كلية العلوم الطبية التطبيقية
College of Applied Medical Sciences

المملكة العربية السعودية
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جامعة المجمعة

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Majmaah University

Skills Laboratory Manual in
ADVANCED EMERGENCY HEALTH CARE
(NRS 365)

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Advanced Emergency Health Care

NRS 365

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Procedure 1: Initial Assessment

Student Name: **Date:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	Explain to the client what you are going to do, why it is necessary, and how he can cooperate.			S4.1
2	Assess the head, Looking and feeling for DCAPBTLS (Deformities, Contusions, Abrasions, Puncture versus Penetrations, Burns, Tenderness, Lacerations, and Swelling) and crepitus			S4.1
3	Assess the neck, looking and feeling for DCAPBTLS, jugular venous distention, tracheal deviation,			S4.1
4	Palpate both the anterior and posterior aspects of the neck. Note posterior muscle spasms that may indicate injury to the cervical spine.			S4.1
5	In trauma patients, you should now apply a cervical spinal immobilization device			S4.1
6	Assess the chest, looking and feeling for asymmetrical chest movement, paradoxical motion, and crepitus.			S4.1
7	Perform a quick four-point auscultation of the chest to listen for the presence and equality of breath sounds.			S4.1
8	Inspect the abdomen for any evidence of trauma or distention. Palpate for tenderness and rigidity			S4.1

9	Assess the pelvis for evidence of trauma. a. If there is no pain, gently compress the pelvis downward and inward to look for tenderness and instability b. If patient complains of pain or there is obvious deformity, do not palpate. (refer for further assessment)			S4.1
10	Assess all four extremities, looking and feeling For DCAP-BTLS. Also assess bilaterally for distal			S4.1
11	Assess the back and buttocks, Looking and feeling for DCAP-BTLS. In all trauma patients you should maintain in-line stabilization of the spine while rolling the patient on his or her side in one motion			S4.1
12	Assess the Apical pulse and radial pulse. Check the rate, rhythm, volume and tension.			S4.1
13	Check vital signs			S4.1
14	Measure the oxygen saturation using pulse oximeter.			S4.1
15	Document the findings.			S4.1

Result

CLO	**Student Performance**		
S4.1	**……. /14**		
Final Result			**……. /14**

Name and Signature of Faculty Evaluator: _____

Procedure 2: Adult Endo tracheal Intubation

Student Name: **Date:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	Prepare the equipment: • Adult training intubation manikin head • Latex gloves • Eye protection • Assorted oropharyngeal airways of various sizes • Adult bag valve mask • Oxygen cylinder and tubing • Suction unit with soft and rigid suction catheters • Magill forceps • Stethoscope • Laryngoscope handle and blades of various sizes and styles • Adult endotracheal tubes of various sizes			S1.1
2	Instruct EMTs to initiate ventilation via BVM and hyperventilate the patient for 2-3 minutes prior to intubation.			S1.1
3	Assess necessary equipment.			S1.1
4	Correctly test and prepare laryngoscope light and endotracheal cuff.			S1.1
5	Recess stylet ½" to 1" from the end of the endotracheal tube.			S1.1
6	Wear gloves and eye protection.			S1.1
7	Place head in "sniffing" position.			S1.1

8	Hold laryngoscope in the left hand.			S1.1
9	Perform laryngoscope correctly: a. Correctly insert blade.			S1.1
10	Insert ET tube correctly <30 seconds.			S1.1
11	Hold ET firmly in place until secured.			S1.1
12	Correctly remove stylet and blade.			S1.1
13	Inflate cuff with 5-10cc of air prior to auscultating lung fields			S1.1
14	Confirm tube placement by using an esophageal detector device (EDD).			S1.1
15	Begin ventilation with BVM.			S1.1
16	Check tube placement by auscultating left and right lung fields, epigastrium and by observing chest rise.			S1.1
17	Secure endotracheal tube and insert an oropharyngeal airway.			S1.1
18	Re-verify endotracheal tube placement as in steps 15 and 16.			S1.1
19	If intubation attempt is >30 seconds, cease attempt and ventilate patient before reattempting intubation.			S1.1

