

# Unit 91:                                      Ultrasound Measurement of Post-Void Residual Urine

|                        |                                    |
|------------------------|------------------------------------|
| Level:                 | 4                                  |
| Unit type:             | Optional (Urodynamics and Urology) |
| Credit value:          | 12                                 |
| Guided learning hours: | 96                                 |

---

## Unit summary

In this unit, you will gain the knowledge, understanding and skills needed to perform the measurement of post-void residual urine. You will be expected to build your patient-centred professional practice and practise safely in the workplace.

## Unit assessment requirements

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

## Additional information

**It is suggested that learners will have completed the following units:**

- **Level 2 Unit 26: Anatomy and Physiology: Urogenital System**
- **Level 2 Unit 93: Performing a Urine Flow Test**
- **Level 4 Unit 11: Scientific Basis of Healthcare Science (1): Clinical Science**
- **Level 4 Unit 90: The Urinary System**
- **Level 4 Unit 52: Principles of Ultrasound**

**or have appropriate experience before completing this unit.**

All procedures must be undertaken in accordance with the Standard Operating Procedure (SOP).

AC1.3 – Level 4 learners will be expected to identify **two** common factors that may affect normal bladder filling and emptying typical of individuals referred to their own department, which could include:

- non-pharmacological, e.g., age, lifestyle (i.e., diet and fluid intake)
- pharmacological, including intravenous fluids, anti-hypertensive medication, recreational or illicit drugs
- disorders of the kidney
- some neurological diseases, e.g., multiple sclerosis
- neurological injury

- postoperative urinary retention (surgery, anaesthesia and analgesia), e.g. following spinal surgery
- sleep apnoea.

AC1.4 – common symptoms that individuals referred for urodynamic science investigations may experience:

- a strong, persistent urge to urinate
- a burning sensation when urinating
- passing frequent, small amounts of urine
- urine that appears cloudy
- blood in the urine.

AC1.5 should be assessed in relation to the typical referrals to the learner's own area of work, and could include to:

- confirm urinary retention
- identify incomplete bladder emptying
- determine whether early removal of a catheter has been appropriate
- assess bladder volume if a catheter is not draining
- identify whether an indwelling catheter is blocked
- determine bladder volume in a individual with decreased urine output
- provide information as part of the assessment continence.

AC1.6 should include:

- equipment safety
- individual safety
- staff safety
- accuracy
- potential errors and how to minimise/correct errors.

AC1.8 should include false positives or negative results.

When measuring post-void residual urine, caution should be exercised in the presence of a known pelvic cystic lesion such as an ovarian cyst, as this can give a false positive.

AC2.2 includes:

- introducing self by name and explaining role
- appropriate use of non-verbal communication
- providing information in a timely manner in appropriate language
- listening to the individual and addressing questions or seeking advice from senior colleagues
- communication during and after the test
- communicating in a way that:
  - respects the dignity, rights, privacy and confidentiality of the individual/carers

- considers and addresses potential cultural differences (undressing etc.), determines when it may be necessary to invite a family member to be present.

## 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 practice underpinning the measurement of post-void residual urine | 1.1                 | Explain the anatomy and physiology of the bladder and the process of micturition                                            |               |                     |      |
|                   |                                                                                                 | 1.2                 | Define urinary retention                                                                                                    |               |                     |      |
|                   |                                                                                                 | 1.3                 | Discuss factors affecting normal bladder filling and emptying                                                               |               |                     |      |
|                   |                                                                                                 | 1.4                 | Explain the common symptoms that patients referred for urodynamic science investigations in own area of work may experience |               |                     |      |
|                   |                                                                                                 | 1.5                 | Explain the common indications for the measurement of post-void residual urine                                              |               |                     |      |
|                   |                                                                                                 | 1.6                 | Evaluate the standard operating procedure for the measurement of post-void residual urine using ultrasound                  |               |                     |      |
|                   |                                                                                                 | 1.7                 | Discuss the method of measurement of post-void residual urine using a catheter                                              |               |                     |      |

| Learning outcomes |  | Assessment criteria |                                                                                                                                                               | Evidence type | Portfolio reference | Date |
|-------------------|--|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------|------|
|                   |  | 1.8                 | Evaluate the potential errors associated with the measurement of post-void residual urine                                                                     |               |                     |      |
|                   |  | 1.9                 | Explain the care pathway for patients presenting with symptoms of chronic urinary retention, including the use of the measurement of post-void residual urine |               |                     |      |
|                   |  | 1.10                | Explain the application of two-dimensional and three-dimensional ultrasound to measure post-void residual urine                                               |               |                     |      |

| Learning outcomes |                                                                         | Assessment criteria |                                                                                                                  | Evidence type | Portfolio reference | Date |
|-------------------|-------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------|---------------|---------------------|------|
| 2                 | Be able to perform the measurement of pre- and post-void residual urine | 2.1                 | Prepare the environment for the procedure                                                                        |               |                     |      |
|                   |                                                                         | 2.2                 | Explain the procedure to the patient using effective communication skills                                        |               |                     |      |
|                   |                                                                         | 2.3                 | Gain and document informed consent                                                                               |               |                     |      |
|                   |                                                                         | 2.4                 | Select suitable equipment in accordance with the requirements of the test                                        |               |                     |      |
|                   |                                                                         | 2.5                 | Prepare the patient for the measurement of post-void residual urine                                              |               |                     |      |
|                   |                                                                         | 2.6                 | Treat the patient with respect and compassion                                                                    |               |                     |      |
|                   |                                                                         | 2.7                 | Support the patient during each phase of the study as required                                                   |               |                     |      |
|                   |                                                                         | 2.8                 | Measure the pre-void and post-void bladder volume using ultrasound                                               |               |                     |      |
|                   |                                                                         | 2.9                 | Explain the potential special needs of patients referred for this investigation and the relevant action required |               |                     |      |
|                   |                                                                         | 2.10                | Respond to any special patient requirements, discussing with senior staff and carers as required                 |               |                     |      |
|                   |                                                                         | 2.11                | Record information as required                                                                                   |               |                     |      |
|                   |                                                                         | 2.12                | Prepare a report of the results                                                                                  |               |                     |      |

| Learning outcomes |                                                             | Assessment criteria |                                                                       | Evidence type | Portfolio reference | Date |
|-------------------|-------------------------------------------------------------|---------------------|-----------------------------------------------------------------------|---------------|---------------------|------|
| 3                 | Be able to assist following completion of the investigation | 3.1                 | Evaluate the protocols for cleaning and decontaminating equipment     |               |                     |      |
|                   |                                                             | 3.2                 | Decontaminate equipment, leaving it in a suitable condition for reuse |               |                     |      |
|                   |                                                             | 3.3                 | Clean the room, leaving it in a suitable condition for reuse          |               |                     |      |

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*