

**Evidence Preservation
in Sexual Assault:
Between the Crime Scene and the
Medical Examination**

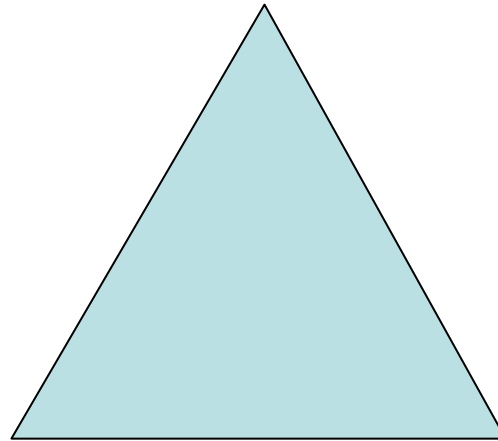
**Pacific Police Development
Program**

Global Justice Solutions



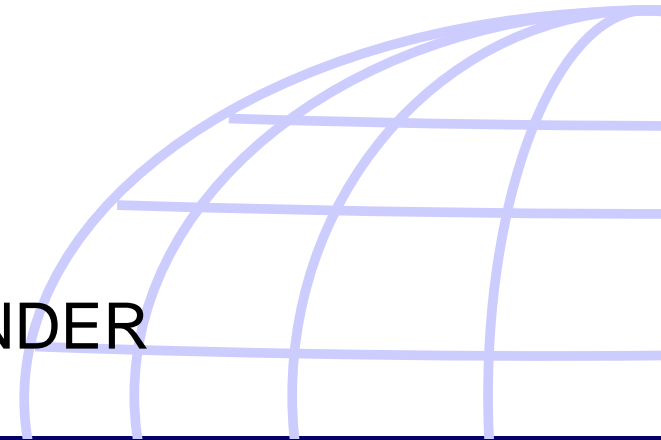
LOCARD'S PRINCIPLE

VICTIM



CRIME SCENE

OFFENDER



Evidence Preservation

- At the scene of the crime
- On the offender's body and clothing
- At the offender's home or his car
- On the victim of an assault and on her clothing
- **Class Characteristic Evidence**
 - Cannot be positively identified to a specific source, e.g.. hairs, blood, soil, fibres
- **Individual Characteristic Evidence**
 - Can be positively identified with a specific source, e.g.. fingerprints, DNA, specific microscopic cut and tear matches in clothing, videos and other recordings of assault



Timing is Important

- **Physical or trace evidence is rapidly lost from a victim's body**
- **Less than 72 hours since sexual assault**
 - **Immediate medical examination**
- **More than 72 hours**
 - **Medical appointment as soon as possible but if overnight could wait until the following day**
- **More than two weeks**
 - **Medical appointment for health reasons, but unlikely to be forensically helpful**



VICTIM/PATIENT CONSENT

- **Doctors will always require the consent of their patient before proceeding unless there is a life threatening situation in which they can proceed from a duty of care to their patient**
- **Informed consent is required before performing an examination for forensic purposes**



Dealing with Injuries

The Police Role is to arrange a medical examination

- Immediate treatment if injuries are severe
- Mild – moderate injuries will also require medical review and medical examination for forensic purposes
- Injuries may be medically trivial but forensically significant
- Police may assist with forensic photography of general (non-genital) injuries
- (Injury interpretation will be discussed separately)





Preserving Forensic Evidence



Physical or Trace Evidence

- Hairs/fibres
- Debris such as foliage
- Sand and soil
- Condoms
- Lubricant
- Drop sheet to collect trace evidence that falls from clothing during undressing
- Clothing
 - Tears
 - Cuts
 - Stains



Body fluids from Offender

- Semen can be tested with a biological kit checking for acid phosphatase
- Spermatozoa can be detected by microscopy
- Saliva can be tested with a biological kit testing for amylase
- Blood can be tested for the blood group ABO and Rhesus positive or negative
- DNA analysis



DNA

- Deoxyribonucleic acid
- Is the genetic material found within the nucleus of the cells of all living tissues
- DNA carries the code of all the genetic material that determines the unique characteristics of a human or animal
- Half is passed from the mother (maternal) and half from the father (paternal) DNA
- Only an identical twin will have exactly the same DNA profile.