Result

CLO	**Student Performance**		
S1.1	**……. /19**		
Final Result			**……. /19**

Name and Signature of Faculty Evaluator: _____

Procedure 3: Mechanical Ventilation

Date: **Student Name:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	**Preparation of equipment:** • Artificial airway (endotracheal [ET] tube or tracheostomy) • Manual self-inflating resuscitation bag • Pulse oximetry • Suction equipment • Mechanical ventilator • Ventilation circuitry • Humidifier			S1.1
2	Obtain baseline samples for blood gas determinations (pH, PaO2, PaCO2, HCO3–) and chest X-ray			S1.1
	Performance			
3	Give a brief explanation to the patient and family.			S1.1
4	Pre-medicate as needed.			S1.1
5	Establish the airway by means of a cuffed ET or tracheostomy tube			S1.1

6	Prepare the ventilator. (Respiratory therapist does this in many facilities.) a. Set up desired circuitry. b. Connect oxygen and compressed air source. c. Turn on power. d. Set VT (usually 6 to 8 mL/kg body weight [Morton]). e. Set oxygen concentration. f. Set ventilator sensitivity. g. Set rate at 12 to 14 breaths/minute (variable). h. Set inspiratory-expiratory (I:E) times (varies depending on the ventilator). Adjust flow rate (velocity of gas flow during inspiration). Usually set at 40 to 60 L/minute. Depends on rate and VT. i. Select mode of ventilation. j. Check machine function—measure VT, rate, I:E ratio, analyze oxygen, check all alarms.			S1.1
7	Couple the patient's airway to the ventilator			S1.1
8	Assess patient for adequate chest movement and rate. Note peak airway pressure and PEEP			S1.1
9	Set airway pressure alarms according to patient's baseline: a. High pressure alarm b. Low pressure alarm			S1.1
10	Assess frequently for change in respiratory status			S1.1
11	Monitor and troubleshoot alarm conditions			S1.1
12	Check for secure stabilization of artificial airway			S1.1
13	Positioning: a. Turn patient from side to side every 2 hours, or more frequently if possible. Consider kinetic therapy as early intervention to improve outcome. b. Lateral turns are desirable; from right semi prone to left semi prone. c. Sit the patient upright at regular intervals if possible. d. Consider prone positioning to improve oxygenation			S1.1
14	Carry out passive range-of-motion exercises of all extremities for patients unable to do so			S1.1
15	Assess for need of suctioning at least every 2 hours			S1.1
16	Assess breath sounds every 2 hours			S1.1
17	Check humidification			S1.1

18	Assess airway pressures at frequent intervals			S1.1
19	Measure delivered VT and analyze oxygen concentration every 4 hours			S1.1
20	Monitor cardiovascular function. Assess for abnormalities			S1.1
21	Provide mouth care every 1-4 hours and assess for development of pressure areas from ET tubes			S1.1
22	Report intake and output precisely and obtain an accurate daily weight to monitor fluid balance			S1.1
23	Monitor nutritional status			S1.1
24	Monitor GI function			S1.1
25	Provide for care and communication needs of patient with an artificial airway			S1.1
26	Provide psychological support			S1.1
	Follow-up Phase			
27	Maintain a flow sheet to record ventilation patterns			S1.1
28	Change ventilator circuitry per facility protocol			S1.1
29	Assess ventilator's function every 4 hours or more frequently if problem occurs			S1.1

Result

CLO	**Student Performance**		
5.1.1	**……. /30**		
	Final Result		**……. /30**

Name and Signature of Faculty Evaluator: _____

Procedure 4: Emergency Care for Cardiovascular Emergencies
Automated External Defibrillators and CPR

Date: **Student Name:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	Stop CPR if it is in progress. Assess responsiveness. If unresponsive, open the airway and assess breathing. If not breathing or breathing abnormally, give two ventilations using a bag-mask device or a pocket mask and check pulse			S1.1
2	If there is no pulse, perform five cycles (about 2 minutes) of CPR and prepare the AED for use			S1.1
3	Turn on the AED.			S1.1
4	Remove clothing from the patient's chest area. Apply the pads to the chest: one just to the right of the breastbone (sternum) just below the collar- bone (clavicle), the other on the left lower chest area with the top of the pad 2" to 3" below the armpit. Plug in the pads connector to the AED			S1.1
5	Stop CPR			S1.1
6	State aloud, "Clear the patient," and ensure that no one is touching the Patient.			S1.1
7	Push the Analyze button, if there is one, and wait for the AED to determine if a shockable rhythm is present.			S1.1
8	If a shock is not advised, perform five cycles (about 2 minutes) of CPR and then reassess the patient's pulse and reanalyze the cardiac rhythm. If a shock is advised, reconfirm that no one is touching the patient and push the Shock button.			S1.1
9	After the shock is delivered, immediately resume CPR, beginning with chest compressions			S1.1
10	After five cycles (about 2 minutes) of CPR, reassess the patients pulse and reanalyze the cardiac rhythm			S1.1
11	If the AED advises a shock, clear the patient, push the Shock button, and immediately resume CPR. If no shock is advised, immediately resume CPR.			S1.1
12	Gather additional information about the arrest event.			S1.1
13	After five cycles (2 minutes) of CPR, reassess the patient's pulse and reanalyze the cardiac rhythm			S1.1

