4 Assessment and examination of adult victims of sexual violence

SUMMARY

■ In caring for victims of sexual violence the overriding priority must always be the health and well-being of the patient.

■ The physical examination of sexual assault victims must be thorough; it will inevitably be intrusive and time consuming. In the interest of avoiding multiple examinations and further distress for the patient, the medical examination and forensic evidence collection should, when possible, occur simultaneously.

■ Treating a victim of sexual assault with respect and compassion throughout the examination will aid her recovery.

■ Obtaining informed consent for the examination and for the release of information to third parties is a crucial component of the service.

■ All parts of the examination should be explained in advance; during the examination, patients should be informed when and where touching will occur and should be given ample opportunity to ask questions. The patient’s wishes must be upheld at all times.

■ All findings must be documented carefully; to help ensure that no important details are omitted, the use of a standard examination form is recommended (see Annex 1).

4.1 Overview

Individuals who have suffered sexual violence, irrespective of the point at which they present within the health sector, should be offered a full medical-forensic examination, the main components of which are as follows:

— an initial assessment, including obtaining informed consent (see section 4.2);
— a medical history, including an account of the events described as sexual violence (see section 4.3);
— a “top-to-toe” physical examination (see section 4.4.2);
— a detailed genito-anal examination (see section 4.4.3);
— recording and classifying injuries (see section 4.5);
— collection of indicated medical specimens for diagnostic purposes (see section 4.6);
— collection of forensic specimens (see section 5.2);
— labelling, packaging and transporting of forensic specimens to maintain the chain of custody of the evidence (see section 5.2);
— therapeutic opportunities (see sections 6.1–6.5);
— arranging follow-up care (see section 6.7);
— storage of documentation (see section 8.1.2);
— provision of a medico-legal report (see section 8.3).

Although these guidelines take the adult female as their subject, many of the principles and procedures described below apply equally to adult men. Specific concerns as they relate to the care of men are highlighted in Box 4. The special case of children is, however, covered separately (section 7 Child sexual abuse).

Rape victims need an unusual degree of professional reassurance, acceptance and understanding in regard to the therapeutic examination (37). Dealing with patients who have been subjected to sexual violence thus demands a broad range of skills:

— a knowledge of normal human sexual responses, genito-anal anatomy and physiology;
— a knowledge of medical and colloquial terms for sexual organs and sexual acts;
— good communication skills;
— a basic knowledge of the dynamics of sexual violence;
— an understanding of the legal issues surrounding sexual crimes;
— an understanding of relevant cultural and/or religious issues;
— empathy and sensitivity.

**BOX 4**

**Medical management of adult male victims of sexual violence**

With regard to the physical examination and medical interventions:

- Male victims of sexual violence should be triaged in the same manner as female victims.

- The same procedures for obtaining consent, taking a history, conducting the physical examination (although the genital examination will be different) and ordering diagnostic laboratory tests should be followed, that is:
  - perform a top-to-toe examination looking for any signs of injury;
  - conduct a thorough examination of the genito-anal area;
  - treat any injuries (men also need to be treated for STIs, hepatitis B and tetanus).

- Men need to be informed about, and offered, a HIV test and the option of post-exposure prophylaxis, if available. Men also need to receive follow-up care for wound healing, any prescribed treatments (including those for STIs), completion of medications and counselling.

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**4.2 The initial assessment**

**4.2.1 Assessing the priorities**

On presentation, victims of sexual violence should be granted immediate access to a trained health worker. Their acute health care needs are the primary concern at this early stage and should be assessed as soon as possible.

In busy settings where several patients may present simultaneously, such as hospital emergency departments, it will be necessary to sort out the order of
urgency in which patients are seen. Victims of sexual violence who have serious 
or life-threatening injuries will need acute medical or surgical care, as 
appropriate. Under these circumstances, the safety, health and well-being of 
the patient always takes priority over all other considerations. It may not always 
be possible to attend to the medical needs of patients with less severe injuries 
immediately; if a wait is unavoidable, patients should not be left alone in a 
waiting room, but should have someone with them to offer comfort and support 
until their medical needs can be attended to.

4.2.2 How health workers should conduct themselves

A victim is often in a heightened state of awareness and very emotional after 
an assault due to circulating stress hormones; events may be recalled in dramatic 
detail. Many survivors of sexual assault have described the kindness of the 
treating personnel as being beneficial to their recovery. Conversely, many 
describe comments made by police, doctors, counsellors and other persons 
with whom they have had contact as a result of the assault that have haunted 
them for years. For this reason, health workers must choose their words with 
great care when dealing with sexual assault patients and take care not to 
contribute in any way to revictimization of the patient.

Use of insensitive language may contribute not only to patient distress 
during the examination but also hinder long-term recovery. Health 
workers are advised to choose words that are gentle and soothing; there 
is no place for judgmental or critical comments. It is imperative that 
all victims of sexual violence are treated with respect and dignity 
throughout the entire examination irrespective of their social status, 
race, religion, culture, sexual orientation, lifestyle, sex or occupation.

Some of the emotions and feelings that are commonly expressed by victims of 
sexual violence, together with suggestions for appropriate responses, are listed 
in Table 5. Box 5 also offers advice on appropriate health care provider conduct 
and demeanour.

Many victims cite a fear of not being believed as a reason for not reporting 
sexual assault and, indeed, recovery can be hindered when others disbelieve or 
blame the patient for the assault. Validation of the patient’s feelings is thus 
critical to recovery (52). Body language, gestures and facial expressions all 
contribute to conveying an atmosphere of believing the patient’s account. 
However, this does not relieve the health worker from his/her duty to consider 
carefully what they are being told. There is a big difference between scepticism 
and naivete, and it is in between these polarities that the health worker can 
best satisfy the differing needs of patient, law enforcement, criminal justice 
system and the wider society. To be seen to be impartial is vital for effective 
court testimony.

