

CLINICAL FORENSIC MEDICINE - an overview

Presented by-

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Introduction

- Clinical forensic medicine is the branch of forensic medicine which involves the application of medical knowledge to legal issues, particularly in cases involving living individuals. Provides crucial medical evidence in legal investigations and supports the justice system in ensuring ethical and legal standards are upheld.
- Scope Includes: Examination of victim of suspected case of assault or sexual violence , Age estimation and injury documentation, Substance abuse and toxicological evaluations, etc.

Two broader aspect of Forensic Medicine

Interaction of
medicine with
the law,
judiciary and
police
involving
generally LIVE
patients.

Clinical Forensic Medicine

Forensic Medicine



Interaction of
medicine with
the law,
judiciary and
police
involving
generally the
DEAD

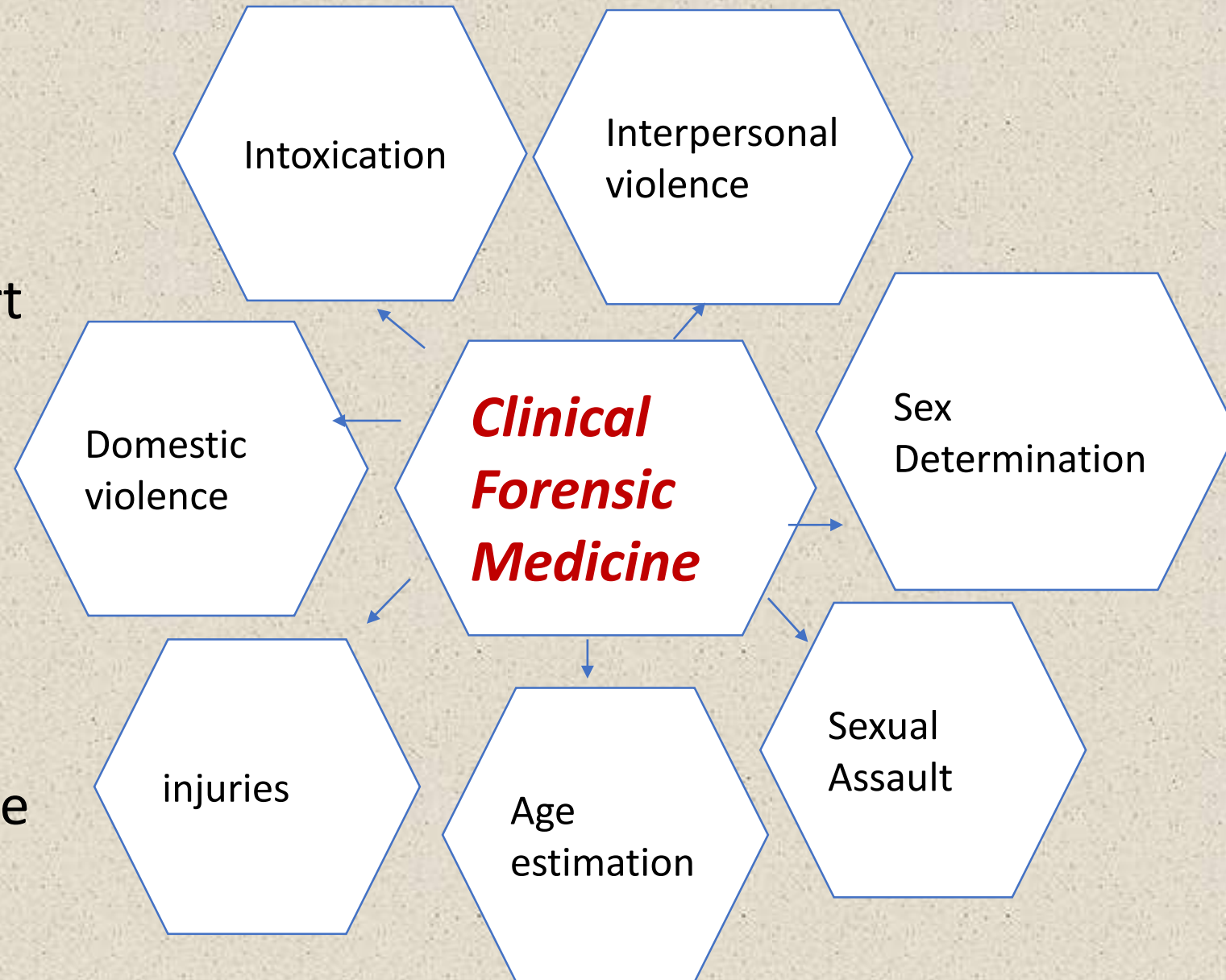
Forensic Pathology

Clinical Forensic Medicine

- Deals with medicolegal aspects of examination of living human beings caused by or associated with all types of violence and other cases where legal problems are arised.

Role of Clinical Forensic Medicine in Various Aspects

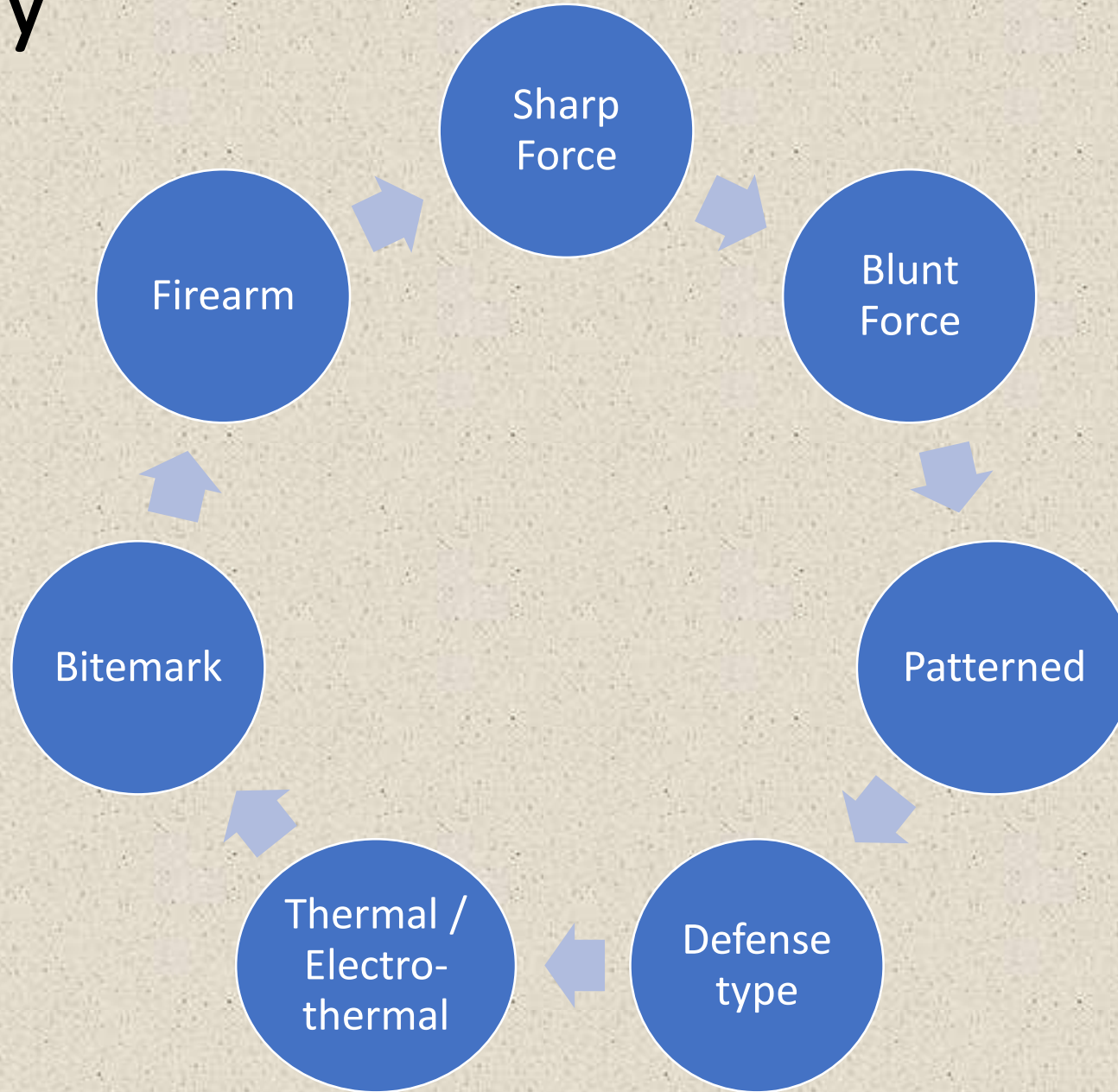
- Intoxication
- Interpersonal violence
 - Assault- Simple
 - Assault with Grievous Hurt
- Domestic violence
- Age estimation
- Disputed paternity
- Disputed maternity
- Disabilities Certification
- Determination of potency/impotency of male



