

Seminal Stain

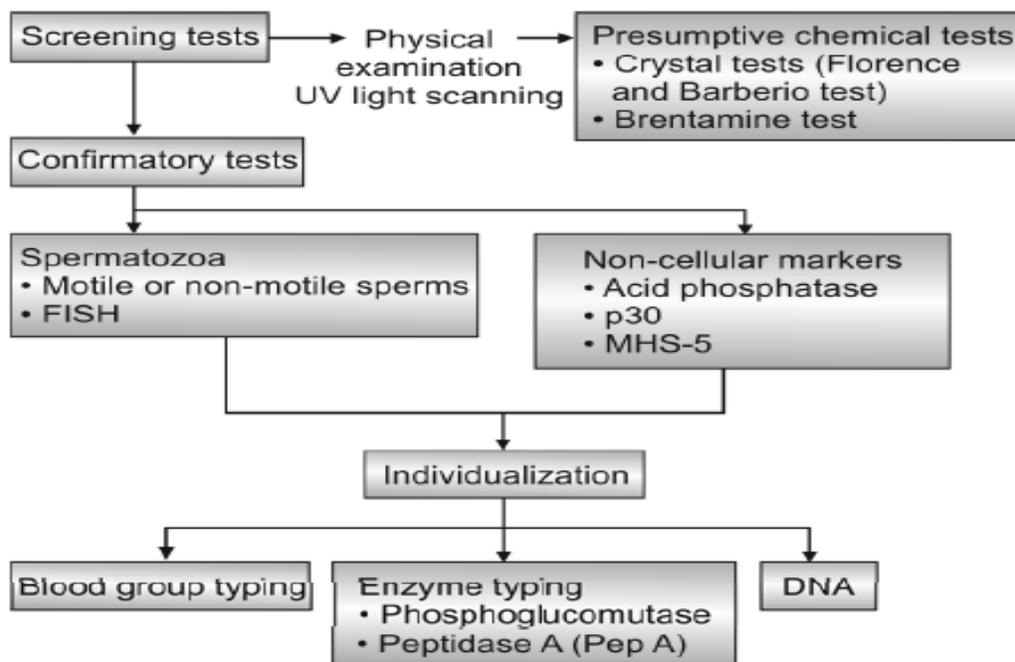
Collected from stains and washing vagina and scrapping off surfaces.

Is blue under fluorescence due to choline

Identification is important in

Criminal cases	Civil cases
<ul style="list-style-type: none"> • Rape/attempted rape • Sodomy • Bestiality • Sexual murder of the female 	<ul style="list-style-type: none"> • Disputed paternity • Legitimacy • Artificial insemination • Divorce • Compensation on grounds of acquired sterility/failure of vasectomy cases

Flow chart 31.1: Evaluation of a suspected seminal stain in sexual assault



Presumptive Test are qualitative in nature and if positive must be followed by a Confirmatory Test

Florence Test= dark brown rhombic crystals of choline is positive result

Barberio's Test= add picric Acid → Positive result → Yellow needle shaped crystals of Spermine

Brentamine Fast Blue Test → Common test used to test acid phosphatase → Purple color change → Highly False Positive results

Most common Confirmatory test is Visualization of Spermatozoa using Christmas Tree Stain (Red Stain for Head, Green for Tail), Eosin or Hematoxylin Stain

Others staining methods

- **Christmas tree stain:** This staining technique was developed by *Oppitz* which consist of nuclear fast red (red stain for sperm head) and picroindigocarmine (green counter-stain for the tail and other cytoplasmic material) and are sometimes referred to as 'Christmas tree' stain because of the red-green combination.
- **Papanicolaou staining:** In Pap smear, acrosome is stained pink, postacrosome—dark blue, and tail—pink.
- **Giemsa stain:** Acrosome stained pink, postacrosome—dark blue.
- **Ziehl-Neelsen's method:** Smear is stained and examined for the presence of spermatozoa and smegma bacilli (*Mycobacterium smegmatis*). It is an acid fast, rod shaped bacillus and thicker than the tubercle bacillus.
- **Other stains:** Bryan-Leishman stain, Shorr stain and alkaline fuchsin.

