Unit 89: The Urinary System

Level: 4

Unit type: Optional (Urodynamics and Urology)

Credit value: 6

Guided learning hours: 48

Unit summary

In this unit, you will gain an understanding of the anatomy and physiology of the urinary system and build on your learning from the Level 2 Diploma in Healthcare Science.

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 Basic of Healthcare Science: Clinical Science**

or have appropriate experience before completing this unit.

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

AC1.1 includes:

- kidneys
- ureters
- urinary bladder
- urethra
- sphincters
- prostate
- pelvic floor.

AC2.1 includes:

- regulating blood ionic composition
- regulating blood pH
- regulating blood volume

- regulating blood pressure
- maintaining blood osmolarity
- producing hormones
- regulating blood glucose level
- excreting waste products.

AC4.1 includes:

- volume
- colour
- turbidity
- odour
- pH
- specific gravity.

AC5.1 – terms include:

- dysuria (painful urination)
- enuresis (repeated inability to control urination)
- frequency
- haematuria (blood in the urine)
- nocturia (the need to wake and pass urine at night)
- nocturnal enuresis (repeated inability to control urination while sleeping)
- polyuria (frequent urination)
- urinary incontinence (the unintentional passing of urine)
- urinary retention
- urgency.

AC5.2 – signs and symptoms include:

- abdominal, pelvic, or lower back pain or discomfort
- changes in the urine
- dysuria
- fever and chills
- haematuria
- hesitancy
- intermittency
- leaking of urine
- nocturia
- polyuria
- poor flow
- post-micturition dribbling
- terminal dribbling

- urgent need to urinate.

AC5.3 should include **two** disorders, which could include:

- bladder outlet obstruction
- detrusor failure
- detrusor overactivity
- detrusor sphincter dyssynergia
- detrusor underactivity
- Fowler's syndrome
- painful bladder syndrome
- polycystic kidney disease
- prostate cancer
- renal failure
- stress urinary incontinence
- urethral stricture
- urge urinary incontinence
- urinary bladder cancer
- urinary tract infection (UTI).

AC5.5 should include **two** routine blood tests.

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 urinary system	1.1	Explain the structures that comprise the urinary system			
		1.2	Explain the function of the urinary system			
		1.3	Explain the effect of ageing on the urinary system			
2	Understand the anatomy, histology, and physiology of the kidneys	2.1	Describe the structure and function of the kidneys and nephron			
		2.2	Explain the blood and nerve supply to the kidneys			
		2.3	Explain the process of glomerular filtration			
		2.4	Explain the term osmolarity			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Understand the anatomy and physiology of the ureters, urinary bladder, urethra and pelvic floor	3.1	Describe the structure of the ureters, urethra and urinary bladder			
		3.2	Compare the urinary systems in males and females			
		3.3	Explain the structure and function of the pelvic floor			
4	Understand the formation and characteristics of urine	4.1	Explain the formation of urine and the characteristics of normal urine			
		4.2	Explain the micturition reflex			
		4.3	Describe the effects of ageing on the formation and characteristics of urine			
		4.4	Explain the potential impact of urinary incontinence on quality of life			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Understand routine tests undertaken to investigate disorders of the urinary system	5.1	Explain common terms related to urinary disorders			
		5.2	Explain the common symptoms of urinary disorders			
		5.3	Discuss how urological disorders affect the urinary system			
		5.4	Explain the indications of urinalysis for patients with urinary symptoms/disorders			
		5.5	Explain the indications for routine blood tests that provide information about kidney function, including the reference ranges			
		5.6	Explain the role of uroflowmetry and urodynamics in investigating disorders of the urinary system			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

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