Examination of Physical assault victim:

- Name, age, sex & address of injured person
- Identification mark
- History taking
- Date, time & place of examination.
- General Physical Examination:
 - Size, shape and direction of injury
 - Type of weapon used
 - Type of injury
 - Nature of each injury
- Opinion

Types of injury











DEPARTMENT OF FORENSIC MEDICINE

INJURY REPORT

Name: Sufia Sultana Age: 34 Sex: Female Religion: Islam
Father's/Husband's/Guardian's Name: Abdur Salam.
Address: Block-A, House No. 32, Lalmatia, Dhaka.
Identification marks: A black mole present over left zygomatic prominence of left cheek 1" below from left lower eyelid
Identified by: Relatives,
Date of admission in the Hospital: 21.03.2024 at 09.00PM
Date, Time & Place of examination: 22.03.2024 at 11.00 A.M.
Brief history: History of Physical Assault by husband.

Sl. No.	Type of Injury	Site of Injury	Number of Injury	Measurement of Injury	Age of Injury	Kind of Weapon used	Nature of Injury
1.	Bruise	Lateral Aspect of left thigh 5 cm above from left knee joint	Single	3 1/2" x 2"	14 hours	Hand Blunt weapon	Simple.
2.	Laceration:	Lateral Aspect of left arm 2" above from right elbow joint	Single	2 1/2" x 2" x 3/2"	14 hours	Hand blunt weapon	Simple

Opinion: Mentioned injuries (no. 1 and 2) were simple in nature caused by Hand blunt weapon and Age of the injury were about 14 hours at the time of Examination.

Date: 22.03.2024.

Signature:

১০। হত্যার / অত্যাচারের বর্ণনা :

ক) Two stitched wound over vertex of head, length about 2cm.

খ) Two Bruises over right thigh (2x1cm) & (1x1cm),
Two Bruises over left thigh - (1x1cm) & (2cm x 1cm)

গ)

২০। উন্নত চিকিৎসার জন্য অন্য কোন হাসপাতালে প্রেরণের সম্ভাবনা :

২১। মতামত :

Mentioned injury no. ২০ (ক), (খ) were simple in nature and were caused by blunt weapon. Age of injury was about ২৪ (Twenty eight) hours, detected at the time of examination.

পরীক্ষাকারী চিকিৎসকের নাম
সীলসহ স্বাক্ষর :
রেজি নং-.....
কোড নং-.....

Components of Grievous Hurt

1.Emasculation

2.Permanent privation of sight of either eye

3.Permanent privation of hearing of either ear

4.Privation of any member or joint.

5.Destruction or permanent impairing of the power of any member or joint

6. Permanent disfiguration of head or face

7. Fracture or dislocation of a bone or teeth

8. Any hurt which endangers life, or which causes the victim to be in severe bodily pain, or unable to follow his ordinary pursuits for a period of 20 days

Examination of Sexual assault victim :

Medical Examination of the victim

Objects:

1. To search for physical signs that will corroborate with the history given by the victim
2. To search for, trace and preserve all trace evidence for laboratory examination
3. To treat the victim for any injuries or any venereal disease or pregnancy.
4. To give opinion

Rape -

- Rape is a global problem; Most prevalent form of sexual offence.
- Survivors often experience shame, guilt, and self-blame.
- Rape is a legal term rather a medical term, for which easy to complain, hard to prove and harder disprove by the accused

Rape: According to The Penal Code 1860 (Sec. 375)

Sexual intercourse by a man with a woman—

1. Against her will.
2. Without her consent.
3. With her consent, when her consent was Obtained by putting her in fear of death, or hurt.
- 4 .With her consent, by fraud or impersonation.
5. With or without her consent, when she is under sixteen years of age.

