



Higher National Unit specification: general information

Unit title: Pharmacology for Care

Unit code: FN5X 35

Superclass: PE

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Unit purpose

This Unit will introduce the candidate to pharmacology, pharmacokinetics and appropriate domain specific terminology. In addition the candidate will develop the knowledge and understanding required to apply pharmacological knowledge to specific clinical conditions and to monitor and evaluate responses to commonly prescribed medication including drug interactions and allergic responses. The candidate will understand the mechanisms of adverse drug reactions and what action is necessary in such an event.

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

- 1 Explain pharmacology and pharmacokinetics and the principles of drug administration.
- 2 Investigate the use of current drug treatments for a variety of clinical conditions.
- 3 Describe the mechanisms and management of adverse drug reactions.

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 for *Physiology for Care Professionals*, *Life Style Advice for Clients* or equivalent.

Credit points and level

1 Higher National credit at SCQF level 8: (8 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.*

General information (cont)

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

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

This Unit is an optional Unit included in the framework for HND Care and Administrative Practice. It may also be suitable for delivery as a stand-alone Unit for candidates with a specific interest in this area.

Assessment

Evidence for this Unit could be generated through assessment undertaken under controlled conditions for all the Outcomes using reference books provided by the centre. Assessment should be carried out on a sample basis. Evidence for Outcomes 1 could be through short answer questions and for Outcomes 2 and 3 through integrated assessment using two different clinical case studies.

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 pharmacology and pharmacokinetics and the principle of drug administration.

Knowledge and/or Skills

- ◆ Pharmacology
- ◆ Pharmacokinetics
- ◆ Principles of drug administration
- ◆ Drug errors

Evidence Requirements

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

- ◆ explain pharmacology
- ◆ explain pharmacokinetics
- ◆ understand the principles of drug administration
- ◆ prescription and administration requirements (including accepted abbreviations)
- ◆ legal and professional requirements for reporting.

Assessment Guidelines

Assessment could be in the form of short answer questions carried out under supervised conditions.

Higher National Unit specification: statement of standards (cont)

Unit title: Pharmacology for Care

Outcome 2

Investigate the use of current drug treatments for a variety of clinical conditions.

Knowledge and/or Skills

- ◆ Clinical conditions
- ◆ Symptoms of clinical conditions
- ◆ Rationale of using different drug regimens

Evidence Requirements

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

- ◆ explain the physiology behind a range of clinical conditions
- ◆ explain the range of associated signs and symptoms
- ◆ common drug groups
- ◆ justify appropriate drug regimens
- ◆ with reference to clinical conditions explain drug doses and monitoring mechanisms
- ◆ identify possible difficulties associated with administration of medication.

Assessment Guidelines

See Outcome 3.

Higher National Unit specification: statement of standards (cont)

Unit title: Pharmacology for Care

Outcome 3

Describe the mechanisms and management of adverse drug reactions.

Knowledge and/or Skills

- ◆ Mechanism of drug interactions
- ◆ Drug interactions
- ◆ Consequences and significance of drug interactions
- ◆ Minimising the impact of interactions
- ◆ 'Side effects' and 'contra indications'
- ◆ Action required if adverse reaction occurs
- ◆ The role of health professionals in drug monitoring and management

Evidence Requirements

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

- ◆ explain the mechanism of drug interactions
- ◆ describe common drug interactions
- ◆ explain significant drug reactions eg allergies, anaphylaxis
- ◆ understand the action to take to minimise/avoid adverse interactions
- ◆ understand what is meant by the terms; side effects and contra indications
- ◆ explain the appropriate action to take when adverse drug reactions occur
- ◆ understand the role of care professionals in drug monitoring and management.

Assessment Guidelines

Evidence for Outcomes 2 and 3 could be generated through assessment undertaken under controlled conditions using reference books provided by the centre. Assessment could be carried out on a sample basis. Evidence for Outcomes 2 and 3 should be generated through an integrated approach using two different clinical case studies. Candidate would be expected to demonstrate their knowledge and skills by providing written/oral answers to questions related to two case studies.

