



وزارة التعليم العالي والبحث العلمي  
الجامعة التقنية الشمالية  
المعهد التقني الطبي / الموصل



# الحقبة التعليمية

القسم العلمي: تقنيات التمريض

اسم المقرر: أساسيات التمريض

المرحلة / المستوى الأول

الفصل الدراسي: البرنامج الأول

السنة الدراسية: 2024-2025



اساسيات التمريض				اسم المقرر:	
تقنيات التمريض				القسم:	
المعهد التقني الطبي - الموصل				الكلية:	
الأول				المرحلة / المستوى	
---				الفصل الدراسي:	
4	عملي	3	نظري	عدد الساعات الاسبوعية:	
7				عدد الوحدات الدراسية:	
NUT 110				الرمز:	
✓	كلهما	عملي	نظري	نوع المادة	
				هل يتوفر نظير للمقرر في الاقسام الاخرى	
				اسم المقرر النظير	
				القسم	
				رمز المقرر النظير	
معلومات تدريسي المادة					
رفاعي ياسين حميد الحسين				اسم مدرس (مدرسي) المقرر:	
استاذ				اللقب العلمي:	
2019				سنة الحصول على اللقب	
دكتوراه				الشهادة :	
2004				سنة الحصول على الشهادة	
33 سنة				عدد سنوات الخبرة ( تدريس)	

## الوصف العام للمقرر

يعتبر هذا المقرر الأساس في عمل التمريض حيث يبدأ بإجراءات استقبال المريض مروراً بجمع المعلومات الضرورية بحالته الصحية والفحوصات والإجراءات التي يحتاجها خلال عملية تواجده في المستشفى ومعالجته، كذلك كيفية تحضير المريض للعملية الجراحية والعناية به خلالها وبعدها وصولاً إلى حالة الشفاء التامة.

## الأهداف العامة: سيتمكن الطالب من:

- جمع المعلومات الكافية حول الحالة الصحية للمريض.
- تقديم أفضل رعاية تمريضية تتناسب مع الحالة الصحية للمريض.
- تحديد أهم الإجراءات والممارسات التمريضية التي يحتاجها المريض.
- تقليل شكاوى المريض ومنع حدوث أي مضاعفة محتملة.

## الأهداف الخاصة

- تعليم وتدريب الطالب على كيفية استقبال المريض.
- تعليم وتدريب الطالب على كيفية تطبيق خطوات العملية التمريضية.
- تعليم وتدريب الطالب على كيفية قياس العلامات الحيوية.
- تعليم وتدريب الطالب على كيفية جمع العينات المختبرية.
- تعليم وتدريب الطالب على كيفية إعطاء وزرق الأدوية.
- تعليم وتدريب الطالب على كيفية إعطاء السوائل الوريدية.
- تعليم وتدريب الطالب على كيفية إعطاء الأوكسجين.
- تعليم وتدريب الطالب على كيفية ادخال وتبديل القنطرة البولية.
- تعليم وتدريب الطالب على كيفية خياط وضماد الجرح.
- تعليم وتدريب الطالب على كيفية تقديم الأسعافات الأولية.
- تعليم وتدريب الطالب على العناية بالمريض تحت العملية الجراحية.

## الأهداف السلوكية او نواتج التعلم

- التدريب على كيفية التعامل مع المريض وكيفية جمع المعلومات منه.
- التدريب على كيفية بناء علاقة علاجية مع المريض وكسب ثقته.
- التدريب على محاكاة الحالة المرضية من خلال تمثيل شكاوى المريض.
- التدريب على كيفية التعامل مع الحالات الطارئة وتقديم الأسعافات الأولية.

## أمثلة أهداف تدريسية:

- بعد الانتهاء من الدرس (المحاضرة) سيكون الطالب قادراً على ان:
  - يتعرف على خطوات العملية التمريضية.
  - يتعرف على أهم الفحوصات المختبرية التي تتطلبها حالة المريض.
  - يتعرف على كيفية قياس العلامات الحيوية.
  - يتعرف على طرق إعطاء الأدوية.
  - يتعرف على تقديم العناية بالمريض قبل وأثناء وبعد اجراء العملية الجراحية.

