



Australian Government

Department of Education, Employment and Workplace Relations

HLTAMBAS501B Conduct clinical assessment

Release: 1

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Modification History

Not Applicable

Unit Descriptor

Descriptor

This unit of competency describes the comprehensive knowledge and skills required to assess the physical health status of a client in the out of hospital setting.

Application of the Unit

Application

The knowledge and skills specified in this unit are typically required by a person involved directly in the provision of out-of-hospital care in the ambulance environment. These workers must be able to apply a comprehensive knowledge of anatomy, physiology, pathophysiology and pharmacology to client assessment and care.

The application of knowledge and skills described in this competency unit relate to functioning under supervision to plan and practise client assessment within relevant state/territory clinical practice guidelines.

The unit provides a knowledge base required to formulate diagnostic reasoning and the application of client care treatments. This knowledge base also underpins successful application of ambulance care competency units in the HLT07 Health Training Package, including those for client care, access and egress.

Successful assessment of the essential knowledge described in this competency unit (and its co-requisite) is required before undertaking supervised client assessment and delivery of care at the level of skill described.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Pre-requisites

This unit must be assessed after successful achievement of pre-requisites:

- HLTAP401B Confirm physical health status
- HLTAMBCR401B Deliver basic clinical care

Employability Skills Information

Employability Skills

This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.

The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in italics are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT

1. Apply relevant *anatomical and physiological concepts* to assess client's physical health status

PERFORMANCE CRITERIA

- 1.1 Apply a detailed understanding of the *levels of organisation* of a client's body systems to client assessment
- 1.2 Demonstrate a detailed understanding of the *structure and function of body systems* when assessing a client

ELEMENT**PERFORMANCE CRITERIA**

2. Identify any variations from *homeostasis* when assessing a client's physical health status
- 2.1 Apply detailed understanding of homeostasis to the assessment of normal function of body systems
 - 2.2 Identify a range of signs and symptoms of variations from homeostasis using *standard methods and protocols*
 - 2.3 Apply an understanding of variations to *cellular metabolism* when assessing client for poor states of perfusion
 - 2.4 Apply detailed understanding of *body temperature maintenance* to the assessment of normal body function
 - 2.5 Identify the affects on a client's health status of drug therapies based on *pharmacology, pharmacokinetics and pharmacodynamics*
 - 2.6 Differentiate between clients who *require rapid stabilisation and transport* because of trauma or illness, and those who require further on-the scene assessment and management
3. Conduct assessment of injury
- 3.1 Ensure the assessment of injury includes assessing the mechanism of injury, pattern of injury and potential for injury
 - 3.2 Relate the laws of motion energy to the *kinematics of trauma*
 - 3.3 Relate the exponential change in kinetic energy as a result of increased speed to the potential for injury
 - 3.4 Associate the *principles of energy exchange* involved in an impact situation to the head, spine, thorax, and abdomen resulting from that exchange
 - 3.5 Integrate principles of kinematics of trauma into client assessment

ELEMENT**PERFORMANCE CRITERIA**

4. Conduct assessment of clients with specific conditions, disorders and injuries
- 4.1 Integrate principles of anatomy and pathophysiology with assessment data and principles of management for specific conditions, disorders and injuries
 - 4.2 Identify specific conditions, disorders and injuries and their potential impact on client's health status
 - 4.3 Assess the need for and potential impact of treatment(s) on client's health status
 - 4.4 Assess the need for drug and/or fluid therapies and potential impact on client's health status
 - 4.5 Employ a process of critical questioning to associate examination and scene findings to their likely causes and consequences
 - 4.6 Demonstrate diagnostic reasoning when determining the potential for injury or illness

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes knowledge of:

- Common anatomical, physiological and pharmacological terminology
- Concepts underpinning human anatomy and physiology, including:
 - levels of structural organisation within the human body
 - human life processes
 - homeostasis and the relationship between homeostatic imbalance and disease
- Concepts underpinning pharmacology, pharmacokinetics and pharmacodynamics
- Comprehensive understanding of the structure, physiology and normal functioning of all body systems, including:
 - chemical composition
 - cells, tissues and organs
 - integumentary system
 - musculo-skeletal system
 - nervous system
 - the special and somatic senses
 - endocrine system
 - cardiovascular system
 - lymphatic system
 - immune system
 - respiratory system
 - digestive system
 - urinary system
 - reproductive system, pregnancy and human development
- Processes of metabolism, nutrition, body temperature regulation, and inheritance
- Fluid, electrolyte and acid base balance