Health workers should also be aware of the impact on themselves of repeatedly 
hearing, seeing and dealing with cases of interpersonal violence. Recognition 
of the effects of exposure to what are inevitably, at least at times, extremely
Dealing with victims of sexual violence: useful techniques

You may find the following strategies and techniques helpful when dealing with victims of sexual violence:

- Greet the patient by name. Use her preferred name. Make her your central focus.
- Introduce yourself to the patient and tell her your role, i.e. physician, nurse, health worker.
- Aim for an attitude of respectful, quiet professionalism within the boundaries of your patient’s culture.
- Have a calm demeanour. A victim who has been frightened and has experienced fear wants to be in the company of people who are not frightened.
- Be unhurried. Give time.
- Maintain eye contact as much as is culturally appropriate.
- Be empathetic and non-judgmental as your patient recounts her experiences.
distressing events and an ability to develop mechanisms for coping are essential for maintaining one’s personal health and well-being while working long-term in this field. Health service managers need to be aware of this and to ensure support is available to staff. There are a number of fora, both formal and informal, that can assist health workers address any issues they may have; these include psychological debriefing sessions and discussions with fellow workers.

4.2.3 Obtaining consent

Before a full medical examination of the patient can be conducted, it is essential that informed consent be obtained. In practice, obtaining informed consent means explaining all aspects of the consultation to the patient. Particular emphasis should be placed on the matter of the release of information to other parties, including the police. This is especially important in settings where there is a legal obligation to report an episode of violence (and hence details of the consultation) to the relevant authorities.

Thus, having determined the medical status of the patient, the next step in the assessment process is to inform the patient of her options. It is crucial that patients understand the options open to them and are given sufficient information to enable them to make informed decisions about their care. It is important that the correct environment is provided, i.e. one in which the patient feels secure and does not feel pressurized or intimidated in any way. This is a fundamental right of all patients but has particular relevance in this setting where patients may have been subjected to a personal and intrusive event against their will. It is also important to ensure that a patient has a sense of control returned to them when in medical care. Above all, the wishes of the patient must be respected.

Informed consent is a central issue in medico-legal matters. Examining a person without their consent could result in the medical officer in question being charged with offences of assault, battery or trespass. In some jurisdictions, the results of an examination conducted without consent cannot be used in legal proceedings.

4.3 Taking a history

Once you are satisfied that your patient has sufficient information to provide informed consent, ask her to sign or mark the consent form (if a consent form is required in your jurisdiction). Explain to the patient that should she decide to pursue legal action against the perpetrator, any information she discloses to you in the course of the examination may become part of the public record. If mandatory reporting is required in your jurisdiction, make sure the patient understands this. It is worth spending time obtaining consent as this may well help to develop the patient’s trust in you. It will benefit everyone if you can make your patient feel safe and secure in the environment in which you are working, as well as with yourself, as her examiner.
4.3.1 General medical history

The primary purpose of taking a medical history is to obtain information that may assist in the medical management of the patient or may help to explain subsequent findings, e.g. easy bruising or loss of consciousness or memory loss. Health professionals are advised to refer to national guidelines or standards for conducting clinical examinations to ensure that they are in compliance.

As a minimum, the medical history should cover any known health problems (including allergies), immunization status and medications. In terms of obtaining information about the patient's general health status, useful questions to ask would be:

- Tell me about your general health.
- Have you seen a nurse or doctor lately?
- Have you been diagnosed with any illnesses?
- Have you had any operations?
- Do you suffer from any infectious diseases?

When seeking information about medications that your patient may be taking, the following questions may be helpful:

- Do you have any allergies?
- Do you take tablets given to you by a health worker?
- Do you take herbal preparations?
- Do you take any other potions?

If possible, a standard examination record (see Annex 1) should be used for recording details of the patient’s medical history; use of a standard form acts as a guide for the examiner by prompting relevant questions and prevents the omission of important details. Observing an experienced practitioner taking a history is also an invaluable aid in this area.

4.3.2 Gynaecological history

A patient’s recent gynaecological history is of particular relevance in cases of sexual assault. Questions that could be asked include:

- When was the first day of your last menstrual period?
- Have you had any sexual relationship prior to this event?
- Have you had any pregnancies? How many and how were they delivered?
- How many children do you have?
- Were there any complications during delivery?
- Have you had pelvic surgery?
- Do you use contraception? What type?
- Do you have a current sexual partner?
- When did you last have intercourse that you agreed to? (Details may be required if DNA analysis is to be performed.)
4.3.3 The assault itself

The main aims of obtaining an account of the violence inflicted are to:

— detect and treat all acute injuries;
— assess the risk of adverse consequences, such as pregnancy and STIs;
— guide relevant specimen collection;
— allow documentation (the history should be precise, accurate, without unnecessary information that may result in discrepancies with police reports);
— guide forensic examination.

When interviewing the patient about the assault, ask her to tell you in her own words what happened to her. Document her account without unnecessary interruption; if you need to clarify any details, ask questions after your patient has completed her account. Avoid questions commencing with the word, “Why?” as this tends to imply blame; instead use open-ended, non-leading questions. Be thorough, bearing in mind that some patients may intentionally avoid particularly embarrassing details of the assault (for example, patients may omit details of oral sexual contact or anal penetration); others may find it difficult to talk about the assault. Explain to the patient that you are interested in different aspects of the event to the police; as her health worker you are particularly concerned about any physical contacts between the patient and her assailant(s).

Always address patient questions and concerns in a non-judgmental, empathetic manner; for instance:

— use a very calm tone of voice;
— maintain eye-contact as is culturally appropriate;
— don’t express shock or disbelief;
— avoid using victim-blaming statements such as, “What did you think would happen?”, “What were you doing out alone?”, “What were you wearing?” or “You should have known better.”

Note that some victims experience involuntary orgasms during the assault; this may cause much confusion for the patient. The fact that a patient experienced orgasm does not imply consent.