## المتطلبات السابقة :

لا توجد متطلبات سابقة لهذا المقرر.

الأهداف السلوكية او مخرجات التعليم الأساسية		
آلية التقييم	تفصيل الهدف السلوكي او مخرج التعليم	ت
* اختبار الطالب عملياً. * ملاحظة الطالب أثناء التدريب في المختبر وفي المستشفى. * تقديم التقارير والسمنارات.	قياس العلامات الحيوية	1
* اختبار الطالب عملياً. * ملاحظة الطالب أثناء التدريب في المختبر وفي المستشفى. * تقديم التقارير والسمنارات.	إعطاء وزرق الأدوية	2
* اختبار الطالب عملياً. * ملاحظة الطالب أثناء التدريب في المختبر وفي المستشفى. * مراقبة الطالب أثناء حدوث ارتشاح السائل خارج الوريد. * تقديم التقارير والسمنارات.	إعطاء السوائل الوريدية	3
* اختبار الطالب عملياً. * ملاحظة الطالب أثناء التدريب في المختبر وفي المستشفى. * تقديم التقارير والسمنارات.	العناية بالمريض قبل وأثناء وبعد العملية الجراحية	4

## أساليب التدريس (حدد مجموعة متنوعة من أساليب التدريس لتناسب احتياجات الطلاب ومحتوى المقرر)

مبررات الاختيار	الاسلوب او الطريقة
* عرض الموضوع.	1. المحاضرة.
* تشجيع المناقشة التفاعلية.	2. الدرس.
* جذب انتباه الطلبة.	3. بوربوينت.
* تمثيل الحالة.	4. محاكاة.
* تشجيع الطالب على البحث.	5. لعب الدور.
* تشجيع الطالب على اكتساب معلومات جديدة.	6. التعلم الذاتي.
* التحليل والأستنتاج.	7. التجارب الميدانية.
	8. التفكير الجمعي.
	9. نمط حلّ المشكلة.

الفصل الاول من المحتوى العلمي

مبادئ التمريض والعناية بالمريض				الوقت		عنوان الفصل
طرق القياس	التقنيات	طريقة التدريس	العنوان الفرعي: ادخال المريض الى المستشفى، طبلة المريض، العملية التمريضية، التقييم البدني، آلية عمل الجسم، احتياجات المريض الأساسية، الغذاء والتغذية، التطهير والتعقيم.	العملي	النظري	التوزيع الزمني
	عرض تقديمي، شرح، أسئلة وأجوبة، مناقشة	محاضرة	مقدمة عن المقرر، أهداف التعلم، محتوى المقرر	1	1	الأسبوع الأول
			العناوين الفرعية			
اختبار	بوربوينت، مناقشة	محاضرة	Admission the Patient to the hospital	3	2	
اختبار، لعب الدور	بوربوينت، عرض نماذج	محاضرة	Patient Chart			الاسبوع الثاني
اختبار، تطبيق على حالة، تحليل	بوربوينت، أسئلة وأجوبة، واجب، تطبيق على حالة	محاضرة	Nursing Process	4	3	
اختبار، لعب الدور، محاكاة	بوربوينت، أفلام علمية، تطبيق عملي، تعلم ذاتي	محاضرة	Physical Assessment			الاسبوع الثالث
لعب الدور	مناقشة، محاكاة، فلم علمي	محاضرة تفاعلية	Body Mechanics			
اختبار	بوربوينت، أسئلة وأجوبة	محاضرة تفاعلية	Patient Pasic Needs			
اختبار	فلم علمي، مناقشة	محاضرة تفاعلية	Body Care			
اختبار	بوربوينت، عرض بوسترات، مناقشة	محاضرة تفاعلية	Diet & Nutrition	4	3	
اختبار	بوربوينت، عرض بوسترات، مناقشة، فلم علمي	محاضرة تفاعلية	Gastric Gavage & Lavage			
اختبار	مناقشة، مشاهدة، عرض بوسترات	محاضرة، تعلم ذاتي	Definitions, Methods of Disinfection and Sterilization	4	3	الاسبوع الرابع
محاكاة	مناقشة، أسئلة وأجوبة، تطبيق عملي	محاضرة تفاعلية	Wound Dressing			