14	Repeat the cycle of 2 minutes of CPR, one shock (if indicated) and 2 minutes of CPR.			S1.1
15	Transport, and contact medical control as needed			S1.1

Result

CLO	**Student Performance**		
S1.1	**……. /15**		
	Final Result		**……. /15**

Name and Signature of Faculty Evaluator: _____

Procedure 5: Emergency Medical Care – Foreign Body Airway Obstruction for Infant *(less than 1 year of age)*

Date: **Student Name:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	Position the patient prone (belly down, back up) on your forearm in a head-down position, supporting the infant's head with your hand and supporting your arm on your thigh			S1.1
2	Deliver five sharp back slaps (blows) between the shoulder blades.			S1.1
3	Transfer the patient to a supine, head-down position on your other forearm, and deliver five chest thrusts using two fingertips positioned one finger width beneath the nipple			S1.1
4	Continue to repeat the steps en route until the Obstruction is dislodged or the infant becomes			S1.1
Unresponsive Infant with a Foreign Body Airway Obstruction				
5	Open the airway, using a head-tilt, chin-lift maneuver.			S1.1
6	Open the mouth and look for the foreign body. If the foreign body is seen in the oropharynx, attempt to remove it (***Do not perform blind finger sweeps. Doing so may push the obstruction farther down the pharynx or may damage the***			S1.1
7	Provide two ventilations over a 1-second period.			S1.1
8	Using the same landmarks and techniques as for CPR, provide 30 chest compressions at a rate of 100 per minute			S1.1

9	Chest Compressions With 2 ventilation By **30** Start Given the Following Manner: a) Use middle fingers to locate the lowermost rib on that side. b) Slide your fingertips along the rib to where lowermost rib meets at the breastbone. c) Place the extended middle and ring fingers at this point. d) Press down vertically on the breastbone, release the pressure without removing your hands from his chest			S1.1
10	After the chest compressions, look in the mouth for the obstruction. If it can be seen in the oropharynx, attempt to			S1.1
11	Provide two ventilations followed by another set of 30 compressions.			S1.1
12	Continue this sequence until the foreign body is re- moved.			S1.1
13	If the foreign body cannot be visualized and/or re- moved, continue chest compressions and attempted ventilations.			S1.1

Result

CLO	**Student Performance**		
S1.1	**……. /15**		
	Final Result		**……. /15**

Name and Signature of Faculty Evaluator: _____

Procedure 6: Emergency Medical Care – Foreign Body Airway Obstruction for Child *(over 1 year of age)*

Date: **Student Name:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	Assure the patient that you are there to help.			S5.1
2	Position yourself behind the child, and reach your arms around his abdomen			S5.1
3	Locate the navel and place the thumb side of one clenched fist midway between the navel and the xiphoid process (cartilage below the sternum).			S5.1
4	Wrap the other hand over the clenched hand.			S5.1
5	Deliver five abdominal thrusts inward and upward, at a 45-degree angle toward the head.			S5.1
6	Continue to deliver sequential series of five abdominal thrusts until the object is dislodged, you arrive at the medical facility, or the patient becomes unresponsive.			S5.1
	Unresponsive child with a foreign body airway obstruction:			5.2.1
7	Open the airway, using a head-tilt, chin-lift maneuver.			S5.1
8	Open the mouth and look for the foreign body. If the foreign body is seen in the oropharynx, attempt to remove it. ***(Do not perform blind finger sweeps. Doing so may push the obstruction farther down the pharynx or may damage the oropharynx.)***			S5.1
9	Provide two ventilations over a 1-second period.			S5.1
10	Using the same landmarks and techniques as for CPR, provide 30 chest compressions at a rate of 100 per minute			S5.1

