

## Chapter 14

# FORENSIC EMERGENCIES

### Learning objectives:

At the end of this module the trainees will be able to:

- Recognize the different types of Medico-legal emergencies
- Manage each medico-legal emergency appropriately

## INTRODUCTION

Forensic medicine is the application of the principles and techniques of medical and scientific knowledge in solving legal issues. Gathering of medical facts and providing expert opinions by proper analysis of the gathered facts form the basis of Forensic Medicine.

Forensic emergency is any case that require collection of trace evidence for solving critical legal issues. Prompt retrieval of trace evidence is essential as such trace material can be lost, degraded, contaminated or tampered with time.

Sexual assault cases are considered true Forensic Emergencies as collection of trace evidence such as prompt retrieval of vaginal fluids, nail scrapping, pubic hair etc. are critical in solving legal issues. Although medico-legal death investigations are not emergencies in the real sense, for social and practical purposes, these cases are also considered “Forensic Emergencies” in our country. In addition, any case where retrieval of trace material or evidence is essential can be considered as Forensic emergency.

Most of the trauma emergencies can have forensic aspects. However, these are not considered Forensic Emergencies on the basis that life is more important than evidence.

## Clinical Evaluation and Management of Sexual Assault Victims

### Consent for Evaluation & Treatment

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#### For Medical Management of General Cases-

- verbal consent is sufficient for evaluation and treatment and
- The health care provider should respect all the ethical principles of doctor-patient relationship.

#### For Medico-Legal cases-

- A valid, written, informed consent should be obtained from legally competent survivor.
- The consent should be taken for clinical evaluation as well as for reporting the findings to relevant agencies
- For legally incompetent survivors
  - The valid consent may be obtained either from the guardian or
  - On the principle of best interest.

### History Taking

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The following should be taken into consideration:

- The history needs to be taken in a conducive environment that can provide visual as well as auditory privacy.
- The survivor needs to be put at ease and appropriate chaperone shall be made available depending upon the wishes.
- Compassion and empathy on the part of clinical evaluator are critical in building good rapport besides good communication skill and appropriate nonverbal gestures.
- Open ended questions should be used initially to get the broad information regarding the incident and later closed ended questions are used to fill in important gaps.
- The history should be written in either direct or indirect speech as told by the survivor and should not be interpreted by the evaluator.
- Inquire and record:
  - Details regarding the date, time and place of incident
  - Familiarity of the perpetrator

- Any form of physical or emotional battery
- Restraining and intoxication and
- Other important information such as penetration, ejaculation, use of condom and any other relevant information.

### **Past and current medical and surgical history (if any)**

Ask about the past and current medical and surgical history for proper evaluation as well as treatment.

### **Gynecological and Obstetrics History**

- The gynecological history includes:
  - age of menarche
  - date of last menstrual period
  - use of any form of contraception
  - regularity of menstrual cycle and
  - Symptoms like dysuria, lower abdominal pain, per vaginal bleeding, genital ulcers.
- The obstetric history may include the number of children and modes of delivery.

**NOTE:** History of past sexual activity is not mandatory and the survivor should not be forced to divulge such sensitive information. The information can be recorded if the survivor gives. However, your medical opinion about the past sexual activity should not be based on the information provided by the survivor.

### **Social History**

The social history includes:

- marital status
- family support including income
- Type of residence
- level of education
- occupation and
- habits including use of drugs, alcohol, tobacco etc.

### **General Examination**

The general examination should include initial observation:

- walking, dressing, body posture
- facial expression, behavior and breath smell
- level of consciousness
- vital signs, nutritional status, personal hygiene
- features of intoxication, gross deformity and gross disability etc.

### **Systemic Review**

A brief systemic review needs be undertaken to look for any acute or chronic abnormal findings in the following systems:

- Central Nervous System
- Cardio Vascular System
- Respiratory System
- Gastro-Intestinal System
- Genito-urinary system
- Musculoskeletal system

This may help in identifying hidden injuries and medical disorders. Thorough assessment and treatment will help in interpretation of findings as well as for prevention of long-term complication.

### **Mental State Examination**

A brief mental state assessment should be undertaken to assess the degree of mental trauma as well as to assess the risk of self-harm, substance use and development of post traumatic disorders including PTSD, depression, somatoform, conversion/dissociative disorders etc. Mini-mental score chart can help in assessing mental state. If significant mental trauma is suspected, then referral to a higher facility may be necessary for evaluation and treatment.

### **Examination and Documentation of Injuries and Scars**

- Injuries may be caused due to battery, restraint, resistance or para-sexual acts. Sadistic perpetrators can cause severe life-threatening injuries.
- Injuries should be described properly, the description should include nature, size, shape, location, disposition as well as healing process, medical intervention and complication.
- Some injuries like bite marks needs proper description as well as photographing and sampling. Internal injuries may need radiological investigations like X-ray, ultrasound scan, CT scan etc.
- It is recommended that injuries should marked on the body diagrams, photographed with proper scaling and color coding.
- Some superficial injuries may have quickly resolved if there had been delayed presentation.

