

PERFORM OPERATION THEATRE EQUIPMENT MAINTENANCE

UNIT CODE: 0914451 18A

TVET CDACC UNIT CODE: ENG/OS/MDE/CR/07/5/MA

UNIT DESCRIPTION:

This unit specifies the competencies required to perform operation theatre equipment maintenance. Competencies include: performing surgical diathermy equipment, anaesthesia equipment, operating theatre table, operating theatre light, patient monitor, CSSD equipment, c-arm equipment, cath lab machine and heart lung machine maintenance.

ELEMENTS	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range.</i>
1. Perform Surgical Diathermy Equipment Maintenance	1.1 Health hazards and safety procedures are carried out as per work procedure. 1.2 Surgical Diathermy Equipment is disinfected as per work procedure. 1.3 Surgical Diathermy Parts are inspected as per service manual. 1.4 Surgical Diathermy Equipment Fault diagnosis is performed as per service manual. 1.5 Surgical Diathermy faulty parts are maintained as per manufacturer's specifications. 1.6 Surgical Diathermy Equipment functionality check is performed as per service manual. 1.7 Equipment user training is carried out in line with the user manual. 1.8 Diathermy Equipment service report is prepared as per work procedure

2. Perform Anaesthesia Equipment Maintenance	<p>2.1 Health hazards and safety procedures are carried out as per work procedure.</p> <p>2.2 Anaesthesia Equipment parts and accessories as per work procedure.</p> <p>2.3 Anaesthesia Equipment parts are inspected as per service manual.</p> <p>2.4 Anaesthesia Equipment Fault diagnosis is performed as per service manual.</p> <p>2.5 Anaesthesia Equipment Calibration is carried out as per manufacturer's specifications.</p> <p>2.6 Anaesthesia Equipment functionality check is performed as per service manual.</p> <p>2.7 Equipment user training is carried out in line with the user manual.</p> <p>2.8 Anaesthesia Equipment service report is prepared as per work procedure</p>
3. Perform Operating Theatre Table Maintenance	<p>3.1 Health hazards and safety procedures are carried out as per work procedure.</p> <p>3.2 Operating Theatre Table is disinfected as per work procedure</p> <p>3.3 Operating Theatre Table Parts are inspected as per service manual</p> <p>3.4 Operating Theatre Table Fault diagnosis is performed as per service manual.</p> <p>3.5 Operating Theatre Table parts are maintained as per manufacturer's specifications.</p> <p>3.6 Operating Theatre Table Faulty parts are maintained as per manufacturer's specifications.</p> <p>3.7 Operating Theatre Table functionality check is performed as per service manual.</p> <p>3.8 Equipment user training is carried out in line with the user manual.</p> <p>3.9 Operating Theatre Table service report is prepared as per work procedure</p>

4. Perform Operating Theatre Light Maintenance	<p>4. 1 Health hazards and safety procedures are carried out as per work procedure.</p> <p>4. 2 <i>Operating Theatre Light</i> is disinfected as per work procedure.</p> <p>4. 3 <i>Operating Theatre Light Parts</i> are inspected as per service manual.</p> <p>4. 4 Operating Theatre Light Fault diagnosis is performed as per service manual.</p> <p>4. 5 Operating Theatre Light parts are maintained per manufacturer's specifications.</p> <p>4. 6 Operating Theatre Light faulty parts are maintained as per manufacturer's specifications.</p> <p>4. 7 Operating Theatre Light functionality check is performed as per service manual.</p> <p>4. 8 Equipment user training is carried out in line with the user manual.</p> <p>4. 9 Operating Theatre Light service report is prepared as per work procedure</p>
5. Perform Patient Monitor Maintenance	<p>5.1 Health hazards and safety procedures are carried out as per work procedure.</p> <p>5.2 Patient Monitor is disinfected as per work procedure</p> <p>5.3 <i>Patient Monitor Parts</i> are inspected as per service manual</p> <p>5.4 Patient Monitor Fault diagnosis is performed as per service manual.</p> <p>5.5 Patient Monitor faulty parts are maintained as per manufacturer's specifications.</p> <p>5.6 Patient Monitor Calibration is carried out as per manufacturer's specifications.</p> <p>5.7 Patient Monitor functionality check is performed as per service manual.</p> <p>5.8 Equipment user training is carried out in line with the user manual.</p> <p>5.9 Patient Monitor service report is prepared as per work procedure</p>
6. Perform CSSD Equipment Maintenance	<p>6.1 Health hazards and safety procedures are carried out as per work procedure.</p> <p>6.2 <i>CSSD Equipment</i> are sanitized as per work procedure</p>

	<p>6.3 CSSD Equipment are inspected as per service manual.</p> <p>6.4 CSSD Equipment fault diagnosis is performed as per service manual.</p> <p>6.5 CSSD Equipment faulty parts are maintained as per manufacturer's specifications.</p> <p>6.6 CSSD Equipment functionality check is performed as per service manual.</p> <p>6.7 Equipment user training is carried out in line with the user manual.</p> <p>6.8 CSSD equipment service report is prepared as per work procedure</p>
7. Perform C-ARM Equipment Maintenance	<p>7.1 Health hazards and safety procedures are applied as per work procedure.</p> <p>7.2 C-ARM Equipment parts are disinfected as per work procedure</p> <p>7.3 C-ARM Equipment parts are inspected as per service manual.</p> <p>7.4 C-ARM Equipment Fault diagnosis is performed as per service manual.</p> <p>7.5 C-ARM Equipment parts are cleaned as per service manual</p> <p>7.6 C-ARM Equipment Faulty parts are maintained as per manufacturer's specifications.</p> <p>7.7 C-ARM Equipment operational check is performed as per service manual.</p> <p>7.8 Equipment user training is carried out in line with the user manual.</p> <p>7.9 C-ARM Equipment service report is prepared as per work procedure</p>
8. Perform Cath Lab machine Maintenance	<p>8.1 Health hazards and safety procedures are applied as per work procedure.</p> <p>8.2 Cath Lab machine parts are disinfected as per work procedure</p> <p>8.3 Cath Lab machine parts are inspected as per service manual.</p> <p>8.4 Cath Lab machine Fault diagnosis is performed as per service manual.</p> <p>8.5 Cath Lab machine parts are cleaned as per service manual</p>

