraction tube. If no fibers are visible, use the razorblade to scrape the bench paper surface into an extraction tube.

   The scrapings should be divided into two parts; one part goes to extraction. The other part is packaged as a sub-item into an individual envelope and labeled. Place the sub-item into the packaging holding the evidence item from which it was removed.

   An extraction sheet labeled "other evidence" should be used for items to be processed with the modified procedure. This is because the Chelex procedure was modified to give higher DNA yields with scrapings and swabbings taken from hard surfaces such as knife handles and bottles. Since the initial deionized water soaking step was eliminated this modified procedure cannot be used for bloodstains.

G. Evidence examination – touched clothing (for skin cells)

Clothing items that are scheduled to be examined for DNA left behind by an assailant after a physical struggle should be processed using either a swabbing or scraping method, as required based on the material being examined. These methods have been shown to yield more DNA than other methods. Follow the general guidelines for note taking and evidence examination when examining any item of clothing.

Use an Evidence Packaging Worksheet for initial documentation of each item.

Use a Clothing Description Worksheet for documentation of each clothing item.

After the steps described in E., do the following:

IMPORTANT: Do not perform this procedure near an air conditioning unit. In addition to new lab coats and new gloves, the analyst should wear masks/face shields and hair guards.

1. Make sure bench-top is covered with paper. Take a piece of white bench paper (paper side up) and fold the edges on each of the four sides up to form a 1/2 to 3/4 inch high rim. Tape the corners to maintain the raised edges. For small items the bench paper should be folded in half before doing this. This will serve as a collection device for the scrapings.

2. Determine the substrate of the item of clothing being examined.

3. Based on the material, choose the best method to examine the item. Refer to the table below:

Recommended method to use for various materials	
Scraping	**Swabbing**
Cotton & Cotton mixture	Spandex
Polyester	Polyester
Wool	Rayon

4. For swabbing, swab the entire area using sterile cotton-tipped swabs moistened with 0.01% SDS. Cut and peel the swabs, then combine the swabs inside a 1.5mL Eppendorf tube for extraction.

5. For material requiring scraping, scrap the entire area with a sterile blade and place the scrapings inside a 1.5mL Eppendorf tube. . Make sure to scrape the entire surface the assailant was purported to have had contact with. *If the item also contains biological stains, it is important not to include these areas when scraping.*

6. After scraping the item, wipe the blade with a UV treated LCN swab and placed the swab inside the same tube as the scrapings. Both the scrapings and the LCN swab will be extracted together as one sample

7. Submit sample for High Sensitivity extraction.

H. Evidence examination – sexual assault kits

Sexual assault kits are among the most common items of evidence submitted to the Forensic Biology laboratory for examination. Follow the general guidelines for note taking and evidence examination when examining any sexual assault kit. Follow the general guidelines for clothing examination when examining any clothing items packaged in a sexual assault kit.

Use an Evidence Packaging Worksheet for initial documentation of each sexual assault kit.

Use the Sexual Offense Evidence Collection Kit Inventory and Clothing Description Worksheet (for testing of underwear or related items) forms for further documentation.

1. Note the name of the victim and information about when and where the kit was collected. Ensure that the name of the victim corresponds to the name listed on the paperwork in the case file.

2. As prompted by the Sexual Offense Evidence Collection Kit Inventory, indicate whether each kit component is sealed, unsealed, not submitted, or present but "not used" (this may require opening of the envelope). Consecutive item numbers are assigned to only those items that are present and used (e.g. 1A, 1B, 1C1-1C2 for swab and slide pairs; use a PM 2A, PM 2B designation for post-mortem kit items).

PM kits: Inventory kit. Used envelopes will get an item number (see above) and will also be labeled with the FB number (label as PM1A, PM1B, etc), analyst's initials, and date of examination. All the envelopes, **whether used or unused** should contain the analyst's initials and the identifying case number. All envelopes and any paperwork associated with the PM kit will be retained in the kit box.

PM swabs only: Use the Post-Mortem Samples Packaging and Exam Worksheet for documentation. These swabs should already have item numbers.

Vouchered kits: Inventory kit. Used envelopes will get an item number (see above) and will also be labeled with the FB number, analyst's initials, and date of examination. All the envelopes, whether used or unused should contain the analyst's initials and the identifying case number. See following for testing of the vouchered kit.

3. **Underwear or related items contained within kit:**

If **underwear or related items** (e.g., pantiliner) are in the kit, examine them using the Clothing Description Worksheet. If stains are observed, underwear are most efficiently documented using the diagrams that are available or by a quick sketch; photography is not generally needed.

Testing of underwear or small clothing items contained within kit:

Visually check underwear for any biological stains. Additionally, observe the underwear using an alternate light source. If any fluorescing areas are observed, circle for further testing.

If a yellowish or fluorescing stain is observed on the underwear, test the stain with AP reagent. If the stain is AP positive, make a small cutting and submit the stain for P30 confirmation testing.

If a pink to reddish-brown stain is observed on the underwear, test the stain with KM reagent and AP reagent, even if the area does not appear to fluoresce with the aid of the alternate light source. Regardless of KM results, the stain needs to be AP tested. If the stain is AP positive, make a small cutting and submit the stain for P30 confirmation testing. KM positive stains should be documented.

In any situation, if the stain is AP negative and the time since date of occurrence is more than 3 months, the analyst should submit a small portion of the area for P30 testing to confirm negative results (for semen samples older than 3 months, AP can degrade and thus testing may yield a negative AP result).

At this point, be sure that any AP positive stains submitted to P30 testing are designated a stain number/letter. A stain number/letter should also be designated for KM positive stains. All positive stains should be cut out and retained in separate coin envelopes.

If oral sodomy is suspected, it may be necessary to send stains for amylase testing. Consult with exam supervisor as needed.

If there are no biological stains on the item(s), a diagram is not necessary; write a short description of the item using a Clothing Description Worksheet.

Testing of gauze within the kit:

Examination of gauze is similar to underwear, however all AP positive and negative stains should be sent for amylase testing. Therefore, a stain number/letter should also be designated for AP negative stains.

Note the location from which the gauze was collected. If the location from which the gauze was taken is known, **this information must be included** on the P30 and amylase worksheets.

4. The **trace evidence envelope** is used by hospital personnel to collect trace evidence from the victim's body and/or the clothing. The victim disrobes over examination paper, and the examination paper is collected.

   Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents.

5. The **debris envelope** is used by hospital personnel to collect loose, obvious foreign material from the victim's body and/or the clothing.

If a debris envelope was used, note the location from which the debris was collected, or note that the location was not given. Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents.

6. The **dried secretions swabs** are used to collect possible biological fluids from areas other than the body cavities. This could include semen from the skin or saliva from bite marks, for example.

   If dried secretions were taken, note the number of swabs and the location from which the secretions were collected, or note that the location was not given. Each swab must be individually labeled (1D1, 1D2; use a PM1D1, PM1D2 designation for post-mortem kit items.). See below for further testing procedures.

   Testing of dried secretions swabs:

   Visually check the swabs for the presence of biological fluids. If the swabs are pinkish to reddish-brown in color, test with KM reagent, and note the results. Submit a cutting from each of the swabs present for P30 confirmatory testing for semen. If the location from which the dried secretions swabs were taken is known, **this information must be included** on the P30 worksheet. These swabs will automatically be tested for the presence of amylase. Swabs with locations from the mouth, near the mouth, anal cavity, or near the anal cavity **should not automatically go on for amylase testing**. As every case is different, please consult with exam supervisor if there is something in the case description that suggests further testing is required.

   Be sure to always treat unlabeled dried secretion swabs as external for purposes of P30 and amylase interpretations.

7. The **fingernail scrapings (or clippings)** are used to collect trace evidence from the fingernails.

   Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents. However, requests are occasionally made to examine the fingernail scrapings; discuss with a supervisor before starting any examinations of fingernail evidence. Generally, a Criminalist II or higher will do this type of examination.

8. If a **liquid blood exemplar** is present, it is only processed if there is no buccal specimen or dried blood control present in the kit. If it must be processed, refer to Blood Processing in the Forensic Biochemistry Methods Manual.

9. If a **dried blood control** is present, it is only used if there is no buccal specimen present in the kit. If it must be used, fill out a blank stain card (FB number, victim's name, date, and initials), attach the dried blood control to it, insert into a Kapak envelope and seal it. The FB number should be written on the Kapak and the analyst's initials and date of examination should be written across the seal. The Kapak should then be placed in a larger manila envelope with the FB number, voucher number, item number, victim name, analyst's initials, and date of examination.

10. The **buccal specimen** is used as the victim's exemplar. If present, the buccal specimen would be the first choice in order to avoid potential inhibition of PCR by heme degradation products.

    If no victim's exemplar is present, it may be necessary at a later time for a supervisor to make a phone call to request one.

11. The **pulled head hair and pulled pubic hair** are collected as exemplars for any future microscopic hair comparisons.

    Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents. However, requests are occasionally made to use the pulled head hair for exemplar DNA testing; generally, hair DNA testing is not performed until hair comparisons have been made by the NYPD forensic laboratory.

12. The **pubic hair combings** are used to collect possible trace evidence from the pubic hair of the victim.

    Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents.

13. The **body cavity swabs (oral, perianal, anal, vulvar, vaginal/penile, and cervical)** are used to collect possible biological fluids from those areas; the smears are used for a sperm search.

    Testing of body cavity swabs (oral, perianal, anal, vulvar, vaginal/penile, and cervical):

    Visually check the swabs for the presence of biological fluids. If the swabs are pink to reddish-brown in color, test with KM reagent; note the results.

    Refer to the Sexual Assault Kit Processing Flow Charts for guidance.

    One slide accompanying each set of body cavity swabs may be stained using the Christmas Tree staining procedure (refer to Christmas Tree Stain for Spermatozoa in the Forensic Biochemistry Methods Manual) and examined for the presence of sperm; this search need not be exhaustive and should take no longer than five minutes. **If the slide location is unknown, do not perform sperm search**. It is not necessary to estimate the number of sperm present. *A new Criminalist must have the sperm search witnessed for a period of six months and the reviewing Criminalist must add their initials and date to the kit inventory form.*

    If sperm is found on a slide, the analyst at this point should be sure to make a cutting from each positive location for amylase testing (except for oral, anal, or perianal swabs). Be sure to always treat penile and scrotal swabs as an external area for the purposes of P30 and/or amylase interpretations.

    If no sperm is found on a slide, submit a cutting from each negative location for P30 confirmatory testing. Again, the pertinent swabs (vulvar, vaginal/penile, and cervical) will all automatically be tested for the presence of amylase by the P30 ELISA rotation upon completion of the P30 testing.

14. Return all swabs and slides to their envelopes and return to the kit.

15. The **control envelope** is a concept left over from the days of ABO testing. There is no need to examine the contents.

16. The **questionnaire, body diagram sheets, and instruction sheets** are intended for the use of the medical personnel. If present, make a copy of the questionnaire and/or body diagram sheets for the left side of the case file; leave all originals in the kit. No item number is assigned if present.

17. Photographs and/or other paperwork are not supposed to be included in a kit. If present, make a note of it; leave them in the kit. No item number is assigned if present.

18. After kit examination is complete, the kit should be placed in the "in progress" area.

19. After P30 and amylase testing is complete, a serology report should be written.

20. Once the serology report is complete, the kit is ready to be closed.

Closing of negative kits:

If the kit is negative for semen and amylase, and there is no other evidence to examine, the case is finished.

Be sure to check for dried secretions with locations from the mouth, near the mouth, anal cavity, or near the anal cavity. Consult a supervisor to determine if a dried secretion from these locations should go on for extraction prior to kit closing.

If a buccal specimen is present, the analyst should place the swab(s) in a coin envelope labeled with the FB number, voucher number, item number, victim name, analyst's initials, and date of examination. The coin envelope should be placed in a Kapak envelope and heat sealed. The FB number should be written on the Kapak and the analyst's initials and date of examination should be written across the seal. The Kapak should then be placed in a larger manila envelope with the same information that was written on the small coin envelope. The exemplar should be placed in progress, and the file should be placed in the "files for SAK exemplar storage" bin after the kit is returned to the evidence unit.

If no buccal specimen was present in the kit, retain semen and amylase free body cavity swabs to be used as an exemplar. Consult serology report to see which swabs should be retained. The exemplar should be placed in progress, and the file should be placed in the "files for SAK exemplar storage" bin after the kit is returned to the evidence unit.

Each envelope within the kit should be sealed with evidence tape. The entire (vouchered kit) or the post mortem items (PM kit) kit can be returned to the evidence unit for final return. The file can be placed in the "to be filed" bin if an exemplar was already retained.

If the kit is negative for semen and amylase, and there is additional evidence, a supervisor will determine whether or not the evidence needs to be signed in and examined.

Closing of positive kits:

If the kit is positive for semen and/or amylase, it must be transferred to an interpreting analyst (IA) for further analysis. Check the Kit Transfer Worksheet to determine who will be the assigned IA for the file. *This must be done prior to submission to DNA extraction so that the assigned IA will receive subsequent paperwork.* See below for treatment of positive items.

If there is additional evidence, a supervisor will determine whether or not the evidence needs to be signed in and examined.

- Positive dried secretions swabs

Whether or not a dried secretions swab continues on for DNA extraction, and if so which type of DNA extraction, depends on a number of factors: location the sample was taken from, nature of the body fluid present, presence or absence of a suspect, and what other swabs or other evidence has been submitted in the case. Refer to the Sexual Assault Kit Processing Flowchart and the Swab Processing Flow Charts for guidance.

Be sure to always treat unlabeled dried secretion swabs as external for purposes of P30 and amylase interpretations.

If semen positive, make a second cutting from one swab **from each designated area** that is P30 positive. For example, if two swabs were taken from the "perianal" area and two from the "inner thigh," make a cutting of one swab from the "perianal" and one from the "inner thigh" to go on for differential extraction and DNA testing. If the location from which the swabs were taken is unknown, make a cutting from one swab to go on for a differential extraction and DNA testing.

If a swab is semen negative but amylase positive, the decision on further testing depends on the locations the swab was taken from (if known) and whether the case has a suspect. In addition, a supervisor may need to make a phone call to determine case status.

- Positive body cavity swabs (oral, perianal, anal, vulvar, vaginal/penile, cervical)

If sperm is found on a slide, a cutting from the accompanying swab can go for differential extraction. If multiple slides are sperm positive from similar areas, it is not necessary to cut all swabs for DNA extraction. For the purposes of sending samples onto extraction, the following order is recommended: vaginal swabs should be sent first, then cervical swabs, then vulvar swabs.

Therefore, if all three swabs are sperm search positive, only send the vaginal swab for extraction. Refer to the Sexual Assault Kit Processing Flowcharts for guidance.

If a swab is semen positive, a cutting from the swab can go for differential extraction. If multiple swabs are P30 positive from similar areas, it is not necessary to cut all swabs for DNA extraction. Refer to the Sexual Assault Kit Processing Flowcharts for guidance.

If a vulvar, vaginal, or cervical swab is semen negative but amylase positive, check to see if the case has a named suspect. If so, make a second cutting from one swab that is amylase positive. Submit this cutting to amylase Y extraction. If multiple swabs are amylase positive, it is not necessary to cut all swabs for DNA extraction. Refer to the Sexual Assault Kit Processing Flowcharts for guidance. If the case has no named suspect, consult with a supervisor. It may be necessary for the supervisor to make phone calls to determine the status of the case.

If a penile swab is semen negative but amylase positive, a cutting from the swab can go for other extraction.

- Positive underwear or small item

For semen positive stains, cut one positive stain with highest P30 value for differential extraction. For multiple suspects, it may be necessary to send multiple stains. Consult exam supervisor.

In the event that there are amylase positive stains, the decision for further testing is case dependent. Consult exam supervisor.

Be sure to check for dried secretions with locations from the mouth, near the mouth, anal cavity, or near the anal cavity. Consult a supervisor to determine if a dried secretion from these locations should go on for extraction prior to kit closing.

After cutting all positive items, each envelope within the kit should be sealed with evidence tape.

If a buccal specimen is present, an exemplar cutting should be made, placed on an exemplar extraction sheet and placed into an exemplar rack to be processed. Following this, place the remainder of the swab(s) in a coin envelope labeled with the FB number, voucher number, item number, victim name, analyst's initials, and date of examination. The coin envelope should be placed in a Kapak envelope and heat sealed. The FB number should be written on the Kapak and the analyst's initials and date of examination should be written across the seal. The Kapak should then be placed in a larger manila envelope with the same information that was written on the small coin envelope.

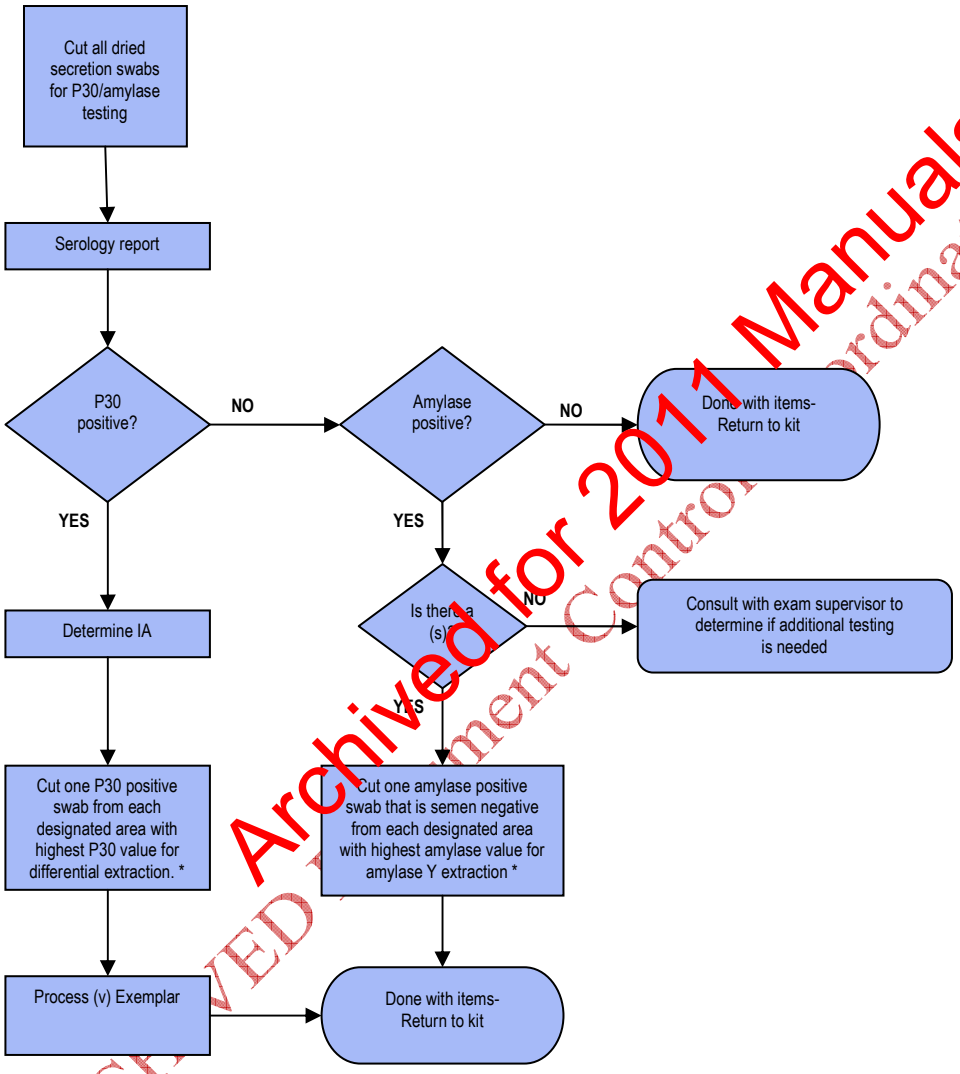
If no buccal specimen was present in the kit, retain semen and amylase free body cavity swabs to be used as an exemplar. Consult serology report to see which swabs should be retained.