Motility of Sperm can also be checked

Motility of Sperms

- At room temperature, motility depends on time elapsed since ejaculation.
- At body temperature (in living victims), sperms retains full motility in vagina between 6-12 h. The sperms remain motile in the uterine cavity for 3-7 days. Later, the sperms disintegrate into head and tails which may be recovered from the vagina upto 7-10 days and 12-14 days in the cervix and uterus.
- Complete motile sperms may be seen upto 28 h in vagina after ejaculation (non-motile sperms may be found upto 10 days).
- Non-motile sperms may be seen in the oral cavity from 2-31 h, in rectum from 4-113 h and in anus from 2-44 h.

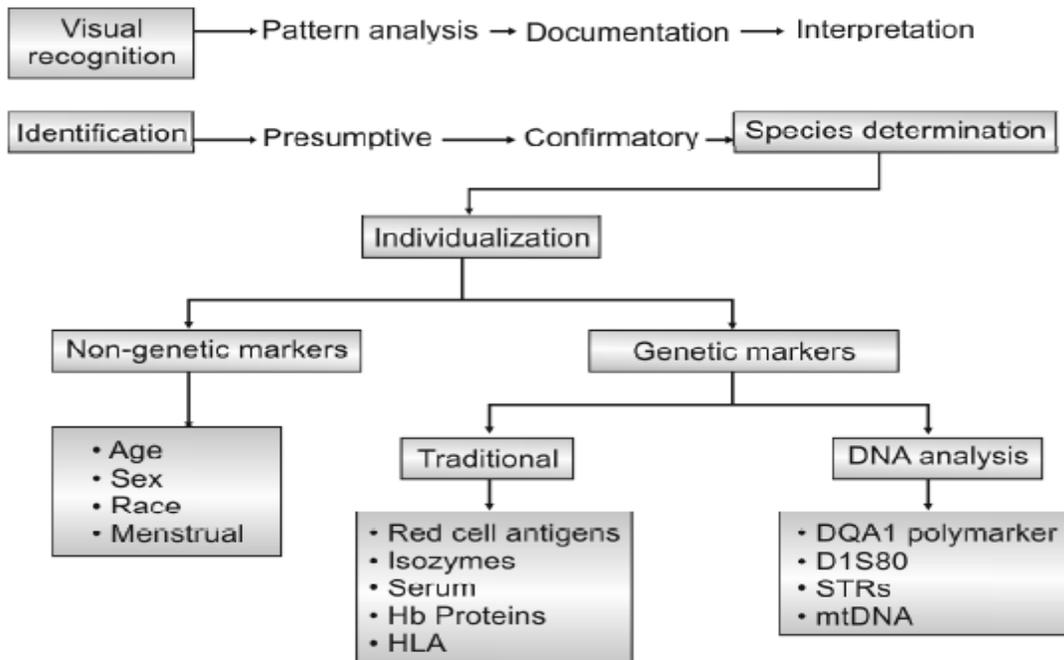
Acid Phosphatase and PSA test are highly confirmatory

Blood Grouping, DNA testing, Enzyme Typing are further tests to individualize Semen.

Blood Stain Analysis

Examining the Pattern of Stain is important (angle, direction, smearing of Blood stain)

Flow chart 30.1: Approaches to bloodstain analysis



Again **Presumptive tests** make use of color change for Diagnosis

Catalytic Color using H_2O_2 with different reducing agents to see color change

Adler Test → in ethanol or acetic acid → *Blue color reaction*

Kastle-Meyer test → *Phenolphthaline* → *colorless to Pink (in acidic)*

O'Kelly or Kohn Test → *Blue color reaction in acidic conditions*

TMB= *Green to Blue* **LMG**= *Green color Produced*

Luminescence test → Luminol gives glow → *blue white to yellow green (in blood)*

Spectroscopy can be done as well as **TLC** (Thin layer Chromatography)

Microscopic Examination can be performed (nucleated RBC's found in primates)

Confirmatory Tests are Crystal tests

Teishmann or Heimann Crystals → brownish rhombic crystals in clusters → *Less reliable test, does not work on aged blood*

Takayama or Hemochromagan Test → Heat with Takayama Stain → **Pink Feathery Crystals** → More reliable test, works on aged blood

Identification tests(Between Species) are Electrophorysis and

- Ring precipitin test
- Antiglobulin consumption test
- Ouchterlony method
- Crossed-over electrophoresis
- Latex test
- Diffusion precipitation test
- Passive hemagglutination test

Again Individualization can be done by Blood Grouping, HLA typing or DNA Analysis

Sexual Offences-

Table 25.1: Classification of sexual offences		
Natural sexual offences	Unnatural sexual offences	Sexual perversions
<ul style="list-style-type: none"> • Rape • Incest • Adultery 	<ul style="list-style-type: none"> • Sodomy • Tribadism/lesbianism • Bestiality • Buccal or oral coitus 	<ul style="list-style-type: none"> • Sadism • Masochism • Fetishism • Transvestic fetishism • Exhibitionism • Masturbation • Voyeurism • Frotteurism

Rape= Sexual Intercourse or even slight penetration committed without willing consent.