The following details about the alleged assault must be documented, preferably in an examination proforma (53):

— the date, time and location of the assault, including a description of the type of surface on which the assault occurred;
— the name, identity and number of assailants;
— the nature of the physical contacts and detailed account of violence inflicted;
— use of weapons and restraints;
— use of medications/drugs/alcohol/inhaled substances;
— how clothing was removed.

Details of actual or attempted sexual activity should also be carefully recorded, in particular whether or not the following occurred:
— vaginal penetration of victim by offender’s penis, fingers or objects;
— rectal penetration of victim by offender’s penis, fingers or objects;
— oral penetration of victim by offender’s penis or other object;
— oral contact of offender’s mouth with victim’s face, body or genito-anal area;
— forced oral contact of victim’s mouth with offender’s face, body or genito-anal area;
— ejaculation in victim’s vagina or elsewhere on body the victim’s body or at the scene.

The use of condoms and lubricant should be noted. Any subsequent activities by the patient that may alter evidence, for example, bathing, douching, wiping, the use of tampons and changes of clothing, should also be documented. Finally, details of any symptoms that have developed since the assault must be recorded; these may include:
— genital bleeding, discharge, itching, sores or pain;
— urinary symptoms;
— anal pain or bleeding;
— abdominal pain.

4.4 The physical examination
4.4.1 General principles
When conducting a physical examination of a victim of sexual violence, examiners are advised to proceed as follows (further information on selected parts of the recommended examination sequence are provided in subsequent subsections as indicated):

1. Note the patient’s general appearance, demeanour and mental functioning. If the patient’s mental functioning appears impaired, attempt to assess whether the impairment is recent (e.g. due to the effects of alcohol) or symptomatic of a longer-term illness or disability (e.g. mental retardation).
2. Note the patient’s vital signs, that is her:
— blood pressure;
— temperature;
— pulse;
— respiration rate.
3. Examine the patient from head-to-toe, concluding with the genito-anal area1 (see sections 4.4.2 and 4.4.3, respectively).
4. Note and describe in detail any physical injuries, even if forensic evidence is not being collected. Use body maps to indicate location and size of injury (see section 4.5).
5. Photograph any injuries, if possible (see section 8.2). A separate consent form for photography may be necessary.
6. Order diagnostic tests (e.g. X-rays, CT scan, ultrasound) to aid in diagnosing

1 It is generally considered inappropriate to perform an internal gynaecological examination on a virgin. The decision as to whether this should be done should be based on medical and “humanitarian” grounds.
fractures, head and neck injuries, brain or spinal cord injuries, or abdominal trauma, as appropriate (see section 4.6).

7. Draw blood samples for testing for HIV (informed consent must be obtained for HIV testing), hepatitis B, syphilis and other STIs, as necessary (see sections 6.3–6.5).

It is important to observe the following general principles and procedures throughout:

- Before starting the physical examination, take time to explain all the procedures to your patient and why they are necessary. Give your patient a chance to ask any questions.

- Allow the patient to have a family member or friend present throughout the examination, if she so wishes.

- A chaperone for the patient should always be present, especially if the examiner is male. The primary role of the chaperone, preferably a trained health worker, is to provide comfort and support to the patient. The chaperone also protects the health worker in the event of a patient alleging that the examining health worker behaved in an unprofessional manner.

- Throughout the physical examination inform the patient what you plan to do next and ask permission. Always let the patient know when and where touching will occur. Show and explain instruments and collection materials. Patients may refuse all or parts of the physical examination and you must respect the patient’s decision. Allowing the patient a degree of control over the physical examination is important to her recovery.

- The examination should be performed in a setting that is light, warm, clean and private. Ideally, the accommodation should provide both auditory and physical privacy, with separate areas for undressing (e.g. behind a screen or curtain, or another room) and the couch aligned so as to allow the health worker to approach from the patient’s side. A gown should be provided.

- If the clothing removed was that worn during the assault and forensic evidence is to be collected, the patient needs to undress over a white sheet or large piece of light paper. Try to provide as much privacy as possible while the patient is undressing. Use a cover gown. If the patient has consented to the collection of her clothing then each item of clothing must be placed by the examiner’s gloved hand into a paper bag. If clothing is to be held for forensic examination, replacement clothing needs to be provided. Section 5 (Forensic specimens) provides further details of the requirements of forensic examinations and evidence collection techniques.

- Both medical and forensic specimens should be collected during the course of the examination. Providing medical and legal (forensic) services simultaneously, i.e. at the same time, in the same place and by the same person, reduces the number of examinations the patient has to undergo and can ensure the needs of the patient are addressed more comprehensively.

- The following universal precautions should be observed at all times during the examination (54):
— wear gloves whenever in contact with blood or other body fluids;
— change gloves between patients; it may sometimes be necessary to change
gloves during the examination in order to prevent contamination;
— wash hands with soap and water after any exposure to body fluids or
blood, between clients, and after removing gloves;
— wear protective eye-wear, masks or face shields if there is a possibility of
splashing blood or body fluids into your eyes, face or mouth;
— do not recap used needles;
— do not bend or break needles after use;
— dispose of used needles in special impermeable sharps containers
immediately after use.

● The health worker should document all findings as the physical examination
proceeds. The patient can thus expect periods of silence during the course
of the examination. Make sure that the patient understands that she can
stop the procedure at any stage if it is uncomfortable for her and give her
ample opportunity to stop the examination, if necessary.

● Always address patient questions and concerns in a non-judgmental,
emphatic manner. Use a calm tone of voice.

4.4.2 The “top-to-toe” physical examination

A systematic, “top-to-toe” physical examination of the patient should be
conducted in the following step-wise manner (48). The numbered list of actions
refers to the numbered body parts shown in Fig. 1. The genito-anal examination
is described separately (see section 4.4.3). See section 4.5 for guidance on
recording and classifying injuries.

Step 1
First note the patient’s general appearance and demeanour. Start with the
patient’s hands; this will reassure the patient. Take the vital signs, i.e. pulse,
blood pressure, respiration and temperature. Inspect both sides of both hands
for injuries. Observe the wrists for signs of ligature marks. Trace evidence may
need to be collected (some jurisdictions require fingernail scrapings).