The exemplar should be placed in the "in progress" area. The kit should be placed in the "pending" area.

The file should be placed in the "files for SAK exemplar storage" bin if an exemplar cutting was made. If an exemplar cutting was not made, the file should be given to the exam supervisor.

Sexual assault kit processing flow chart

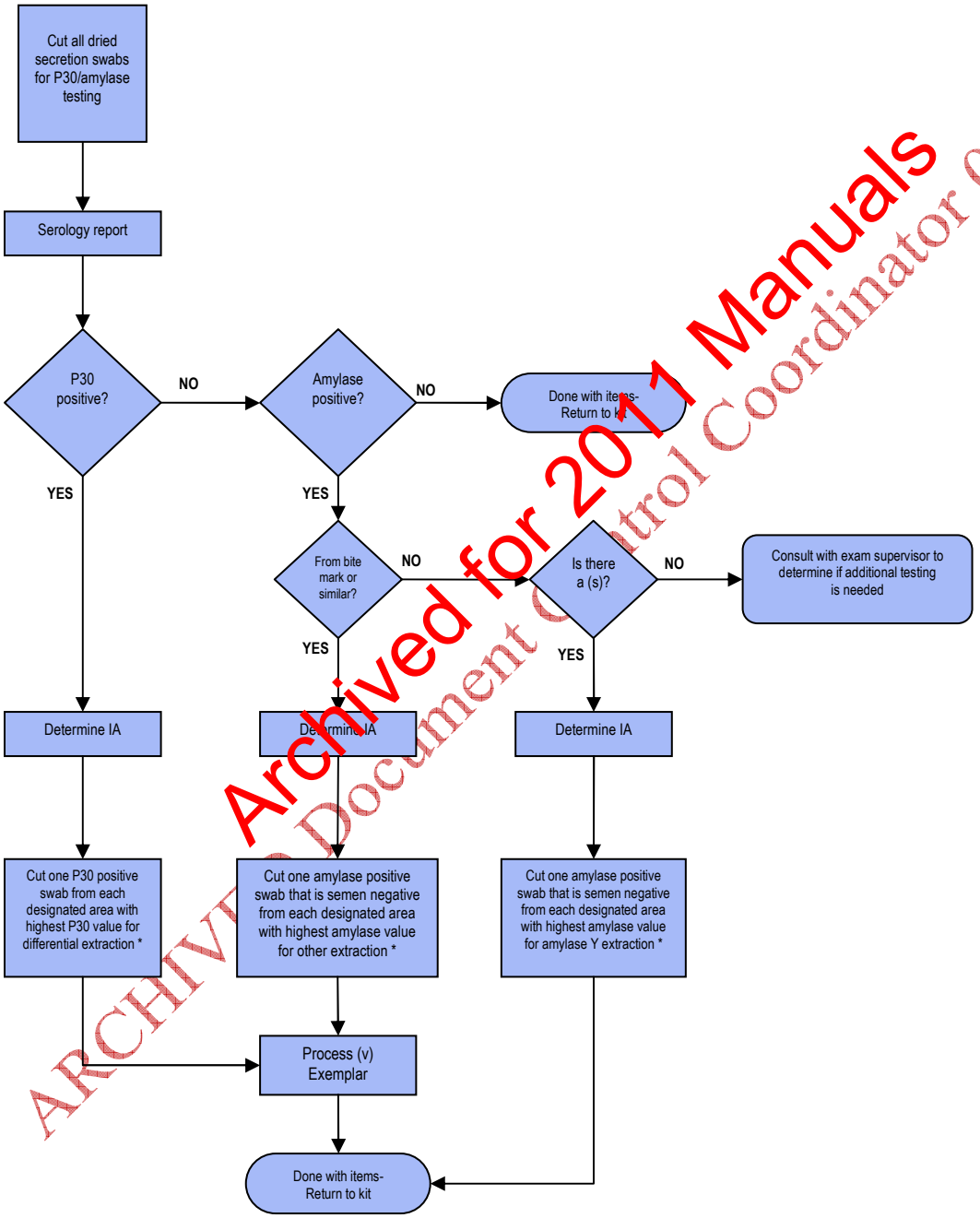
Dried Secretion Swabs - Labeled as orifice or unlabeled:



* If multiple suspects are involved, discuss case with exam supervisor

Sexual assault kit processing flow chart

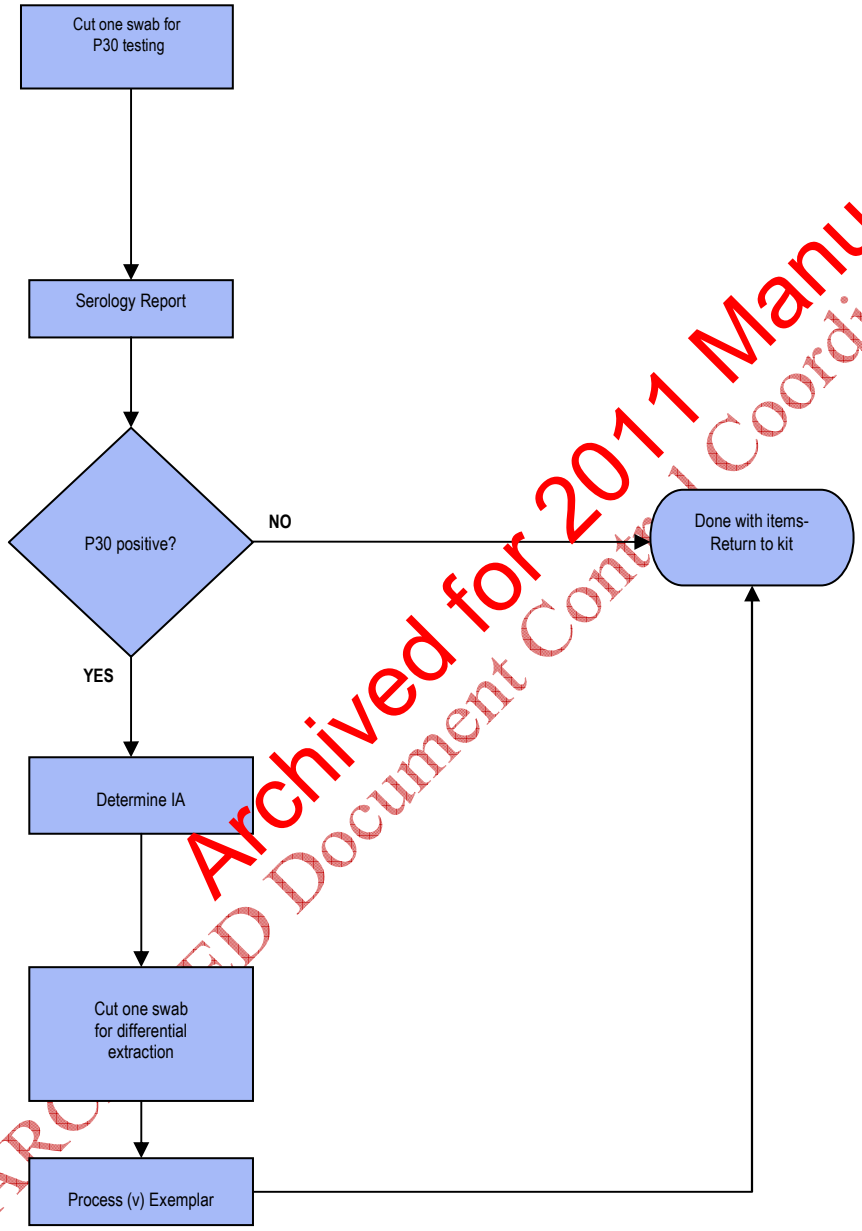
Dried Secretion Swabs – Labeled as non-orifice:



* If multiple suspects are involved, discuss case with exam supervisor

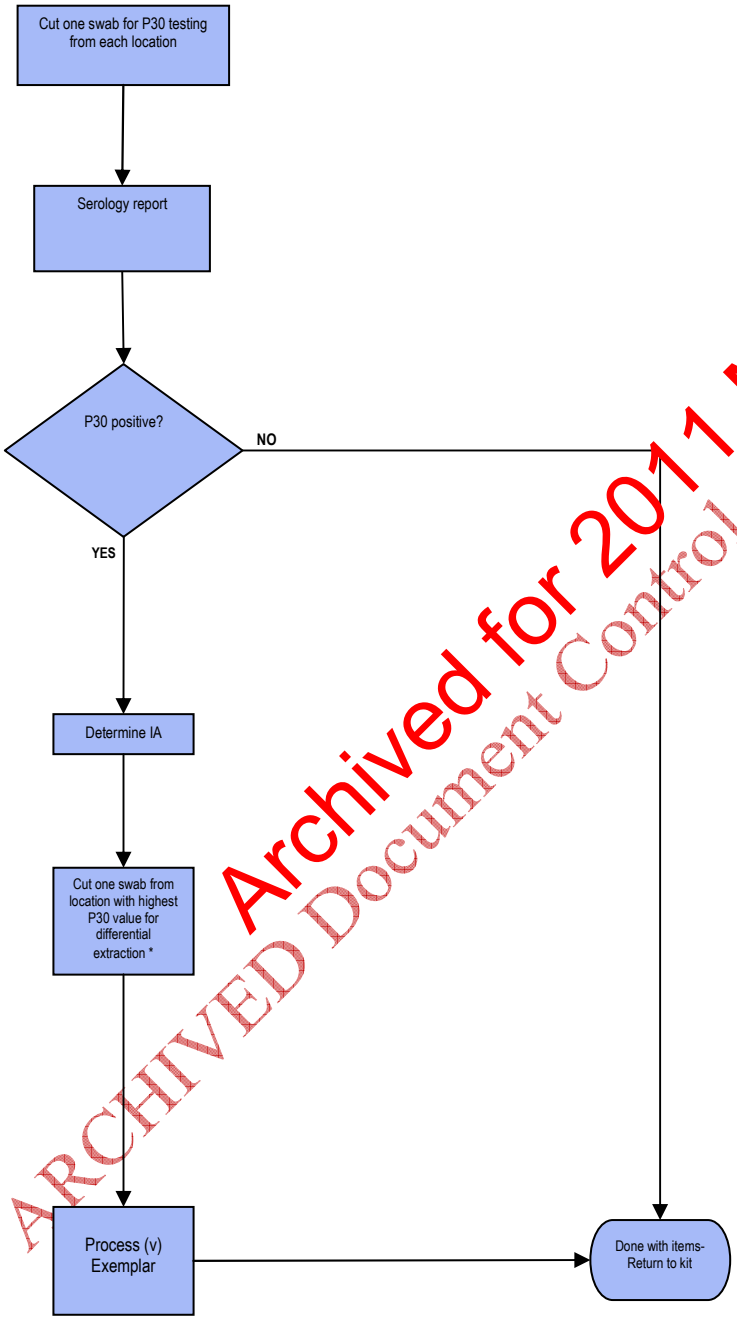
Sexual assault kit processing flow chart

Oral Swabs:



Sexual assault kit processing flow chart

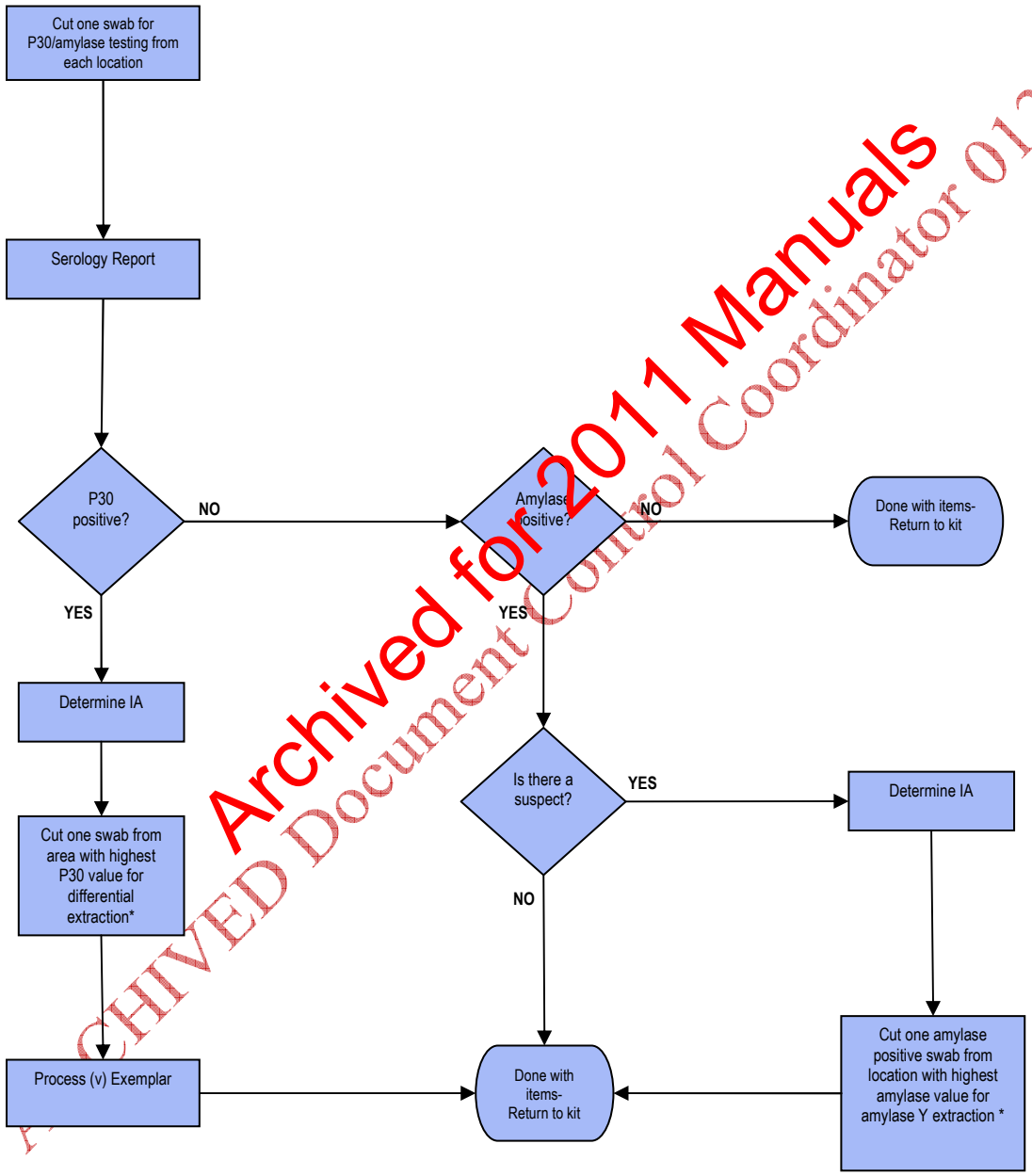
Perianal and Anal Swabs:



* If multiple suspects are involved, discuss case with exam supervisor

Sexual assault kit processing flow chart

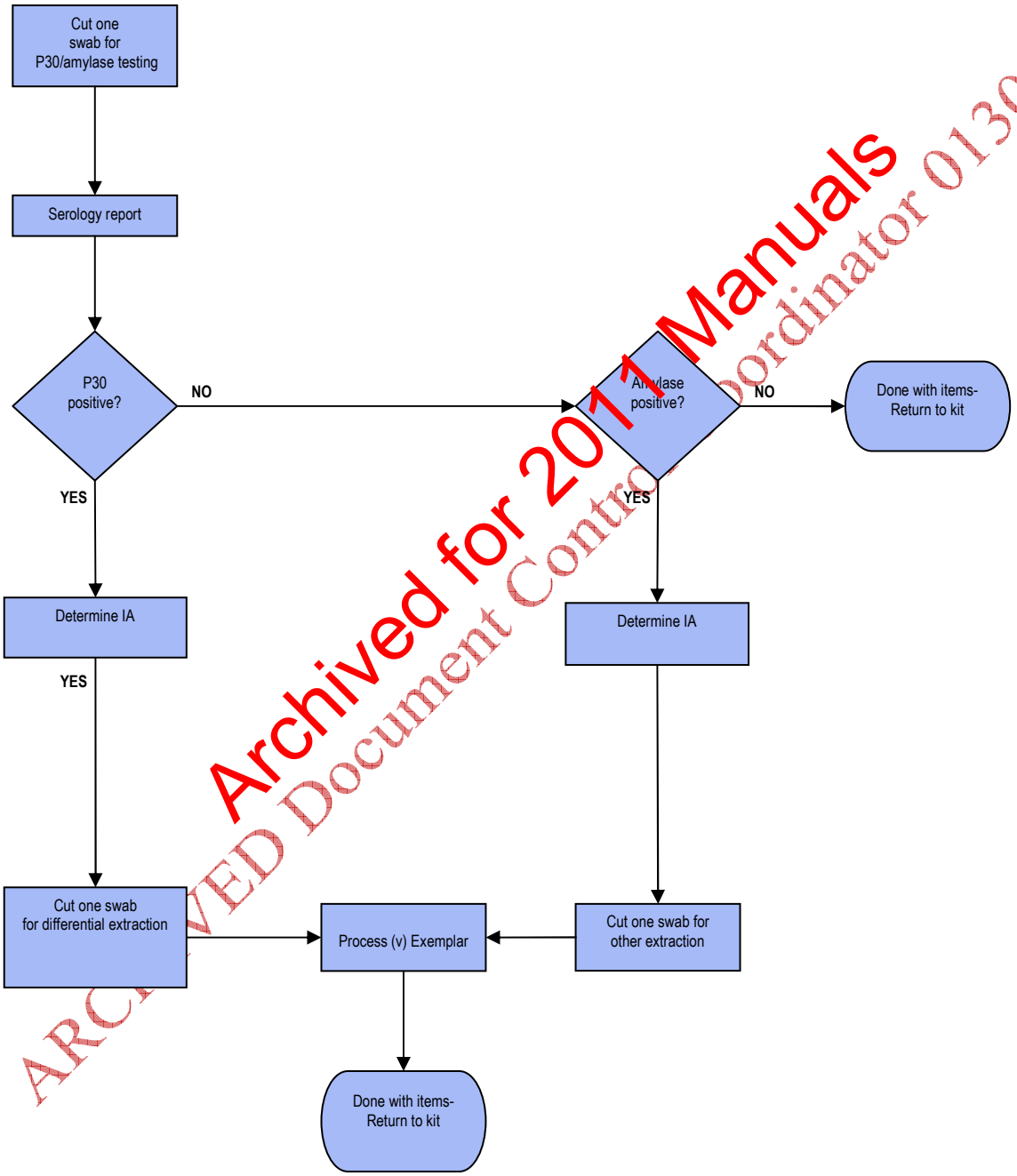
Vulvar, Vaginal and Cervical Swabs:



* If multiple suspects are involved, discuss case with exam supervisor

Sexual assault kit processing flow chart

Penile Swabs:



EVIDENCE EXAMINATION		
DATE EFFECTIVE 01-06-11	APPROVED BY EUGENE LIEN	PAGE 30 OF 65

I. Evidence examination – male suspect kits

Although testing procedures are similar to sexual assault kit examination, the goal is to try to find victim DNA when examining any suspect kit. This should be kept in mind during examination of all items within the suspect kit, as the importance of test results will be different.

