



Higher National Unit specification: general information

Unit title: Disease Processes and Pain Management

Unit code: FN67 35

Superclass: PE

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Unit purpose

The Unit is designed to increase the candidate with a broad knowledge and understanding of the scope, defining features and main areas of pathology. At the end of this Unit, you will understand cellular response to disease and how this affects the major systems of the body. The Unit also examines and investigates the mechanisms of pain and pain management. This knowledge aims to enhance the candidate's knowledge by providing a scientific awareness of the limitations of the human body and the major disease processes and responses that alter normal physiological function.

On completion of the Unit the candidate will be able to:

- 1 Explain the cellular and tissue responses to damage and the causes that underpin these.
- 2 Describe the disease processes that affect the major body systems.
- 3 Explain the mechanisms and management of pain.

Recommended prior knowledge and skills

Candidates must be able to demonstrate knowledge and understanding of basic human anatomy and physiology, the effect of diet on health and disease and an understanding of the process of growth and development. This can be demonstrated by achievement of the Higher National Units *Physiology for Care Professionals*, *Physiology for Care Professionals*, *Life Style Advice for Clients* or equivalent.

General information (cont)

Credit points and level

2 Higher National credits at SCQF level 8: (16 SCQF credit points at SCQF level 8*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit

Context for delivery

This Unit is delivered as part of HND Care and Administrative Practice and it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Assessment

The assessment for Outcome 1 should be a closed-book exam (multiple choice/short answer questions). The assessment for all three Outcomes will be on a sample basis and candidates will not know in advance the items on which they will be assessed. Outcomes 1 and 2 should be assessed through 20 extended response questions whilst Outcome 3 is a case study not exceeding 1,500 words.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Explain the cellular and tissue responses to damage and the causes that underpin these.

Knowledge and/or Skills

- ◆ Identify and explain the cellular adaptations to disease
- ◆ Pathological stimuli that causes changes in the cellular environment
- ◆ The adaptive response in disease (change in cellular activity, changes in cell morphology) Neoplasia
- ◆ Cell injury and death (apoptosis and necrosis, ageing)
- ◆ Identify and explain the tissue responses to damage
- ◆ Acute and chronic inflammation and regeneration
- ◆ Identify and explain genetic factors in disease
- ◆ Chromosomal abnormalities, gene defects, sex-linked disorders
- ◆ Identify and explain the environmental and immunological factors in disease
- ◆ Immunodeficiency, inappropriate immune response, hypersensitivity, infection (fungal, viral, bacterial), traumatic injuries
- ◆ Link the causative factors of disease to the physiological response
- ◆ Explain the development of signs and symptoms of a disease

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can provide on a sample basis:

- ◆ Cellular and tissue responses to disease through explanation of the knowledge requirements listed above.

Assessment Guidelines

See Outcome 2.

Higher National Unit specification: statement of standards (cont)

Unit title: Disease Processes and Pain Management

Outcome 2

Describe the disease processes that affect the major body systems.

Knowledge and/or Skills

Apply and define the meaning of the correct and appropriate medical and scientific terminology when describing a disease process and the related signs/symptoms.

Candidates should be able to describe the typical disease processes that occur within the major systems of the body, including:

- ◆ **Cardiovascular**
 - Oedema, thrombus formation, embolism, infarction, shock, vascular disease, hypertension, hypotension, infective cardiac diseases
- ◆ **Haematology**
 - Disorders of blood cells, leukaemia, leukopaenia, agranulocytosis, lymphomas
- ◆ **Respiratory**
 - Respiratory failure, vascular and haemodynamic disease, infective diseases, obstructive and restrictive diseases, neoplasia
- ◆ **Digestive**
 - Oesophageal, stomach and intestinal pathology, vascular bowel disease, neoplasia, liver, biliary tract and pancreatic disease
- ◆ **Urinary**
 - Renal disease (infective, necrotic, toxic, metabolic), lower urinary tract disease, neoplasia
- ◆ **Endocrine**
 - Diseases associated with over or under production of hormones that are produced from the pituitary, thyroid, pancreas and adrenal glands
- ◆ **Ophthalmics**
 - Disorders of the eye, glaucoma. Cataract, diabetic retinopathy
- ◆ **Muscular**
 - Muscular dystrophies, myopathies, neurogenic disorders
- ◆ **Nervous**
 - Cerebrovascular disease (infective and inflammatory), neurodegenerative, Demyelinating disorders
- ◆ **Skeletal**
 - Metabolic bone disease and neoplasia, diseases of the joints, tendons and soft tissue (inflammatory and autoimmune, trauma)
- ◆ **Sexually transmitted disease**
 - HIV/AIDS, Hepatitis, chlamydia