Examination of a victim is important. *(Check this topic from book itself, mostly common sense)*

Incest- Sexual relation between men or women closely related by blood eg siblings, father-daughter, mother-son

Adultery- Sexual intercourse between a married individual other than his/her wife/husband

Differentiation 25.1: Rape and adultery			
S.No.	Feature	Rape	Adultery
1.	Basic difference	Offence against body	Offence against marriage
2.	Consent	Offence is committed without the consent of woman	Offence is committed with the consent of woman but lacks the consent of her husband
3.	Aggrieved party	The woman	Husband of the woman
4.	Offence by husband	Woman can be raped by her husband if she is < 15 years	Husband cannot commit this offence against his wife
5.	Marital status	Committed against married or unmarried woman	Committed with married woman only
6.	Punishment	7 years to life imprisonment and fine	Upto 5 years and fine

Un-Natural Sexual Offences-

SODOMY- ANAL INTERCOURSE *can be both heterosexual and homosexual*

Examination is important and position for it and revelations it may unfold can be deferred from the figure below. Keep in mind Sodomy can be with a habitual partner as well and it can also be a non consented act



Fig. 26.1: Knee-elbow (anunectoral) position

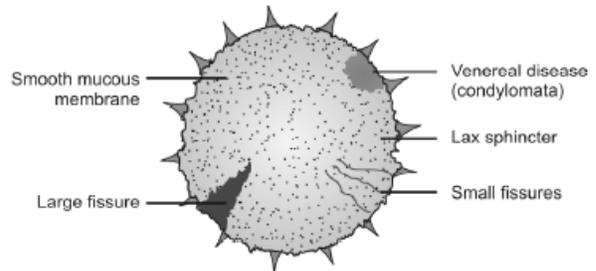


Fig. 26.2: Findings in a habitual passive agent of sodomy
(For color version see Plate 5)

Homosexuality/Urningism → Basically to refer to Male homosexuals

Tribadism/Lesbianism- Basically female Homo-sexuality

Bestiality- Intercourse with Animals

Buccal Coitus- Oral Sex → Fellatio(stimulation for male genitalia) → Cunnilingus
(Stimulation for Female Genitalia)

Anilingus → Oral Stimulus of the Anus

Perversions-

Praphilias- Sexual arousal in response to objects or stimulations not part of societal norms.

i. Sadism	ii. Masochism
iii. Transvestic fetishism	iv. Voyeurism
v. Exhibitionism	vi. Fetishism
vii. Frotteurism	viii. Pedophilia

Sadism (ALDOLAGNIA)- Sexual Gratification by inflicting Pain/ More common in males/
Injuries usually found on breasts or external genitalia

LUST MURDER → **HOMICIDE** in which offender slashes and mutilates sexual organs and other body parts while receiving full gratification with death of person being tortured

SADIST may then have sexual intercourse after murder → **Necrophilia** or

Suck the Genitalia → **Necrophagia**

Masochist (Passive ALGOLAGNIA) → **Sexual Fulfillment obtained by receiving pain**

Asphyxial death may occur (Autoerotic Death)

Transvestic Fetishism (EOSNISM) → **Recurrent intense sexual fantasies and urges and behaviors involving cross dressing**

Voyeurism- Perversion to see unsuspecting people undress, or take a bath or have intercourse

Troilism – Sexual gratification obtained by *watching one's wife have sexual intercourse with another man*

Exhibinisionism → **Desire and intensional exposure of genitalia in public**

Fetishism → Fixation on an inanimate object or body part to achieve sexual gratification

Frotteurism (Toucherism) → Sexual arousal or gratification by rubbing genitals against a non consenting person in public

Fondling the victim is known as Toucherism

Pedophilia → **Sexual fantasies or urges** involving activities with children

Masturbation- Self stimulation

Urolagnia → **Gratification by sight or odor of Urine / May enjoy Golden Showers**

Uranism → **Gratification by fingering , fondling or licking**

Coprophilia → **Gratification form Feces**