	<p>8.6 Cath Lab machine Faulty parts are maintained as per manufacturer's specifications.</p> <p>8.7 Cath Lab machine operational check is performed as per service manual.</p> <p>8.8 Equipment user training is carried out in line with the user manual.</p> <p>8.9 Cath Lab machine service report is prepared as per work procedure</p>
9. Perform Heart lung machine Maintenance	<p>9.1 Health hazards and safety procedures are applied as per work procedure.</p> <p>9.2 <i>Heart lung machine parts</i> are inspected as per service manual.</p> <p>9.3 Heart lung machine Fault diagnosis is performed as per service manual.</p> <p>9.4 Heart lung machine parts are cleaned as per service manual</p> <p>9.5 Heart lung machine Faulty parts are maintained as per manufacturer's specifications.</p> <p>9.6 Heart lung machine operational check is performed as per service manual.</p> <p>9.7 Equipment user training is carried out in line with the user manual.</p> <p>9.8 Heart lung machine service report is prepared as per work procedure</p>

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1. Surgical Diathermy Equipment include but not limited to:	<ul style="list-style-type: none"> ● Monopolar ● Bipolar

<p>2. Surgical Diathermy Parts include but not limited to:</p>	<ul style="list-style-type: none"> ● Patient pad ● Electrodes ● Oscillator generator
<p>3. Anaesthesia Equipment parts include but not limited to:</p>	<ul style="list-style-type: none"> ● Vaporizer ● Ventilator ● Scavenging System ● Patient Monitor ● Bellows ● Flowmeter tubes ● Pressure regulator ● Check valves ● O-rings ● Oxygen Sensor ● Regulators
<p>4. Operating Theatre Table include but not limited to:</p>	<ul style="list-style-type: none"> ● Hydraulic ● Electromechanical
<p>5. Operating Theatre Table Parts include but not limited to:</p>	<ul style="list-style-type: none"> ● Arm rest ● Head rest ● Clamps ● Base ● Column
<p>6. Operating Theatre Light Parts include but not limited to:</p>	<ul style="list-style-type: none"> ● Base ● Spring Arms ● Lamp head ● Sterilisation Handles

7. Patient Monitor Parts include but not limited to:	<ul style="list-style-type: none"> ● ECG leads ● Probes ● NIBP Cuff ● Display
8. CSSD Equipment include but not limited to:	<ul style="list-style-type: none"> ● Autoclave ● Oven ● Ultrasonic washer ● UV steriliser
9. C-ARM Equipment parts include but not limited to:	<ul style="list-style-type: none"> ● X-ray tube ● X-ray generator ● Image intensifier ● Monitor ● Gantry
10. Cath Lab machine parts include but not limited to:	<ul style="list-style-type: none"> ● Patient table ● Monitor ● Image intensifier ● Injector pump ● Angioplasty balloons ● Defibrillator
11. Heart lung machine parts include but not limited to:	<ul style="list-style-type: none"> ● Pumps ● Reservoir ● Oxygenator ● Heat exchanger ● Arterial line filter ● Tubings ● Cannulae

12. Cryotherapy machine parts include but not limited to:	<ul style="list-style-type: none"> ● Cryogenic tank ● Chamber ● Temperature controls ● Ventilation system ● User interface
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REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills:

- Use of tools and equipment
- Communication skills
- Troubleshooting skills
- Mechanical skills
- ICT skills
- Installation
- Calibration
- Problem solving
- Critical thinking
- Report writing
- Record keeping
- Interpersonal skills
- Numeracy skills
- Leadership skills

Required Knowledge

The individual needs to demonstrate knowledge of:

- Safety precautions
- Fault diagnosis

- Electrical principles
- Electronics
- Hospital hygiene
- Standards of calibration

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Applied Health and Safety Procedures as per work procedure.</p> <p>1.2 Disinfected Theatre Equipment as per work procedure.</p> <p>1.3 Inspected all parts of Theatre Equipment as per service manual.</p> <p>1.4 Performed fault diagnosis of Theatre Equipment as per service manuals.</p> <p>1.5 Cleaned parts of Theatre Equipment as per service manual.</p> <p>1.6 Maintained faulty parts of Theatre Equipment as per manufacturer's specifications.</p> <p>1.7 Carried out calibration of Theatre Equipment as per manufacturer's specifications.</p> <p>1.8 Carried out equipment user training as per user manual.</p> <p>1.9 Performed complete operational check of Theatre Equipment as per service manual.</p> <p>1.10 Prepared Theatre Equipment service report as per work procedure.</p>
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2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Access to relevant workplace where assessment can take place 2.2 Access to Theatre Equipment which can be used for assessment 2.3 Access to relevant tools which can be used for
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Observation 3.2 Oral questioning 3.3 Written test 3.4 Practical Demonstration 3.5 Interview 3.6 Third party report
4. Context of Assessment	<p>Competency may be assessed individually in the actual workplace or Simulated work place.</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>