Scenario in Bangladesh

Violence Against Women (Rape) January-December 2024

Documentation Unit

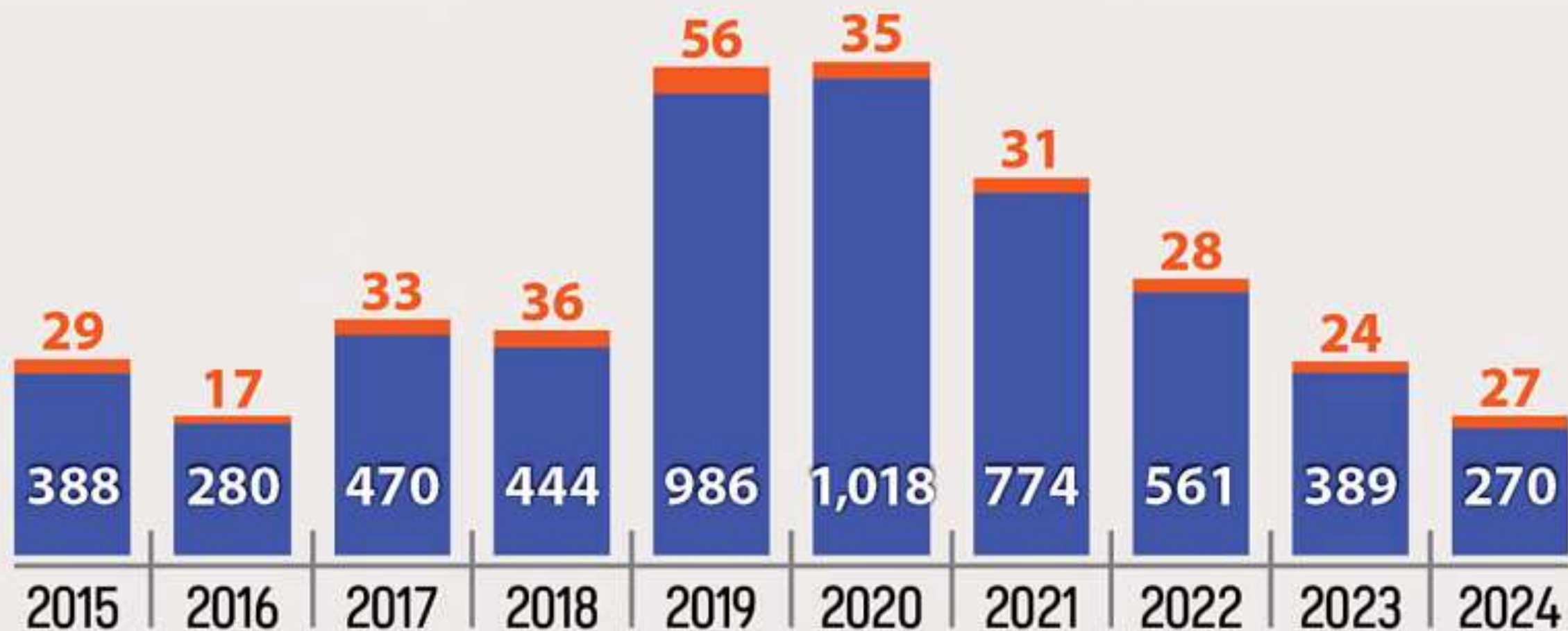
Ain o Salish Kendra (ASK)

