

Specification of Competency Standards
for the Elderly Care Service Industry
Unit of Competency

Functional Area - Clinical Care

Title	Operate Electrocardiogram (ECG) Equipment
Code	106045L4
Range	This Unit of Competency is applicable to employees in the elderly care services industry who provide clinical care to elderlies. This Competency involves ability to make judgment. Employees are required to perform electrocardiography (ECG) correctly according to the relevant guidelines of the institution, so as to help diagnose elderlies' conditions.
Level	4
Credit	2 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Knowledge on electrocardiography (ECG)</p> <p style="padding-left: 40px;">Be able to</p> <ul style="list-style-type: none"> • Understand the basic physiology of the heart, including: <ul style="list-style-type: none"> ○ the position and the structure of the heart ○ the generation of electric impulse in the heart ○ the conduction of electric impulse in the heart • Understand the basic operating principle of electrocardiography (ECG) <ul style="list-style-type: none"> ○ the function of the electrodes ○ the normal wave form in an electrocardiogram, including the X-axis, Y-axis and PQRST waves • Understand the common factors that affects signal transmission, for example: <ul style="list-style-type: none"> ○ conduction problems ○ body movements during electrocardiogram ○ where the electrodes are attached on the body • Understand the operation of the electrocardiography (ECG) machine, including: <ul style="list-style-type: none"> ○ Ways to connect different electrodes, including suction balls electrodes, self-adhesive electrodes and alligator clip adapters ○ calibration of the ECG machine, including the recording speed and voltage ○ Examine the machine before conducting electrocardiography ○ saving and printing ECG records • Understand different types of electrocardiography (ECG) <ul style="list-style-type: none"> ○ 12 leads ECG records ○ Long lead II ECG ○ Right - sided ECG ○ perform magnet test for those with pacemaker • Understand the ways to improve ECG recording quality • Understand the nursing care after performing electrocardiography • Understand the correct method of documentation <p>2. Operating the ECG machine</p> <p style="padding-left: 40px;">Be able to</p> <ul style="list-style-type: none"> • check the identity of elderlies before the procedure • Select the appropriate type of ECG recording • explain the procedure to elderlies and obtain their consent • protect the privacy of elderlies and avoid unnecessary body exposure • calibrate the ECG machine according to indications, for example: <ul style="list-style-type: none"> ○ the recording speed and the voltage ○ the ECG leads displayed ○ signal filtering and noise reduction

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	<ul style="list-style-type: none"> • perform electrocardiogram according to the guidelines and protocols of the institution, including: <ul style="list-style-type: none"> ○ instruct the elderly to maintain a supine posture ○ identify correct positions for electrode attachments using anatomical landmarks ○ connect the electrode properly ○ instruct elderlies to stay still during recording ○ save and print the ECG recording properly • perform appropriate measures to improve the quality of the ECG recordings, for example: <ul style="list-style-type: none"> ○ check the conduction between the skin and electrodes ○ recheck the calibration of the ECG machine and the positions of the electrodes ○ instruct elderlies to stay still during the recording, and breathe gently ○ turn off interfering devices • perform nursing care procedures after electrocardiography, including <ul style="list-style-type: none"> ○ remove the electrodes ○ remove the residual gel • Document the date, time and the type of electrocardiography performed and attach the correct identity label • Deliver the ECG records to healthcare professionals immediately after the procedure for timely follow-up management of the cases <p>3. Exhibit professionalism</p> <p>Be able to</p> <ul style="list-style-type: none"> • Perform electrocardiography according to the guidelines and protocols of the institution • Protect the privacy of the elderly during electrocardiography • Be mindful of the anxiety and discomfort elderlies may experience, such as adjusting the room temperature to a comfortable range
Assessment Criteria	<p>The integrated outcome requirements of this Unit of Competency are:</p> <ul style="list-style-type: none"> • Ability to perform electrocardiography and operate the ECG machine correctly according to the relevant guidelines and protocol; and • Ability to monitor the quality of the ECG recordings and document the relevant details.
Remark	<p>This Unit of Competency is performed by practitioners with recognized training and qualifications.</p>