Follow the general guidelines for note taking and evidence examination when examining any suspect kit. Follow the general guidelines for clothing examination when examining any clothing items packaged in a suspect kit.

Use an Evidence Packaging Worksheet for initial documentation of each suspect kit.

Use the Suspect Evidence Collection Kit Inventory and Clothing Description Worksheet (for testing of underwear or related items) forms for further documentation.

1. Note the name of the suspect and information about when and where the kit was collected. Ensure that the name of the suspect corresponds to the name listed on the paperwork in the case file.

2. As prompted by the Suspect Evidence Collection Kit Inventory, indicate whether each kit component is sealed, unsealed, not submitted, or present but "not used" (this may require opening of the envelope). Consecutive item numbers are assigned to only those items that are present and used (e.g. SK1A, SK1B, SK1C1-SK1C2 for swab and slide pairs).

   Inventory kit: Used envelopes will get an item number (see above) and will also be labeled with the FB number, analyst's initials, and date of examination. All the envelopes, whether used or unused should contain the analyst's initials and the identifying case number. See following for testing of the vouchered kit.

3. **Underwear or related items contained within kit:**

   If **underwear or related items** are in the kit, examine them using the Clothing Description Worksheet. If stains are observed on the underwear, they are most efficiently documented using the diagrams that are available or by a quick sketch; photography is not generally needed.

Testing of underwear or small clothing items contained within kit:

Visually check underwear for any biological stains. Additionally, observe the underwear using an alternate light source. If any fluorescing areas are observed, circle for further testing.

If a yellowish or fluorescing stain is observed on the underwear, test the stain with AP reagent. If the stain is AP positive, make a small cutting and submit the stain for P30 confirmation testing. Make a note that the underwear stain should be sent for amylase testing on the P30 worksheet. If the stain is AP negative, make a small cutting and submit the stain for amylase testing.

If a pink to reddish-brown stain is observed on the underwear, test the stain with KM reagent and AP reagent, even if the area does not appear to fluoresce with the aid of the alternate light source. Regardless of KM results, the stain needs to be AP tested. If the stain is AP positive, make a small cutting and submit the stain for P30 confirmation testing. Make a note that the underwear stain should be sent for amylase testing on the P30 worksheet. If the stain is AP negative, make a small cutting and submit the stain for amylase testing. KM positive stains should be documented.

In any situation, if the stain is AP negative and the time since date of occurrence is more than 3 months, the analyst should submit a small portion of the area for P30 testing to confirm negative results (for semen samples older than 3 months, AP can degrade and thus testing may yield a negative AP result).

Remember that the goal is to try to find victim DNA. Therefore, non-fluorescing stains may need to be further tested. Stain location and the case scenario will determine what stains need further testing. As every case is different, please consult with exam supervisor as needed.

At this point, be sure that any stains intended for further testing and KM positive stains are designated a stain number/letter. All stains intended for further testing should be cut out and retained in separate coin envelopes.

If there are no biological stains on the item(s), a diagram is not necessary; write a short description of the item using a Clothing Description Worksheet.

4. The **debris envelope** is used by hospital personnel to collect loose, obvious foreign material from the victim's body and/or the clothing.

   If a debris envelope was used, note the location from which the debris was collected, or note that the location was not given. Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents.

5. The **dried secretions swabs** are used to collect possible biological fluids from areas other than the body cavities. This could include semen from the skin or saliva from bite marks, for example.

   If dried secretions were taken, note the number of swabs and the location from which the secretions were collected, or note that the location was not given. Each swab must be individually labeled (SK1D1, SK1D2, etc.). See below for further testing procedures.

   Testing of dried secretions swabs:

   Visually check the swabs for the presence of biological fluids. If the swabs are pinkish to reddish-brown in color, test with KM reagent, and note the results. Submit a cutting from each of the swabs present for P30 confirmatory testing for semen. If the location from which the dried secretions swabs were taken is known, **this information must be included** on the P30 worksheet. These swabs will automatically be tested for the presence of amylase. Swabs with locations from the mouth, near the mouth, anal cavity, or near the anal cavity **should not go on for amylase testing**. As every case is different, please consult with exam supervisor if there is something in the case description that suggests further testing is required.

   Be sure to always treat unlabeled dried secretion swabs as external for purposes of P30 and amylase interpretations.

6. The **fingernail scrapings (or clippings)** are used to collect trace evidence from the fingernails.

   Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents. However, requests are occasionally made to examine the fingernail scrapings; discuss with a supervisor before starting any examinations of fingernail evidence. Generally, a Criminalist II or higher will do this type of examination.

7. The **chest hair combings** are used to collect possible trace evidence from the chest hair of the suspect.

   Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents.

8. The **oral body cavity swabs** are used to collect possible biological fluids from that area; the smears are used for a sperm search.

   Refer to the Suspect Kit Processing Flow Charts for guidance.

   For male victims:

   Visually check the swabs for the presence of biological fluids. If the swabs are pink to reddish-brown in color, test with KM reagent; note the results.

   One slide accompanying each set of body cavity swabs is maybe stained using the Christmas Tree staining procedure (refer to Christmas Tree Stain for Spermatozoa in the Forensic Biochemistry Methods Manual) and examined for the presence of sperm; this search need not be exhaustive and should take no longer than five minutes. **If the slide location is unknown, do not perform sperm search**. It is not necessary to estimate the number of sperm present. *A new Criminalist must have the sperm search witnessed for a period of six months and the reviewing Criminalist must add their initials and date to the kit inventory form.*

   If no sperm is found on a slide, submit a cutting for P30 confirmatory testing.

For female victims:

In most cases, oral swabs and smears should not be tested. As every case is different, please consult with exam supervisor if there is something in the case description that suggests further testing is required.

9. The **pulled head hair and pulled pubic hair** are collected as exemplars for any future microscopic hair comparisons.

   Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents. However, requests are occasionally made to use the pulled head hair for exemplar DNA testing; generally, hair DNA testing is not performed until hair comparisons have been made by the NYPD forensic laboratory.

10. The **facial hair combings and pubic hair combings** are used to collect possible trace evidence from the facial hair and pubic hair of the suspect.

    Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents.

11. The **penile and scrotal swabs** are used to collect possible biological fluids from those areas; the smears are used for a sperm search.

    Testing of penile and scrotal swabs:

    Visually check the swabs for the presence of biological fluids. If the swabs are pink to reddish-brown in color, test with KM reagent; note the results.

    Refer to the Suspect Kit Processing Flow Charts for guidance.

    One slide accompanying each set of swabs maybe stained using the Christmas Tree staining procedure (refer to Christmas Tree Stain for Spermatozoa in the Forensic Biochemistry Methods Manual) and examined for the presence of sperm; this search need not be exhaustive and should take no longer than five minutes. **If the slide location is unknown, do not perform sperm search**. It is not necessary to estimate the number of sperm present. *A new Criminalist must have the sperm search witnessed for a period of six months and the reviewing Criminalist must add their initials and date to the kit inventory form.*

If sperm is found on a slide, the analyst at this point should be sure to make a cutting from each positive location for amylase testing. Be sure to always treat penile and scrotal swabs as an external area for the purposes of P30 and/or amylase interpretations.

If no sperm is found on a slide, submit a cutting from each negative location for P30 confirmatory testing. These swabs will all automatically be tested for the presence of amylase by the P30 ELISA rotation upon completion of the P30 testing.

12. The **anal body cavity swabs** are used to collect possible biological fluids from that area; the smears are used for a sperm search.

Refer to the Suspect Kit Processing Flow Charts for guidance.

For male victims:

Visually check the swabs for the presence of biological fluids. If the swabs are pink to reddish-brown in color, test with KM reagent; note the results.

One slide accompanying each set of body cavity swabs is stained using the Christmas Tree staining procedure (refer to Christmas Tree Stain for Spermatozoa in the Forensic Biochemistry Methods Manual) and examined for the presence of sperm; this search need not be exhaustive and should take no longer than five minutes. **If the slide location is unknown, do not perform sperm search**. It is not necessary to estimate the number of sperm present. *A new Criminalist must have the sperm search witnessed for a period of six months and the reviewing Criminalist must add their initials and date to the kit inventory form.*

If no sperm is found on a slide, submit a cutting for P30 confirmatory testing.

For female victims:

In most cases, anal swabs and smears should not be tested. As every case is different, please consult with exam supervisor if there is something in the case description that suggests further testing is required.

13. The **buccal specimen** is used as the suspect's exemplar. If present, the buccal specimen would be the first choice in order to avoid potential inhibition of PCR by heme-degradation products.

    If a buccal specimen or other exemplar sample is contained within the kit, contact exam supervisor immediately to create a suspect file. Suspect file creation is only necessary if an exemplar sample is present.

    Suspect file creation:
    A suspect file will be obtained from the sign-in area by the exam supervisor. A new access record and Schedule of Analysis will need to be created for the file. *The suspect file must include a new internal chain-of-custody form to continue the tracking of the suspect exemplar from the original voucher number*. In addition, copies of the following paperwork must also be included in the file upon completion of kit examination:

    - 61 form (NYPD complaint report)
    - original request for laboratory examination forms
    - evidence voucher
    - evidence packaging worksheet
    - completed kit inventory worksheet

    After creation of a suspect file, place the swab(s) in a coin envelope that should be labeled with the FB number, suspect file number, voucher number, item number, suspect name, analyst's initials, and date of examination. The coin envelope should be placed in a Kapak envelope and heat sealed. Both FB numbers should be written on the Kapak and the analyst's initials and date of examination should be written across the seal. The Kapak should then be placed in a larger manila envelope with the same information that was written on the small coin envelope.

14. Return all swabs and slides to their envelopes and return to the kit.

15. The **questionnaire, body diagram sheets, and instruction sheets** are intended for the use of the medical personnel. If present, make a copy of the questionnaire and/or body diagram sheets for the left side of the case file; leave all originals in the kit. No item number is assigned if present.

16. Photographs and/or other paperwork are not supposed to be included in a kit. If present, make a note of it; leave them in the kit. No item number is assigned if present.

17. After kit examination is complete, the kit and exemplar should be placed in the "in progress" area. If a suspect exemplar is present, an exemplar request should be made. The suspect file should be placed in the "files for exemplar request cutting" bin. If no exemplar is present, the file can go directly to the serology report writing station.

    If a suspect file was created, the X-team will forward the completed file to the assigned interpreting analyst (IA) upon completion of testing.

18. After P30 and amylase testing is complete, a serology report should be written.

19. Once the serology report is complete, the kit is ready to be closed.

    The kit must be transferred to an interpreting analyst (IA) for further analysis. Check the Kit Transfer Worksheet to determine who will be the assigned IA for the file. *This must be done prior to submission to DNA extraction so that the assigned IA will receive subsequent paperwork.*

    Refer to the Suspect Kit Processing Flow Charts for guidance.

    If a sexual assault kit was received for the case, check the serology results for it first. In most situations, if the sexual assault kit has semen and/or amylase positive items, suspect kit items that are submitted for extraction should be sent for QUANTITATION ONLY.

    The following kit closing information is for both female and male victims. Use the pertinent information for each case.

    -Underwear

    Semen positive stains should be sent for differential extraction.

    KM positive, semen negative stains should be sent for blood extraction.

    Amylase positive, semen and KM negative stains should be sent for other extraction.

If a stain is semen and amylase negative, consult with exam supervisor. Based on the case scenario, a decision will be made regarding further testing.

-Dried secretion swabs

If semen positive, make a second cutting from one swab **from each designated area** that is P30 positive. For example, if two swabs were taken from the "perianal" area and two from the "inner thigh," make a cutting of one swab from the "perianal" and one from the "inner thigh" to go on for differential extraction and DNA testing. If the location from which the swabs were taken is unknown, make a cutting from one swab to go on for a differential extraction and DNA testing.

If a swab is KM positive and semen negative, make a cutting from one swab **from each designated area** that is KM positive for blood extraction.

If a swab is amylase positive, and semen and KM negative, the decision on further testing depends on the location that the swab originated from (orifice versus non-orifice) and the sex of the victim. Refer to the Suspect Kit Processing Flow Charts for guidance.

If a swab is semen and amylase negative, the decision on further testing depends on the location that the swab originated from (orifice versus non-orifice) and the sex of the victim. Refer to the Suspect Kit Processing Flow Charts for guidance.

Be sure to check for dried secretions with locations from the mouth, near the mouth, anal cavity, or near the anal cavity. Consult a supervisor to determine if a dried secretion from these locations should go on for extraction prior to kit closing.

-Penile and scrotal swabs

If a swab is semen positive, make a cutting from each positive location for differential extraction.

If a swab is KM positive, and semen negative, make a cutting from each KM positive location for blood extraction.

If a swab is amylase positive, and semen and KM negative, make a cutting from each positive location for other extraction.

If a swab is semen and amylase negative, the decision on further testing depends on the sex of the victim. Refer to the Suspect Kit Processing Flow Charts for guidance.

- Oral and anal swabs

If a swab is semen positive, make a cutting from each positive location for differential extraction

If a swab is semen negative, consult with exam supervisor. Based on the case scenario, a decision will be made regarding further testing.

After cutting all pertinent items, each envelope within the kit should be sealed with evidence tape.

The kit should be placed in the "pending" area.

The file should be given to the exam supervisor.

J. Evidence examination – female suspect kits

Although testing procedures are similar to sexual assault kit examination, the goal is to try to find victim DNA when examining any suspect kit. This should be kept in mind during examination of all items within the suspect kit, as the importance of test results will be different.

Follow the general guidelines for note taking and evidence examination when examining any suspect kit. Follow the general guidelines for clothing examination when examining any clothing items packaged in a suspect kit.

Use an Evidence Packaging Worksheet for initial documentation of each suspect kit.

Use the Suspect Evidence Collection Kit Inventory and Clothing Description Worksheet (for testing of underwear or related items) forms for further documentation.

1. Note the name of the suspect and information about when and where the kit was collected. Ensure that the name of the suspect corresponds to the name listed on the paperwork in the case file.

2. As prompted by the Suspect Evidence Collection Kit Inventory, indicate whether each kit component is sealed, unsealed, not submitted, or present but "not used" (this may require opening of the envelope). Consecutive item numbers are assigned to only those items that are present and used (e.g. SK1A, SK1B, SK1C1-SK1C2 for swab and slide pairs).

   Vouchered kits: Inventory kit. Used envelopes will get an item number (see above) and will also be labeled with the FB number, analyst's initials, and date of examination. All the envelopes, whether used or unused should contain the analyst's initials and the identifying case number. See following for testing of the vouchered kit.

3. **Underwear or related items contained within kit:**

   If **underwear or related items** are in the kit, examine them using the Clothing Description Worksheet. If stains are observed on the underwear, they are most efficiently documented using the diagrams that are available or by a quick sketch; photography is not generally needed.

   Testing of underwear or small clothing items contained within kit:

   For male victims:

   Visually check underwear for any biological stains. Additionally, observe the underwear using an alternate light source. If any fluorescing areas are observed, circle for further testing.

   If a yellowish or fluorescing stain is observed on the underwear, test the stain with AP reagent. If the stain is AP positive, make a small cutting and submit the stain for P30 confirmation testing. Make a note that the underwear stain should be sent for amylase testing on the P30 worksheet. If the stain is AP negative, make a small cutting and submit the stain for amylase testing.

If a pink to reddish-brown stain is observed on the underwear, test the stain with KM reagent and AP reagent, even if the area does not appear to fluoresce with the aid of the alternate light source. Regardless of KM results, the stain needs to be AP tested. If the stain is AP positive, make a small cutting and submit the stain for P30 confirmation testing. Make a note that the underwear stain should be sent for amylase testing on the P30 worksheet. If the stain is AP negative, make a small cutting and submit the stain for amylase testing. KM positive stains should be documented.

In any situation, if the stain is AP negative and the time since date of occurrence is more than 3 months, the analyst should submit a small portion of the area for P30 testing to confirm negative results (for semen samples older than 3 months, AP can degrade and thus testing may yield a negative AP result).

At this point, be sure that any stains submitted to P30 and/or amylase testing and KM positive stains are designated a stain number/letter. All stains intended for further testing should be cut out and retained in separate coin envelopes.

If there are no biological stains on the item(s), a diagram is not necessary; write a short description of the item using a Clothing Description Worksheet.

For female victims:

Visually check underwear for any biological stains. Additionally, observe the underwear using an alternate light source. If any fluorescing areas are observed, circle for further testing.

If a fluorescing stain is observed on the underwear, make a small cutting and submit the stain for amylase testing. Designate a stain number/letter to each fluorescing area.

If a pink to reddish-brown stain is observed on the underwear, test the stain with KM reagent. Consult with exam supervisor. Based on the case scenario, a decision will be made regarding further testing.

Remember that the goal is to try to find victim DNA. Therefore, non-fluorescing stains may need to be further tested. Stain location and the case scenario will determine what stains need further testing. As every case is different, please consult with exam supervisor as needed.

At this point, be sure that any stains intended for further testing and KM positive stains are designated a stain number/letter. All stains intended for further testing should be cut out and retained in separate coin envelopes.

If there are no biological stains on the item(s), a diagram is not necessary; write a short description of the item using a Clothing Description Worksheet.

4. The **debris envelope** is used by hospital personnel to collect loose, obvious foreign material from the victim's body and/or the clothing.

   If a debris envelope was used, note the location from which the debris was collected, or note that the location was not given. Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents.

5. The **dried secretions swabs** are used to collect possible biological fluids from areas other than the body cavities. This could include semen from the skin or saliva from bite marks, for example.

   If dried secretions were taken, note the number of swabs and the location from which the secretions were collected, or note that the location was not given. Each swab must be individually labeled (SK1D1, SK1D2, etc.). See below for further testing procedures.

   Be sure to always treat unlabeled dried secretion swabs as external for purposes of P30 and amylase interpretations.

   Refer to the Suspect Kit Processing Flow Charts for guidance.