الفصل الثاني

العلامات الحيوية				الوقت		عنوان الفصل	
طرق القياس	التقنيات	طريقة التدريس	العنوان الفرعي	العملي	النظري	التوزيع الزمني	
اختبار - مراقبة الطالب في المستشفى	عرض تقديمي، مناقشة، بوربوينت، فلم علمي، تطبيق عملي	محاضرة تفاعلية	<b>Body Temperature</b>	العنوان الرئيسي الأول: <b>Vital Signs</b>	4	3	الأسبوع الخامس
اختبار - مراقبة الطالب في المستشفى	عرض تقديمي، مناقشة، بوربوينت، فلم علمي، تطبيق عملي	محاضرة تفاعلية	<b>Pulse</b>				
اختبار - مراقبة الطالب في المستشفى	عرض تقديمي، مناقشة، بوربوينت، فلم علمي، تطبيق عملي	محاضرة تفاعلية	<b>Respiration</b>	العنوان الرئيسي الثاني: <b>Vital Signs</b>	4	3	الأسبوع السادس
اختبار - مراقبة الطالب في المستشفى	عرض تقديمي، مناقشة، بوربوينت، فلم علمي، تطبيق عملي	محاضرة تفاعلية	<b>Blood Pressure</b>				

الفصل الثالث

أعطاء الأدوية، التسريب الوريدي							
طرق القياس	التقنيات	طريقة التدريس	العنوان الفرعي		الوقت		عنوان الفصل التوزيع الزمني
			نظري	عملي	نظري	عملي	
اختبار	عرض تقديمي – عرض بوسترات ونماذج – فلم علمي	محاضرة	<b>Drug; Definition – Types – Methods of Administration</b>	العنوان الرئيسي الأول: <b>Drugs, Compress</b>	4	3	الأسبوع السابع
اختبار – مراقبة الطالب أثناء العمل - محاكاة	عرض تقديمي – عرض بوسترات ونماذج – فلم علمي – تطبيق عملي	محاضرة تفاعلية	<b>Methods of Parentral Administration – Hot and Cold Compress</b>				
اختبار – مراقبة الطالب أثناء العمل - محاكاة	عرض تقديمي – عرض صوري - فلم علمي – تطبيق عملي	محاضرة تفاعلية	<b>Intravenous Fluid Infusion</b>	العنوان الرئيسي الثاني: <b>Intravenous Infusion</b>	4	3	الأسبوع الثامن
			<b>Blood Transfusion</b>				

الفصل الرابع							
وحدات العناية بالمريض					الوقت		عنوان الفصل
طرق القياس	التقنيات	طريقة التدريس			عملي	نظري	التوزيع الزمني
اختبار عملي	عرض تقديمي – مناقشة – أسئلة وأجوبة – عرض بوسترات وصور توضيحية – مشاهدة – تطبيق عملي	محاضرة	Equipment – Electrocardiograph – Resuscitation Equipment	العنوان الرئيسي الأول: Cardiac Care Unit	4	3	الأسبوع التاسع
			Equipment – Artificial Respiration – Vein Cut – D.C. Shock	العنوان الرئيسي الثاني: Resuscitation Care Unit			
اختبار عملي	عرض تقديمي – مناقشة – أسئلة وأجوبة – عرض بوسترات وصور توضيحية – مشاهدة	محاضرة	Equipment – Center Patient Monitor	العنوان الرئيسي: Intensive Care Unit	4	3	الأسبوع العاشر

الفصل الخامس							
إجراءات تمريضية					الوقت		عنوان الفصل
طرق القياس	التقنيات	طريقة التدريس			عملي	نظري	التوزيع الزمني
اختبار - اختبار عملي	عرض تقديمي - مناقشة - أسئلة وأجوبة - عرض بوسترات وصور توضيحية - فلم علمي - مشاهدة - تطبيق عملي	محاضرة تفاعلية - تعلم ذاتي	<b>Oxygen Administration - Gastric Gavage - Gastric Lavage</b>	العنوان الرئيسي: <b>Nursing Procedures</b>	4	3	الأسبوع الحادي عشر