11	Chest Compressions With 2 ventilation By **30**Start Given :the Following Manner a) Use the index finger and middle fingers to locate the . lowermost rib on that side b) Slide your fingertips along the rib to where lowermost rib . meets at the breastbone c) Place your middle fingers at this point and your index . finger beside it on the lower breastbone d) Place the heel of your other hand on breastbone and slide it			S5.1
12	After the chest compressions, look in the mouth for the obstruction. If it can be seen in the oropharynx, attempt to remove it			S5.1
13	Provide two ventilations followed by another set of 30 compressions.			S5.1
14	Provide two ventilations followed by another set of 30 compressions.			S5.1
15	If the foreign body cannot be visualized and/or re- moved, continue chest compressions and attempted ventilations.			S5.1

Result

CLO	**Student Performance**		
S5.1	**……. /18**		
	Final Result		**……. /18**

Name and Signature of Faculty Evaluator: _____

Procedure 7: Gastric Lavage

Date: **Student Name:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	Preparation of equipment: 1)Nasogastric insertion equipment. 2)Lavage fluid – NaCl or other prescribed solution. 3)Syringe 20ml for aspiration and 50ml for lavage. 4)Specimen container with lab request form			S5.1
	Procedure			S5.1
2	Verify Dr's order.			S5.1
3	Assess patient's level of consciousness.			S5.1
4	Greet patient and explain procedure.			S5.1
5	Provide privacy.			S5.1
6	Remove dental appliances and inspect oral cavity for loose teeth.			S5.1
7	Position patient in Semi-Fowler's.			S5.1
8	Insert NG tube as per procedure handout.			S5.1
9	Check placement of tube in stomach (3 times check).			S5.1
10	Aspirate stomach contents before instilling water or antidote. Keep specimen in container for analysis.			S5.1
11	Remove 20ml syringe and attach with 50ml syringe to pour lavage solution into NG tube or attach with 50ml syringe barrel.			S5.1
12	Pour or inject slowly 20ml solution and wait for 1 minute.			S5.1
13	Aspirate (if use syringe) or siphon (if use barrel) gastric contents and discard it in kidney dish.			S5.1
14	Save samples of first two washings.			S5.1
15	Record input and output throughout procedures.			S5.1

16	Repeat step 10-14 until returns are clear. Usually requires a total volume of 2 liters.			S5.1
17	Remove NG tube as per procedure handout.			S5.1
18	Make patient comfortable.			S5.1
19	Label specimens and dispatch to lab immediately.			S5.1
20	Clean and clear equipment.			S5.1

Result

CLO	**Student Performance**		
S5.1	**……. /20**		
	Final Result		**……. /20**

Name and Signature of Faculty Evaluator: _____

Procedure 8: Cardiopulmonary Resuscitation in Adult Patient

Date: **Student Name:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	Ensure there are no dangers to you, other bystanders or the			S5.1
2	Kneel down by patient's head, shout loudly in both ears and tap them on the shoulders.			S5.1
3	Shout for help.			S5.1
4	Check for opening of airway by keeping the patient in "head tilt, chin lift" maneuver and observe for breathing &			S5.1
5	If patient is breathing but not normally, give rescue breaths			S5.1
6	If no response and no breathing observed start chest compressions: a. Place heel of your one hand on top of the other hand in the center of the patient's chest, over the breastbone (lower part of sternum) b. Interlock your fingers c. Push down 30 times at a rate of 100 compressions / minute. d. Ensure your elbows are locked and your shoulders positioned above the chest. e. Push down to a depth of about "5 CM" OR "2 INCHES". f. Ensure you release fully after each compression			S5.1

7	After 30 chest compressions, give 2 rescue breaths: a) Tilt the casualty's head backwards, life their chin and then pinch their nose. b) Make a seal over their mouth and breath in for approximately one second c) While maintaining head tilt and chin lift, take your mouth off the victim's mouth and see if patient's chest is rising and falling fully. d) Wait for 1 second and maintain head tilt and chin lift maneuver, then give the second rescue breaths . e) Compression to breaths ratio should be 30:2 when there is one rescuer. If there are two rescuers, then the ratio had to be 15:2.			S5.1
8	Continue the cycle of 30 chest compressions to 2 rescue breaths until help arrives.			S5.1
9	If no response and no breathing observed start chest compressions: a) Place heel of your one hand on top of the other hand in the centre of the patient's chest, over the breastbone (lower part of sternum) b) Interlock your fingers c) Push down 30 times at a rate of 100 compressions / minute. d) Ensure your elbows are locked and your shoulders positioned above the chest. e) Push down to a depth of about "5 CM" OR "2 INCHES". f) Ensure you release fully after each compression.			S5.1