The assessment should not last longer than three hours.

The case studies should cover at least:

- ◆ Two different clinical conditions from two of the following:
 - clinical conditions
 - gastro-intestinal problems
 - respiratory problems
 - cardiovascular problems
 - central nervous system problems
 - endocrine problems, musculoskeletal and malignant disease

Higher National Unit specification: statement of standards (cont)

Unit title: Pharmacology for Care

- ◆ Two of the following five patient groups:
 - Patient Groups: adult, elderly, child, pregnant women and nursing mothers (a different patient group must be selected for each case study)
- ◆ At least two drug interactions (one per case study) and explain the action to take in the event of an adverse drug reaction.
- ◆ The roles of the care professionals involved in monitoring and managing drug use and educating the service user.

Higher National Unit specification: support notes

Unit title: Pharmacology for Care

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 40 hours.

Guidance on the content and context for this Unit

This Unit is an optional Unit in the Group Award HND Care and Administrative Practice. It is essential that candidates are aware that they need to achieve all Evidence Requirements for the award. It can however be taken as a stand-alone Unit.

Outcomes should be taught and assessed in an integrated manner to provide a holistic approach to assessment.

Outcome 1

Explain pharmacology and pharmacokinetics and the principles of drug administration.

The candidate should understand that Pharmacology is the study of drugs. This means examining the interactions of chemical substances within the body systems, with a view to understanding the properties and actions of drugs, including the interactions between drug molecules and drug receptors and how these produce an effect. Drugs are used to treat or prevent disease, therefore they must be given in doses that achieve the optimum concentrations to be effective, however the candidate should understand that optimum concentrations should be so high as to cause excessive toxicity. The processes that determine this are collectively called pharmacokinetics. This involves the study of drug absorption into the body, distribution throughout the body and **metabolism** and **excretion** to eliminate the drug from the body. The candidate should understand that many factors contribute to variability in the pharmacokinetics of a given drug, including age, gender, body weight and medical conditions. Following the decoding of the genome a new area in pharmacology is emerging: pharmacogenetics. This means that drugs can now be tailor-made to suit the needs of the individuals' genetic make-up which by consequence should mean fewer side effects and a quicker response to drug therapy. The candidate should understand the two strategies used for determining pharmacogenetics and genotyping.

Candidates should be familiar with the medication guidelines issued by the Scottish Commission for the Regulation of Care, Professional requirements, eg NMC, SSSC, and the General Pharmaceutical Council and understand the role of these in relation to administration, consent, documentation, care planning, risk management and the protection of the individual.

Higher National Unit specification: support notes (cont)

Unit title: Pharmacology for Care

They should know and understand the medical and legal regulations regarding the administration, handling and storage of medicines and the importance of accurate up-to-date medication records This would involve investigating current legislation; Medicines Act 1968, Misuse of Drugs Act 1971, Misuse of Drugs Regulation (2001), The Health Act 2006, Controlled Drugs (Supervisory of Management and Use 2006. In addition the candidate should consider their own job role and function and how this relates to the job role and function of other professionals and key people involved in the care of the individual.

The Candidate should be aware of the different types of medication errors; omission, wrong time, wrong drug, wrong patient, wrong dose and unordered drug given. Candidates should also be aware of their own organisational procedure for the reporting of medication errors and understand their role in adhering to these.