الفصل السادس							
إجراءات تمريضية					الوقت		عنوان الفصل
طرق القياس	التقنيات	طريقة التدريس			عملي	نظري	التوزيع الزمني
اختبار - اختبار عملي	عرض تقديمي - مناقشة - أسئلة وأجوبة - عرض بوسترات وصور توضيحية - فلم علمي - مشاهدة - تطبيق عملي	محاضرة تفاعلية - تعلم ذاتي	<b>Urinary Catheterization - Tracheostomy - Anemia</b>	العنوان الرئيسي: <b>Nursing Procedures</b>	4	3	الأسبوع الثاني عشر

الفصل السابع							
إجراءات تمريضية					الوقت		عنوان الفصل
طرق القياس	التقنيات	طريقة التدريس			عملي	نظري	التوزيع الزمني
اختبار - اختبار عملي	عرض تقديمي - مناقشة - أسئلة وأجوبة - عرض بوسترات وصور توضيحية - فلم علمي - مشاهدة - تطبيق عملي	محاضرة تفاعلية - تعلم ذاتي	<b>Preparing the Patient to the Operation; Pre, Intra, and Post Preparation - Complications of the Operation</b>	العنوان الرئيسي: <b>Nursing Procedures</b>	12	9	الأسبوع الثالث عشر - الخامس عشر

# المحتوى العلمي

خارطة القياس المعتمدة

عدد الفقرات	الأهداف السلوكية						الأهمية النسبية	عناوين الفصول	المحتوى التعليمي
	التقييم	التحليل	التطبيق	الفهم	المعرفة				
	%85	%58	%85	%100	%100	النسبة			
2	---	---	---	2%	3%		%5	Fundamental of Nursing – Patient Care	الفصل الاول
5	3%	2%	10%	3%	2%		%20	Vital Signs	الفصل الثاني
5	2%	2%	10%	3%	3%		%20	Drug Administration – Intravenous Infusion	الفصل الثالث
3	1%	---	1%	2%	1%		%5	Patient Care Units	الفصل الرابع
5	2%	2%	5%	3%	3%		%15	Nursing Procedures (Oxygen Administration, Tracheostomy)	الفصل الخامس
4	2%	2%	6%	3%	2%		%15	Urinary Catheterization	الفصل السادس
4	%2	---	10%	4%	4%		%20	Peri-Operative Care – Operation Complications	الفصل السابع
28	12%	8%	42%	20%	18%		%100		المجموع

## المحتويات

رقم المحاضرة: الأولى	عنوان المحاضرة
أ.د. رفاعي ياسين حميد	اسم المدرس
طالبة المستوى الأول	الفئة المستهدفة
تزويد الطلاب بالمعرفة والمهارات اللازمة لتقديم رعاية آمنة وفعالة للمرضى. سيتمكن الطالب من:	الهدف العام من المحاضرة
1- استقبال المريض بالطريقة الصحيحة والتعامل معه بشكل فعال. 2- جمع المعلومات الضرورية من المريض بما يخص حالته الصحية. 3- العناية البدنية الجيدة بالمريض. 4. اظهار التعاطف والاهتمام بالمريض. 5. احترام خصوصية المريض وكرامته. 6. اتباع مبادئ مكافحة العدوى. 7. الحفاظ على بيئة نظيفة وآمنة للمريض.	الأهداف السلوكية او مخرجات التعلم
* القيام بجمع المعلومات من مريض ما أمام الطلبة. * عرض فلم علمي يخص الموضوع. * محاكاة سيناريوهات دخول وإخراج المريض من خلال تقسيم الطلبة الى مجاميع صغيرة والتعامل مع سيناريو مريض ما.	استراتيجيات التيسير المستخدمة
* مهارات التواصل الفعال مع المريض (فهم احتياجاته، تقديم المعلومات والدعم النفسي، التواصل مع عائلته). * مهارات الرعاية الشخصية (مساعدة المريض على الحركة، توفير الراحة للمريض، الحفاظ على النظافة). * مهارات حل المشكلة (تقييم حالة المريض، التخطيط للرعاية، تقييم فعالية الرعاية المقدمة). * مهارات العمل الجماعي (التعاون مع أعضاء الفريق الآخرين، التواصل مع أعضاء الفريق الآخرين).	المهارات المكتسبة
الأختبارات، كتابة التقارير، دراسة الحالة، مراقبة المهارات، محاكاة سيناريو، التقييم الذاتي، المشاركة التفاعلية، التقييم خلال العمل.	طرق القياس المعتمدة

### الاسئلة القبليه

Put a circle in front of right sentences.

