Unit 28: Semen Assessment

Level:	**4**
Unit type:	**Optional (Reproductive Science)**
Credit value:	**5**
Guided learning hours:	**40**

Unit summary

In this unit, you will gain knowledge and understanding of the principles and practice of semen assessment within the HFEA-licensed fertility clinic and will be able to perform semen assessment.

Semen assessment within the HFEA-licensed fertility clinic is performed in order to provide a report in the setting of the fertility service and to indicate the suitability of any sample for use in licensed fertility treatment, cryopreservation or for donation. You may carry out and report the technical steps for the assessment of semen parameters. The report should be signed off by a suitably qualified and registered member of the multidisciplinary team, according to local policies and procedures.

Semen assessment is the term chosen by the Association of Reproductive and Clinical Scientists (ARCS) to describe the investigation of a semen sample to provide clinical advice to the multidisciplinary team and to the individual (and with the individual's consent, to his partner if applicable) regarding the suitability of that sample for use in licensed fertility treatment, or as an indication of the type of treatment required in the future, or suitability for donation or cryopreservation. Semen assessment is distinct from a diagnostic semen analysis. A diagnostic semen analysis should be performed and reported by an accredited diagnostic laboratory, using the policies and procedures described in the latest WHO laboratory manual for the examination and processing of human semen. Some, but not all, HFEA-licensed fertility centres offer full diagnostic semen analysis.

The task in this unit, performing a semen assessment, is undertaken using local policies and procedures.

Training will be performed under the supervision of a designated assessor and with the approval of the person responsible within the HFEA-licensed fertility clinic. All activities during the training period require direct supervision of the learner by a suitably qualified member of the multidisciplinary team.

Any external assessor or trainer must be authorised to access the HFEA-licensed fertility clinic.

Evidence must be anonymised to remove patient-identifiable data. Section 30 of the Human Fertilisation and Embryology Act 1990 imposes a legal duty of confidentiality, and a breach of this provision is a criminal offence.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

AC1.1 includes:

- guidelines and training schemes of the Association of Reproductive and Clinical Scientists (ARCS)
- the requirements of the Human Fertilisation and Embryology Authority Code of Practice relating to semen assessment
- the local health and safety information and risk assessment(s) relating to semen assessment
- how Standard Operating Procedures ensure that:
    - all relevant aspects of performing a semen assessment are considered and undertaken
    - any discrepancies or omissions in any aspect of a semen assessment are noted, reported and followed up
- the guidelines for collection of a semen sample
- the information provided for individuals prior to sample production
- the considerations for individuals that relate to protected characteristics
- the requirements for ensuring confidentiality, privacy and comfort for individuals providing semen samples, including ensuring the sample production room is clean, comfortable and supportive of semen sample collection
- the documents required for collection and assessment of a semen sample and their purpose
- the current WHO criteria of a normal semen analysis
- the steps to ensure that the requirements for consent are in place for the proposed appointment, in line with local and HFEA requirements, to include but not limited to:
    - consent for use with a named partner
    - consent for use in donation
    - consent for storage
    - consent for use for training purposes.

AC1.6 includes:

- the correct identification of the individual providing the sample
- the purpose for which the sample is provided.

AC1.7 includes:

- additional considerations for sample identification and chain of custody
- cases where off-site procurement is not advised.

AC1.9 includes but is not limited to:

- ensuring that samples do not become misidentified
- ensuring that samples do not become contaminated
- ensuring that samples do not become cross-contaminated
- the effect of time and post-procurement on sperm
- the effect of temperature on sperm
- the requirement for sterile practice when assessing samples prior to use in treatment, donation or cryopreservation
- the requirement for following witnessing procedures when assessing samples prior to use in treatment, donation or cryopreservation.

AC2.1 includes:

- Standard Operating Procedures and standard laboratory documentation for semen assessment
- the confirmation of consent as required for the proposed procedure
- how to prepare the room for an individual to provide a semen sample
- the instructions given to individuals and donors prior to sample production, including abstinence, use of lubricants, the purpose of the sample and how any results will be given
- identifying and instructing individuals providing semen samples
- identifying and instructing individuals wishing to provide an off-site sample
- receiving semen samples into the laboratory for a range of purposes
- receiving a semen sample into the laboratory that has been produced off-site
- describing the checks performed to ensure that the assessment of the sample matches the proposed intention for the sample, for the correct individual, with the correct partner assigned, and is undertaken on the right day and at the right time
- describing the procedures carried out before and after production of the sperm sample to ensure correct identification of the purpose or intended use for the sample
- describing the procedures carried out before and after production of the sperm sample to ensure correct identification and labelling of the sample
- selecting appropriate personal protective equipment (PPE) used for semen assessment
- selecting the current documentation used to record the semen assessment
- summarising the principles and practice of microscopy for semen assessment, including the selection and safe use of the appropriate microscope and Standard Operating Procedures for basic maintenance, such as changing the bulb

- summarising the equipment required to perform a semen assessment and explaining how to confirm that it is within operational limits and suitably calibrated
- selecting the appropriate reagents and equipment to perform the semen assessment.