#### **Genital and para-sexual examination:**

- The breast should be examined for para-sexual injuries like abrasion, contusion, bite-marks as well as for assessment of Tanner Staging in cases of adolescent survivors.
- For the genital examination, the survivor should be positioned in an examinee friendly position. Lithotomy position is appropriate for the examination of pubic hair and vulva.
- Development of pubic hair, disturbance of pubic hair and stains should be noted, then the perineum, labia majora and minora should be examined for injuries, stains and deformity.
- Then the posterior fourchette, fossa navicularis, vestibule and urethral orifice should be examined for injuries, ulcers, stains and discharges.
- The hymenal should be evaluated for its presence, nature, injuries and tears. For the examination of hymen two techniques may help in proper visualization. Labial separation technique and labial traction technique can be used.
- For proper visualization of the posterior rim of the hymen, the knee-elbow position is most appropriate. Standard nomenclature for hymenal injuries is given in the annexure.
- Per-vaginal examination with finger/speculum is not recommended in unmarried survivors. Cotton swab can be inserted gently to retrieve samples for DNA analysis, Seminal fluid analysis and STI assessment.
- In addition, examination and sampling of oral and anal orifices should also be undertaken if there is suggestive history.
- If necessary, Foley catheter/cotton butt swab/speculum/colposcopy/toluidine blue test can be used for genital examination.
- In sodomy cases the appearance of peri-anal area, anal opening and anal canal should be recorded. Injuries, reflex anal dilatation, infection, lubricant, blood, semen, fecal soiling and foreign material should be looked for and documented.

**Investigations:**

- The samples may be collected for STI/HIV screening, pregnancy screening as well as for assessment of any relevant medical condition/s.
- Other investigations may be necessary such as X-ray, US Scan etc. for assessment of fracture, foreign body, tooth eruption etc.

**Referral to Other Specialties**

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- If there are severe injuries or severe mental disorders, relevant specialties should be consulted for further management.
- Gynecology help may be needed for repair of severe genital injuries, surgical help may be needed for vagino-rectal injuries, and psychiatric help may be needed for severe mental disturbance.
- Refer to Psycho-social service providers like RENEW, NCWC, CBS etc. for psycho-social help.

**Medical Management**

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- All the basic medical treatments like suturing of wounds, cleaning and dressing, STI treatment, and emergency contraception shall be offered without delay. Ideally all such basic medical treatments should be available from one center after evaluation so that survivors do not need to be seen at different units.
- However, if there are serious injuries that need urgent treatment, the survivor should be sent immediately after resuscitation for specialized management.

**Medico-Legal Management**

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- For medico-legal purpose, proper identification, documentation of injuries and findings are essential.
- The medical opinion should be based on the facts that are gathered from the examination, investigation and referral.
- Opinion based on presumption and hearsay should be avoided. Dogmatism should also be avoided. Opinion should not state whether the survivor has been raped or not, but should merely state whether genital penetration/sexual intercourse has taken place or not.
- If external injuries suggestive of force are present, then it may be stated that intercourse/penetration is likely to be without the consent.
- The healing stages of the injuries should also be stated with the likely age/duration of the injuries.
- The report may also have to explain the circumstances under which specific injuries are caused. For example, some injuries may be due to battery, some may be due to restraint/resistance, and some may be due to para-sexual acts. Some can even be self-inflicted for various reasons like attempted suicide, fabrication, accident etc.
- Genital injuries (injuries to labia minora, posterior fourchette, fossa navicularis, hymen, vagina) should be present for positive evidence of penetration.
- In addition, seminal fluid should be detected from the vaginal canal for positive evidence of sexual intercourse.
- However, absence of injuries or seminal fluid cannot rule out penetration or sexual intercourse. Corroboration with other evidences is essential.

**Psycho-Social Management**

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- If the survivor is in need of psycho-social support, the survivor may be referred to relevant agencies dealing with psycho-social support like NCWC and RENEW.
- For suspected severe post traumatic mental disturbances or psychiatric conditions, the survivor may need further assessment and treatment by psychiatrist.
- It is important to assess the risk for deliberate self-harm as well as risk of harming other individuals.

### Medico-Legal Death Investigation

As per the Police Act 2009, any unnatural death has to be investigated jointly by a Police Officer and a medical officer. Therefore, it is highly recommended that medical officer undertakes medico-legal death investigation. Since there is no autopsy facility in Bhutan, death investigation is generally undertaken at the scene of death or where the dead body is found. Although investigation of dead body is not emergency in medical sense, for medico-legal purpose and for social reason, it is considered as “Emergency”.