Step 2
Inspect the forearms for defence injuries; these are injuries that occur when
the subject raises a limb to ward off force to vulnerable areas of the body.
Defensive injuries include bruising, abrasions, lacerations or incised wounds.
In dark skinned people bruising can be difficult to see, and thus tenderness
and swelling is of great significance. Any intravenous puncture sites should be
noted.

Step 3
The inner surfaces of the upper arms and the armpit or axilla need to be
carefully observed for signs of bruising. Victims who have been restrained by
hands often display fingertip bruising on the upper arms (see Fig. 6). Similarly,
when clothing has been pulled, red linear petechial bruising can sometimes be seen.

**Step 4**
Inspect the face. Black eyes can be subtle. Look in the nose for signs of bleeding. Gentle palpation of jaw margins and orbital margins may reveal tenderness indicating bruising. The mouth should be inspected carefully, checking for bruising, abrasions and lacerations of buccal mucosa. Petechiae on the hard/soft palate may indicate penetration. Check for a torn frenulum and broken teeth. Collect an oral swab, if indicated.

**Step 5**
Inspect the ears, not forgetting the area behind the ears, for evidence of shadow bruising; shadow bruising develops when the ear has been struck onto the scalp. Use an otoscope to inspect the eardrum.

**Step 6**
Gentle palpation of the scalp may reveal tenderness and swelling, suggestive of haematomas. Hair loss due to hair pulling during the assault may cause large amounts of loose hair to be collected in the gloved hands of the examiner; alternatively, a gentle combing may recover any loose hair. Electrostatic forces
can, however, cause large amounts of loose hair to be retained in the head until the patient next takes a shower or bath.

Step 7
The neck area is of great forensic interest. Bruising on the neck can indicate a life-threatening assault. Imprint bruising may be seen from necklaces and other items of jewellery on the ears and on the neck. Suction-type bruising from bites should be noted and swabbed for saliva before being touched.

Step 8
The breasts and trunk should be examined with as much dignity and privacy as can be afforded. It is generally most convenient to start with the back. It is possible to expose only that area that is being examined; for example, the gown may be taken aside on the right side of the back and then the left side of the back. The shoulders should be separately viewed. Subtle bruising and more obvious bruising may be seen in a variety of places on the back. If the patient is able to sit up on the couch, the gown can be taken down to the upper breast level just exposing the upper chest on the right and left and then each breast can be examined in turn. Breasts are frequently a target of assault and are often bitten and so may reveal evidence of suction bruises or blunt trauma. If the breasts are not examined, the reasons for not doing so should be documented.

Step 9
The patient can then be reclined for an abdominal examination, that is to say an inspection for bruising, abrasions, lacerations and trace evidence. Abdominal palpation should be performed to exclude any internal trauma or to detect pregnancy.

Step 10
With the patient still in a reclined position, the legs can be examined in turn, commencing with the front of the legs. Inner thighs are often the target of fingertip bruising or blunt trauma (caused by knees). The pattern of bruising on the inner thighs is often symmetrical. There may be abrasions to the knee (as a consequence of the patient being forced to the ground); similarly, the feet may show evidence of abrasions or lacerations. It is important to inspect the ankles (and wrists) very closely for signs of restraint with ligatures. The soles of the feet should also be examined.

Step 11
It is advisable, if possible, to ask the patient to stand for the inspection of the back of the legs. An inspection of the buttocks is also best achieved with the patient standing. Alternatively, the patient may be examined in a supine position and asked to lift each leg in turn and then rolled slightly to inspect each buttock. The latter method may be the only option if the patient is unsteady on her feet for any reason, but does not afford such a good view of the area. Any biological
evidence should be collected with moistened swabs (for semen, saliva, blood) or tweezers (for hair, fibres, grass, soil).

As a general rule, the presence of any tattoos should be documented in the examination record, together with a brief description of their size and shape, as these may become a means of assessing the accuracy of the observations of the examining practitioner in court. Similarly, obvious physical deformities should be noted. If tattoos and obvious deformities are not recorded, the medical examiner should be prepared to justify his/her decision for not so doing. The examiner should weigh up the evidential value of observations of this nature against the prejudicial value they may have when discussed in front of a jury on a case-by-case basis.

The use of Wood’s lamps to detect semen on areas of skin where this is suspected is no longer recommended clinical practice. Wood’s lamps do not fluoresce semen as well as previously thought, and more reliable methods of detecting semen (e.g. swabs) should therefore be used (see sections 4.4.3 below and 5.2 Forensic specimen collection techniques).

4.4.3 The genito-anal examination

Before embarking on a detailed examination of the genito-anal area, it is important to try and make the patient feel as comfortable and as relaxed as possible. It will greatly assist many patients if each step of the examination is explained to them; for example, say, “I’m going to have a careful look. I’m going to touch you here in order to look a bit more carefully. Please tell me if anything feels tender.”

Initially the patient should be placed lying on her back with her knees drawn up, heels together and legs gently flopped apart, i.e. in the lithotomy position. The patient’s breasts, abdomen, pelvic area and legs can be covered by a sheet until the examination actually takes place, at which point the sheet can be drawn up. Lighting should be directed onto the patient’s vulval area. Injuries to the genital or anal regions can cause considerable pain when the area is touched. In some instances, only a limited examination may be necessary; alternatively, analgesia may be required.

The following procedures form the basis of a routine genito-anal examination:

Step 1

The external areas of the genital region and anus should be examined, as well as any markings on the thighs and buttocks. Inspect the mons pubis. The vaginal vestibule should be examined paying special attention to the labia majora, labia minora, clitoris, hymen or hymenal remnants, posterior fourchette and perineum. A swab of the external genitalia should be taken before any digital exploration or speculum examination is attempted (see section 5.2 Forensic specimen collection techniques). A gentle stretch at the posterior fourchette area may reveal abrasions that are otherwise difficult to see, particularly if they are hidden within slight swelling or within the folds of the mucosal tissue. Gently pulling the labia (towards the examiner) will improve visualization of the hymen. Asking the patient to bear down may assist the visualizing of the introitus.
Step 2
If any bright blood is present, it should be gently swabbed in order to establish
its origin, i.e. whether it is vulval or from higher in the vagina.