- 1- The qualification of the nurse is:
  - a- Breath normally.
  - b- Avoid environmental dangers.
  - c- Eliminate body wastes.
  - d- Mental & physical health & good power of observation.
- 2- The function of hospital is:
  - a- Maintain safety environment.
  - b- Care of the patient.
  - c- Maintain temperature & humidity of the air.
- 3- The factor that affect health is:
  - a- Environment pollution.
  - b- Control of communicable disease.
  - c- Body alignment & activity.
  - d- Elimination.

4- The basic daily human need of individuals is:

- a - Mental & physical health.
- b- Micro- organisms.
- c - Sleep & rest.
- d- Diversion & recreation.

5. State of complete physical, mental, social wellbeing and not the absence of disease or infirmity:

- a. Nurse.
- b. Nursing.
- c. Patient unit.
- d. Health.

المحتوى العلمي

### **Health & it's Maintenance**

**Health:** Is a state of complete physical, mental, social well-being and not the absence of disease or infirmity.

#### **Factors that affecting health:**

1. Environmental pollution.
2. Nutrition and food.
3. Illiteracy, poverty and traditions.
4. Micro- organisms.
5. Medications and treatments.

#### **The role of the World Health Organization in maintenance of health:**

1. Control of communicable diseases.
2. Research work.
3. Diversion and recreation.
4. Control of health environment.
5. Personal care and hygiene.
6. Maintaining of body alignment and activity.
7. Enhance nutrition and fluid.
8. Promote elimination.

#### **The Basic Daily Human needs:**

1. Healthy environment.
2. Sleep and rest.
3. Nutrition and fluid.
4. Elimination.
5. Personal care and hygiene.
6. Body activity.
7. Mental, emotional and spiritual support.

#### **Factors that affect health environment:**

1. Healthy housing.
2. Temperature and humidity of the air.
3. Ventilation (air circulation).
4. Lightening.
5. Quietness.
6. Safety of the environment.

### **Hospital and its divisions**

**Hospital:** is a place where people are treated for, nursed through their illness or injuries.

#### **Functions of hospitals:**

1. Care of the patient (pt.).
2. In-service education.
3. Promotion of the level of health.
4. Scientific researches.

#### **Classification of hospitals:**

1. General hospital.
2. Special hospital, as mental, surgical,
3. Private hospital.
4. Teaching hospital.

#### **Administration and ownership:**

1. Governmental.
2. Non-governmental or private.

#### **Division of the hospitals:**

1. The admitting department.
2. Medical staff.
3. Nursing department:
  - a. Director of Nurse.
  - b. Assistant director Nurse.
  - c. Supervision of patient's units.
  - d. Head Nurse.
  - e. Student Nurse.
4. The clinical department:
  - a. Medical wards.
  - b. Surgical ward.
5. The medical therapy facilities:
  - a. Clinical laboratory.

- b. X-ray department.
- c. Anesthesia department.
- d. Electro encephalography department (E.E.G).
- e. Electro cardiograph department (E.C.G).
- f. Pharmacy.
- h. Dental service department.
- i. Electroconvulsive therapy department.
- j. The out-patient department.
- k. The medical social service department.
- l. The medical records department.
- m. The central supply department.
- n. The dietary department.
- o. Engineering service department.
- p. Laundry department.
- q. Hospital library department.

### **Care of Patient's Unit**

**Patient:** Is an individual who requires assistance to achieve health or peaceful death.

**Patient unit:** Is the place that the patient occupies when he/ she enters the hospital, it contains the following: ((Bed, mattress, blanket, sheets, bedside -table, dish soap, urinal, bed pan, wheelchair, jug, glass)).