Form of rape	Age	Under 6	7-12	13-18	19-24	25-30	30+	Age not mentioned	Total	Death	Suicide	Case filed	No information on case filing
Rape		24	58	57	9	2	7	139	296	27	3	244	49
Gang rape			5	21	11	5	11	52	105	7	4	90	15
Total		24	63	78	20	7	18	191	401			334	64
Murdered after rape		3	9	6	4		3	9		34			
Suicide because of rape			1	2		1		3			7		
Attempt to rape		9	19	8	2	4	3	64	109			65	44

Source: Prothom Alo, Ittefaq, Samakal, Sangbad, Janakantha, Jugantor, Naya Diganta, Daily Star, New Age, Dhaka Tribune (include their epapers), some online news portals and Ain o Salish Kendra (ASK)

CHILD RAPE STATISTICS

SOURCE: AIN O SALISH KENDRA



CHILD RAPE (AGE: UP TO 18)

MURDER AFTER RAPE

“Globally, 370 million girls and women have been subjected to rape or sexual assault before the age of 18.”

-This figure was reported by UNICEF in October 2024, based on data from nationally representative surveys conducted between 2010 and 2022 across 120 countries and regions.

Effects of Rape In a victim

- Physical trauma.
- Unwanted pregnancy
- Sexually transmitted infections i.e. Trichomoniasis, bacterial vaginosis (BV), gonorrhea, and chlamydial infection
- **Rape Trauma syndrome-**

Forcible rape, a form of rape, can lead to behavioral, somatic, and psychological issues, often referred to as a post-traumatic stress disorder.

Immediate or acute (disorganization phase)

- Tension symptoms.
- Feelings of guilt and humiliation.

A long-term (reorganization phase)

- nightmares and various phobias.

Procedure of Examination of Rape Victim

1. Preliminary Requirements:

- Written order from Magistrate or investigating police officer where the officer in charge forward it
- Three passport size photographs of the victim attested by the O/C or 1st class officer
- Written informed consent of the victim for medical examination if she is above 12 years of age

- If the victim is below 12 years of age or mentally ill, written consent is to be obtained from her parents or any legal guardians
- Identification of the victim is by the escorting police constable.
- At least 2 identification marks to be mentioned
- A third person female attendant should be present at the time of examination.

2) Statement of the victim.

3)History taking from the victim or its guardians if she is minor

Menstrual history & history regarding child birth alive or dead

- Date/time/place/details of occurrence.
- Contraceptive method used or not.
- Clothes changed since incident or not.
- Bathed/ washed since incident or not.

4) Examination proper :

Cloths,

General examination,

Determination of age

Hair,

Blood stain

Local examination.

Examination includes the extra genital & genital parts

- Distribution of hair
- The lesion includes, bite marks, bruises or abrasions
- Tear in the perineum, rupture of the forchette may be found in positive case
- Hymen may be ruptured
- Congestion of the vaginal wall

Investigation

- High vaginal swab is to be collected with a swab stick strapped with cotton and send to microbiology look for spermatozoa.
- Collection of DNA sample for DNA Profiling
- Radiological examination.
- Chemical analysis of Blood & Urine

সত্যায়িত
ছবি

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়

ডিকটিমের আইনানুগ মেডিকেল পরীক্ষার প্রতিবেদন।

স্বাক্ষর নং-ফমে/ঢামেক/এম.এল/

তারিখঃ-

সূত্রঃ

তারিখঃ-

১. মেডিকেল পরীক্ষা/ চিকিৎসা প্রদানকারী প্রতিষ্ঠানের নাম ও ঠিকানাঃ ফরেনসিক মেডিসিন বিভাগ, ঢাকা মেডিকেল কলেজ, ঢাকা।

২. ডিকটিমের পরিচয়ঃ ক) নামঃ

খ) বয়স (ভাষ্য মতে)ঃ গ) লিঙ্গঃ ঘ) ধর্মঃ ঙ) পেশাঃ

চ) পিতা/মাতা/স্বামীর নামঃ

ছ) ঠিকানাঃ

৩. সনাক্তকারী/ আনয়নকারীর নাম ও ঠিকানাঃ

৪. সম্মতিঃ ডাক্তারী পরীক্ষার ফলাফল আমারপক্ষে বা বিপক্ষে যাইতে পারে জানিয়া আমি আমার গোপনীয় সহ সবল ডাক্তারী পরীক্ষা
করহিতে রাজি আছি।