REQUIRED SKILLS AND KNOWLEDGE

- Pathophysiology of diseases associated with each body system and the impact of disease on each body system and their related structures, especially in relation to potential impact of client assessment procedures practised
- Effects of biological maturation and aging processes on body systems and their components
- Defence systems and immunity responses in relation to the whole body and the individual body systems
- Common disorders, problems and complaints associated with each body system and its components, especially where relevant to specific client assessment procedures practised

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Essential knowledge (contd):

- Potential impacts of a range of factors, both internal (such as physical, mental, emotional factors) and external (e.g. in relation to specific client assessment procedures) in relation to identified body systems and their components
- Understanding of the:
 - pharmacological processes and drug actions, indications and contraindications (appropriate to this level)
 - impact of traumatic pathology on the human body
 - processes and impact of mental health disorders
 - impact of overdose and poisoning on body system function

Essential skills:

It is critical that the candidate demonstrate the ability to:

- Describe in detail and articulate using appropriate and accurate terminology, the major components of each body system, their location, inter-relationships and associated pathophysiology, especially in relation to specific client assessment procedures practised
- Describe the major components of each body system and their location in relation to other structures
- Explain common problems associated with each body system and its components using terms relevant to specific client assessment procedures to be practised
- Explain in clear language relevant aspects of the structure and functioning of the body systems with particular reference to specific client assessment procedures practised
- Explain the key factors necessary to healthy functioning of each body system and inter-relationships between body systems needed to maintain overall health
- Explain the principles of functional anatomy in relation to each body system using concepts and principles specific to the nature of particular client assessment procedures to be practised
- Identify variations from normal functioning and potential interactions between body

REQUIRED SKILLS AND KNOWLEDGE

systems and other internal and external factors

- Seek assistance from an appropriate medical authority in relation to variations from normal functioning
- Take into account opportunities to address waste minimisation, environmental responsibility and sustainable practice issues

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate this competency unit:

- Assessment must establish acquisition of Essential Knowledge across the Range Statement outlined in this unit prior to assessment of skills application
- Skills involving direct client care are to be assessed initially in a simulated clinical setting (laboratory)
- As a minimum, initial assessment must include appropriate written/oral/practical examinations to address Essential Knowledge and Skills as outlined in this unit
- After successful completion of initial assessment, further assessment is to be conducted during workplace application under direct supervision
- The application of skills and knowledge described in this competency unit should be assessed in conjunction with competency unit(s) related to specific ambulance care services, including HLTAMBCR502A Deliver standard clinical care
- Candidates must demonstrate their ability to apply essential knowledge and skills identified for this competency unit before undertaking independent workplace application
- Candidates must provide evidence of their ability to apply all clinical competencies consistently (over a period, usually of 12 months) as part of supervised clinical practice

EVIDENCE GUIDE

- Access and equity considerations:*
- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
 - All workers should develop their ability to work in a culturally diverse environment
 - In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
 - Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities

Related units:

This unit should be assessed in conjunction with the following related competency unit:

- HLTAMBCR502B Deliver standard clinical care

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

RANGE STATEMENT

Anatomical and physiological concepts include:

- Anatomical position and directional terms
- Regional terms
- Body planes and sections
- Body cavities and membranes
- Abdomino-pelvic regions and quadrants

Levels of organisation refer to:

- Chemical level:
 - matter and energy
 - molecules, mixtures and compounds
 - chemical bonds
 - chemical reactions
 - inorganic compounds
 - organic compounds
- Cellular level:
 - structure
 - functions
 - transport systems
 - organelles
 - growth and reproduction
- Tissue level types, function and structure of:
 - epithelial tissue
 - connective tissue
 - epithelial membranes
 - nervous tissue
 - muscle tissue
- Organ level
- Organ/body system level
- Organismal level

RANGE STATEMENT

Structure and function of body systems must include but are not limited to the normal structure and function of the:

- Integumentary system:
 - the skin and its layers
 - skin colour
 - appendages of the skin
 - functions of the skin
 - processes of thermoregulation
 - homeostatic imbalances of the skin
 - developmental aspects of the skin
- Skeletal system:
 - bone tissue, its formation and classification
 - classification of bones, skeletal cartilages and joints
 - structure and functions of bone
 - bone homeostasis, growth and repair
 - the parts of the axial and appendicular skeletons
 - range of motion of joints
- Muscular system:
 - mechanics of muscles
 - types, function and structure of muscle tissue
 - processes of muscle contraction
- Nervous system including:
 - development of neurons
 - nervous tissue
 - neurophysiology
 - neural integration
 - central nervous system
 - peripheral nervous system
 - autonomic nervous system
 - sensation and somatic senses of pain and touch
 - special senses of taste, smell, vision, hearing, and balance
- Endocrine system:
 - anatomy and physiology of organs and structures
 - neuroendocrine regulation
 - action of hormones
 - hormone classification

continued ...