### The Objectives of Medico-Legal Death Investigation

- Establish the identity of the deceased
- Estimate the time since death
- Determine the cause of death
- Identify the weapon that has caused injuries (if any)
- Help in establishing the manner of death
- Address any specific issue such as period of survival, volitional activities etc.

### Investigative Tools and Equipment

The Police and Medical Teams proceeding to the scene of unnatural death(s) shall carry the following investigative tools and equipment.

#### Police Team

- Gloves and mask
- Writing implements (pens, pencils, markers)
- Communication equipment (cell phone, Handset)
- Flashlight
- Camera (Minimum 8 megapixel, 35mm (lens))
- Investigative notebook (for scene notes, etc.)
- Measurement instruments (tape measure, ruler, rolling measuring tape, etc.)
- Specimen containers (for evidence items and toxicology specimens)
- Plastic trash bags
- Hand lens (magnifying glass)
- Body bags
- Body Identity tags
- Evidence bags (paper/plastic)
- Scene of Crime checklist
- Inventory lists (clothes, drugs, etc.)
- Paper envelopes
- Evidence tape
- Cello Tape or rubber bands
- Evidence seal (use with body bags/locks)
- Trace evidence kit (tape, etc.)

- Crime scene barrier tape
- Latent print kit
- Photo placards (signage to ID case in photo)
- Presumptive blood test kit
- AP test kit (acid phosphatase)
- GSR Test (test kit)
- Rapid drug test kit
- Inquest Form
- Investigation Form of unnatural death.

### **Medical Team**

- Gloves and mask
- Writing implements (pens, pencils, markers)
- Communication equipment (cell phone)
- Torch
- Camera (Minimum 8 megapixel, 35mm-lens)
- Measurement instruments (tape measure, ruler, rolling measuring tape, etc.)
- Official identification (for yourself)
- Specimen containers (for evidence items and toxicology specimens).
- Plastic trash bags
- Hand lens (magnifying glass)
- Disinfectant
- Medical equipment kit (scissors, forceps, tweezers, scalpel handle, blades, disposable syringe, large gauge needles, cotton-tipped swabs/HVS, slide, suture set, urinary catheter/NG tube)
- First aid kit
- Data Collection Form for unnatural death

## **Roles & Responsibilities of Agencies During the Scene Visit**

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### **Roles and Responsibilities of Police:**

#### **❖ First Responder to Arrive at the Scene-**

- Secure and protect the scene.
- Preliminary assessment of the scene and documentation.
- Inform the Superior Officer.

#### **❖ Investigating Officer with Police Forensic Team-**

- Initial assessment based on the information from the first responders.
- Inform and coordinate with the Medical Officer and community representatives.
- Interview and record testimonies of the witnesses, aggrieved party and bystanders.
- Identify the dead body and the relatives.
- Search the scene, document, photograph/sketch the scene.
- Collect non-invasive forensic samples, bag and tag forensic evidence and maintain chain of custody.
- Complete the inquest form and other relevant forms.
- Render any other support in medical examination.
- Handover the body/refer for autopsy.
- Release the scene.

### **Roles and Responsibilities of Health/ Designated Medical Doctor:**

- Visit the scene as soon possible with investigative kit after receiving information from Police.
- Assess the scene in relation to the dead body, take photographs, identify the deceased.
- Take relevant history and conduct post-mortem examination of the body jointly with the Police.
- Document the relevant findings.
- Collect the required invasive forensic samples (blood, urine, gastric contents, vaginal swabs) on the request of the Police Investigating Officer and handover.
- Collect clothing and personal belongings jointly with police and handover to the police.
- Depute a relevant health worker in circumstances where Medical Doctor is not available to undertake scene visit examination and then jointly issue/submit the report after analyzing the case.
- Mortuary facility maybe arranged in case of unidentified dead bodies. However, transport and custody of such dead bodies will be with the Police.
- Render any other support in Police investigation.

### **Post-Scene Analysis**

- Police Investigating Officer shall provide the relevant findings.
- Medical Officer shall complete the postmortem report.
- Police and Medical Officer shall jointly document in relevant field to ascertain the manner of death in case of non-cognizable.
- If the manner of death is determined to be suicide, then:
  - Medical Personnel shall dully complete the required form and submit to the DHO office for Registry and onward submission to the National Suicide Prevention Program at the earliest.
  - RBP shall maintain administrative data as per the required form.
- If the manner of death is determined to be cognizable offence in nature, the investigation shall proceed as per Civil and Criminal Procedure Code of Bhutan.

### **References**

1. National guideline for management of victims of Intimate Partner Violence and Sexual Violence at Healthcare facility, PPD, MoH.
2. Standard Operating Procedure for Investigation of Unnatural deaths in Bhutan, NSPP, MoH.