স্বাক্ষরীঃ

ডিকটিমের স্বাক্ষর বা টিপসই

১।

২।

৫. পরীক্ষার দিন তারিখ ও সময়ঃ

৬. উপস্থিত মহিলা সহকারীর নাম ও ঠিকানাঃ

৭. ঘটনার সংক্ষিপ্ত বিবরণ(ডিকটিমের ভাষ্য মতে)ঃ -

৮. দৈহিক পরীক্ষার বিবরণঃ ক) দৈহিক গঠনঃ খ) উচ্চতাঃ গ) ওজনঃ

ঙ) দন্ত বিন্যাসঃ যেটিঃ

৯. সনাক্তকরণ চিহ্নঃ ক)

খ)

১০. যখমের/ অবরদত্তির বর্ণনাঃ

ক)

খ)

গ)

১১. এসিড বা অলিউরিকঃ

১২. যখমের বয়স (সম্ভব ক্ষেত্রে)ঃ

১৩. ব্যবহৃত অস্ত্রের ধরণঃ

১৪. যখমের প্রকৃতিঃ ক) সাধারণ যখম

খ) মারাত্মক (Grievous) যখম

১৬. যৌন নির্যাতনের ক্ষেত্রে :

- ক) মাসিকের বিবরণঃ ১) প্রথম মাসিক..... ৩) শেষ মাসিক.....
২) সময় কাল.....
খ) বৈবাহিক অবস্থাঃ অবিবাহিতা/বিবাহিতা/বিধবা/বিচ্ছেদরতা/স্বামী পরিত্যক্ত
গ) সন্তান/ শেষ সন্তানের বয়সঃ
ঘ) কেশ বিন্যাসঃ

১. বগলের কেশঃ ২. যৌনদেহ কেশঃ

ঙ) গুণ :

১. গঠন : ক) এখনও গঠিত নহে খ) গঠিত হয়েছে গ) সুগঠিত ঘ) সুগঠিত ও বড় ঙ) তুলত

২. প্রকৃতি : ক) নরম খ) শক্ত গ) হ্রিৎস্থাপক

৩. জ্ঞানাগ্র (Nipple) : ৪. জ্ঞানাগ্র পাদদেশ (Areola) :

৫) পেট (Abdomen) :

৬) যোনাগ এলাকাঃ

১। বহিঃযোনাগ (Valva) :

- 1) Mons Pubis :
2) Labia Majora :
3) Labia Minora :
4) Vestibule :

২। সতীচেন্দ্র (Hymen) :

৩। যোনি পথ (Vaginal Canal) :

৪। যোনি বেড় (Fourchette) :

৫। জড়ায়-গ্রীবায়ুখ (Cervix) :

৬। পায়ুখ (Rectum) :

১৭. বিভিন্ন পরীক্ষা :

ক) এন্ডরে পরীক্ষা :

খ) আক্সিগেনোগ্রাফী পরীক্ষা :

গ) প্যাথলজী (ডেজাইনাল সোয়াব) পরীক্ষা :

ঘ) ডি.এন.এ পরীক্ষাঃ

ঙ) অন্যান্য পরীক্ষা প্রয়োজ্য ক্ষেত্রে :

১৮. প্রদত্ত চিকিৎসা/ পরামর্শ :

১৯. চিকিৎসাতে অবগতির তারিখ ও সময় :

২০. উন্নত চিকিৎসার জন্য অন্য কোন হাসপাতালে প্রেরণের পরামর্শ :

২১. মতামত :

পরীক্ষাকারী চিকিৎসকের নাম :

সীলসহ স্বাক্ষর :

রেজিঃ নং :

কোড নং :

GIVING OPINION

- Considering the findings of physical examination, microbiological examination & radiological examination, I am of the opinion that victim Ms. X has the signs of recent forceful sexual intercourse found on her body during examination and the age is in between 17 to 18 (seventeen to eighteen) years.