   Testing of dried secretions swabs:

   For male victims:

Visually check the swabs for the presence of biological fluids. If the swabs are pinkish to reddish-brown in color, test with KM reagent, and note the results. Submit a cutting from each of the swabs present for P30 confirmatory test for semen. If the location from which the dried secretions swabs were taken is known, **this information must be included** on the P30 worksheet. These swabs will automatically be tested for the presence of amylase. Swabs with locations from the mouth, near the mouth, anal cavity, or near the anal cavity **should not go on for amylase testing**. As every case is different, please consult with exam supervisor if there is something in the case description that suggests further testing is required.

For female victims:

Visually check the swabs for the presence of biological fluids. If the swabs are pinkish to reddish-brown in color, test with KM reagent, and note the results. Submit a cutting from each of the swabs present for amylase testing. If the location from which the dried secretions swabs were taken is known, **this information must be included** on the amylase worksheet. Swabs with locations from the mouth, near the mouth, anal cavity, or near the anal cavity **should not go on for amylase testing**. As every case is different, please consult with exam supervisor if there is something in the case description that suggests further testing is required.

6. The **fingernail scrapings (or clippings)** are used to collect trace evidence from the fingernails.

   Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents. However, requests are occasionally made to examine the fingernail scrapings; discuss with a supervisor before starting any examinations of fingernail evidence. Generally, a Criminalist II or higher will do this type of examination

7. The **chest hair combings** are used to collect possible trace evidence from the chest hair of the suspect.

   Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents.

8. The **oral body cavity swabs** are used to collect possible biological fluids from that area; the smears are used for a sperm search.

   Refer to the Suspect Kit Processing Flow Charts for guidance.

   For male victims:

   Visually check the swabs for the presence of biological fluids. If the swabs are pinkish to reddish-brown in color, test with KM reagent; note the results.

   One slide accompanying each set of body cavity swabs is maybe stained using the Christmas Tree staining procedure (refer to Christmas Tree Stain for Spermatozoa in the Forensic Biochemistry Methods Manual) and examined for the presence of sperm; this search need not be exhaustive and should take no longer than five minutes. **If the slide location is unknown, do not perform sperm search**. It is not necessary to estimate the number of sperm present. *A new Criminalist must have the sperm search witnessed for a period of six months and the reviewing Criminalist must add their initials and date to the kit inventory form.*

   If no sperm is found on a slide, submit a cutting for P30 confirmatory testing.

   For female victims:

   In most cases, oral swabs and smears should not be tested. As every case is different, please consult with exam supervisor if there is something in the case description that suggests further testing is required.

9. The **pulled head hair and pulled pubic hair** are collected as exemplars for any future microscopic hair comparisons.

   Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents. However, requests are occasionally made to use the pulled head hair for exemplar DNA testing; generally, hair DNA testing is not performed until hair comparisons have been made by the NYPD forensic laboratory.

10. The **facial hair combings and pubic hair combings** are used to collect possible trace evidence from the facial hair and pubic hair of the suspect.

    Since trace evidence examinations are not performed in the Department of Forensic Biology, there is generally no need to examine the contents.

11. The **vaginal and cervical body cavity swabs** are used to collect possible biological fluids from those areas; the smears are used for a sperm search.

    Testing of vaginal and cervical swabs:

    Visually check the swabs for the presence of biological fluids. If the swabs are pinkish to reddish-brown in color, test with KM reagent, note the results.

    Refer to the Suspect Kit Processing Flow Charts for guidance.

    For male victims:

    One slide accompanying each set of body cavity swabs is maybe stained using the Christmas Tree staining procedure (refer to Christmas Tree Stain for Spermatozoa in the Forensic Biochemistry Methods Manual) and examined for the presence of sperm; this search need not be exhaustive and should take no longer than five minutes. **If the slide location is unknown, do not perform sperm search**. It is not necessary to estimate the number of sperm present. *A new Criminalist must have the sperm search witnessed for a period of six months and the reviewing Criminalist must add their initials and date to the kit inventory form.*

    If sperm is found on a slide, the analyst at this point should be sure to make a cutting from each positive location for amylase testing.

    If no sperm is found on a slide, submit a cutting from each negative location for P30 confirmatory testing. These swabs will all automatically be tested for the presence of amylase by the P30 ELISA rotation upon completion of the P30 testing.

For female victims:

Submit a cutting from each location for amylase testing. There is no need tocheck the swabs or smears for the presence of semen.

12. The **anal body cavity swabs** are used to collect possible biological fluids from those areas; the smears are used for a sperm search.

For male victims:

Visually check the swabs for the presence of biological fluids. If the swabs are pinkish to reddish-brown in color, test with KM reagent; note the results. One slide accompanying each set of body cavity swabs maybe stained using the Christmas Tree staining procedure (refer to Christmas Tree Stain for Spermatozoa in the Forensic Biochemistry Methods Manual) and examined for the presence of sperm; this search need not be exhaustive and should take no longer than five minutes. **If the slide location is unknown, do not perform sperm search**. It is not necessary to estimate the number of sperm present. *A new Criminalist must have the sperm search witnessed for a period of six months and the reviewing Criminalist must add their initials and date to the kit inventory form.*

If no sperm is found on a slide, submit a cutting for P30 confirmatory testing.

For female victims:

In most cases, anal swabs and smears should not be tested. As every case is different, please consult with exam supervisor if there is something in the case description that suggests further testing is required.

13. The **buccal specimen** is used as the suspect's exemplar. If present, the buccal specimen would be the first choice in order to avoid potential inhibition of PCR by heme-degradation products.

If a buccal specimen or other exemplar sample is contained within the kit, contact exam supervisor immediately to create a suspect file. Suspect file creation is only necessary if an exemplar sample is present.

Suspect file creation:

A suspect file will be obtained from the sign-in area by the exam supervisor. A new access record and Schedule of Analysis will need to be created for the file. *The suspect file must include a new internal chain-of-custody form to continue the tracking of the suspect exemplar from the original voucher number*. In addition, copies of the following paperwork must also be included in the file upon completion of kit examination:

- 61 form (NYPD complaint report)
- original request for laboratory examination forms
- evidence voucher
- evidence packaging worksheet
- completed kit inventory worksheet

After creation of a suspect file, place the swab(s) in a coin envelope that should be labeled with the FB number, suspect file number, voucher number, item number, suspect name, analyst's initials, and date of examination. The coin envelope should be placed in a Kapak envelope and heat sealed. Both FB numbers should be written on the Kapak and the analyst's initials and date of examination should be written across the seal. The Kapak should then be placed in a larger manila envelope with the same information that was written on the small coin envelope.

14. Return all swabs and slides to their envelopes and return to the kit.

15. The **questionnaire, body diagram sheets, and instruction sheets** are intended for the use of the medical personnel. If present, make a copy of the questionnaire and/or body diagram sheets for the left side of the case file; leave all originals in the kit. No item number is assigned if present.

16. Photographs and/or other paperwork are not supposed to be included in a kit. If present, make a note of it; leave them in the kit. No item number is assigned if present.

17. After kit examination is complete, the kit should be placed in the "in progress" area. If a suspect exemplar is present, an exemplar request should be made. The suspect file should be placed in the "files for exemplar request cutting" bin. If a victim exemplar is present, the sexual assault kit file should be placed in the "files for SAK exemplar storage" bin. If no exemplar is present, the file can go directly to the serology report writing station.

    If a suspect file was created, the X-team will forward the completed file to the assigned interpreting analyst (IA) upon completion of testing.

18. After P30 and amylase testing is complete, a serology report should be written.

19. Once the serology report is complete, the kit is ready to be closed.

    The kit must be transferred to an interpreting analyst (IA) for further analysis. Check the Kit Transfer Worksheet to determine who will be the assigned IA for the file. *This must be done prior to submission to DNA extraction so that the assigned IA will receive subsequent paperwork.*

    Refer to the Suspect Kit Processing Flow Charts for guidance.

    If a sexual assault kit was received for the case, check the serology results for it first. In most situations, if the sexual assault kit has semen and/or amylase positive items, suspect kit items that are submitted for extraction should be sent for QUANTITATION ONLY.

    The following kit closing information is for both female and male victims. Use the pertinent information for each case.

    -Underwear

    Semen positive stains should be sent for differential extraction.

    Amylase positive, semen negative stains should be sent for other extraction.

If a stain is KM positive, consult with exam supervisor. Based on the case scenario, a decision will be made regarding further testing.

If a stain is semen and amylase negative, consult with exam supervisor. Based on the case scenario, a decision will be made regarding further testing.

-Dried secretion swabs

If semen positive, make a second cutting from one swab **from each designated area** that is P30 positive. For example, if two swabs were taken from the "perianal" area and two from the "inner thigh," make a cutting of one swab from the "perianal" and one from the "inner thigh" to go on for differential extraction and DNA testing. If the location from which the swabs were taken is unknown, make a cutting from one swab to go on for a differential extraction and DNA testing

If a swab is KM positive and semen negative, make a cutting from one swab **from each designated area** that is KM positive for blood extraction.

If a swab is amylase positive and semen and KM negative, the decision on further testing depends on the location that the swab originated from (orifice versus non-orifice) and the sex of the victim. Refer to the Suspect Kit Processing Flow Charts for guidance.

If a swab is semen and amylase negative, the decision on further testing depends on the location that the swab originated from (orifice versus non-orifice) and the sex of the victim. Refer to the Suspect Kit Processing Flow Charts for guidance.

Be sure to check for dried secretions with locations from the mouth, near the mouth, anal cavity, or near the anal cavity. Consult a supervisor to determine if a dried secretion from these locations should go on for extraction prior to kit closing.

-Vaginal and cervical swabs

If a swab is semen positive, make a second cutting from each P30 or sperm positive swab for differential extraction.

If a swab is amylase positive and semen negative, the decision on further testing depends on the sex of the victim. Refer to the Suspect Kit Processing Flow Charts for guidance.

If a swab is KM positive, consult with exam supervisor. Based on the case scenario, a decision will be made regarding further testing.

If a swab is semen and amylase negative, consult with exam supervisor. Based on the case scenario, a decision will be made regarding further testing.

-Oral and anal swabs

If a swab is semen positive, make a cutting from positive location for differential extraction.

If a swab is semen negative, consult with exam supervisor. Based on the case scenario, a decision will be made regarding further testing.

After cutting all pertinent items, each envelope within the kit should be sealed with evidence tape.

If a suspect exemplar is present, an exemplar request should be made. The suspect file should be placed in the "files for exemplar request cutting" bin. If a victim exemplar is present, the sexual assault kit file should be placed in the "files for SAK exemplar storage" bin. If no exemplar is present, the file can go directly to the serology report writing station.

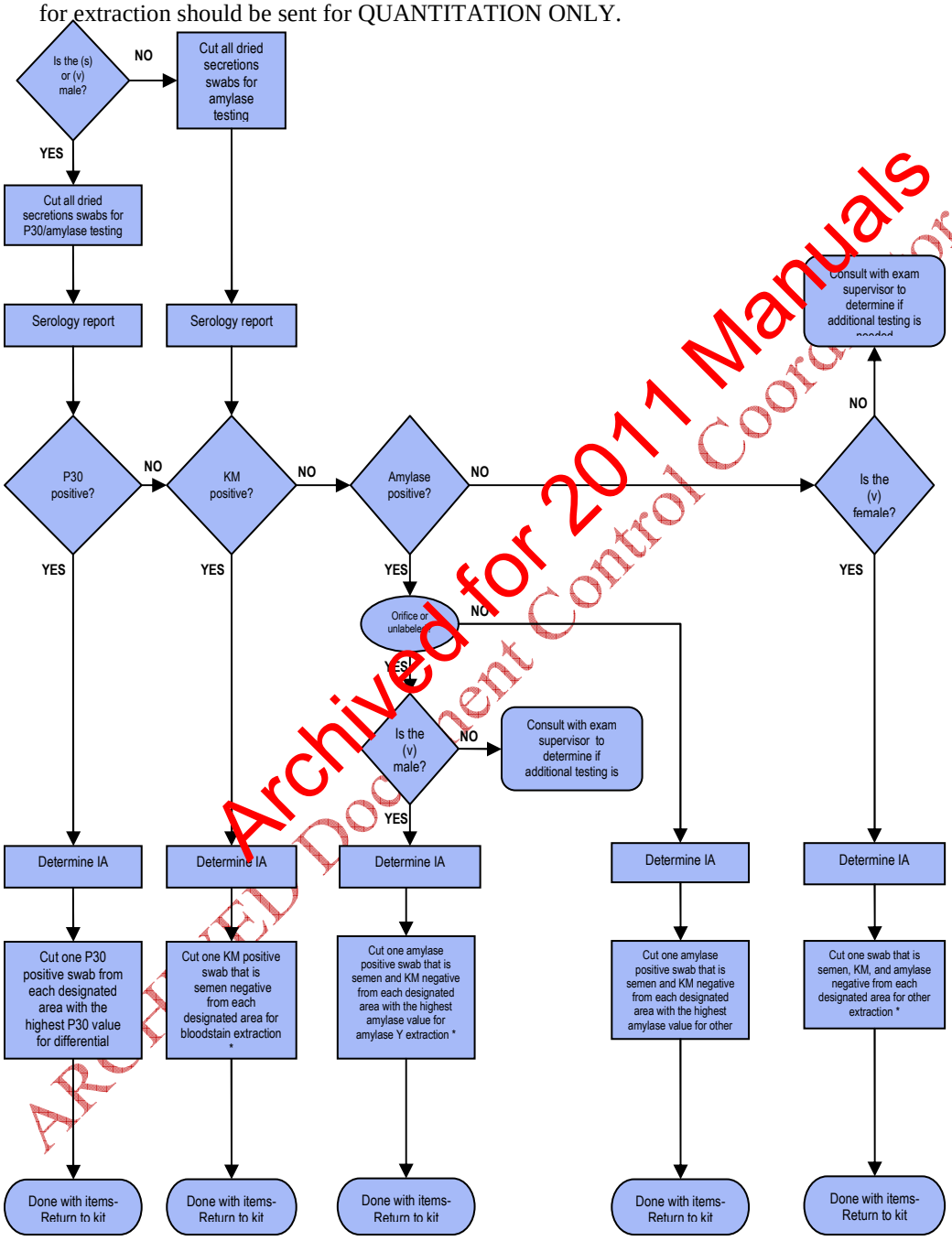
The kit should be placed in the "pending" area.

The file should be given to the exam supervisor.

Suspect kit processing flow chart

Dried Secretion Swabs:

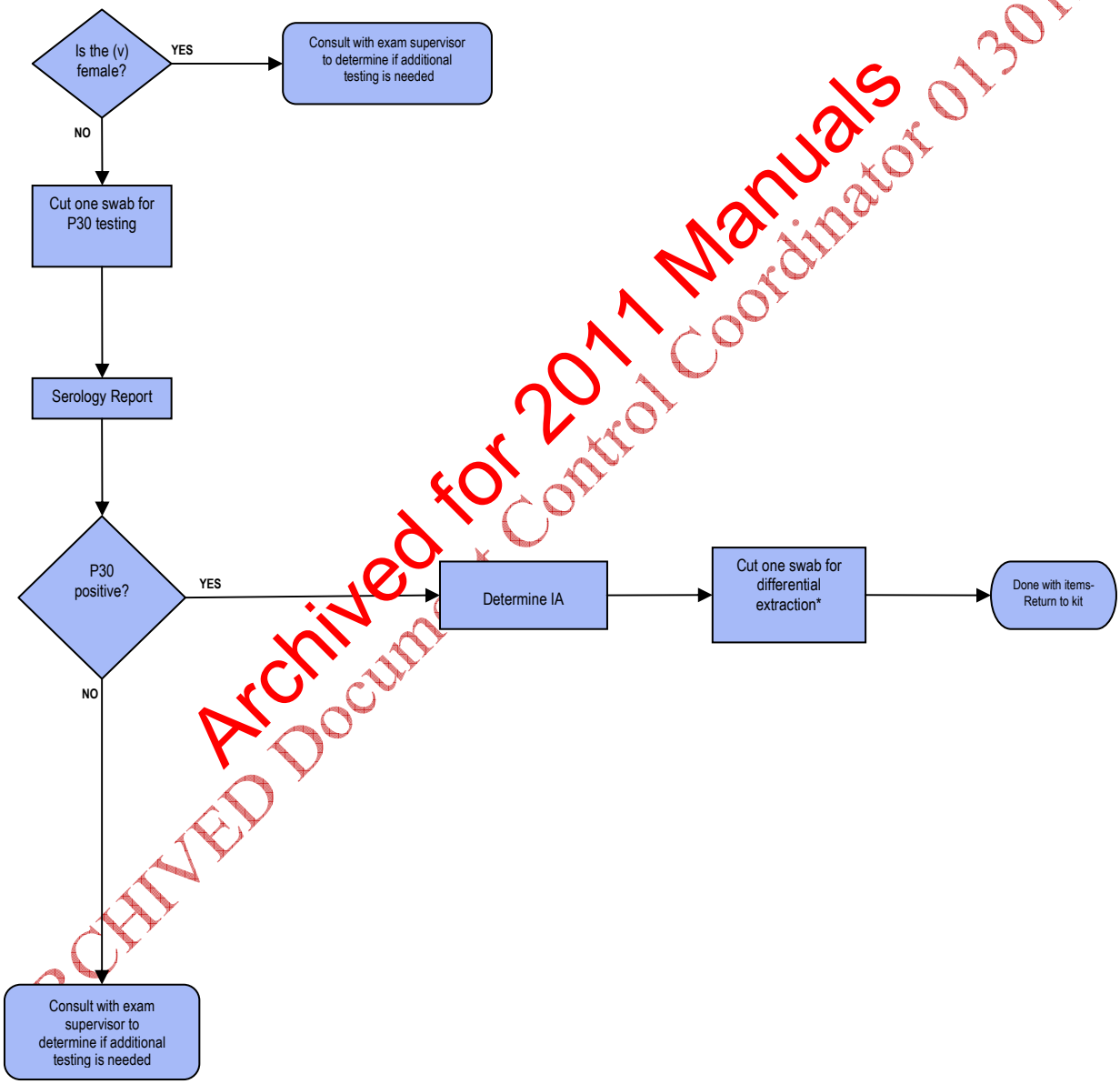
* If the sexual assault kit for this case has semen and/or amylase positive items, the suspect kit items submitted for extraction should be sent for QUANTITATION ONLY.