Step 3
A speculum examination allows the examiner to inspect the vaginal walls for
signs of injury, including abrasions, lacerations and bruising (see Fig. 2). (Use
of a transparent plastic speculum is especially helpful for visualizing the vaginal
walls.) Trace evidence, such as foreign bodies and hairs, may be found and, if
so, collected (see section 5.2 Forensic specimen collection techniques). The
endocervical canal can also be visualized.

This part of the examination may be
particularly difficult for the patient, as it may
remind her of the assault. It should therefore
be introduced gently and its importance
explained carefully.

Warming of the speculum prior to use is
advisable and can be achieved by immersing
the instrument in warm water in a sink.
Traditionally, the recommended technique for
speculum examinations involved inserting the
speculum along the longitudinal plane of the
vulval tissues and then rotating it into its final
position once the initial muscle resistance had
relaxed. More recently, however, an alternative
technique, one that is generally more comfor-
table for the subject, has gained widespread
acceptance. The duckbill speculum is rested
in its broader dimension on the posterior
fourchette, allowing the dimension of the
object to be anticipated by the vaginal tissues.
This also allows some relaxation of the introital tissues prior to insertion, in
much the same way as the perianal sphincters do when the examining digit is
rested at the opening prior to insertion (see Step 5). With the duckbill speculum
resting as described, and the patient in the lithotomy position, the speculum
can be smoothly introduced, with no twisting, in a downwards direction,
opening the duckbills gently as it progresses. This avoids any contact with the
urethra, which is painful, and allows the cervix to be visualized with ease.

In most cases, a speculum examination should be performed as a matter of
course. It is particularly relevant if there is significant vaginal or uterine pain
post assault, vaginal bleeding or suspicion of a foreign body in the vagina.
Furthermore, in assaults that occurred more than 24 hours but less than 96
hours (approximately) prior to the physical examination, a speculum
examination should be performed in order to collect an endocervical canal
swab (for semen). If a speculum examination is not conducted (e.g. because of
patient refusal) it may still be possible to collect a blind vaginal swab (see
section 5.2 Forensic specimen collection techniques).
Step 4
Although an anal examination can be performed while the patient is still in the
lithotomy position, it is usually easier to do this with the patient in the left
lateral position. Thus on completion of the genital examination, ask the patient
to roll over on to her side, and face the wall with her legs drawn up. Respectful
covering of the thighs and vulva with a gown or sheet during this procedure
can help prevent a feeling of exposure. The uppermost buttock needs to be
lifted to view the anus. This should be explained. The patient can hold the
buttock up herself, if she is comfortable and able to do so. Gentle pressure at
the anal verge may reveal bruises, lacerations and abrasions.

Step 5
Digital rectal examinations are recommended if there is a reason to suspect
that a foreign object has been inserted in the anal canal, and should be
performed prior to a proctoscopy or anoscopy. In a digital rectal examination,
the examining finger should be placed on the perianal tissues to allow relaxation
of the natural contraction response of the sphincter. Once relaxation is sensed
then insertion can take place.

Step 6
Proctoscopy need only be used in cases of anal bleeding or severe anal pain
post-assault, or if the presence of a foreign body in the rectum is suspected.

4.5 Recording and classifying injuries
Clinicians and pathologists are frequently required to respond to questions
about injuries from investigators, lawyers or the courts. The sorts of things
that investigating teams want to know about are:

— the age of an injury;
— how (i.e. the mechanism by which) the injury was produced;
— the amount of force required to produce the injury;
— the circumstances in which the injury was sustained;
— the consequences of the injury.

Injury interpretation is, however, both a complex and challenging matter. It
requires a broad-based comprehension of anatomical, physiological and
pathological principles. Individuals performing this role should have proven
expertise in the field; this expertise should be reinforced by exposure to peer
review, continuing education and quality assurance programmes.

A brief overview of the procedures involved in recording and interpreting
wounds, including some of the practical difficulties frequently encountered, is
given below. Further information can be sought from the recommended
reference texts listed in the bibliography.

Without accurate documentation and expert interpretation of injuries,
any conclusions drawn about how injuries occurred might be seriously
flawed. This will have profound consequences for both the victim and
the accused. Health workers who do not have the necessary training and skills to provide this service are advised to document any injuries, using standard terminology (see section 4.5.2), but to refer the task of injury interpretation to a forensic specialist.

4.5.1 Injury description

Injury interpretation is entirely dependent on the accuracy and completeness of the recorded observations of wounds. Table 6 lists the features of a wound that need to be carefully observed and described in order to support injury interpretation. Adoption of a systematic approach to describing and recording the physical characteristics of wounds will ensure that none of the critical elements is omitted. Ideally, such observations should be recorded contemporaneously in the notes of the medical consultation (see section 4.4 The physical examination).

4.5.2 Classification of wounds

There are a number of advantages of using standard, universally accepted descriptive terms for classifying wounds. Use of a standard terminology not only assists in identifying the mechanism by which the injury was sustained but also contributes to a better understanding of the circumstances in which the injuries may have been sustained. When used correctly, a standardized system of wound classification and description may allow deductions about the weapon or object that caused the injury. Furthermore, an examination of the pattern of injuries may assist in answering questions about whether the injuries were sustained in an accidental, assaultive or self-inflicted manner.