CLINICAL MANAEGEMNT

The elements of clinical management are –

- Documentation of condition
- Treatment of the victim.
- Prevention of sequelae of rape
- Referral to support service.
- Proper documentation of injuries & collection of evidence should be done as soon as possible.

Treatment of the victim

- This will be determined by the clinical condition found. It has three aspects;
- General condition- treat for shock & bleeding.
- Specific to injury.
- Psychological support & counseling.

Bangladesh's One Stop Crisis Center:

- Provides examination, treatment, and rehabilitation for victims of sexual assault.
- Addresses female physical assault cases.

ওয়ান- স্টপ ক্রাইসিস সেন্টার (ওসিসি)
One-Stop Crisis Centre (OCC)
ঢাকা মেডিকেল হাসপাতাল, ঢাকা
Dhaka Medical College Hospital, Dhaka

 **মহিলা** নির্যাতন প্রতিরোধকল্পে মাল্টিসেক্টরাল প্রোগ্রাম
Multi-Sectoral Programme on Violence Against Women
মহিলা ও শিশু বিষয়ক মন্ত্রণালয়
Ministry of women and children affairs



শারীরিক, যৌন এবং দহ নির্যাতনের শিকার হয়ে
হাসপাতালে আগত নারী ও শিশুরা ওসিসি'র সেবা নিন-



■ চিকিৎসা সেবা ■ পুলিশি সেবা ■ মনোসামাজিক কাউন্সেলিং
■ আইনী সেবা ■ পুনর্বাসন সেবা ■ বাল্যবিবাহ প্রতিরোধ

যোগাযোগ করুন: **ওয়ান-স্টপ ক্রাইসিস সেন্টার (ওসিসি)**

 **মহিলা** নির্যাতন প্রতিরোধকল্পে মাল্টিসেক্টরাল প্রোগ্রাম
মহিলা ও শিশু বিষয়ক মন্ত্রণালয়



Role of Forensic Medicine in Disputed paternity and Disputed maternity

Forensic medicine plays a crucial role in resolving cases of disputed paternity and maternity through scientific identification methods, primarily using genetic (DNA) analysis and blood group testing.

1. Disputed Paternity

In cases where a man denies or claimed being the biological father of a child, forensic medicine helps by:

- a. *Blood Group Testing*** (Serological Tests) Based on Mendelian inheritance, if the child's blood group is not compatible with the alleged father's and mother's, paternity can be excluded. However, it cannot confirm paternity—only exclude it.
- b. *DNA Profiling*** Highly accurate (up to 99.99%) in confirming or excluding paternity. Compares specific genetic markers of the child with those of the alleged father and mother. If the alleged father shares half the DNA with the child, paternity is established.

2. Disputed Maternity

- Less common, but may occur in cases like:
 - Baby swapping in hospitals
 - Surrogacy disputes
 - Kidnapping
- Blood group testing and DNA profiling are used to determine if a woman is the biological mother.

Role of Clinical Forensic Medicine in Age & Sex Determination

Clinical forensic medicine plays an important role in determining **age and sex** for **medico-legal purposes**, especially in cases related to:

- **Juvenile justice**
- **Child labor laws**
- **Marriage eligibility**
- **Rape and sexual offence investigations**
- **Sports participation**
- **Immigration cases**

Age Determination

- **General development**
- **Dental examination**
- **Secondary sexual characteristics**
- **Radiological assessment**

Sex Determination

- **Physical examination** of primary and secondary sexual characteristics
- **Radiological Examination**
- Microscopic study of sex chromatin
- Hormonal Assays (Testosterone, Estrogen, FSH, LH.)
- Gonadal biopsy
- **Karyotyping (chromosomal analysis)** for intersex or doubtful cases

Take Home Messages

- Prior to administering therapy, always get **informed consent**
- **Never delay examination**, Patient may be sent to the hospital or admitted, and an injury report need to be prepared on requisition
- Make sure to record at least **two identification marks** from exposed parts
- Doctors of all discipline should have fair knowledge on Forensic **Medicine** to give **expert opinion** and appear as expert witness in courts of law

THANK YOU