Suspect kit processing flow chart

Oral and Anal Swabs: Apply this flow chart separately for each item

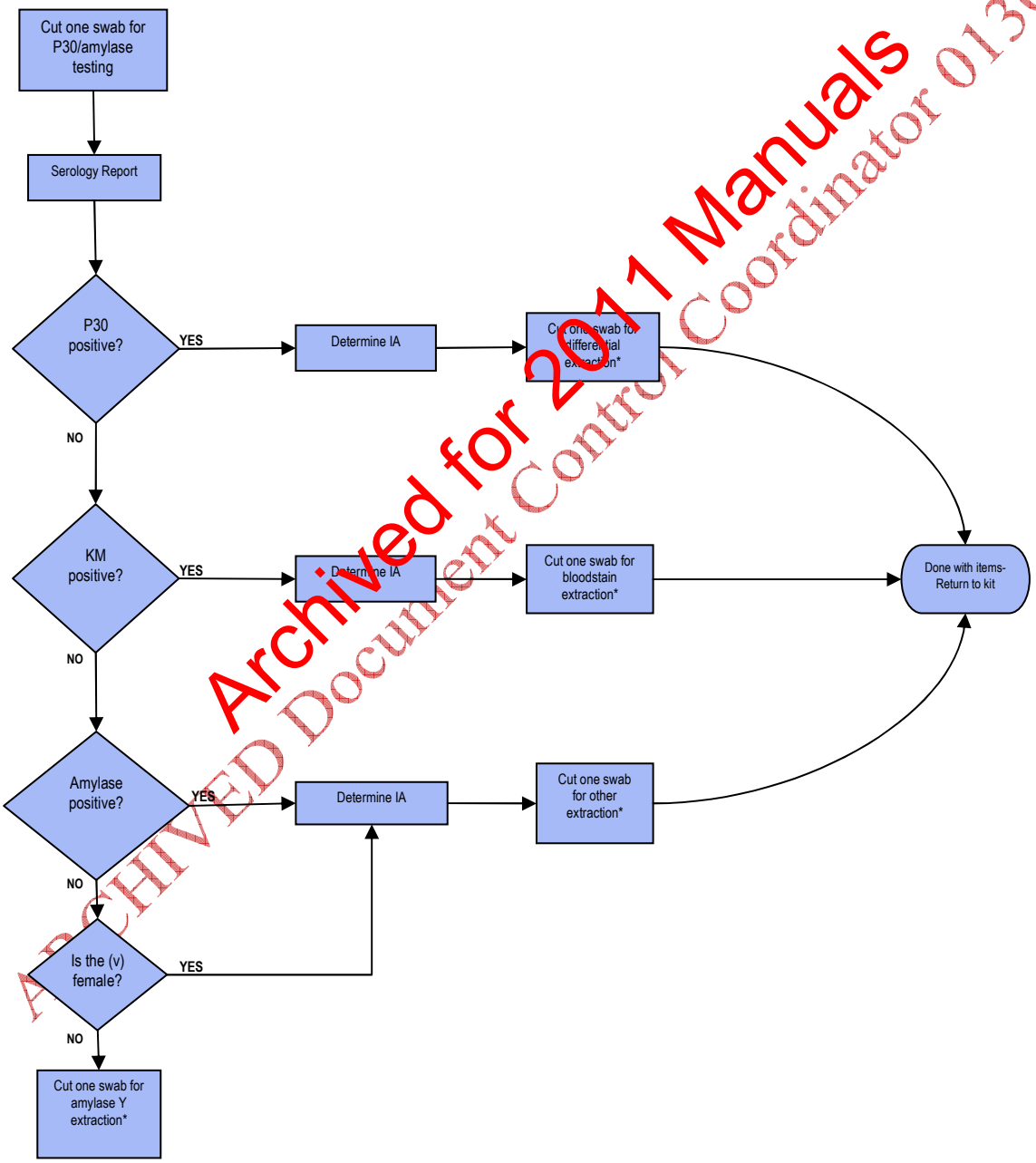
* If the sexual assault kit for this case has semen and/or amylase positive items, the suspect kit items submitted for extraction should be sent for QUANTITATION ONLY.



Suspect kit processing flow chart

Penile and Scrotal Swabs: Apply this flow chart separately for each item

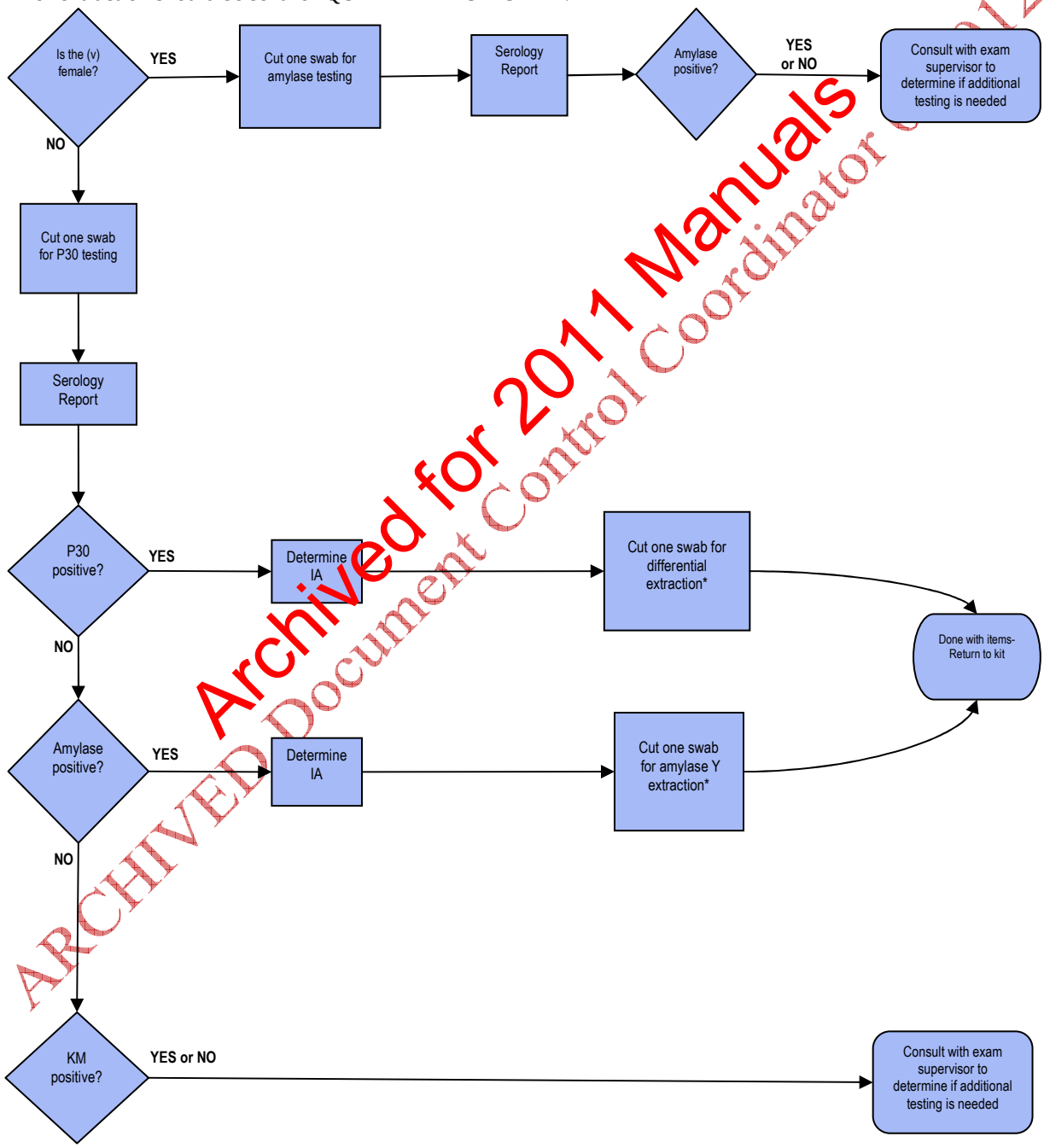
* If the sexual assault kit for this case has semen and/or amylase positive items, the suspect kit items submitted for extraction should be sent for QUANTITATION ONLY.



Suspect kit processing flow chart

Vaginal and Cervical Swabs: Apply this flow chart separately for each item

* If the sexual assault kit for this case has semen and/or amylase positive items, the suspect kit items submitted for extraction should be sent for QUANTITATION ONLY.



K. Evidence examination – non post-mortem exemplars

Exemplars are often submitted to the Forensic Biology laboratory for analysis. Follow the general guidelines for note taking and evidence examination when examining any exemplar item.

An exemplar must have documentation stating that it is in fact from the person named. A "true exemplar," such as a blood sample or an oral swab, will include paperwork from the MLI who obtained the sample, paperwork from the NYPD (including a voucher and sometimes a signed consent form), or paperwork from the DAO. An item such as a bottle that the suspect was seen handling, is treated as a "pseudo-exemplar," and will include a voucher.

Use an Evidence Packaging Worksheet for initial documentation of each item.

1. For a blood sample, follow the blood stain preparation section of the Biochemistry Manual. Prepare the sample for DNA extraction as described in the Evidence examination - general guidelines, labeling the sample with the name or initials of the individual.

2. For an oral swab, document the sample using an Exemplar Evidence Packaging and Exam Worksheet - Swab. Prepare the sample for DNA extraction as described in the Evidence examination - general guidelines, labeling the sample with the name or initials of the individual.

3. For a cigarette butt "pseudo-exemplar," document the sample using a Cigarette Butt Examination Worksheet. Prepare the sample for DNA extraction as described in the Evidence examination - general guidelines, clearly labeling the sample to indicate that it is not a "true exemplar." For example: "Cig Butt submitted for (S) HS". Since this sample is considered an exemplar, it must be extracted on a Chelex "Extraction – Other Exemplars" sheet.

4. For other sorts of "pseudo-exemplars," such as chewing gum, bottles, cups, etc., document the same way as for an evidence item. Cut or swab the item as necessary; it is not necessary to perform amylase or other serology tests an item submitted as a "pseudo-exemplar." Prepare the sample for DNA extraction as described in the Evidence examination - general guidelines, clearly labeling the sample to indicate that it is not a "true exemplar." For example: "Gum submitted for (S) MR" or "Bottle submitted for (s) EL". Since this sample is considered an exemplar, it must be extracted on a Chelex "Extraction – Other Exemplars" sheet.

5. Retain the victim exemplar from Sexual Assault Kits.

   For blood samples, retain the stain card and return the empty tube(s) along with the packaging to the Evidence Unit.

L. Evidence examination – condom

Condoms are often submitted to the Forensic Biology laboratory for examination. Follow the general guidelines for note taking and evidence examination when examining a condom.

Use an Evidence Packaging Worksheet for initial documentation of each item.

1. Describe the general condition of the condom (laid out flat, wadded up), color, and any trace evidence if present. If the condom was submitted "tied off," document it as received then cut open for sampling.

2. If applicable, any stains **must** be documented by diagrams and/or photography. Note the location of the stain, size, heaviness (surface smear, etc.), and any directionality of the stain pattern. Each photograph must have a ruler visible in the frame, either a plain straight ruler or an x, y axis ruler.

3. Note whether fluids are present (liquid or dried). If the condom is found to be wet when opened, the item should be allowed to air dry after samples are taken. The item should not be heated or exposed to direct sunlight. If the item has become foul smelling, allow it to dry in the hood with the fan running.

4. Separately swab both the "inside" and "outside" of the condom, using one or more swabs for each surface. Since it usually can't be conclusively determined which surface is which, use quotes to describe the "inside" and "outside."

5. Test both sets of swabs for the presence of blood, semen, and/or amylase as needed. Since the presence of a victim's DNA on a condom can often be important, it may be necessary to perform DNA testing on a sample from a condom even if no blood, semen, or amylase is detected.

Do not sample a condom by cutting a portion of the condom.

M. Evidence Examination – Products of Conception

The term *product of conception (POC)* refers to either an ***embryo*** (up to the formation of organs in the first 8 weeks of gestation) or a ***fetus*** (up to approximately 30 millimeters and weighs approximately 4 grams).

The *placenta* is a temporary organ of pregnancy. Anatomically, placenta has two parts: ***decidua (D),*** genetically identical to the mother, and ***chorionic villi (CV)***, genetically identical to the ***POC***. Decidua appears as a compact tissue, while chorionic villi look more incoherent and loose. Morphological differentiation between D and CV can be made by observation:

- By naked eye (Figure 1A and 1B)
- Using stereo-microscopy (Figure 2A and 2B),
- Using light microscopy of formalin fixed, paraffin embedded, and stained tissue (Figure 3A and 3B).

POCs are often submitted to the OCME Department of Forensic Biology for examination. It is possible for tissues of POCs to lack uniformity, be of different gestational ages, or be differently preserved. Therefore, besides general guidelines for evidence examination, examination of POCs requires that some specific scenarios be taken into consideration.

Follow the general guidelines for note taking and evidence examination when examining POC. Use a Product of Conception (POC) Packaging and Exam Worksheet for initial documentation of each POC item.

1. Describe the general condition of the item *(full embryo/fetus, fragments, unrecognizable tissue parts, etc.).*

2. Take one overview photograph of each item. Each photograph **must** have a ruler visible in the frame, either a plain straight ruler or an x, y axis ruler.

3. Weigh each item and document the tissue weight.

4. Determine if the POC is more or less than 24 weeks of gestational age (weight of ≥ 500g is considered > 24 weeks of gestational age).

5. Sampling of the item depends on the general condition of the item.

   a. If the POC is *morphologically well defined*, take a sample from it for DNA typing; the sample should be approximately 3x3x3 mm in size.

   b. If the POC is <24 weeks of gestational age and/or it is *not morphologically well defined***,** rinse it several times in dH_2O using Petri dish and observe it wet under MIDEO stereo microscope (following Protocol for Forensic Mitochondrial DNA Analysis, Section 4: MIDEO Macro/Microscopic Digital Imaging System, page 1-3).

      Referring to Figure 2a and 2b for guidance, take a chorionic villi sample for DNA typing; the sample should be approximately 3x3x3 mm in size. If an exemplar from the mother/victim is not available, take a decidua sample as well.

   c. If the POC is <24 weeks of gestational age, and/or it is *not morphologically well defined***,** and/or morphological differences between maternal and fetal part of placental tissue could not be established using MIDEO as in B above, take several samples from morphologically different regions and put them in *separate* embedding cassettes (Figure 4) for histological examination.

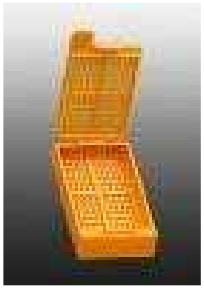


Figure 4
Tissue Embedding Cassette

Each sample should be approximately 10x10x5 mm in size. Close each cassette and label with a pencil. Submerge the cassettes in a prepared jar of formaldehyde. OR Submerge each cassette in a prepared jar of formaldehyde. Cassettes, formaldehyde, and jars will be pre-provided by Histology Department.

After collection of all pieces is done, submit them to Department of Histology for further paraffin embedding, cutting, slide mounting and staining procedure. If needed, ask for consultation with a pathologist. Once the samples have been evaluated, follow the section of the Laser Microdissection procedure from Forensic Biology Protocol for STR Analysis (In Section 2: DNA Extraction). Make sure that Chain of Custody form is signed.

d. If the POC is >24 weeks of gestational age, retain a sample for further testing. Inform OCME Identification Unit (212-447-2711) and keep the POC in the freezer, properly packed, until a permit for city burial is obtained by OCME Identification Unit. Return the empty packaging to the OCME Evidence Unit.

6. Submit samples for DNA extraction on an *Exemplar* worksheet, using the notation “D” for decidual tissue and “CV” for chorionic villi as appropriate.

7. Depending on the outcome of the DNA testing, the disposition of the POC varies:

Testing outcome	Procedure
No mother/victim exemplar, and DNA profile of the POC is **female**	- Retain the entire POC; - Return the empty packaging to the OCME EU
No mother/victim exemplar, and DNA profile of the POC is **male**	- Retain a sample of POC for further testing; - Dispose the remainder of POC in the red waste trash ***(If the POC is >24 weeks old, follow step 5d);*** - Return the empty packaging to the OCME EU
No mother/victim exemplar and DNA profile of the POC is a **mixture**	- Repeat testing (See Step 5 above)

Testing outcome	Procedure
There is a mother/victim exemplar and DNA profile of the POC is foreign to the victim (mother), having expected allele sharing	- Retain a sample of POC for further testing; - Dispose the remainder of POC in the red waste trash ***(If the POC is >24 weeks old, follow step 5d);*** - Return the empty packaging to the OCME EU
There is a mother/victim exemplar and DNA profile of the POC is a deducible mixture	- Retain a sample of POC for further testing; - Dispose the remainder of POC in the red waste trash ***(If the POC is >24 weeks old, follow step 5d);*** - Return the empty packaging to the OCME EU
There is a mother/victim exemplar and DNA profile of the POC is an undeducible mixture	- Repeat testing, following Step 5a or 5b

8. For the return of empty packaging, each container in which POC have been submitted must be bleached using 10% bleach prior to return to the Evidence Unit.

Figure 1a: CV by naked eye

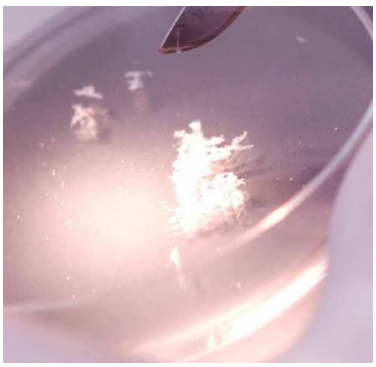


Figure 1b: CV by naked eye - detail

Figure 2a:
Stereo-microscopic (MIDEO) image of chorionic villi.

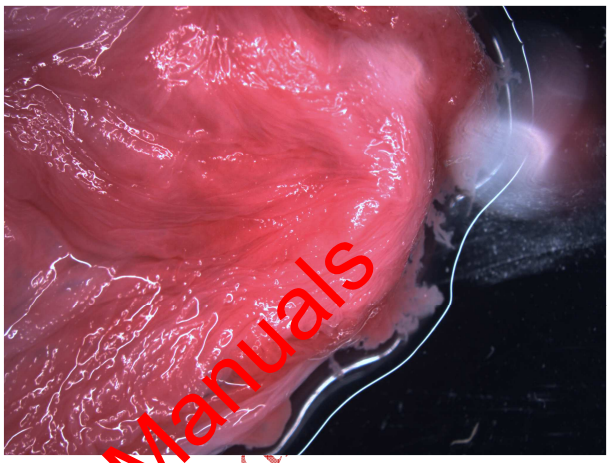


Figure 2b:
Stereo-microscopic (MIDEO) image of Decidua.

Figure 3a:
Microscopic image of formalin fixed, paraffin embedded and routinely stained decidua

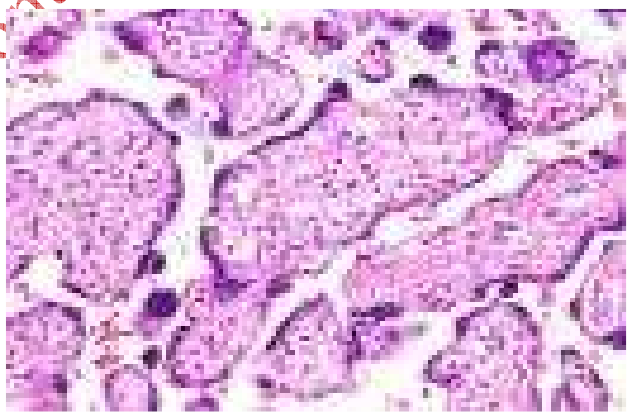


Figure 3b:
Microscopic image of formalin fixed, paraffin embedded and routinely stained chorionic villi

N. Evidence Examination – Pseudo-Exemplars

It is the policy of the Department of Forensic Biology to accept and test "pseudo-exemplars" to aid in criminal investigations. There are various reasons to obtain a possible perpetrator's profile from a pseudo-exemplar as opposed to testing a buccal- or blood-sample. It is our expectation that NYPD investigators will submit items with a reasonable probability of finding a single-source DNA profile from the suspect. The item must have been abandoned; common examples include a cigarette butt tossed in the street or a coffee cup left behind after questioning. It is not acceptable to test items taken directly from a suspect (e.g. handcuffs for the DNA of the person that these were last used on) or items of evidence collected from an unrelated incident (e.g. bloody clothes from a suspect who was a victim of an assault).