Wounds are generally classified as either abrasions, bruises, lacerations,

### Table 6 Describing features of physical injuries

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>Record the anatomical position of the wound(s).</td>
</tr>
<tr>
<td>Size</td>
<td>The dimensions of the wound(s) should be measured.</td>
</tr>
<tr>
<td>Shape</td>
<td>Describe the shape of the wound(s) (e.g. linear, curved, irregular).</td>
</tr>
<tr>
<td>Surrounds</td>
<td>Note the condition of the surrounding or the nearby tissues (e.g. bruised, swollen).</td>
</tr>
<tr>
<td>Colour</td>
<td>Observation of colour is particularly relevant when describing bruises.</td>
</tr>
<tr>
<td>Course</td>
<td>Comment on the apparent direction of the force applied (e.g. in abrasions).</td>
</tr>
<tr>
<td>Contents</td>
<td>Note the presence of any foreign material in the wound (e.g. dirt, glass).</td>
</tr>
<tr>
<td>Age</td>
<td>Comment on any evidence of healing. Note that accurate ageing is impossible and great caution is required when commenting on this aspect.</td>
</tr>
<tr>
<td>Borders</td>
<td>The characteristics of the edges of the wound(s) may provide a clue as to the weapon used.</td>
</tr>
<tr>
<td>Classification</td>
<td>Use accepted terminology wherever possible (see section 4.5.2 Classification of wounds).</td>
</tr>
<tr>
<td>Depth</td>
<td>Give an indication of the depth of the wound(s); this may have to be an estimate.</td>
</tr>
</tbody>
</table>
incisions, stab wounds or gun shot wounds. The main features of each wound category are summarized below.

Abrasions

Abrasions are defined as *superficial injuries to the skin caused by the application of blunt force* and are produced by a combination of contact pressure and movement applied simultaneously to the skin.

Careful examination of an abrasion may allow identification of the causative implement and the direction of the force applied. There are a number of different types of abrasions; these are subdivided as follows:

- scratches (e.g. produced by fingernails or thorns);
- imprint (whereby the pattern of the weapon may leave a characteristic abrasion on the skin);
- friction (e.g. grazes from contact with carpet or concrete).

Bruises

Bruises are defined as *an area of haemorrhage beneath the skin*. Bruises are also known as a haematomas or contusions.

Bruising follows blunt trauma; the discoloration is caused by blood leaking from ruptured blood vessels. Bruises may also occur within a body cavity or within an organ. When commenting on bruises, caution must be exercised for the following reasons:

- The current consensus view is that the age of a bruise cannot be determined with any degree of accuracy. However, this was previously thought possible and is widely taught in older textbooks.
- The apparent colour of the bruise may be affected by skin pigmentation (e.g. bruising may not be readily visible on darker skin) and by different types of lighting. Furthermore, describing colour inevitably involves a subjective element.
- The site of bruising is not necessarily the site of trauma; for instance:
  - bruising may extend beyond the site of the impact;
  - bruising may appear at a site distant from the impact;
  - visible bruising may be absent despite considerable force being used.
- The shape of the bruise does not necessarily reflect the shape of the weapon used (i.e. blood may infiltrate surrounding tissues).
- The size of the bruise is not necessarily proportional to the amount of force delivered.

Nevertheless, some bruises bear features that may well assist in their interpretation:

- *Bite marks*. These are oval or circular bruises with a pale central area; there may also be some abrasion. In some instances, there may be a discernable dentition pattern. (Measurements and a photographic scale are important here.)
- **Fingertip bruises.** These are caused by the forceful application of fingertips. These usually appear as 1–2 cm oval or round shaped clusters of three to four bruises. There may also be a linear or curved abrasion from contact with the fingernail (see Fig. 6).

- **Patterned (imprint) bruises.** These occur when a bruise takes on the specific characteristics of the weapon used (e.g. the sole of a shoe). A clothing imprint may also occur when the force is delivered through the clothing and onto the skin.

- **Petechial bruises.** These are pinpoint areas of haemorrhage and are caused by the rupture of very small blood vessels. This type of bruising is usually seen in the face, scalp or eyes after neck compression.

- **Trainline bruises.** These are parallel linear bruises with a pale central area produced by forceful contact with a linear object (e.g. a stick or a baton). See Fig. 7.

### Lacerations

Lacerations are defined as *ragged or irregular tears or splits in the skin, subcutaneous tissues or organs resulting from blunt trauma* (e.g. trauma by impact).

The main characteristics of a lacerated wound are:

- ragged, irregular or bruised margins, which may be inverted;
- intact nerves, tendons and bands of tissue within the wound;
- the presence of foreign materials or hair in the wound.

The shape of the laceration may reflect the shape of the causative implement.

### Incised wounds

Incised wounds are defined as *injuries produced by sharp edged objects whose length is greater than their depth*.

Incised wounds may be produced by a knife, razorblade, scalpel, sword or glass fragment. It is important to distinguish between lacerations and incised wounds (also referred to as incisions or cuts) as this may assist in identifying the type of causative weapon. Lacerations and incised wounds are compared in Table 7.

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>INCISED WOUNDS</th>
<th>LACERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borders</td>
<td>Sharply defined edges</td>
<td>Ragged irregular margins</td>
</tr>
<tr>
<td>Surrounds</td>
<td>Minimal damage</td>
<td>Bruised or abraded</td>
</tr>
<tr>
<td>Blood loss</td>
<td>Variable, often profuse</td>
<td>Variable, often relatively small amounts</td>
</tr>
<tr>
<td>Contents</td>
<td>Rarely contaminated</td>
<td>Frequently contaminated; tissue bridges often visible</td>
</tr>
</tbody>
</table>

Source: reference (47).
Stab wounds

Stab wounds are defined as incised wounds whose depth is greater than their length on the skin surface. The depth of such wounds and, in particular, the degree of trauma to deeper structures, will determine the seriousness of the injury, i.e. whether the outcome is fatal or not.