AC2.3 includes the ability to:

- follow Standard Operating Procedures for semen assessment
- demonstrate participation in witnessing procedures for sample identity and purpose, and ensure the absence of other samples or consumables from previous analyses in the work area
- check that the unique identifier corresponds to the individual's details
- perform macroscopic measures and observations of a semen sample
- perform semen volume assessment
- perform semen pH assessment
- perform sperm concentration assessment
- perform sperm motility assessment
- perform sperm vitality assessment (or discuss methodology)
- perform sperm morphology assessment
- perform antisperm antibody tests (or discuss methodology)
- perform round cell concentration assessment (or discuss methodology)
- perform assessment for retrograde ejaculation (or discuss methodology)
- demonstrate how to assess a sample that appears to be azoospermic (or discuss methodology)
- keep contemporaneous records in accordance with local policies and procedures
- demonstrate the ability to act if an error or omission is noted
- manage workload, taking into account the prioritisation timing of the procedure, the efficient use of resources and the multidisciplinary team.

AC2.4 includes the ability to:

- update records in accordance with local and national policies and procedures
- demonstrate effective communication on all aspects of semen assessment in line with the proposed purpose of the sample and in accordance with local policies and procedures
- explain how semen assessment results are reported and communicated to the individual
- act on any event that requires immediate action in accordance with local policies and procedures

- demonstrate disposal of sperm samples in accordance with local policies and procedures and according to Standard Operating Procedures
- list local diagnostic thresholds for treatment
- describe the individual-specific factors that might influence the semen assessment results
- describe the sources of laboratory error in semen assessment
- explain the principles of quality assurance for semen assessment
- participate in laboratory internal and external quality assurance for semen assessment
- compile reports on semen assessment for audit or quality-assurance purposes.

AC3.1 includes:

- the contingency arrangements in the event of an unforeseen problem arising
- how to escalate concerns that an individual may be having difficulty in providing a sample and the options for an individual unable to provide a sample at the appointment
- the limits of the learner's authority and who to report to.

Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet **in own area of work and in accordance with Standard Operating Procedures (SOPs)** to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the principles and practices related to performing semen assessment	1.1	Summarise current national guidelines, policies, protocols, Standard Operating Procedures and good practice underpinning semen assessment			
		1.2	Compare a 'semen analysis' in a diagnostic laboratory and a 'semen assessment' in the HFEA-licensed reproductive science laboratory			
		1.3	Explain why diagnostic semen analysis is important as an initial fertility investigation			
		1.4	Discuss the occasions when a semen analysis or assessment occurs during a patient or donor's care pathway in the local service			
		1.5	Describe how semen assessment is scheduled to ensure timely completion of the assessment			
		1.6	Explain the requirements for witnessing and the specific risks inherent in semen assessment checked through the witnessing procedure			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.7	Describe the particular requirements for samples that are produced off-site			
		1.8	Explain the factors that might influence the quality and validity of a semen assessment, including the effect of omission or irregularity			
		1.9	Explain the factors giving rise to risks for the safety and quality of gametes or embryos arising from use of those gametes			
		1.10	Explain how batch tracking of media and consumables ensures items are fit for purpose, ensuring quality and safety in relation to a semen assessment			
		1.11	Summarise the elements of the local quality-management system relating to semen assessment			
2	Be able to perform semen assessment	2.1	Prepare the working environment for handling semen specimens			
		2.2	Obtain semen specimens in line with local policies and procedures			
		2.3	Perform a semen assessment according to local policies and procedures			
		2.4	Report and conclude the semen assessment in line with local policies and procedures			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Understand the context, troubleshooting and when to take advice in relation to performing and reporting semen assessments	3.1	Explain the remedial action to take when adverse situations, problems or unforeseen problems occur			
		3.2	Explain the context within which semen assessment gives rise to or is implicated in an incident to be reported to the Human Fertilisation and Embryology Authority			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)