In most cases only one or two items are submitted for an individual.

O. Evidence examination – Touched Items

Items that are scheduled to be examined for High Sensitivity or Property Crime Testing are typically touched items or items with low expected yields of DNA. These items should be swabbed or scraped according to the protocols described below. Because the methods used by the High Sensitivity team are inherently more sensitive than traditional techniques it is necessary to adhere to all recommended evidence handling guidelines with regards to prevention of contamination including the following:

- Examine items in the dedicated lab space. For cases that are assigned directly to the High Sensitivity team, evidence is examined in the Special Evidence Exam Room separated from the main evidence exam room. This ensures that samples from touched items are separated from items with blood or other physiological fluids on them.

- In order to keep the process as clean as possible, personal preparation guidelines are strictly enforced.

1. Documentation

a. Use an Evidence Packaging Worksheet for initial documentation of the packaging of each item.

b. Use worksheets appropriately.
   i. Use the Crime Scene Swab Worksheet for all swabs taken by the NYPD. Be sure the note all information pertaining to the location where the swab was collected.
   ii. For items being re-examined for High Sensitivity testing, use the LCN re-examination worksheet.

c. Follow the evidence exam guidelines for proper documentation of all items and samples taken. For further clarification see below.
   i. Note the general appearance of the item. For example, note the color, the dimensions, and whether the item appeared to be dirty or possibly treated with latent print developers such as fingerprint powders or cyano-acrylate (fuming) etc.
   ii. Note the specific area being swabbed and/or any stains observed. Include the dimensions of the stain or area.
      a) If an area is reddish brown, KM test the area if appropriate. For a very small area, consult your supervisor. You may only want to take a very small thread of the item for KM testing.
      b) If the item does not appear to warrant KM testing since it has no reddish brown stains, state "no reddish brown staining was observed."

d. Determine the areas of the item to be swabbed separately if necessary. Describe the sample assignment in detail in the notes. Examples follow:
   i. For duct tape used to bind a victim, at least three swabs may be taken depending upon the circumstances of the case and the item. These swabs include the ends of the non- sticky side of the tape, the ends of the sticky side of the tape as well as the middle of the non-sticky side of the tape.
   ii. Similarly, a bat may be divided into the following three sections: the top or where the bat came into contact with the victim, the middle or barrel of the bat which may have the victim's and/or the handler's DNA, and the handle of the bat.
   iii. Each of the sections will be initially treated as separate samples.

2. Swabbing a touched item using the LCN swab

a. Obtain as many irradiated LCN Swabs and aliquots of the 0.01% SDS swabbing solution as may be necessary for the item currently being examined.

b. When handling evidence for High Sensitivity, gown in lab coat, double gloves and face mask as described in the personal preparation section.

c. Do not open the swab tube until you are ready to swab the item.

d. Clean a set of tweezers with 10% bleach, dH2O and 70% ETOH.

e. With a cap opener or Kim wipe, open the tube and remove the swab with tweezers.

f. Dip a portion of the swab into the swabbing solution (0.01% SDS). Do not saturate, rather moisten the swab. If too much SDS solution is used, DNA may be left behind on the item.

g. Swab the target area by folding or balling the swab up with the tweezers.

h. Thoroughly swab the target area with gentle pressure making sure to leave as little of the swabbing solution behind as possible. As a general rule, approximately 6 square inches may be effectively swabbed with one LCN swab. This is dependent on the condition and type of evidence being examined.

NOTE: Multiple swabs may be used for a single area, as necessary. Document the use of multiple swabs and note the area which was swabbed. Only submit as many swabs in a single microcentrifuge tubes as may be effectively covered by digestion buffer at the extraction stage. (The samples divided into separate Eppendorf tubes may then be recombined into one extract in a microcon step.)

i. Should residual SDS be left on an item, use a dry LCN swab to collect it and include it in the Eppendorf tube to be extracted along with the original swab(s).

j. Place the swab(s) back into the swab tube(s).

k. When swabbing more than one item from a case use a fresh tube of swabbing solution for each item.

l. Change gloves between items when swabbing different pieces of evidence.

3. Cutting swabs submitted by another party

a. If evidence is a swab previously taken, cut the entire swab and place in an irradiated 1.5mL extraction tube.

b. Should the swab be encased in a piece of filter paper or a similar material, scrape the areas in contact with the head of the swab using a fresh razor blade and include the scrapings collected with the cut swab in the Eppendorf tube. The blade of the razor should also be swabbed and that swab included with the sample.

c. Cut the exterior layer of cotton or surface of the swab that appears to have come in contact with the evidence. Cut in circular pattern, essentially lifting that top layer off the stick with the scissors. Take care not to cut the wooden stick.

4. Repackage the evidence as described previously.

5. For samples submitted for High Sensitivity Testing, coordinate the examination and submission of a swabbed item with the High Sensitivity extraction supervisor.

EVIDENCE SIGN-IN		
DATE EFFECTIVE 02-09-2010	APPROVED BY EUGENE LIEN	PAGE 1 OF 4

GUIDING PRINCIPLES AND SCOPE

The Department of Forensic Biology receives evidence primarily from New York City law enforcement agencies for DNA testing. On ocassion, this Department will accept cases from other Law Enforcement Agencies. These agencies, however, must have prior authorization to submit any evidence. Evidence submitted for DNA analysis, regardless from which agency submitted, must be vetted by the Sign-In Team or a supervisor

The primary responsibility of the Sign-In Team is to triage any evidence submitted for DNA analysis before it can be examined. While the result of this process can have many variables, its two main purposes are to determine the probative value of the evidence and, once that has been established, to assign the evidence a unique Forensic Biology number. This number is permanent and will remain with the case indefinitely. The below procedures will highlight the evidence sign-in process.

EMAIL ACCOUNT

The DNA Sign-In email account (DNASignIn@ocme.nyc.gov) is a vital part of the task performed by the Sign-In Team. This account consist of responses to previously made requests in regards to exemplars, clarification of discrepancies in submitted paperwork, request to have evidence prioritize, in addition to any other information pertaining to a case. The Sign-In Team will monitor this account throughout the day and update the case and the case contact as necessary.

EVIDENCE SIGN-IN FOLDERS

Scanned NYPD paperwork (in PDF format) is created by the OCME Evidence Unit and can be accessed by the Department of Forensic Biology. In general, the OCME Evidence Unit places the PDF files into one of the following folders on the network:

1. "KITS" – All sexual assault kit paperwork will be scanned and will be saved to this folder
2. "HSC" – Any homicide, assault, rape (except kits), LCN/Hybrid, and exemplar paperwork will be scanned and will be saved to this folder
3. "PC" – Any property crimes paperwork will be scanned and will be saved to this folder (Burglary, Robbery, CPW, etc.).
4. "OTHER" – Paperwork from other miscellaneous cases will be scanned and will be saved to this folder

PROCEDURE

A. Evidence Sign-in Process

The Forensic Biology Sign-In Team and/or a supervisor shall evaluate the paperwork within the designated folders. During the evaluation process, additional folders may be created, or the PDF paperwork may be moved to another folder for processing.

Evidence will be evaluated for acceptance using the following general guidelines. At any point, if additional information is required before accepting the evidence, contact the appropriate agency to obtain the information needed:

1. The Forensic Biology Case Log database (in Microsoft Access format) will be checked to determine if evidence was previously accepted for this case. If the case has been previously accepted, refer to the next section.

   If evidence submitted is additional evidence connected to a sexual assault kit, place the PDF paperwork for the additional evidence in the *waiting for kit serology completion* folder. The Criminalist IV supervisor assigned to Evidence Exam will evaluate the evidence for acceptance.

2. Review the paperwork to determine if enough information is available to accept the case.

3. Check the DNA Evidence Management Program (DEMP) to determine if there is any related evidence or a case conferral.

4. Make case conferrals, if necessary, and create or update case contacts.

   a. If a response is required but cannot be obtained immediately, create a new folder and rename it with, at a minimum, the date and the complaint number. Move the PDF paperwork and the correspondence to this folder. Place this folder in the *Waiting for Response* folder.

   b. If the case will be deferred, proceed with the Deferral Procedures outlined below.

5. If the case will be accepted, assign it the next available Forensic Biology number.

6. Complete the Scheduled Analysis Form with the appropriate target date.

7. Enter case information into the Forensic Biology Case Log database.

8. Rename the PDF file with the FB number, followed by the Evidence Unit (EU) number, and move the file to the *Accepted* folder.

9. Transfer the case file to the EU.

Note: Any "priority" designation must be first approved by a Forensic Biology Manager. Stranger cases (i.e., no suspect cases) must be visibly indicated for proper processing.

B. Evidence for previously submitted cases

1. Request the casefile from the analyst if the case is still open or from the Administrative Team if the case has been completed.

2. Once the casefile is received, determine if the additional evidence requires testing. Either proceed with evidence sign in or evidence deferral.

3. If the additional evidence is for a High Sensitivity or Hybrid case still in progress, place the PDF in the appropriate folder and then send the analyst and the supervisor an email to alert them to the additional evidence.

C. Evidence Deferral

Deferral (rejection) of evidence must be properly done so that our customers are properly notified. At any point of the case acceptance evaluation process, the following procedures must be followed to defer any evidence from testing:

1. Proper notification must be made to the NYPD DNA Liaison Unit prior to deferring any evidence.

2. Notification forms for the NYPD and the District Attorney's Offices exist. These must be completed and forwarded by a member of the Sign-In Team or a Forensic Biology supervisor to the appropriate agencies via e-mail. All correspondence must be saved on the Forensic Biology network drive.

3. The evidence rejection log database must be completed.

Revision History:

February 9, 2010 – Initial version of procedure.

EVIDENCE SIGN-IN		
DATE EFFECTIVE 06-11-2011	APPROVED BY EUGENE LIEN	PAGE 1 OF 5

GUIDING PRINCIPLES AND SCOPE

The Department of Forensic Biology receives evidence primarily from New York City law enforcement agencies for DNA testing. On occasion the Department will accept cases from other agencies; however, these agencies must have prior authorization to submit evidence. Evidence submitted for DNA analysis, regardless from which agency submitted it is submitted from, must be vetted by the Sign-In Team or a supervisor.

The primary responsibility of the Sign-In Team is to triage any evidence submitted for DNA analysis before it can be examined. While the result of this process can have many variables, its two main purposes are to determine the probative value of the evidence and, once that has been established, to assign the evidence a unique Forensic Biology number. This number is permanent and will remain with the case indefinitely. The procedures below describe the evidence sign-in process.

EMAIL ACCOUNT

The DNA Sign-In email account (DNASignIn@ocme.nyc.gov) is a vital part of the task performed by the Sign-In Team. This account consist of responses to previously made requests in regards to obtaining exemplars, clarification of discrepancies in submitted paperwork, and requests to have evidence prioritized, in addition to any other information pertaining to a case. The Sign-In Team monitors this account throughout the day and updates the cases and the case contacts as necessary.

The High Sensitivity DNA Testing email account (HighSensTesting@ocme.nyc.gov) will be used for fee-for-service cases from outside of the City of New York. Members of the High Sensitivity team will monitor this account.

EVIDENCE SIGN-IN FOLDERS

Scanned paperwork from the submitting agency (in PDF format), in most cases created by the OCME Evidence Unit, can be accessed by the Department of Forensic Biology. In general, the the PDF files are placed into one of the following folders on the network:

1. **"KITS"** – All sexual assault kit paperwork will be scanned and will be saved to this folder

2. **"HSC"** – Any homicide, assault, rape (except kits), LCN/Hybrid, and exemplar paperwork will be scanned and will be saved to this folder
3. **"PC"** – Any property crimes paperwork will be scanned and will be saved to this folder (Burglary, Robbery, CPW, etc.).
4. **"Outside Jurisdiction"** – fee-for-service cases from outside jurisdictions for High Sensitivity DNA testing.
5. **"ID Samples"** – cases for DNA testing for body identification, missing persons, and unidentified human remains cases. These cases may be submitted by the NYC Policed Department or for cases of missing person and unidentified person in New York State,
6. **"OTHER"** – Paperwork from other miscellaneous cases will be scanned and will be saved to this folder

PROCEDURE

A. Evidence Sign-in Process

The Forensic Biology Sign-In Team and/or a supervisor shall evaluate the paperwork within the designated folders. During the evaluation process, additional folders may be created, or the PDF paperwork may be moved to another folder for processing.

Evidence will be evaluated for acceptance using the following general guidelines. Not all steps will be completed for all cases. For example, Step 3 (checking DEMP) is not applicable for cases from jurisdictions outside of New York City. At any point, if additional information is required before accepting the evidence, contact the appropriate agency to obtain the information needed:

1. The Forensic Biology Case Log database (in Microsoft Access format) will be checked to determine if evidence was previously accepted for this case. If the case has been previously accepted, refer to the next section.

   If evidence submitted is additional evidence connected to a sexual assault kit, place the PDF paperwork for the additional evidence in the *waiting for kit serology completion* folder. The Criminalist IV supervisor assigned to Evidence Exam will evaluate the evidence for acceptance.

2. Review the paperwork to determine if enough information is available to accept the case. The criteria to accept an outside jurisdiction case for High Sensitivity Testing also includes completion of a legal contract and submission of the appropriate fees. The High Sensitivity team with the aid of legal counsel will track these factors. Outside jurisdiction cases submitted for Missing Persons/Unidentified Human Remains cases will have a blanket legal agreement approved and signed prior to the evidence being submitted. A copy can be obtained from the Legal Department. In addition, a supervisor will have also had communication with the agency regarding cases that will be submitted for anthropological exam and DNA testing.

3. Check the DNA Evidence Management Program (DEMP) to determine if there is any related evidence or a case conferral.

4. Make case conferrals, if necessary, and create or update case contacts.

   a. If a response is required but cannot be obtained immediately, create a new folder and rename it with, at a minimum, the date and the complaint number. Move the PDF paperwork and the correspondence to this folder. Place this folder in the *Waiting for Response* folder.

   b. If the case will be deferred, proceed with the Deferral Procedures outlined below.

5. If the case will be accepted, assign it the next available Forensic Biology number.

6. Complete the Scheduled Analysis Form with the appropriate target date.

7. Enter case information into the Forensic Biology Case Log database
   a. Outside jurisdiction cases submitted for High Sensitivity testing arrive with an assigned "OJ" number that should be entered into a cross-reference field of the case record.
   b. For Missing Persons/Unidentified Human Remains cases submitted from jurisdictions outside of New York City, enter "NYS Grant case" into the Comments field in the case record.

8. Rename the PDF file with the FB number, followed by the Evidence Unit (EU) number, and move the file to the *Accepted* folder.

9. Transfer the physical case file to the EU. Routine cases use manila folders, priority cases use pink folders, and outside jurisdiction Missing Persons/Unidentified Human Remains cases use yellow folders.

   Note: Any "priority" designation must be first approved by a Forensic Biology Manager. Stranger cases (i.e., no suspect cases) must be visibly indicated for proper processing.

10. After the EU returns the case files to the Sign-In area, the Schedule of Analysis for each case is reviewed, usually by a Criminalist supervisor. The Schedule of Analysis is revised as needed, and the assembly of the documents in the case file is completed. The case file is now ready for pick up by the applicable Forensic Biology staff.

B. Evidence for previously submitted cases

1. Request the casefile from the analyst if the case is still open or from the Administrative Team if the case has been completed.

2. Once the casefile is received, determine if the additional evidence requires testing. Either proceed with evidence signin or evidence deferral.

3. If the additional evidence is for a High Sensitivity or Hybrid case still in progress, place the RDF in the appropriate folder and then send the analyst and the supervisor an email to alert them to the additional evidence.

C. Evidence Deferral

Deferral (rejection) of evidence must be properly done so that our customers are properly notified. At any point of the case acceptance evaluation process, the following procedures must be followed to defer any evidence from testing:

1. Proper notification must be made to the NYPD DNA Liaison Unit prior to deferring any evidence.

2. Notification forms for the NYPD and the District Attorney's Offices exist. These must be completed and forwarded by a member of the Sign-In Team or a Forensic Biology supervisor to the appropriate agencies via e-mail. All correspondence must be saved on the Forensic Biology network drive.

3. The evidence rejection log database must be completed.

Revision History:

February 9, 2010 – Initial version of procedure.

June 11, 2011 – Added information regarding network folders for outside jurisdiction cases; in A.7, added steps "a" and "b" regarding outside jurisdiction cases; in A.9, added info regarding file folder colors; Added step A.10 to describe the procedure when case files are returned by EU to DNA Sign-In.

REPORTS		
DATE EFFECTIVE 01-06-2011	APPROVED BY EUGENE LIEN	PAGE 1 OF 17

A. General guidelines

1. Reports bring together all of the analytical results and conclusions found in the case notes, in an easy to read style. Overly technical terminology or misleading statements must be avoided. The conclusions in each report must be supported by the analytical data.

2. Regardless of the target date, a report should be written and submitted to a supervisor for review no later than seven days after the last analytical results are available. Each supervisory level has an additional seven days to review the case and forward it to the next reviewer; if additional analytical work is needed the case returns to the analyst. Each reviewer must date and initial the Schedule of Analysis form.

3. DNA reports must include the following:

   a. Case identifiers
   b. Description of evidence examined
   c. Description of the methodology
   d. Loci tested and/or Amplification Test Kit used
   e. Results and/or conclusions
   f. An interpretive statement, either quantitative (statistics) or qualitative
   g. Date issued
   h. Disposition of evidence
   i. Signature and title of person accepting responsibility for the content of the report

   These requirements are met in the sections of the report: top block, RESULTS AND CONCLUSIONS, EXAMINATIONS, EVIDENCE RECEIVED, DISPOSITION, and signature block.

   Serology or additional reports may not require all of the above.

4. Template reports are available for use in the departmental computer network directories and should be used. These template reports have many pre-written statements which are applicable to most cases and save valuable time by eliminating the need to write the same sentences repeatedly. There are different template reports depending on case type and testing performed (Serology, DNA, suspect, kinship, etc.); make sure you use the correct template for the type of case you analyzed.

5. The body of a report may have three or four sections, depending on the complexity of the case. For examples of reports, see completed case files beginning in 1998 and later.