Important points to note with respect to stab wounds include:

● The dimensions of the wound may not be the dimensions of the blade.
● The depth of stab wounds are affected by a number of factors, such as:
  — the amount of force delivered;
  — the robustness of protective clothing;
  — the sharpness of the tip of the blade,
  — tissue resistance and any movement of the victim.
● The dynamics of a stabbing (unless the victim is otherwise immobilized) demand great caution when interpreting the relative positions and movements of assailant and victim.
● There may be no relationship between the external dimensions of the wound and the resultant trauma to internal structures.

Gunshot wounds

Health workers should have a reasonable working knowledge of ballistics and gunshot wounds. However, it is quite likely that treatment of gunshot wounds will become the responsibility of a surgeon and their interpretation may require the assistance of a forensic pathologist. Unless such wounds are a regular part of your practice, you should be prepared to refer cases to more experienced practitioners for analysis.

4.5.3 Genito-anal injuries related to penetration

Trauma to the female genitalia and anus can be caused by forceful penetration. Penetration may be by an erect or semi-erect male penis, by other parts of the body including the fingers and tongue, or by objects of various dimensions and characteristics.

The act of penetration causes the soft tissues around the orifice to stretch. The likelihood and extent of any resultant injuries will depend on:

— the state of the tissues (i.e. size, lubrication, durability);
— size and characteristics of the penetrating object;
— the amount of force used;
— degree of relaxation in the pelvic and perineal musculature;
— the position of the perpetrator and angle of penetration.

The posterior fourchette, the labia minora and majora, the hymen and the perianal folds are the most likely sites for injury, and abrasions, bruises and lacerations are the most common forms of injury (see Figs. 3–5).
The distinction between genital injury caused by consensual penetration and that caused by non-consensual penetration is an important one. Genital injuries may occur during consensual intercourse (44), but visible signs of injuries (to the naked eye) are rare, and usually confined to minor abrasions to the posterior fourchette and introitus. Injury to the hymen, sufficient to cause bleeding, may occur in some females previously unaccustomed to sexual intercourse. Anal and rectal injuries are seldom seen after consensual penetration.

On the other hand, not all women who allege sexual assault will have genital injury that is visible on examination performed without magnification. Indeed, in many cases, none would be expected. If a mature, sexually active woman does not resist, through fear of force or harm, and penile penetration of her vagina occurs, then it is likely that no injury will be sustained. This finding does NOT disprove her claim. Most studies indicate that less than 30% of premenopausal women will have genital injuries visible to the naked eye after non-consensual penetration. This figure increases to less than 50% in postmenopausal women (45, 46). An understanding of this issue is of fundamental importance in sexual assault medicine.

Figure 3  Posterior fourchette lacerations
Figure 4  *A bruised hymen*

Figure 5  *Perianal bruising and laceration*
4.5.4 Injury patterns and their interpretation

The classification of wounds, according to their main characteristics (as described above) allows certain conclusions to be drawn about their causes. However, as mentioned earlier, this is an area that should be approached with caution: the interpretation of injury patterns for medico-legal purposes should only be performed by practitioners with considerable experience in the field.

Assaults produce a huge range of different types of injury; indeed, injuries are as varied as the assaultive actions that caused them. This diversity complicates the task of injury interpretation and, more often than not, precludes definitive conclusions. Nevertheless, some inferences about the nature and circumstances of an assault can be made from the pattern of injury in many cases; Table 8 lists a selection of violent acts and their most probable associated pattern of injury; frequently observed patterns of bruising, laceration and abrasion are illustrated in Figs. 6–10.

<table>
<thead>
<tr>
<th>ACTION</th>
<th>SITE</th>
<th>POSSIBLE INJURIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bite</td>
<td>Neck</td>
<td>Bite marks, bruising, abrasions, Suction-type petechial bruising</td>
</tr>
<tr>
<td></td>
<td>Breasts</td>
<td>Bite marks, abrasions/lacerations to nipples</td>
</tr>
<tr>
<td>Blows</td>
<td>Scalp</td>
<td>Bruising (including haematomas), lacerations</td>
</tr>
<tr>
<td></td>
<td>Face</td>
<td>Fractures (cheek, jaw, nose), Dental trauma</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intra-oral bruises/abrasions, frenulum damage</td>
</tr>
<tr>
<td></td>
<td>Eyes</td>
<td>Periorbital haematomas (black eyes), Subconjunctival haemorrhage (bleeding into the white of the eye)</td>
</tr>
<tr>
<td></td>
<td>Ears</td>
<td>Eardrum perforation (usually slapping), Bruises/lacerations to ear, forearm bruises on scalp behind ear</td>
</tr>
<tr>
<td></td>
<td>Neck</td>
<td>Laryngeal skeleton trauma, Voice changes (i.e. hoarseness, dysphonia), difficulty with swallowing</td>
</tr>
<tr>
<td></td>
<td>Hands</td>
<td>Knuckle abrasions (punching), bruising, lacerations, fractures</td>
</tr>
<tr>
<td></td>
<td>Limbs</td>
<td>Bruises, abrasions, lacerations, fractures</td>
</tr>
<tr>
<td></td>
<td>Trunk</td>
<td>Bruises, abrasions, fractures (especially ribs)</td>
</tr>
<tr>
<td>Burns (cigarette burns)</td>
<td>Trunk</td>
<td>Circular burns 5–15 mm in size on any part of the body, Partial or full thickness (flame, scald, contact)</td>
</tr>
<tr>
<td>Defensive responses</td>
<td>Limbs</td>
<td>Bruising (especially on medial and lateral aspects of forearms and hand), “warding off” type injuries, Incised wounds (knife, bottle), Lacerations, fractures (blunt implements)</td>
</tr>
<tr>
<td></td>
<td>Hands</td>
<td>Incised wounds to palms and web space (grasping sharp weapon), Incised wounds and bruises to dorsum (deflecting blows), Nail damage (may also occur in counter assault, e.g. scratching)</td>
</tr>
<tr>
<td>Dragging</td>
<td>Limbs</td>
<td>Abrasions, bruises on exposed skin surfaces</td>
</tr>
<tr>
<td></td>
<td>Trunk</td>
<td>Embedded foreign material</td>
</tr>
</tbody>
</table>
Table 8  Continued