#### **The basic needs of the patient:**

1. Normal breathing.
2. Adequate nutrition.
3. Promotion of elimination of body wastes.
4. Sleep and rest.
5. Keep the body clean.
6. Avoid environmental dangers.

**Nurse:** Is a person who has completed a program of basic nursing education and is qualified and authorized in her/ his country to practice nursing.

#### **Qualifications of the nurse:**

1. Mental and physical health.
2. Well educated.

3. An integrated personality.
4. Good power of observation.
5. Good memory for details.
6. Manual dexterity.
7. Calm, clear and pleasant speaking voice.
8. Normal hearing ability and a willingness to listen.
9. A sense of discipline and responsibility.
10. An optimistic attitude toward life and success.

**Definition of Nursing:**

Is assisting the individual or (family, group and community) sick or well in the performance of all activities contributing to health, it's recovery, or to peaceful death that the client (patient) would perform unaided if he/she has the necessary strength, will or knowledge, and to do this in such a way as to help the client gain independence as rapidly as possible.

**Admission & Discharge of Patient from Hospital**

**Hospital Administration:** it means staying at a hospital for at least one night or more because the individual is too sick to stay at home, it requires 24 hours nursing care, and/or is receiving medications and undergoing tests and/or surgery that can only be performed in the hospital settings.

**The goals of admission of patient:**

1. To assess the clinical status of patient.
2. To make him/her as comfortable as possible in his/her new environment.
3. To complete the treatment that he/she need to become well-being.

**Medical record or medical chart;** is a systematic documentation of a patient's individual medical history and care. The purposes of it are:

- A. Allows health care providers to provide continuity of care to individual patients,
- B. Serves as a basis for planning patient care,
- C. Documents communication between the health care provider and any other health professional contributing to the patient's care,
- D. Assisting in protecting the legal interest of the patient and the health care providers responsible for the patient's care,
- E. Documents the care and services provided to the patient.

*Traditionally, medical records have been written on paper and kept in folders. These folders are typically divided into useful sections, with new information added to each section*

**Information that record by the nurse when the patient admitted to the hospital:**

1. Personal information includes, his name, address, age, date of birth, religion, sex, marital status, occupation, telephone number, name of kin.

2. Physician recommending admission.
3. Provisional diagnosis.
4. Values of vital signs (temperature, pulse, respiration and pressure).
5. Measured weight and height.
6. Results of the specimens needed as " urine, blood, sputum, feces".
7. All valuables and money must be taken home by relatives.
8. Medical history.
9. Surgical history.
10. Family history.
11. Medication taken and medication allergies.
12. Social history.
13. Habits.
14. Immunizations in case of children.
15. Growth and development history.
16. Chief complaint: "What make the patient to admit the hospital".
17. Physical examinations: Inspection, Palpation, Percussion and Auscultation "by using stethoscope"; all these by using body senses.

**Observation made by Nurse:**

1. General reaction of patient e.g. anxiety.
2. Cleanliness of clothes, skin, hair, mouth.
3. Abnormalities of skin and other structure.
4. Complaints of patient e.g. pain, breathing, .....
5. Last passing of urine, stool, menstruation.
6. Medication brought with patient.

**Discharge from hospital:**

1. Discharge planning aims:
  - a. Teach the patient and his family about his/her illness and its effects on his/her life-style.
  - b. Provide the patient instruction for home care about the diet and the daily activity.
  - c. Arrange suitable transport.
  - d. Give written instruction regarding treatment.
  - e. Follow up care if necessary, like made dressing if the patient had operation.

**After discharge of the patient:**

1. Send linen and blankets to laundry.
2. Send mattress and pillow to autoclave.
3. Wash the bed and table bedside (Terminal disinfection).
4. Scrub the patient unit.

الاسئلة البعدية:

Put a circle in front of right sentences.

- 1- The qualification of the nurse is:
  - d- Breath normally.