Higher National Unit specification: statement of standards (cont)

Unit title: Disease Processes and Pain Management

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can provide on a sample basis:

- ◆ characteristic disease processes of the major systems of the body
- ◆ the disease process using the correct medical and scientific terminology.

Assessment Guidelines

This assessment method is aimed at ensuring the candidate understands the basic knowledge requirements and can explain them in a coherent manner. The assessment of Outcome 1 and 2 should be through a closed-book examination, which should comprise of at least 20 extended questions. The assessment should be conducted on a sample basis and the candidate should not be aware of the content of the exam beforehand. The sample questions should be drawn in equal amounts from each of the knowledge requirements outlined above.

Outcome 3

Explain the mechanism and management of pain.

Knowledge and/or Skills

- ◆ Mechanism of pain
- ◆ Theories of pain
- ◆ Types of pain
- ◆ Management of pain

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ explain the mechanism of pain through the anatomical and physiological response
- ◆ describe the relevant nerve pathways and brain mechanisms
- ◆ explain theories of pain
- ◆ discuss types of pain
- ◆ examine the assessment and management of pain.

Assessment Guidelines

This could be evidenced through case study based reports (1,500 words) that covers all the points in the Knowledge and/or Skills above.

Higher National Unit specification: support notes

Unit title: Disease Processes and Pain Management

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 80 hours.

Guidance on the content and context for this Unit

This Unit is intended to provide candidates with a broad knowledge and understanding of the scope, defining features and main areas of pathology. At the end of this Unit, candidates will understand the factors that lead to disease and how they affect the major systems of the body. This knowledge aims to enhance the skills of the candidate by providing a scientific awareness of the limitations of the human body and the major disease processes that alter normal physiological functions. The purpose of the Unit is to encourage candidates to adopt a process of critical enquiry within their field of study and to understand the concept of an evidence based approach. The content of the Unit is such that it assumes candidates have experience of anatomy and physiology gained in previous Unit(s). The Unit terminology is scientific and clinical in nature and it is important that candidates become comfortable and competent in the use of these terms. Therefore, the correct terminology should be an integral part of the learning, teaching and assessment process.

Outcome 1 focuses on cells, tissues and pathological changes caused by disease. The candidate has to initially understand the function of cells and the part this plays in homeostasis through apoptosis, necrosis and ageing, although some cells are *immortal, ie cancer cells and stem cells*. The candidate has to then understand the cellular adaptive response to a variety of stimuli such as diseases, ageing and trauma. This should include understanding neoplasms, infective and inflammatory conditions. They should be able to explain the cellular response to viral, bacterial and fungal assault and any possible cell recovery and regeneration. Cell changes caused by environmental factors such as hypersensitivity in allergic responses or traumatic events should also be investigated, this should also include cellular changes resulting from environmental factors such as diet, smoking and excessive alcohol intake. Finally the candidate will look at the cellular differences in a range of genetic, chromosomal and sex-linked conditions and diseases.

The causative factors of the disease should be linked to the pathological response which should then explain the development of specific signs and symptoms.

Outcome 2 focuses on the major systems of the body and how the disease process affects them. The candidate will be expected to explain cellular response to a variety of conditions as covered in this Outcome. The candidate should be able to link the causative factors to the pathology and to the signs and symptoms of the condition.