RANGE STATEMENT

RANGE STATEMENT

*Structure and function of body systems must include but are not limited to the normal structure and function of the:
(contd)*

- Cardiovascular system:-
 - Blood:
 - components and characteristics
 - groups
 - clotting
 - Heart:
 - structure and function
 - blood flow
 - conduction system
 - ECG complex
 - function and output
 - cardiac cycle, stroke volume and heart rate
 - heart sounds
 - Blood vessels and haemodynamics:
 - structure and function
 - response to blood volume, pressure and perfusion
 - pressure cascades
 - blood and pulse pressures
 - circulatory routes
- Lymphatic system:
 - organs, tissues, nodes and vessels
 - lymphocytes
- Immune system:
 - protective functions
 - non-specific resistance
 - immunologic response
 - inflammatory response
 - natural and artificially acquired immunity
- Respiratory system:
 - structure, function and protective mechanisms
 - gas laws
 - diffusion of respiratory gases
 - gas exchange (Boyle; Dalton; Charles; Henry)
 - external and internal ventilation and respiration.
 - principles of lung volumes: minute volume and oxygenation
 - transportation of respiratory gases

RANGE STATEMENT

- Digestive system:
 - structure and function
 - processes
- Urinary system:
 - structure and function
 - urine composition
 - micturition reflex

continued ...

*Structure and function of body systems must include but are not limited to the normal structure and function of the:
(contd)*

- Reproductive systems:
 - structure and function (male and female)
 - female reproductive cycle
 - myosis
 - development of gametes
 - genetics

Homeostasis means:

- Maintenance of internal environment including:
 - body temperature
 - body fluid composition (e.g. nutrient absorption by digestive system, nutrient distribution by cardiovascular system, absorption of oxygen and elimination of carbon dioxide by respiratory system, control of nutrient loss by urinary system)
 - body fluid volume (e.g. absorption of water from digestive system, loss of water through skin, distribution of water by cardiovascular system)
 - elimination of wastes from the body
 - maintenance of blood pressure
 - protection from infection
 - physical activity active and passive

RANGE STATEMENT

Standard methods and protocols may include:

- Clinical practice guidelines
- Organisation protocols
- Skills manuals
- State/territory ambulance authority regulations and/or operational procedures
- Internationally recognised scales, charts, guidelines and surveys (e.g. Glasgow coma scale, dermatome charts, blood pressure reading scales, national asthma guidelines)

Cellular metabolism involves:

- Cellular respiration
- Acid base balance
- Anaerobic and aerobic energy production

Body temperature maintenance includes:

- Metabolism of nutrients
- Energy balance
- Heat exchange

Common pharmacological terminology includes:

- Therapeutic dose
- Toxic dose
- Titration
- Half life
- Indication
- Contra-indication
- Side-effect
- Tolerance
- Idiosyncrasy and allergy
- Cumulative action
- Antagonism
- Synergism

RANGE STATEMENT

Pharmacology includes:

- Preparation, properties, uses and actions of drugs
- Common drug forms:
 - creams
 - suspensions
 - tablets
 - pessaries
 - lotions
 - capsules
 - lozenges
 - suppositories
 - injectables
 - gases
 - vapours
 - aerosol
 - powders
- Safe storage, handling and disposal of drugs

Pharmacokinetics refers to:

- Routes of administration, including:
 - enteral; oral, sublingual, rectal
 - parenteral; intravenous, intramuscular, inhalation, endotracheal, topical, pessary/douche
- Absorption, distribution, metabolism and excretion of drugs by the body

Pharmacodynamics refers to:

- Drug interactions
- Pharmacological response of drugs associated with the state/territory ambulance service protocols/guidelines
- Duration and magnitude of response associated with the state/territory ambulance service protocols/guidelines

RANGE STATEMENT

Rapid stabilisation and transport includes:

- Golden Hour
- Chain of survival
- Time critical
- Priority status
- Transport consideration e.g. ground or aeromedical

Kinematics of trauma refers to:

- Predicting injury patterns resulting from the forces and motions of energy
- Predicting injury patterns resulting from the absence of essentials such as oxygen
- Integrate the relationship between anatomy and the kinematics of trauma with assessment findings to develop an index of suspicion for specific injuries

Principles of energy exchange includes:

- Physical laws of energy exchange (ie Newton's laws of motion)
- Cavitation
- Types of trauma, including:
 - blunt (e.g. MVA/Motor bike including pedestrian injury, organ collision and restraint injuries, falls and blasts)
 - penetrating

Critical questioning refers to:

- Purposeful, informed questioning in the clinical setting to make sense of the information presented at the scene of injury or illness

Diagnostic reasoning refers to:

- Using critical questioning in the clinical setting which requires careful identification of key problems, issues, and the risks involved in responding to client needs

RANGE STATEMENT

Specific client conditions, disorders and injuries to be assessed and managed include:

- Compromised integumentary system:
 - Epidermal wound healing
 - Deep wound healing including the inflammatory response
 - Wound infection
- Burns trauma:
 - Any injury caused by the interaction of energy (thermal, chemical, electrical, or radiation) with biological matter:
 - pathophysiology of burns injuries
 - local and systemic responses
 - classifications of burn injury
 - extent and severity of burns injury e.g. Rule of Nines, Lund and Browder chart
 - Pathophysiology of burn shock
- Musculo-skeletal system medical disorder or trauma:
 - Homeostatic imbalances of bone, cartilage and muscle including inherited, inflammatory and degenerative conditions
 - Pathophysiology of musculo-skeletal injury including:
 - soft tissue injury (i.e. closed wounds) e.g. contusion, haematoma and crush injury
 - open wounds e.g. abrasion, laceration, puncture, avulsion, amputation, and bite
 - causes and types of fractures
 - dislocations, strains and sprains
 - Crush injuries and compartment syndrome
- Special circumstances:
 - Medico-legal and ethical considerations
- Neurological insult:
 - brain injury including: concussion; contusion; Diffuse Axonal Injury (DAI); types of haematoma
 - traumatic brain injury including: primary and secondary injury; cerebral perfusion; raised intracranial pressure; herniation; cerebral agitation or irritation; Cushing's triad
 - cerebral thrombosis, cerebral embolism and cerebral haemorrhage
 - transient ischaemic attack (TIA)

RANGE STATEMENT

continued ...

RANGE STATEMENT

Specific client conditions, disorders and injuries to be assessed and managed include:
(contd)

- Spinal injury:
 - knowledge of sensory and motor functions
 - reflex arc e.g. autonomic dysreflexia
 - cardiovascular changes
- Mental health and behavioural disorders:
 - psychological theory
 - collaborative approach to the care of clients and families with altered mental health status
 - legal and ethical nursing issues
 - issues related to psychosocial care
- Metabolic disorders:
 - nutritional disorders
 - body temperature
 - homeostatic imbalances associated with metabolic rate
 - assessment findings of endocrinologic disorders including: diabetes mellitus, thyroid and adrenal
- Poisoning, envenomation or overdose emergency:
 - neurotoxins; myotoxins; haemotoxins
 - illicit and prescribed
 - chemical, biological and radiological
- Cardiovascular:
 - cardiovascular insult
 - dysrhythmias
 - cardiac disease hypotension/hypertension
 - blood diseases e.g. leukaemia; anaemia and sickle-cell
- Hypoperfusion:
 - posture and venous return
 - stages of shock.
 - classifications of shock, including hypovolaemic, cardiogenic and distributive
 - complications of shock
- Immunological conditions (infectious diseases e.g. meningococcal) hypersensitivity
- Respiratory disorders or thoracic trauma:
 - pathophysiology associated with e.g. asthma, ARDS, pneumonia, emphysema, COPD
- Abdominal disorders or trauma:

RANGE STATEMENT

- abdominal pain - somatic, visceral and referred
- assessment techniques:
 - quadrants and regions
 - external signs
- gastro-intestinal bleeding
- disorders e.g. appendicitis, gastro-enteritis, hepatitis

continued ...

Specific client conditions, disorders and injuries to be assessed and managed include: (contd)

- Urogenital disorders or trauma:
 - acute and chronic renal failure
 - dialysis
 - UTI
- Obstetric/gynaecological disorders (e.g. ectopic pregnancy, spontaneous abortion, vaginal haemorrhage, pelvic inflammatory disease, endometriosis):
 - pre-delivery emergencies
 - post-delivery emergencies
- Genetic disorders
- Drugs or fluid therapies associated with body system trauma or medical disorder

RANGE STATEMENT

Specific categories of clients to be assessed must include but are not limited to:

- Adult client (male and female)
- Obstetric client:
 - anatomic and physiologic changes associated with pregnancy
 - stages of labour
 - assessing neonate body temperature
 - APGAR
 - abnormal pregnancy and delivery
 - impact of other clinical considerations e.g. trauma
- Neonatal and paediatric client:
 - differences in paediatric and adult anatomy and physiology - paediatric airway issues
 - communication issues
 - disease processes
 - pharmacodynamics of drugs
 - impact of other clinical considerations e.g. trauma
- Geriatric client:
 - normal anatomical and physiological changes associated with ageing
 - impact of pre-existing medical problems
 - pharmacodynamics of drugs
 - impact of other clinical considerations e.g. trauma

Unit Sector(s)

Not Applicable