- e- Avoid environmental dangers.
  - f- Eliminate body wastes.
  - d- Mental & physical health & good power of observation.
- 2- The function of hospital is:
- d- Maintain safety environment.
  - e- Care of the patient.
  - f- Maintain temperature & humidity of the air.
- 3- The factor that affect health is:
- a. Environment pollution.
  - b. Control of communicable disease.
  - c. Body alignment & activity.
  - d. Elimination.
- 4- The basic daily human need of individuals is:
- a - Mental & physical health.
  - b- Micro- organisms.
  - c - Sleep & rest.
  - d- Diversion & recreation.
5. State of complete physical, mental, social well-being and not the absence of disease or infirmity:
- a. Nurse.
  - b. Nursing.
  - c. Patient unit.
  - d. Health.
6. The goals of admission patient to the hospital are:
- a. Make diagnosis.
  - b. Measure weight & height.
  - c. Observe any abnormalities of skin & other structure.
  - d. Assess the clinical status of patient.
7. After discharging the patient from hospital:
- a. Provide the patient instruction for home care about the diet & activity.
  - b. Follow up nursing care like dressing.
  - c. Send linen & blankets to laundry.
  - d. Identify general reaction of patient.

Answer by (True) against the true sentences and by (False) against the false sentences:

- A. Is nursing directed to individuals only?
- B. Is nursing directed to the sick only?
- C. Health is many dimensions: physical, social and psychological.

D. The general hospitals affiliated with universities or governmental.

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[https://www.youtube.com/watch?v=iWDtT6z\\_O9I](https://www.youtube.com/watch?v=iWDtT6z_O9I)

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<https://www.youtube.com/watch?v=CAYLwX0gsgw>

<https://www.youtube.com/watch?v=KeJ2NmC2QE>

<https://www.youtube.com/watch?v=-zT0oDRiz6E>

رقم المحاضرة: الثانية	عنوان المحاضرة
أ.د. رفاعي ياسين حميد	اسم المدرس
طالبة المستوى الأول	الفئة المستهدفة
* تزويد الطلاب بالمعرفة والمهارات اللازمة لتقديم رعاية تمريضية شاملة وفعالة للمرضى. * توضيح العملية التمريضية وخطواتها، التعريف بطرق الفحص البدني. سيتمكن الطالب من:	الهدف العام من المحاضرة
1. فهم وتطبيق العملية التمريضية. 2. جمع المعلومات من المريض باستخدام طرق الفحص البدني. 3. دمج المعرفة والمهارات في الممارسة العملية. 4. جمع العينات المخبرية.	الأهداف السلوكية او مخرجات التعلم
* تطبيق العملية التمريضية أمام الطلبة. * محاكاة سيناريو الرعاية التمريضية من خلال تقسيم الطلبة الى مجاميع صغيرة على ان يتضمن السيناريو تقييم المريض، تشخيص احتياجاته، التخطيط للرعاية، وتنفيذ التداخلات التمريضية، وتقييم النتائج. * القيام بجمع المعلومات من المريض باستخدام كل طريقة من طرق الفحص البدني على حدة من خلال التطبيق على الدمية أو بعض الطلبة. * تقديم فيديوهات وأفلام علمية. * المناقشات الجماعية. * التعلم التعاوني وحل المشكلة. * استخدام عروض تقديمية مثل البوربوينت.	استراتيجيات التيسير المستخدمة
* تحليل المعلومات من طلبة المريض، الفحص البدني، الفحوصات المخبرية. * حل المشكلة. * التفكير المنطقي التحليلي والأستنتاجي. * التواصل مع المريض وعائلته. * التواصل والتعاون مع أعضاء الفريق الآخرين. * مساعدة المريض على الحركة وتوفير الراحة له. * الحفاظ على النظافة. * تعزيز مهارة الطالب حول تطبيق العملية التمريضية. * تعزيز قدرة الطالب على استخدام طرق الفحص البدني في جمع المعلومات من المريض. * تعلم الطريقة الصحيحة في جمع العينات المخبرية. * توثيق العملية التمريضية. * توثيق نتائج الفحص البدني.	المهارات المكتسبة
الأختبارات، التقييم الذاتي، كتابة تقارير حول الموضوع، مراقبة الطالب خلال العملية، محاكاة السيناريوهات، التقييم الذاتي.	طرق القياس المعتمدة

### الاسئلة القبليه:

- 1- Definition of evaluation is:
  - a. The effect of action.
  - b. The act of reviewing a human situation from a data.
  - c. Abnormalities of skin, hair & mouth.
- 2- Nursing process includes:
  - a. Assess the clinical status of patient.
  - b. Diagnosis & planning.
  - c. Physician recommending admission.