B. Evidence reports versus suspect (exemplar) reports

1. The DNA typing of evidence is often completed long before a suspect is identified or an exemplar is provided from an identified suspect. Sometimes, more than one suspect is developed on a case, such as when the initial suspect has been eliminated (especially with pattern cases). It is also possible for a suspect whose blood was collected for one investigation to end up linked to a totally different case. *For these reasons, an evidence report stands alone, without inclusion of any suspect DNA typing results.*

   The evidence report describes the examination of any evidence that was submitted, DNA typing results from the evidence and victim(s), and the statistical statements of the DNA typing results of the evidence.

   The evidence report may have the name, arrest number and/or NYSID (New York State Identification) number of an identified suspect in the top block of the report.

   In addition, serology reports may be issued prior to DNA reports so that investigators may be kept up-to-date.

2. If an evidence case is linked to another evidence case or pattern, *the link between the cases is described in the evidence report(s).* List all the previously linked cases (case number, victim, complainant, and/or entity names, and all report dates) in the summary and include the pattern designation if known.

3. If a suspect is linked to a case or pattern, *the link between the suspect and the evidence is described in the suspect report.* If the suspect is linked to only one case, the precinct and complaint number information can be included; if linked to a pattern, the information may be left out. List all the previously linked cases (case number, victim, complainant, and/or entity names, and all report dates) in the summary and include the pattern designation if known.

   A table of DNA results should be included in the suspect file. This table includes the DNA profile of the suspect along with a summary of the DNA typing results from the linked previous cases. Generally, it is sufficient to pick the single best example from each linked case (i.e., the cleanest sperm cell fraction or unmixed bloodstain); it is not necessary to list all the samples typed in the evidence cases. If the evidence results are clean types, the DNA profile of the victim(s) may not be necessary.

   A matching suspect report is dated later than the evidence case (even if just one day) and is issued separately from the evidence report describing the DNA typing of the evidence.

4. If a suspect does not match any previous cases, a report is written stating that conclusion. If a suspect is excluded from a particular case there is no need to hold up the suspect report for the conclusion of the evidence report. The District Attorney's Office should be notified by a Criminalist IV or above and the suspect report issued.

5. If a suspect is subsequently found to match a case, an additional report is issued using the format described in 3 above.

6. For pseudo exemplars, in most cases, only one or two items are submitted for an individual. However, testing will be done on all items. Independent of the detection of a match, the ensuing single source result scenarios are resolved as follows:

NO MIXTURES PRESENT			
Scenario		**Comparison and Reporting**	**LDIS Y/N**
1	Items generate one DNA profile	Compare the DNA profile to LINKAGE and directly to any case(s) specifically indicated. Issue report clearly stating that DNA profile was obtained from a pseudo-exemplar. Request oral swab in report.	Yes
2	Items generate two or more different DNA profiles	Compare all DNA profiles to LINKAGE and directly to any case(s) specifically indicated. Issue report clearly stating that the DNA profiles were obtained from pseudo-exemplars and the types were not consistent with each other. Request oral swab in report.	No Because of the uncertainty these DNA profiles will not be entered into LDIS.
3	Not all tested samples yielded a result; one or more of the samples are negative.	Depending on the results of the samples yielding a result, follow Scenario 1 or 2 above. Request oral swab in report.	Follow Scenario 1 or 2 above.
4	None of the samples yielded a result; all samples are negative.	Issue a negative report. Request oral swab in report	N/A

The detection of a mixed DNA profile in a pseudo-exemplar clearly raises concerns about the validity of any comparisons. Depending on the situation, a careful comparison can still serve as the basis for a court order. Independent of the detection of a match, mixture result scenarios are resolved as follows:

MIXTURES PRESENT			
Scenario		**Comparison and Reporting**	**LDIS Y/N**
A	At least one item is a single source profile, the others are mixtures.	For the single-source profiles, follow Scenario 1 or 2 in the previous table, depending on how many single-source DNA profile(s) were obtained. For the mixed profiles, there are two options, depending on the situation either: - Report the mixtures as "not suitable for comparison". - Report the mixtures as in Scenario B below. Request oral swab in report.	Follow Scenario 1 or 2 above for the single-source DNA profile(s).
B	None of the items are single source, only mixtures were detected.	Follow the guidelines in the STR manual for complex results. If a major component can be unambiguously determined in at least 6 loci, compare the DNA profile to LINKAGE and directly to any case(s) specifically indicated. If a major component can not be unambiguously determined, report the mixtures as "not suitable for comparison." Request oral swab in report.	No Because of the uncertainty these DNA profiles will not be entered into LDIS.

When reporting results on pseudo-exemplars it should be clear from the report that the result was not from a buccal- or blood-sample. Depending on the results obtained, there may need to be additional statements about mixtures. In all pseudo-exemplar reports, a request for a true exemplar (oral swab) must be made. See the template report for the wording to address these situations.

7. For a kinship (paternity, maternity, etc.) case, a single report is generated using the kinship report template. Both FB numbers are used on the report and a copy of the report is put into each case file.

8. Since the statistical statements are found in the evidence report, and are associated with the DNA profiles found on the evidence, suspect reports do not generally have any statistical statements of their own.

C. Additional and Amended Reports

If an additional report in generated, this will be noted immediately prior to the RESULTS AND CONCLUSIONS section using the following standard statement:

> ADDITIONAL REPORT
>
> This is an additional report. For previous examinations, evidence submitted, and disposition, see report(s) dated (insert date or dates of all prior reports).

In instances where additional reports are generated, the analyst who worked on that portion of the case will sign the most recent report. The RESULTS AND CONCLUSIONS section should generally discuss only the new analyses. If the new data includes additional genetic testing, the report may be cumulative, including the new genetic testing results plus the genetic testing results from past reports.

If an amended (corrected) report is generated, this will be noted immediately prior to the RESULTS AND CONCLUSIONS section using the following standard statement:

AMENDED REPORT

This is an amended version of the report dated (insert date of original report). *An additional sentence describing the nature of the correction must be included.*

In instances where amended reports are generated, the original reporting analyst will sign the most recent report. The entire report, including the amendment, is generated.

D. Top block

Each report will be on the most current version of the department letterhead and will have specific identifying information in the top block. Not all of the following are available for each case. The information may vary depending on the case type and/or whether the case is an NYPD submitted case.

a. Report date indicating the date the report was *written*
b. Name of deceased, victim, complainant, or entity
c. Case number
d. ME (Medical Examiner) number
e. Physician that conducted the autopsy and autopsy date
f. Name of suspect
g. Arrest number and/or NYSID number of suspect
h. Precinct of incident
i. NYPD complaint number
j. Start date

This information will allow the medical examiner, detective, or assistant district attorney who receives the report, to know where to file it.

E. Results and Conclusions

The Results and Conclusions section contains a summary of results and/or conclusions and the interpretive statement (quantitative or qualitative).

The summary should be a brief synopsis of the analytical results; it should **answer the questions** that were posed by the submission of the physical evidence, such as: Is there blood? Could it be the victim's? Are there samples foreign to the victim? Is there semen? Was the DNA profile of the semen donor determined? Are there any other body fluids?

The summary of a suspect (exemplar) file states whether or not the suspect matches any previously analyzed cases.

Before you write your summary, ask yourself **"WHAT DOES THE READER OF THE REPORT NEED TO KNOW?"** Then write a short, clear summary answering those questions. The summary should give all the answers in a simple manner; save all technical explanations for the EXAMINATIONS section.

The template reports contain many pre-written sentences to guide you in your explanation and interpretation of results.

1. For the majority of the DNA cases, the following type of summary is sufficient:

   a. Human blood was found on the knife.

      PCR DNA testing was done; the blood on the knife could not have come from the victim, Jane Doe. This combination of DNA alleles would be expected to be found in approximately:

   b. Human blood was found on the knife handle and knife blade.

      PCR DNA testing was done; blood from two people was found.

c. Semen was found on the vaginal swab, based on the presence of P30 antigen and/or sperm.

PCR DNA testing was done; the DNA profile of the semen donor was determined. This combination of DNA alleles would be expected to be found in approximately:

d. Amylase was found on all three cigarette butts found in the "living room."

e. No blood was found on the pants or shoes taken from the "suspect."

f. The standard forensic paternity conclusions.

2. Many DNA results can also be dealt with in the SUMMARY section:

a. For samples that do not yield enough DNA for typing, list them.

The following sample(s) had an insufficient amount of DNA; therefore, the samples could not be typed:

b. For samples where typing was attempted with no alleles detected, list them.

PCR DNA typing was attempted on the following sample(s), but no alleles were detected. Therefore, no conclusion can be drawn regarding the DNA profile of the blood / semen donor:

c. For samples that were extracted but not typed (such as multiple samples from a single item), list them.

The following sample(s) were extracted but PCR DNA typing was not performed:

d. For samples with no foreign DNA (intimate samples such as body swabs, underwear, etc.), list them.

PCR DNA typing was done on the following sample(s); all of the alleles seen were the same as the alleles of [insert victim name]. She / he could be the source of those alleles.

3. Complicated or unusual cases involving mixtures of body fluids, multiple contributors, etc. can be difficult to write. The template reports are a place to start, and many valuable insights can be gained by reading previous reports covering similar cases. It is a good idea for each analyst to maintain a file of copies of his or her complicated reports for future reference.

4. For cases where there are similar items, but can be differentiated by color or other descriptions:

a. Human blood was found on the blue shirt. No blood was found on the green shirt.

b. Human blood was found on the samples from the "doorway" and "hall."

5. Avoid the exclusive use of voucher and item numbers, since that forces the reader to look elsewhere to find out what is being described. However, voucher and item numbers may be used in conjunction with the item description if necessary to avoid confusion. If the collecting officer used notations to identify samples, these may be useful to differentiate between many items.

For example, if the items need to be identified by item and/or voucher numbers:

a. Human blood was found on the shirt (item 1). No blood was found on the other shirt (item 2).

b. Human blood was found on the shirt (item 1, voucher E111111). No blood was found on the other shirt (item 1, voucher E111112).

c. Human blood was found on samples "S1" and "S2".

6. If items were removed from an object, location or person, it is useful to put that information in the summary. Since you don't have personal knowledge of this, use quotation marks. Remember that quotation marks mean you are copying EXACTLY information as it is written elsewhere, including any misspellings or abbreviations:

   a. Human blood was found on the sample taken from the “bedroom door.”

   b. Human blood was found on the shirt taken from “the defendant.”

   If there is conflicting information in the voucher, request for laboratory examination, and/or crime scene report, it may be impossible to determine which is correct; in that case, do not include any information.

7. If when examining evidence, you collect trace evidence (hairs, fibers, etc.), they should be mentioned in the summary.

   a. Hairs and/or fibers were collected from the shirt. They were packaged separately in a labeled envelope and returned with the shirt.

   b. Glass fragments were found on the sneakers. They were packaged separately in a labeled envelope and returned with the sneakers.

8. All items submitted must be mentioned in the report. If nothing of evidentiary interest was found on an item:

   a. No blood was found on the shirt or pants.

   b. No semen was found on the vaginal swabs, oral swabs, or anal swabs from the victim.

9. If items were not examined, the items should be mentioned. If necessary, the reason for not examining may be mentioned.

   a. The “clothes from victim” were not examined.

   b. The shirt was received wet, moldy, and/or foul smelling, making it unsuitable for DNA analysis.

c. The knife was not examined, pending fingerprint examinations.

10. Quantitative (statistical) statements are often part of the summary. They are calculated for probative samples when:

a. The sample is apparently unmixed.

b. The sample appears to be a mixture of two components and the source of one component is known (i.e. when epithelial cells are present in the sperm cell fraction).

c. If there is a large difference in peak heights between the major and minor components and the genotype of the major component is easily inferred.

d. Statistics are not calculated for expected inclusions such as epithelial cells from a swab giving a profile consistent with the donor of the swab.

11. After a summary is written, review it carefully. Does it answer all of the questions? Is it clear? Are all submitted items accounted for?

F. Examinations

The examinations section contains a description of the methodology and the loci tested.

Standard explanatory statements are in the template reports; make sure you use the correct explanatory statement for the type of genetic markers you used. The explanatory statements consist of several paragraphs; choose those that apply to the results in the case, deleting any paragraphs or loci that don't apply.

The explanatory statement can be further modified to reflect the analyses performed in a specific case, if necessary.

It is a requirement that the explanatory statement is also used for all suspect reports, whether DNA typing data is included or not.

G. Evidence received

This section will list all evidence received, whether from a submitting agency or from an autopsy. The post-mortem items from autopsy are given PM numbers to differentiate them from other evidence.

Make sure that all items signed into the laboratory, whether or not you examined them, are listed in the EVIDENCE RECEIVED section.

The date the evidence was received into the laboratory is also included. It is only necessary to give the date once for each voucher or group of PM evidence.

1. Using the paperwork and your notes, list the item numbers, voucher numbers, date received, and a description of the item. If items were removed from an object, location or person, it is useful to put that information in the description. Since you don't have personal knowledge of this, use quotation marks. Remember that quotation marks indicate that you are copying EXACTLY information written elsewhere.

ITEM	VOUCHER	DATE REC'D	DESCRIPTION
1	E111111	4/15/99	sample from "bedroom door"
2	"		knife
1	E222222	4/21/99	shirt from "suspect"
2	"		pants from "suspect"
3A-B	"		pair of socks
PM 1	—	4/10/99	blood sample from victim
PM 2	—		vaginal swabs
PM 3	—		anal swabs

2. If there are several items submitted as one, give them all individual identifiers, both in your notes and in the report:

ITEM	VOUCHER	DATE REC'D	DESCRIPTION
1A-C	E111111	4/15/99	three cigarette butts

On the voucher, the cigarette butts were identified as "item 1". Upon opening the package, there were three; they were then given the identifiers 1A-C.

3. If there are items submitted that weren't included on the voucher, they still need to be listed in the evidence section:

ITEM	VOUCHER	DATE REC'D	DESCRIPTION
1A-B	E111111	4/15/99	shoes
2A-B	"		two socks (not listed on voucher)

4. If upon opening the items it was discovered that the description on the voucher was incorrect (for example, a tank top was submitted, but the voucher says "T-shirt"), put the correct description in the EVIDENCE RECEIVED section.

5. If upon opening the items it was discovered that an item was missing, they still need to be mentioned in the evidence section:

ITEM	VOUCHER	DATE REC'D	DESCRIPTION
1A-B	E111111	4/15/99	shoes
2A-B	"		socks (not received)

6. If items were submitted to the laboratory, but not examined, the item description should be copied from the voucher and listed in quotation marks. A symbol or parenthetical statement may be included to indicate this:

ITEM	VOUCHER	DATE REC'D	DESCRIPTION
1A-B	E111111	4/15/99	"shoes" (not examined)

H. Disposition

This section describes what has happened to the exemplars, vouchered evidence, post-mortem evidence, and samples removed from the evidence.

1. Always keep victim exemplar from a sexual assault kit. If no buccal sample was submitted in a sexual assault kit, keep the saliva sample or other suitable item, such as an orifice swab negative for p30.

- An oral swab from John Smith will be retained in the laboratory

2. For post-mortem samples, all sexual assault kit items are returned to the Evidence Unit. Any post-mortem samples that are not a part of a sexual assault kit will be retained.

   - Items PM 2A- 2H will be retained in the laboratory.
   - Items PM 3-4, fingernails from victim, will be retained in the laboratory.

3. For vouchered sexual assault kits, no items (except exemplar) are retained.

4. For vouchered evidence, no items are retained.

5. If numerous items are being kept, it is easier to write it in this way:

   The following items are being retained in the laboratory:
   - Dried stain prepared from victim's blood
   - Head and pubic hairs from victim

6. If an item has left the lab, NOT through our Evidence Unit:

   The gun was returned to Det. Smith, shield # 2345 on 5-7-90.

7. If a sample was consumed during the analysis, that must be mentioned in the disposition. The following statement may be added and referenced in the evidence list using a symbol such as "*":

   * Sample(s) collected from this item and/or the submitted swab was consumed.

8. For DNA cases, all DNA extracts are retained.

   - DNA extracts for all samples and controls tested will be retained in the laboratory

9. For items that have been transferred to the Evidence Unit:

   The remainder of the evidence will be released to the Evidence Unit.

I. Signature block

1. Each report has one signature, the person who is the reporting analyst for the case.

   A non-DNA case requires a reporting analyst who is competent in all of the techniques used in the case.

   A DNA case requires a DNA interpreting analyst that has finished all aspects of the training program, who is competent in all of the techniques used in the case, AND who fulfills the educational and experience requirements for a DNA analyst, including at least six months experience in a forensic DNA laboratory.

2. Reports are not considered official until the reporting analyst has signed the report and the report has had a technical review. An administrative review must be performed prior to the report being sent out.

J. Comparison only reports

A "comparison only" report simply documents the results of a comparison in the absence of any additional typing. For instance, this could include the comparison of a previously typed exemplar from a suspect file to a second case or a newly discovered "unknown" donor to previously issued case results. In this case some elements described above may be omitted or modified as follows:

1. A productivity sheet is still required to facilitate administrative review of the casefile. Only the top section need be completed.

2. Because no additional testing was performed, a disposition section is not necessary. This information is documented in previous reports and referred to in the "Additional Report" blurb.

3. For cases in which a suspect comparison to a secondary complaint number has been requested for a suspect who has previously matched a case, the "Summary of Results" boiler plate statement describing database comparisons may be modified as follows:

   Furthermore, the DNA profile of the suspect, [suspect name here], does not match any other PCR (STR) DNA profiles in the local OCME DNA databank to date, excluding [add previous FB number that did match suspect].

Revision History:

February 9, 2010 – Initial version of procedure.

January 6, 2011 – Information required in DNA reports (Section A.3.d) was amended to allow the loci tested and/or amplification test kit used.

SUBCONTRACTING		
DATE EFFECTIVE 02-09-2010	APPROVED BY EUGENE LIEN	PAGE 1 OF 3

GUIDING PRINCIPLES AND SCOPE

Subcontracting is the utilization of another laboratory to provide services within the Department's scope of accreditation. It does not pertain to situations in which the Department uses an external laboratory to conduct a specific analysis using a technology that the laboratory is not qualified to perform or when the Department will not take or retain ownership of the data. For example, using another laboratory to provide mitochondrial DNA testing is "subcontracting" since our laboratory provides mitochondrial DNA testing services. However, the utilization of another laboratory to provide RFLP work is not "subcontracting" since our laboratory does not provide RFLP services.

A sub-set of subcontracting is **outsourcing**, which is the utilization of a vendor laboratory to provide DNA services in which the Department takes or retains ownership of the DNA data for entry into CODIS, when applicable.

It is not the usual practice of the Department of Forensic Biology to subcontract/outsource work. Should the need arise; however, the Department would use only competent subcontractors. This document describes the general process for establishing a subcontracting agreement that meets the requirements of ISO 17025 and the FBI Quality Assurance Standards for Forensic DNA Testing Laboratories.

PROCEDURE

In the event that the Department of Forensic Biology needs to subcontract work, the Department notifies the affected customers, e.g., the NYPD and/or District Attorney's Offices, in writing. In most cases the Department requests the customer to provide their approval, preferably in writing.

The Department seeks subcontractors that it believes to be appropriate for the tests to be conducted.