DNA Analysis

- Tiny amounts of DNA such as those shed from cells from the human body are processed by *amplification* to a larger amount, then analysed for the specific DNA profile.
- A number of *sites* on each strand of DNA are analysed to determine the unique profile of the individual.
- The chances of finding the same profile on two different people is extremely unlikely, less than **1: 1000,000,000**



DNA in Sexual Assault: Offender DNA

- Establishes the presence of the offender at the crime scene
- Establishes contact between the offender and the victim
- May establish that penetration occurred
- Does not determine if penetration was consensual



DNA in Sexual Assault

- Specimens are collected from any sites where offender DNA may be present
- Forensic specimens from a victim are collected by the doctor

Reference Samples

- Include reference DNA buccal swab from the inside surface of the cheek of the victim
- May need to collect reference DNA from victim's usual sexual partner



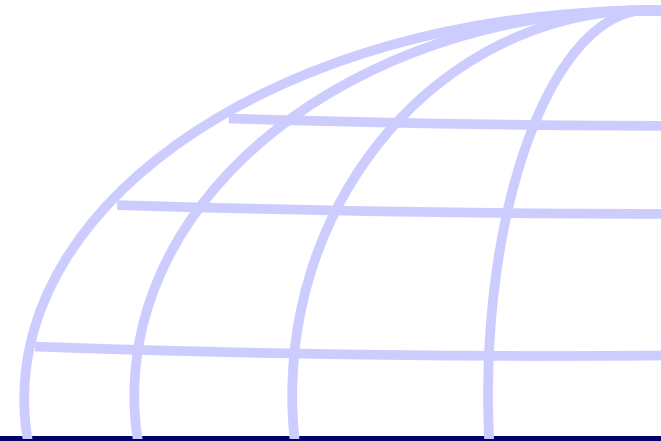
Remember

- DNA is not visible
- Trace evidence is transient
- It is collected from the possible sites of contact with the offender
- It is easily missed, lost, destroyed, decayed and contaminated
- It is also a powerful tool to assist with a police investigation



Examples from a crime scene

- **Cigarette end**
- **Edge of a glass or bottle**
- **Handle of a weapon**
- **Door handle**
- **Bedding**
- **Condom**



Examples from a victim collected by a doctor

- **Scrapings from the under-surface of the finger nails of the victim if she scratched the offender**
- **Swabs from any area kissed or licked by the offender**
 - lips, neck, breasts, bite marks
- **Oral swab from the victim's mouth if there was oral penetration**
- **Swab from the external genitalia and from within the vagina if there was vaginal penetration**
- **Swab from the peri-anal region and anal canal if there was anal penetration**



How long does sperm last?

- In the mouth 6-24hours
- Around the anus up to 48hours
- In the vagina up to 72 hours
- Perhaps longer at the cervix (neck of the womb or uterus)
- On the skin, uncertain, but sperm have been found even after washing
- Sperm have been found on clothing after laundering



Information to avoid loss of evidence

- **Avoid eating, drinking, rinsing mouth, brushing teeth, until a specimen is collected after oral assault**
- **Avoid bathing or showering**
- **Avoid passing first urine after a penile vaginal assault until a specimen of urine or a swab of the genitals is collected**
- **Avoid defaecating after penile anal assault until peri-anal swab is collected**



Early or Preliminary Evidence

- **Non-intimate specimens that can be collected by the victim or police prior to seeing the doctor**
- **Preliminary specimens provide comfort for the victim while avoiding loss of evidence**



Examples of Preliminary Specimens

- **Oral swabs, oral rinse or ‘spit’ after oral assault**
- **First void urine or external genital swab collected by the victim after vaginal assault**
- **Peri-anal swab collected by the victim after an anal assault**



Sexual Assault Evidence Kits

- **Police and/or hospital need to ensure availability of forensic kits for the medical examination**
- **Not all samples need to be collected**
- **Consider the facts of the case**



Avoiding contamination

- From police
- From doctors
- From laboratory staff

- Always wear gloves when collecting swabs or specimens
- Wear face masks at a crime scene
- Avoid washing or touching areas of the victim's body which may require swabbing
- Clean the examination room thoroughly including handles, desk surfaces, pens
- Avoid use of staples in packaging that may injure laboratory staff



Avoiding DNA degradation

- DNA is readily lost in a moist hot environment or from prolonged exposure to sunlight
- Once collected, swabs should be air-dried before storing.
(Alternatively cut open edge of plastic covering sheath)
- Ideally frozen < -18C
 - Alternatives refrigeration, or dry secure cool storage in a locked cupboard
- Clothing stored in individual paper bags
- Dry before sealing and storing



Chain of Custody

- **Documentation is crucial**
- **Details of collector, sample, date, time, person (victim) and passage of specimen**
- **Tamper proof specimen seal**
- **Include any information of relevance to the laboratory such as the time since assault, number of offenders**
- **Must include doctor's details if specimens collected by medical examiner**



Other Evidence Preservation

- Early security of the crime scene
- Trace evidence from the alleged offender, but doctors will be less keen to be involved unless there is informed consent from the offender. Some offenders may require medical treatment of their injuries.
- Initial report or telephone call – opportunity of key worker (nurse, counsellor, crisis worker, police) to inform the victim about preserving evidence
- Sexually transmitted infections are not useful evidence in an adult but are useful in children



- ***Cooperative efforts between the medical and law enforcement professions will streamline the victim management and evidence collection process***



References

- Hazelwood and Burgess (editors), *Practical Aspects of Rape Investigation : A Multi-disciplinary Approach*, CRC Press, Florida, 2009.
- Sexual Assault Resource Centre, Subiaco, Western Australia, *SARC Manual*, 2009.

