



Australian Government

HLTPHA029 Apply knowledge of chemical principles as they apply to pharmacy activity

Release: 1

HLTPHA029 Apply knowledge of chemical principles as they apply to pharmacy activity

Modification History

Not applicable.

Application

This unit of competency describes the performance outcomes, skills and knowledge on chemical principles and reactions to increase understanding of how they apply to pharmacy activity.

This unit applies to hospital or health services pharmacy assistants and technicians working under the supervision of an authorised person.

The skills in this unit must be applied in accordance with Commonwealth and State/Territory legislation, Australian standards and industry codes of practice.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Pharmacy

Unit Sector

Health

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes

1. Identify chemical principles that apply in pharmacy activity.
2. Deliver a continuing education session for

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1. Identify the nature and use of medicinal products and how they react with the body's physiological system.
- 1.2. Record relevant information for review by an authorised person.
- 2.1. Discuss the purpose of the session, noting that chemistry is the foundation of pharmacy and explain the key concepts of

peers.

pharmacokinetics and basic chemistry principles.

- 2.2. Describe how medications are metabolised and eliminated from the human body.
- 2.3. Describe how physiological factors affect medication use.
- 2.4. Discuss the fundamentals of drug to drug, drug to food, drug to alcohol interactions.
- 2.5. Describe how specific medications react to physical environments.
- 2.6. Describe why specific medications require different routes of administration.
- 2.7. Explain which medications are vulnerable to pH degradation.
- 2.8. Explain why common medications produce unwanted reactions when given together.
- 2.9. Present information on medication shelf-life considerations.
- 2.10. Discuss what information to convey to patients about the administration of dosage forms.

Foundation Skills

Foundation skills essential to performance are explicit in the Performance Criteria of this unit of competency.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705>

Assessment Requirements for HLTPHA029 Apply knowledge of chemical principles as they apply to pharmacy activity

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- conduct one continuing education session for peers on chemical principles and reactions, as they apply to pharmacy activity that includes:
 - the key concepts of pharmacokinetics
 - basic chemistry concepts:
 - structures that are vulnerable to an acidic environment
 - factors affecting rates of reaction pH and neutralisation reactions
 - how medications are metabolised
 - how medications are eliminated from the human body
 - physiological factors affecting medication
 - fundamentals of drug to drug, drug to food, drug to alcohol interactions
 - medication administration routes
 - key information to convey to patients about the administration of dosage forms
 - medication shelf-life considerations.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- references available, including:
 - Therapeutics Guideline: Antibiotic
 - Australian Medicines Handbook (AMH)
 - Australian Pharmaceutical Formulary Handbook (APF)
 - Monthly Index of Medical Specialities (MIMS) or AusDI Advanced
 - Micromedex
- legal responsibilities of patient rights, duty of care and implications of negligence
- limitations of own work role including identification and referring of issues outside scope of own practice to an authorised person
- relevant National, State or Territory regulatory and legislative requirements
- key concepts of pharmacokinetics:
 - absorption, distribution, metabolism and elimination

- bioavailability
- sites of absorption
- factors affecting absorption
- therapeutic range
- half-life and effect on dosing intervals
- how medications are metabolised
- medications that are vulnerable to an acidic environment
- how medications are eliminated from the body
- bioequivalence
- physiological factors affecting medication, including:
 - breastfeeding
 - pregnancy
 - geriatrics
 - paediatrics
 - hepatic impairment
 - renal impairment
- fundamentals of drug to drug, drug to food, drug to alcohol interactions, including:
 - concerns with taking medications with iron and calcium supplements
 - effect antacids can have on medication absorption
 - effect of grapefruit juice on medications
 - effect alcohol can have with medications
 - rationale behind taking medications with food, with a fatty meal and on an empty stomach
- stability considerations:
 - shelf life
 - effect of temperature on medications
 - understanding the strengths and weaknesses of the following dosage forms
- continuous education session delivery methods, including:
 - digital presentation
 - demonstration
 - referral to findings
 - activities or questions.

Assessment Conditions

Skills must be demonstrated in the workplace or in a simulated environment that reflects workplace conditions.

Assessment must ensure access to:

- use of suitable facilities, equipment and resources, including:
 - relevant legislation, regulations and guidelines

- chemical pharmacy resources
- authorised person with whom to consult.

Assessors must satisfy the Standards for Registered Training Organisations' requirements for assessors.

Links

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