Higher National Unit specification: support notes (cont)

Unit title: Disease Processes and Pain Management

Outcome 3 focuses on the assessment and management of pain. This should include investigating definitions of pain, realising that the experience of pain is unique and subjective, 'Pain is what the experiencing person says it is, existing whenever he says it is' McCaffrey (1972). Candidates should understand that the experience of pain, particularly chronic pain, can be negative and destructive. The causes of pain should be explored in that it is the damage to tissue that causes pain. For example: burns, inflammation, arthritis, pressure from a tumour, joint or muscle problems or surgical intervention. The mechanisms of pain should be understood from the source of the damage through the sensory neurones to the brain. The candidate should understand the role of the pain receptors in the sensory nerves, the A-delta fibres, C fibres and A- beta fibres, nociceptors, peripheral nerve pathways, spinal cord pathways, ascending pathways and brain mechanisms. Opioid receptors should be understood and their role in analgesic effects when combined with opioids. The role of serotonin and noradrenaline should be considered. Various theories of pain should be investigated, eg specificity, pattern and gateway control. The candidate should be familiar with different types of pain i.e pain threshold, tolerance, acute and chronic, nociceptor and neuropathic pain, total pain, referred pain and phantom pain. Pain management should include; the use of appropriate assessment tools such as; visual analogue scales (VAS), numerical rating scales (NRS) and verbal rating scales (VRS) psychosocial aspects of pain, scales of pain and the pharmacological and non — pharmacological treatment of pain. The candidate should understand the analgesic ladder eg. WHO Pain Ladder and its role in pain management. NICE and SIGN guidelines on pain assessment and management should be examined. The candidate should be familiar with barriers to the management of pain for example; age of service user, medical condition, sensory impairments, learning disability, fear of addiction, lack of interest, failure to assess adequately.

Guidance on the delivery and assessment of this Unit

This is a mandatory Unit in the HND Care and Administrative Practice. In order to achieve this Unit candidates are required to present sufficient evidence that they have met all the knowledge requirements for each Outcome within the range specified. Details of these requirements are given for each Outcome. The assessment instruments should follow the guidance offered by the SQA assessment model and an integrated approach to assessment is encouraged.

Accurate records should be made of the assessment instruments used showing how evidence is generated for each Outcome and marking schemes should also be provided. Records of candidate achievements should be kept and these records will be available for external verification.

Opportunities for developing Core Skills

There are opportunities to develop the Core Skills of:

Information and Communication Technology (ICT) SCQF level 6

Problem Solving SCQF level 6

Written Communication SCQF level 6

Higher National Unit specification: support notes (cont)

Unit title: Disease Processes and Pain Management

Candidates should be encouraged in the use of Information Technology as they develop their knowledge and skills within this Unit. *Problem Solving* can be developed through Outcome 3 where the candidate will review, analyse and evaluate. Written Communication can also be developed through the production of the research based report for Outcome 3 in this Unit although there is no automatic certification of Core Skills or Core Skill components.

Open learning

If this Unit is delivered by open learning methods, additional planning resources may be required for candidate support, assessment and quality assurance.

Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

History of changes to Unit

Version	Description of change	Date

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General information for candidates

Unit title: Disease Processes and Pain Management

You will be provided with a broad knowledge and understanding of the scope, defining features and main areas of pathology. At the end of this Unit, you will understand the factors that lead to disease and how they affect the major systems of the body. The Unit also examines and investigates pain, pain assessment and pain management. This knowledge aims to enhance your skills by providing a scientific awareness of the limitations of the human body and the major disease processes that alter normal physiological function. The purpose of this Unit is to provide a 'joined-up' picture of cell changes, disease processes, and subsequent pain processes and management. The content of the Unit is such that it assumes you have experience of anatomy and physiology gained in previous Unit(s). The terminology is scientific and clinical in nature and it is important that you become comfortable and competent in the use of these terms. Therefore, the correct terminology should be an integral part of the learning, teaching and assessment process.

In order to achieve this Unit, you will be required to present sufficient evidence that you have met all the knowledge requirements for each Outcome within the range specified.

The assessments you will undertake will be in the form of short and extended response questions and a research based report.