



Standard Specification for Equipment and Supplies in Sexual Violence Investigations¹

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1. Scope

1.1 This specification describes the basic instruments used for the medical-legal examination of victims or suspects, or both, in sexual violence investigations. These specifications are designed to be used in conjunction with other specifications, guides, and practices associated with sexual violence examinations that are listed in Section 2.

1.2 Additional information can be found in Terminology E1732, Guide E1843, Specifications E2057, and Practice E2123.

1.3 This standard cannot replace knowledge, skills, or abilities acquired through education, training, and experience (see Practice E2917, Education and Training) and is to be used in conjunction with professional judgement by individuals with such discipline-specific knowledge, skills, and abilities.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

- E1732 Terminology Relating to Forensic Science
- E1843 Guide for Sexual Violence Investigation, Examination, and Evidence Collection Protocol

¹ This specification is under the jurisdiction of ASTM Committee E30 on Forensic Sciences and is the direct responsibility of Subcommittee E30.11 on Interdisciplinary Forensic Science Standards.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

- E2057 Specifications for Preparation of Laboratory Analysis Requests in Sexual Assault Investigations
- E2123 Practice for Preservation of Evidence in Sexual Violence Investigation
- E2917 Practice for Forensic Science Practitioner Training, Continuing Education, and Professional Development Programs

3. Summary of Specification

3.1 This specification outlines considerations when choosing equipment to be used in the medical-legal examination of sexual violence cases. The types of equipment listed should be included in any examination facility. Considerations for choosing a variation or optional equipment are also given.

4. Instrumentation and Supplies

4.1 The following instrumentation should be available at examining facilities where sexual violence cases are received:

4.1.1 *Alternate Light Sources*—Alternate light sources assist in the location, documentation and collection of dried stains, foreign debris, and subclinical bruising. The ultraviolet light is most often used and is considered basic equipment in a sexual violence physical examination. Variable wavelength settings are recommended to visualize semen, urine, stains, foreign debris, and possibly subclinical bruising present on the skin surface.

4.1.1.1 Alternate light sources specifically designed for use in criminal investigation activities which have the capability of illuminating surfaces under variable wavelength settings may help in locating a greater variety of stains and are valuable in locating possible subclinical bruising and establishing patterns of injury.

4.1.2 *Examination Light*—Examinations should be conducted under a high quality examination white-light.

4.1.3 *Imaging Capture*—Cameras and other forms of imaging devices are used to examine and document the body. The use of imaging devices allows the examiner to magnify the areas of the body where injuries are located.

4.1.3.1 Appropriate digital storage media, and other supplies necessary for the type of photographic instrument must also be maintained.

4.1.3.2 Cameras incapable of close-up photography, disposable cameras, or cameras, or a combination thereof, that

produce “instant” photographs are generally not of sufficient quality to warrant consideration.

4.1.3.3 Use a forensic/photographic ruler (sometimes referred to as a scale) for size-reference in photographs.

4.1.4 *Magnification Equipment*—A colposcope or other magnifying instrument may be used during the examination.

4.1.4.1 There are several varieties of colposcopes manufactured and each type should be reviewed to ascertain the best instrument for their facility.

4.1.4.2 The equipment should have photographic and/or video capability, as well as print capacity. The photographic or video capability should be of sufficient resolution to adequately record and document the detail observed in the examination.

4.1.5 *Microscope*—Local evidentiary procedures may call for an examiner to observe wet mount slides prepared from a swab to determine and record the presence of motile spermatozoa. An appropriate light microscope may be used for this purpose by a qualified examiner.

4.1.5.1 A variety of imaging attachments are available for microscopes and should be considered when procuring the instrumentation.

4.1.6 *Otoscope and Ophthalmoscope*—These instruments are useful to determine whether injury to the ear(s) or eye(s), or both, have occurred.

4.1.6.1 Disposable shields should be used to prevent cross-contamination.

4.1.6.2 The otoscope may also be helpful in examining other cavities, such as the oropharynx.

4.1.7 *Overhead Lighting*—Overhead natural lights such as “daylight” bulbs that give good skin tone illumination should be used, for improved observation as well as accurate photography.

4.1.8 *Speculum*—The speculum is used to view the vaginal walls and cervix in pubertal females. Clear plastic disposable specula are preferred because they allow the examiner to see through them and visualize the vaginal walls. Metal specula do not allow this visibility and also may reflect light when taking photographs. Speculum illuminators, which attach to the

handle should be considered as an aid (as they assist) in visualizing the vaginal walls and cervical area.

4.1.9 *Scale (Physicians)*—A physician’s scale should be available to accurately measure the height and weight of the examinee.

4.1.10 *Swab Dryer*—To reduce degradation of samples, the examination area should contain equipment necessary to allow adequate air drying of wet or moist evidence items prior to packaging. Swab dryers are available commercially or can be built (no heating element should be present) to the specifications of an individual examination setting. If utilized, jurisdictions should follow the specified recommendations of the local laboratory regarding the use of a swab dryer.

4.1.11 *Trays and Tables*—Counter space, trays and tables should be adequate and at proper height to facilitate using equipment during examinations. These surfaces should meet hospital standards for cleanliness.

4.1.12 *Other Instruments, Equipment, and Supplies:*

4.1.12.1 Stethoscope, sphygmomanometer, thermometer, and surface measuring devices (reference scale/ruler) should be easily available.

4.1.12.2 Copies of exam protocols should be available.

4.1.12.3 Access for patients with physical disabilities should be accounted for.

4.1.12.4 Supplies for the comfort of the patient should be available.

4.1.12.5 Written informational materials should be provided to the patient.

4.1.13 Advanced technology (telemedicine) Consultation and or peer review equipment supports are facilitated by (not limited to) computers, software programs, and the Internet.

4.2 *Supplies*—In addition to those supplies included with the instrumentation described above in 4.1, supplies listed in **Table 1** should be available during sexual violence examinations.

5. Keywords

5.1 instrumentation; investigation; sexual violence; supplies