- If a subcontractor is selected by the Department, then the Department is responsible to the customer for the subcontractor's work.

- If a subcontractor is selected by the customer, the Department follows all steps in the subcontractor qualification process. The Department informs the customer of the results of the results of that process, and the ramifications of using vendor laboratories that do not meet the Department's requirements.

A. General Requirements for Subcontractor Qualification

1. A subcontractor must be accredited, preferably to ISO/IEC 17025.

2. The Quality Assurance Unit maintains a register of the subcontractors that the Department of Forensic Biology uses for tests, as well as the records that support subcontractor competence, for example, accreditation certificates and audit documents.

    i. The records include the date on which the subcontractor was approved.

B. DNA Subcontractor Qualification

1. The appropriate Technical Leader determines whether an external laboratory is competent to act as a subcontractor for the Department. The minimum requirements for DNA laboratory competence are:
    i. Compliance with the FBI Quality Assurance Standards for Forensic DNA Testing Laboratories, as verified by a review of the vendor laboratory's external audit document report, the vendor laboratory's responses, and/or follow-up actions to any findings detailed in the report.
    ii. Compliance with federal accreditation requirements.

2. Where the vendor laboratory will perform DNA analysis for the Department (and not for a law enforcement agency or entity other than the Department), the appropriate Technical Leader reviews and approves the technical specifications of the subcontracting agreement prior to the awarding of any agreement.

3. Prior to the initiation of analysis under a subcontracting agreement, the following steps take place:
    i. The appropriate Technical Leader or designee performs an initial on-site visit to subcontracting laboratory.
        - The employee performing the visit is a qualified or previously qualified analyst in the technology, platform, and DNA typing kit used to generate the DNA data.
        - It is not necessary to conduct a full DNA audit during this visit, but at a minimum the visit must include an assessment of the work site and documentation of the subcontractor's ability to perform analysis on the outsourced work.

ii. The appropriate Technical Leader documents in writing that the Department accepts ownership of the subcontractor's DNA data. A copy of the approval is provided to the subcontractor.

4. Subcontracting agreements that extend beyond one year require an annual on-site visit to the subcontractor laboratory.

i. An on-site visit conducted by another NDIS laboratory using the same technology, platform, and DNA typing kit is acceptable. The records provided to the appropriate Technical Leader must include:

- The date of the visit
- A summary of the visit
- Documentation of the qualified personnel who performed the visit.

The Technical Leader documents their review and acceptance of the records of the on-site visit.

A new "initial visit" is required when renewals or re-awards involve gaps in the agreement of greater than 6 months, or where there are changes to the technical specifications.

C. Data Integrity

All data and/or reports generated by a subcontractor as well as any vendor-generated profiles uploaded to or searched in CODIS by the Department are technically reviewed in the same manner as data and reports generated wholly within the Department. See the TECHNICAL REVIEW procedure for details.

TECHNICAL REVIEW		
DATE EFFECTIVE 09-24-2010	APPROVED BY EUGENE LIEN	PAGE 1 OF 7

GUIDING PRINCIPLES AND SCOPE

Technical review is an evaluation of reports, notes, data, and other documents to ensure that there is an appropriate and sufficient basis for the scientific conclusions. The Department of Forensic Biology uses a program of technical review for reports issued by the Department in order to ensure that all appropriate testing was conducted, that reports accurately reflect the results of testing, and that all opinions are based upon objective scientific observations.

This document describes the technical review procedure of the Department.

Managers may establish additional requirements for technical review within their work groups; however, such requirements may not be less stringent than the requirements described in this procedure.

PROCEDURE

During technical review the reports, notes, data, and other documents are checked to verify that the Department's analytical, case management and QA/QC procedures were followed; data was interpreted correctly; and the final report accurately reflects the supporting data. Technical review is performed on:

1. All DNA cases except those that use the ADMINISTRATIVE COMPLETION OF CASES process.
    a. DNA technical review is completed prior to the release of the report.
2. A minimum of three (3) serology cases per month for each analyst issuing serology reports.
    a. Serology technical review may be completed before or after the report has been released.

A. Technical Reviewer Requirements

1. The reporting analyst cannot perform a technical review of their own case.

2. The technical reviewer must be or have been an analyst qualified in the methodology being reviewed.

   a. "Analyst" includes those whose sole analytical responsibility is technical review.

3. **Criminalist II or above may technically review:** Serology cases; DNA cases where no DNA testing past the quantitation step is attempted; DNA typing data, including controls and allelic ladders, as part of assigned rotation duties.

4. **Criminalist IV or above may technically review:** All of the above, as well as cases that proceed to DNA amplification and typing.

5. If the analyst of record is a Criminalist IV or above, the technical reviewer should be at the same or higher level of authority where practicable. Managers may allow exceptions to this practice, for example:

   a. A Deputy Director or Assistant Director conducting the technical review of cases for which the Director is the analyst of record.
   b. A Criminalist III conducting technical review on a "Negative DNA" case in which the report was signed by a Criminalist IV supervisor for a Criminalist trainee.

B. Elements of Technical Review

There are two basic types of case technical review, full technical review and limited scope technical review.

1. **Full technical review.** At a minimum, a full technical review includes the following steps. Some steps will not be applicable to technical review of serology cases or DNA cases that do not proceed past the quantitation step. Technical review of DNA cases that started as serology cases includes technical review of the serology report and data (if not previously done).

   a. The report and other case file documents are reviewed to ensure that:

      i. All submitted items are accounted for in the report and all appropriate testing was done.

ii. The reported results are supported by the notes, worksheets, and electronic data:

1. DNA profiles are consistent with the raw or analyzed data (e.g., electropherograms, sample sequences).
2. All required controls and allelic ladders (including appropriate controls from reworked samples) are accounted for on Control Review Worksheet(s). (The technical review of the analyzed data for controls and/or ladders is completed as part of the analysis rotation, and is documented on a control review worksheet.)
3. Inclusions, exclusions, and results reported as inconclusive comply with Department guidelines.
4. Examination notes meet Department requirements with respect to dates of examination, initials, and case identifiers.

iii. The following elements are present in the report:

- FB case number or equivalent identifier
- Description of the evidence
- Description of the DNA technology
- Description of the DNA loci or amplification system
- The results and/or conclusions
- A quantitative or qualitative interpretative statement
- The disposition of evidence
- The signature and title of the analyst of record
- Other pertinent case information as applicable, e.g., name of victim, NYPD complaint number
- A location for documentation of administrative review

b. The chain of custody is reviewed
c. The statistical analysis (if applicable) is reviewed
d. A database review is completed if not already done (**See Section E**)

2. **Limited scope technical review.** A limited scope technical review is the verification of the most critical elements of a case, including:

   a. The informative DNA typing results, including review of controls
   b. The comparisons made
   c. The conclusions which are relayed in the report

3. Problems identified during technical review must be corrected.

   a. The majority of corrections are the responsibility of the reporting analyst; however, technical reviewers have discretion to make minor corrections, e.g., writing an FB number on a page.
   b. Problems identified in a serology case where the report has already been distributed may trigger the QUALITY INCIDENT REVIEW procedure, depending upon the nature of the problem(s).

C. Number of Technical Reviews

1. One full technical review is sufficient for most cases; however, ***enhanced technical review*** is required in some circumstances. Enhanced technical review is:

   a. One full technical review conducted by a manager OR
   b. Two technical reviews, including at least one full technical review, conducted by Criminalist Level IVs or above.

2. **An enhanced technical review is required for:**

   a. Cases containing complex DNA mixtures that have been deconvoluted.

      Note: Generally the requirement for enhanced technical review does not apply to cases that contain only *simple* mixtures; i.e., the DNA profile of the major contributor to each mixture is unambiguous; however, deducing the *minor* contributor to a simple mixture can render a simple mixture "complex".

   b. Cases that require kinship or paternity analysis
   c. Cases where a suspect's DNA profile is compared to a DNA mixture
   d. Cases where the DNA profile of a victim, elimination sample, or other known/deduced donor in a case is compared to a DNA mixture and the comparison is informative, for example, a victim's profile is compared to DNA types obtained from a suspect's clothing.

e. Proficiency tests.

Note: An analyst or technical reviewer may request a second technical review of any case.

D. Documentation of Technical Review

1. Technical review is officially documented on the applicable Scheduled Analysis sheet with the reviewer's initials and the date.
   a. This should be done only when there are either no corrections that need to be made or any required corrections are minor.
   b. When major changes are required, e.g., a conclusion is incorrect and the report needs to be modified, the case is returned to the technical reviewer after the corrections are made by the reporting analyst so that the changes can be evaluated and approved, and the technical review documented.

2. The technical review completion dates should also be entered into the electronic case or suspect logbook.
   a. The "Tech review III/IV" field should be used for the first technical review completion date.
   b. The "Review AD" field should be used for the second technical review completion date (if applicable).

3. DNA cases with completed technical reviews are ready for administrative review.

E. Database Review

1. DNA profiles that are eligible for CODIS and/or LINKAGE must undergo a database review by a Criminalist IV or manager. One database review by a Criminalist IV is sufficient in most circumstances; however, one review by a manager or two reviews by Criminalist IV's or above are required for:
   a. Mixture profiles, and
   b. Single-source profiles deduced from complex mixtures

2. Database review can be included as part of a full or limited-scope technical review or it can be conducted as a stand-alone review in order to expedite profile entry into a database.

3. In most cases, database review of CODIS-eligible profiles is completed prior to their entry into CODIS; however, profiles from suspect exemplar/pseudo-exemplars may be entered into CODIS (LDIS) prior to a database or technical review.

4. Database review of LINKAGE-eligible profiles may be completed before or after their entry into LINKAGE.

5. At a minimum, a database review includes:

   a. A review of the "DNA Profile Evaluation Form" or "Missing Persons DNA Profile Evaluation Form" (as applicable) and supporting documentation to ensure that:

      i. All required fields on the form have been completed
      ii. The DNA profile(s) is accurate
      iii. The specimen identification number is correct
      iv. The positive and negative control results are acceptable
      v. The DNA profile(s) is eligible for entry into the applicable database(s)

   b. Verification that profiles were correctly entered into LINKAGE (if applicable)

6. The database review is documented with the reviewer's initials and date on the applicable DNA Profile Evaluation Form and on the Scheduled Analysis form.

7. The Access database contains fields named "Database review" (in the Suspect Logbook) and "CODIS review" (in the Case Logbook). These fields are not used for official documentation of database reviews; however, dates entered into the fields (e.g., Suspect log book—date profile entered into LDIS; Case log book—date of database review)can be useful for casework metrics as a close approximation of the date that the profile is entered into LDIS:

8. **Corrections to DNA Profile Evaluation Forms prior to entry into CODIS.**
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Revision History:

February 9, 2010 – Initial version of procedure.

September 24, 2010: Clarify enhanced technical review requirements for mixtures; add Proficiency Tests to case types that require enhanced technical review: exempt Suspect profiles from requirement for database review *prior* to entry into LDIS; clarify that Access logbook fields pertaining to database review are useful for casework metrics, but are not official documentation of database review; add procedures on modification of DNA Profile Evaluation forms to Section E (Database Review).

TECHNICAL REVIEW		
DATE EFFECTIVE 03-28-2011	APPROVED BY EUGENE LIEN	PAGE 1 OF 7

GUIDING PRINCIPLES AND SCOPE

Technical review is an evaluation of reports, notes, data, and other documents to ensure that there is an appropriate and sufficient basis for the scientific conclusions. The Department of Forensic Biology uses a program of technical review for reports issued by the Department in order to ensure that all appropriate testing was conducted, that reports accurately reflect the results of testing, and that all opinions are based upon objective scientific observations.

This document describes the technical review procedure of the Department.

Managers may establish additional requirements for technical review within their work groups; however, such requirements may not be less stringent than the requirements described in this procedure.

PROCEDURE

During technical review, the reports, notes, data, and other documents are checked to verify that the Department's analytical, case management and QA/QC procedures were followed; data was interpreted correctly; and the final report accurately reflects the supporting data. Technical review is performed on all cases prior to the release of the report.

A. Technical Reviewer Requirements

1. The reporting analyst cannot perform a technical review of their own case.

2. The technical reviewer must be or have been an analyst qualified in the methodology being reviewed.
   a. "Analyst" includes those whose sole analytical responsibility is technical review.

3. **Criminalist II or above may technically review:** Serology cases; DNA cases where no DNA testing past the quantitation step is attempted; DNA typing data, including controls and allelic ladders, as part of assigned rotation duties.

4. **Criminalist IV or above may technically review:** All of the above, as well as cases that proceed to DNA amplification and typing.

5. If the analyst of record is a Criminalist IV or above, the technical reviewer should be at the same or higher level of authority where practicable. Managers may allow exceptions to this practice, for example:

a. A Deputy Director or Assistant Director conducting the technical review of cases for which the Director is the analyst of record.
b. A Criminalist III conducting technical review on a "Negative DNA" case in which the report was signed by a Criminalist IV supervisor for a Criminalist trainee.

B. Elements of Technical Review

There are two basic types of case technical review, full technical review and limited scope technical review.

1. **Full technical review.** At a minimum, a full technical review includes the following steps. Some steps will not be applicable to technical review of serology cases or DNA cases that do not proceed past the quantitation step. Technical review of DNA cases that started as serology cases includes technical review of the serology report and data (if not previously done).

   a. The report and other case file documents are reviewed to ensure that:

      i. All submitted items are accounted for in the report and testing conforms to proper technical procedures and applicable laboratory policies and procedures.

      ii. The reported results are accurate and supported by the notes, worksheets, and electronic data:

         1. DNA profiles are consistent with the raw or analyzed data (e.g., electropherograms, sample sequences).
         2. All required controls and allelic ladders (including appropriate controls from reworked samples) are accounted for on Control Review Worksheet(s). (The technical review of the analyzed data for controls and/or ladders is completed as part of the analysis rotation, and is documented on a control review worksheet.)

3. Inclusions, exclusions, and results reported as inconclusive comply with Department guidelines
   - Associations must be properly qualified in the test report with either a quantitative or qualitative statement as appropriate.
   - When no definitive conclusions can be reached, the report must clearly communicate the reason(s).
4. Examination notes meet Department requirements with respect to dates of examination, initials, and case identifiers.

b. The case report is reviewed for accuracy of spelling and grammar.

(**Note**: This step is a part of the Administrative Review process that has been incorporated into the Technical Review process)

c. The following elements are present in the report:

- FB case number or equivalent identifier
- Description of the evidence
- Description of the DNA technology
- Description of the DNA loci or amplification system
- The results and/or conclusions
- A quantitative or qualitative interpretative statement
- The disposition of evidence
- The signature and title of the analyst of record
- Other pertinent case information as applicable, e.g., name of victim, NYPD complaint number
- A location for documentation of administrative review

d. The chain of custody is reviewed

e. The statistical analysis (if applicable) is reviewed

f. A database review is completed if not already done (**See Section E**)

2. **Limited scope technical review.** A limited scope technical review is the verification of the most critical elements of a case, including:

   a. The informative DNA typing results, including review of controls
   b. The comparisons made
   c. The conclusions which are relayed in the report

3. Problems identified during technical review must be corrected.

   a. The majority of corrections are the responsibility of the reporting analyst; however, technical reviewers have discretion to make minor corrections, e.g., writing an FB number on a page.
   b. Problems identified in a serology case where the report has already been distributed may trigger the QUALITY INCIDENT REVIEW procedure, depending upon the nature of the problem(s).

C. Number of Technical Reviews

1. One full technical review is sufficient for most cases; however, ***enhanced technical review*** is required in some circumstances. Enhanced technical review is:

   a. One full technical review conducted by a manager OR
   b. Two technical reviews, including at least one full technical review, conducted by Criminalist Level IVs or above.

2. **An enhanced technical review is required for:**

   a. Cases containing complex DNA mixtures that have been deconvoluted.

      Note: Generally the requirement for enhanced technical review does not apply to cases that contain only *simple* mixtures; i.e., the DNA profile of the major contributor to each mixture is unambiguous; however, deducing the *minor* contributor to a simple mixture can render a simple mixture "complex".

   b. Cases that require kinship or paternity analysis
   c. Cases where a suspect's DNA profile is compared to a DNA mixture
   d. Cases where the DNA profile of a victim, elimination sample, or other known/deduced donor in a case is compared to a DNA mixture and the comparison is informative, for example, a victim's profile is compared to DNA types obtained from a suspect's clothing.

e. Proficiency tests.

Note: An analyst or technical reviewer may request a second technical review of any case.

D. Documentation of Technical Review

1. Technical review is officially documented on the applicable Scheduled Analysis sheet with the reviewer's initials and the date.
   a. This should be done only when there are either no corrections that need to be made or any required corrections are minor.
   b. When major changes are required, e.g., a conclusion is incorrect and the report needs to be modified, the case is returned to the technical reviewer after the corrections are made by the reporting analyst so that the changes can be evaluated and approved, and the technical review documented.

2. The technical review completion dates should also be entered into the electronic case or suspect logbook.
   a. The "Tech review III/IV" field should be used for the first technical review completion date.
   b. The "Review AD" field should be used for the second technical review completion date (if applicable).

3. DNA cases with completed technical reviews are ready for administrative review.

E. Database Review

1. DNA profiles that are eligible for CODIS and/or LINKAGE must undergo a database review by a Criminalist IV or manager. One database review by a Criminalist IV is sufficient in most circumstances; however, one review by a manager or two reviews by Criminalist IV's or above are required for:
   a. Mixture profiles, and
   b. Single-source profiles deduced from complex mixtures

2. Database review can be included as part of a full or limited-scope technical review or it can be conducted as a stand-alone review in order to expedite profile entry into a database.

3. In most cases, database review of CODIS-eligible profiles is completed prior to their entry into CODIS; however, profiles from suspect exemplar/pseudo-exemplars may be entered into CODIS (LDIS) prior to a database or technical review.

4. Database review of LINKAGE-eligible profiles may be completed before or after their entry into LINKAGE.

5. At a minimum, a database review includes:

   a. A review of the "DNA Profile Evaluation Form" or "Missing Persons DNA Profile Evaluation Form" (as applicable) and supporting documentation to ensure that:

      i. All required fields on the form have been completed
      ii. The DNA profile(s) is accurate
      iii. The specimen identification number is correct
      iv. The positive and negative control results are acceptable
      v. The DNA profile(s) is eligible for entry into the applicable database(s)

   b. Verification that profiles were correctly entered into LINKAGE (if applicable)

6. The database review is documented with the reviewer's initials and date on the applicable DNA Profile Evaluation Form and on the Scheduled Analysis form.

7. The Access database contains fields named "Database review" (in the Suspect Logbook) and "CODIS review" (in the Case Logbook). These fields are not used for official documentation of database reviews; however, dates entered into the fields (e.g., Suspect log book—date profile entered into LDIS; Case log book—date of database review)can be useful for casework metrics as a close approximation of the date that the profile is entered into LDIS:

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March 28, 2011 - Specified the technical review requirements set forth in the 2011 version of the ASCLD/LAB-*International* Supplemental Requirements; revised procedure to indicate that technical review is performed on all cases prior to the release of the report.