Outcome 2

Candidates should understand the symptoms, aims of treatment and drug regimens used to treat clinical conditions such as:

- ◆ Peptic ulcer, reflux oesophagitis and inflammatory bowel disorders
- ◆ Asthma, chronic obstructive pulmonary disease and cystic fibrosis
- ◆ Angina, myocardial infarction, cardiac failure, and hypertension
- ◆ Parkinson's disease, epilepsy and psychiatric disorders
- ◆ Diabetes, under active thyroid, overactive thyroid
- ◆ Osteoporosis, rheumatoid arthritis, osteoarthritis
- ◆ Hodgkin's lymphoma, acute lymphoblastic leukaemia, breast cancer, colorectal cancer, lung cancer and palliative care

Candidates should understand the use, mode of actions, dosage and side-effects of the individual drugs used with drug regimens to treat common medical conditions.

Candidates should have a basic understanding of the problems related to treating the young and the elderly in drug handling caused by changes in, absorption, distribution, metabolism, excretion and sensitivity. Candidates should have some understanding of the problems which may arise in the elderly due to multiple pathology, polypharmacy and compliance.

Candidates should understand the potential risks involved in the use of drugs in the various stages of Pregnancy, ie 1st, 2nd and 3rd trimesters.

Candidates should have a basic understanding of the factors affecting drug excretion into breast milk and the potential problems when drugs are used during breast-feeding.

Higher National Unit specification: support notes (cont)

Unit title: Pharmacology for Care

Outcome 3

Candidates should have an awareness of the implications of clinically significant drug interactions. They should have a basic understanding of the mechanisms of clinically significant drug interactions causing additive effects, antagonistic effects, interference with absorption, plasma protein binding, metabolism and excretion to enable them to identify potential drug interactions. The candidates should know about any anticipated side effects and be clear about their own role in monitoring the individuals' condition linking this back to their recording and reporting procedures. They should have a knowledge of medications which demand the measurement of specific physiological measurements and why these must be monitored in order to identify the effects of the medication.

They should understand the importance of working in partnership with other agencies involved in the care of the individual, eg Pharmacist, GP, Community Nurse, CPN, This should include educating the service user in their own drug regimens.

The candidates should be able to recognise adverse reaction in service users such as anaphylaxis and allergies and know what action to take to minimise the reaction.

Guidance on the delivery and assessment of this Unit

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Pharmacology for Health is a mandatory Unit in the HND Care and Administrative Practice.

Open learning

All Outcomes are appropriate to Open Learning with tutor support at all stages. It is the responsibility of the delivering centre to ensure the authenticity of the candidate's work. Assessment evidence must be generated under controlled conditions as described in the Evidence Requirements section.

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)*.

Higher National Unit specification: support notes (cont)

Unit title: Pharmacology for Care

Opportunities for developing Core Skills

There may be opportunities to gather evidence towards the Core Skills of:

Communication (Written) SCQF level 6

Numeracy SCQF level 6

Problem Solving SCQF level 6

in this Unit, although there is no automatic certification of Core Skills or Core Skills components. *Communication* can be evidenced through written work produced for the Unit while numeracy will be evidenced through drug dosage calculations in Outcome 2, *Problem Solving* can be evidenced through Outcome 3 in determining the action to take in the event of adverse drug reaction.

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: Pharmacology for Care

This Unit is designed to enable you to develop your knowledge and understanding of pharmacology and drug regimens used to treat common medical conditions, to then be able to apply this knowledge to a variety of clinical conditions.

The Unit has three main areas, each the subject of a different Outcome. The three main areas are taught in an integrated manner. You will look at clinical conditions and different patient groups. This will include symptoms, dosage, side-effects and problems associated with correct usage, monitoring, if relevant and the rationale of using different drug regimens for specific clinical conditions.

You will also cover clinically significant drug interactions and their mechanism of action and how these interactions can affect people. You should also be able to describe the mechanisms of drug interaction.

To complete the Unit successfully, you will have to achieve a satisfactory level of performance in two pieces of assessed work. Outcome 1 is assessed through short answer questions and then towards the end of the Unit Outcomes 2 and 3 will be assessed through case studies. Both assessments will be under controlled conditions. You will be permitted to use text books provided by the centre for the second assessment, but you will not be allowed personal notes or personal text books.