<table>
<thead>
<tr>
<th>ACTION</th>
<th>SITE</th>
<th>POSSIBLE INJURIES</th>
</tr>
</thead>
</table>
| Falls             | Limbs       | Abrasions, bruising especially to bony prominences (e.g. elbows, knees and heel of hands)  
|                   |             | Lacerations, fractures                                                           |
| Fingernail scratches |            | Linear scratch abrasions to any part of body                                      |
| Flight            | Limbs       | Linear curved scratch abrasions from contact with vegetation                     
|                   |             | Bruises from contact with other objects                                           |
|                   |             | Abrasions, bruises on knees, elbows, hands and hips from falls                    |
| Grasping          | Ears        | Bruising                                                                         
|                   |             | Trauma secondary to earring contact/loss                                            |
|                   | Limbs       | Fingertip bruises, especially to medial aspect of upper arms and forearms, and medial thighs |
| Hair pulling      |             | Hair follicle haematomas, bald patches, tenderness                               |
| Injections        | Upper limbs | Puncture site over the course of a vein                                           |
| Kissing           | Multiple sites | Contact with whiskers may cause superficial abrasions and erythema               |
| Ligature/manual compression | Neck | Ligature marks or imprint bruising (necklace, clothing)                            
|                   |             | Fingertip bruises, abrasions (due to fingernails)                                 |
|                   |             | Facial petechiae, intra-oral petechiae, conjunctival haemorrhages                   |
| Penetration       | Mouth       | Pharyngeal bruising, palate bruising, frenulum trauma                              |
| Restraint         | Limbs       | Ligature marks (wrists and ankles), fingertip bruising                             |
| Squeezing/pinching | Breasts    | Bruising                                                                         |
| Whipping with rope/cord | Trunk/lims | Linear, curved or looped bruising, abrasions                                       
|                   |             | Trainline bruises                                                                 |

Sources: adapted from references (48, 49).

Figure 6  Fingertip bruising on the upper arm
Figure 7  **Trainline bruising on the back**

Figure 8  **Bruising on the inner upper lip of a dark-skinned woman**
Figure 9  **Abrasions on the lower back from a sexual assault on a rough road surface**

Figure 10  **Defensive lacerations and bruising on forearm and hand**
The following points should be kept in mind when assessing injury patterns in cases involving sexual violence:

- The pattern of injuries sustained during a sexual assault may show considerable variation. This may range from a complete absence of injuries (most frequently) to fatal injuries (very rare).
- There are few situations where it will be possible to state that a specific injury has been sustained in a particular way or with a particular object. In many cases it can only be concluded that the injury was caused by blunt trauma (e.g. “a black eye” or bruising about the eye) or sharp trauma (e.g. an incised wound to the head).
- Falls during an assault or when fleeing from an assailant may produce a number of injuries. These will usually be abrasions or bruises (and occasionally lacerations) to the bony prominences (e.g. forehead, nose, elbows, knees, hips), with the severity of the injuries being proportional to the distance fallen.
- In some situations, individuals may deliberately inflict injuries upon themselves. Reasons for this include an underlying psychiatric illness or secondary gain. These cases require very careful consideration before the diagnosis of self-inflicted injury is made.

Information about injuries and patterns of injury is often vital in cases of sexual assault. In the event of a case proceeding to criminal prosecution, health workers may be required to answer questions about injury patterns and to draw inferences from injury patterns about the circumstances surrounding the alleged assault, either in court or in the form of a written report. A comprehensive assessment of injuries sustained may allow comments to be made about:

- whether the injuries were due to blunt or sharp trauma (or both);
- how many applications of force were required to produce the injuries, and the amount of force required to produce such injuries;
- whether the injuries were sustained at or about the same time;
- the likelihood of the injuries being sustained in the manner alleged or whether there may be some alternative explanation that could also explain the injuries;
- the possible immediate or long-term consequences of the injuries.

Health workers required to perform this function should consider carefully their responses to each of the above questions. Further guidance on issues relating to the documentation and reporting of cases of sexual violence, including the giving of evidence, is provided in section 8 (Documentation and reporting) of these guidelines.

4.6 Diagnostic tests, specimen collection and forensic issues

Depending on the nature of the assault and the severity of the injuries sustained, the patient may require a number of diagnostic tests, such as X-rays, CT scans and/or ultrasound. In addition, a number of specimens may need to be collected for medical testing purposes (e.g. pregnancy, STIs). Which tests and specimens...
are appropriate should be decided on a case-by-case basis. Given the wide variation in collection techniques for medical specimens between jurisdictions, these are not described in detail in this document. Health workers should check with their clinic, hospital or laboratory as to what medical specimens are required, when and how they should be collected, and how long each test takes to process. Guidelines for the treatment of various conditions (e.g. STIs) are, however, provided in section 6 (Treatment and follow-up care).

It will be of great benefit to the patient if any forensic evidence, if relevant, is collected during the medical examination; ideally, the health worker performing the medical assessment should also provide the forensic or medico-legal service, if properly trained to do this. Similarly, the patient will benefit if the forensic examiner is able to provide acute care and/or make referrals as necessary. Forensic specimen collection techniques are described in greater detail in the next section of these guidelines (see section 5 Forensic specimens).

A forensic examination is formally defined as a “medical examination conducted in the knowledge of the possibility of judicial proceedings in the future requiring medical opinion”. Although the principal aim of a forensic examination is to serve the needs of the judicial system, there can never be a justification for compromising medical care or treatment of a patient to allow a forensic procedure to be performed.

It is imperative that health workers who attend victims of sexual violence have a good understanding of the main components and requirements of a forensic examination. Steps which can be taken to ensure adequate skills in this field include:

1. Obtain training in medico-legal matters (see Annex 3).
2. Have access to written material to refer to during and after training.
3. Perform several (ideally 15–20) forensic examination under supervision.
4. Perform a forensic examination alone.