10	After 30 chest compressions, give 2 rescue breaths: a. Tilt the casualty's head backwards, life their chin and then pinch their nose. b. Make a seal over their mouth and breath in for approximately one second c. While maintaining head tilt and chin lift, take your mouth off the victim's mouth and see if patient's chest is rising and falling fully. d. Wait for 1 second and maintain head tilt and chin lift maneuver, then give the second rescue breaths . e. Compression to breaths ratio should be 30:2 when there is one rescuer. If there are two rescuers, then the ratio had to be 15:2.			S5.1
11	Continue the cycle of 30 chest compressions to 2 rescue breaths until help arrives.			S5.1

Result

CLO	**Student Performance**		
S5.1	**……. /17**		
	Final Result		**……. /17**

Name and Signature of Faculty Evaluator: _____

Procedure 9: Cardiopulmonary Resuscitation in Child Patient

Date: **Student Name:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	Ensure there are no dangers to you, other bystanders or the			S5.1
2	Kneel down by patient's head, shout loudly in both ears and tap them on the shoulders.			S5.1
3	Shout for help.			S5.1
4	Check for opening of airway by keeping the patient in "head tilt, chin lift" maneuver and observe for breathing & response of			S5.1
5	If patient is breathing but not normally, give rescue breaths only.			S5.1
6	If **no response and no breathing observed start chest compressions:** a. Place heel of one hand in the center of the patient's chest, over the breastbone (lower part of sternum). b. Push down **30** times at a rate of **100** compressions / minute. c. Ensure your elbows are locked and your shoulders			S5.1
7	After **30** chest compressions, give **2 rescue breaths**: a. Tilt the casualty's head backwards, life their chin and then pinch their nose. b. Make a seal over their mouth and breath in for approximately one second c. While maintaining head tilt and chin lift, take your mouth off the victim's mouth and see if patient's chest is rising and falling fully. d. Wait for 1 second and maintain head tilt and chin lift maneuver, then give the second rescue breaths . Compression to breaths ratio should be 30:2 when there			S5.1
8	Continue the cycle of **30 chest compressions** to **2 rescue breaths** until help arrives.			S5.1

Result

CLO	Student Performance		
S5.1	……. /11		
Final Result			**……. /11**

Name and Signature of Faculty Evaluator: _____

Procedure 10: Cardiopulmonary Resuscitation in Newborn and Infant Patient

Date: **Student Name:**

Student ID:

No.	Procedure Steps	Performed		CLO
		Yes	No	
1	Ensure there are no dangers to you, other bystanders or the			S5.1
2	Rub or Massage the back / flick the sole of a newborn. Shout loudly in both ears and tap on the shoulders of an infant.			S5.1
3	Shout for help.			S5.1
4	Check for opening of airway by keeping the patient in "head tilt, chin lift" maneuver and observe for breathing & response of patient for 10 seconds. Provide support under the shoulders with			S5.1
5	If patient is breathing but not normally, give rescue breaths only.			S5.1
6	If **no response and no breathing observed start chest compressions:** a. Place two fingers on the sternum, one finger width below imaginary nipple line. b. Push down **30** times at a rate of **100** compressions / minute by keeping the fingers perpendicular to chest.			S5.1
7	After **30** chest compressions, give **2 rescue breaths**: a. Tilt the casualty's head backwards, life their chin and then pinch their nose. b. Make a seal over their mouth and breath in for approximately one second c. While maintaining head tilt and chin lift, take your mouth off the victim's mouth and see if patient's chest is rising and falling fully. d. Wait for 1 second and maintain head tilt and chin lift maneuver, then give the second rescue breaths . e. Compression to breaths ratio should be 30:2 when there is one rescuer. If there are two rescuers, then the ratio			S5.1
8	Continue the cycle of **30 chest compressions** to **2 rescue breaths** until help arrives.			S5.1

Result

CLO	Student Performance		
S5.1	……. /11		
Final Result			**……. /11**

Name and Signature of Faculty Evaluator: _____