- 3- In which technique of physical examination used visual sense:
  - a - Palpation examination.
  - b- Inspection examination.
  - c- Percussion examination.
  - d- Auscultation examination.
- 4- Tone meter used to test the:
  - a- Pressure of the eye.
  - b- The various structures inside the eye.
  - c - Hearing.

### المحتوى العلمى:

#### **Nursing process:**

1. **Assessing:** is the act of reviewing a human situation from a data base in order to diagnose, potential client problem.
2. **Diagnosis:** identify signs and symptoms that the patient compliant from.
3. **Planning:** the nurse put her/his nursing planning depending on the information obtained from the patient compliant.
4. **Implementation:** is the complete action to accomplish nursing care plan " translate the plan into action", it depends on the nature of problem, condition of the client as well as action of planned.
5. **Evaluation:** is the effect or result of action.

#### **Methods of observation of patient by nurse:**

1. **Visual observation- (looking):** includes physical characteristics facial expressions, behavioral response to interaction with other, and posture of the person being observed.
2. **Auditory observation- (listening):** includes a person's cough, breathing sounds and heart sound.
3. **Olfactory observation- (smelling):** includes the odor of drainage from a wound, stool and the odor of breath.
4. **Tactile observation (touching):** includes the warmth of skin, the nature of pulse and size of various body organs.

### **Physical examination**

#### **Techniques of physical examination:**

1. **Inspection method:** it involves the visual sense, such as looking to observe the color of skin, or listening to the quality of voice or smell the characteristic of an odor, or taste sweaty food.

2. **Palpation method:** involves the sense of touch or the examiner used his hand, fingers to feel or press on the body for tenderness or soft or masses.
3. **Percussion method:** tapping a particular area of the body, either with the finger or with percussion hammer to indicate gases or fluid anywhere in the body.
4. **Auscultation method:** use the sense of hearing to interpret sounds make by the body, it is usually performed with the aid of stethoscope to listen to heart sound.

#### **Commonly instruments used:**

1. **Ophthalmoscope:** to see various structures in side of the eye.
2. **Otoscope:** to see interior parts of the external ear.
3. **Tuning fork:** to test hearing.
4. **Percussion hammer:** to test reflexes and determine tissue density.
5. **Tone meter:** to test pressure within the eye.
6. **Vaginal speculum:** to examine the vagina and cervix.
7. **Other equipment:** Tongue depressor, skin pencil, tape measure, safety pins, light, cotton, test tubes, gloves, lubricant, paper towels, and waste container.

#### **Nursing Role during examination:**

1. Explain to the patient what to do.
2. Empty urinary bladder.
3. Enema must be done.
4. Bathing the patient.
5. Measure height & weight of the patient.
6. Provide privacy to the patient.
7. Draping the client.
8. Maintain privacy of the patient.
9. Undress the wears except the patient gown.
10. Cover the patient unless the needed parts of the body for exam.
11. Put the patient in a good position.
12. Collect laboratory specimens.
13. Assessing head-toe of the patient as well as his/her health status.
14. Don't leave the patient with an opposite nurse sex alone.

**Diagnostic Testing:** Diagnostic and laboratory tests (commonly called lab tests) are tools that provide information about the client. Frequently tests are used to:

1. help confirm a diagnosis,
2. monitor an illness,
3. provide valuable information about the client's responses to treatment.

#### **Nursing Implications during Diagnostic Testing:**

Nurses need knowledge of the most common lab and diagnostic tests because one primary role of the nurse is to teach the client and family or significant other how to prepare for the test and the care that may require following the test. Nurses must also know the implications of the test results in order to provide the most appropriate nursing care for the client. Diagnostic testing involves three phases;

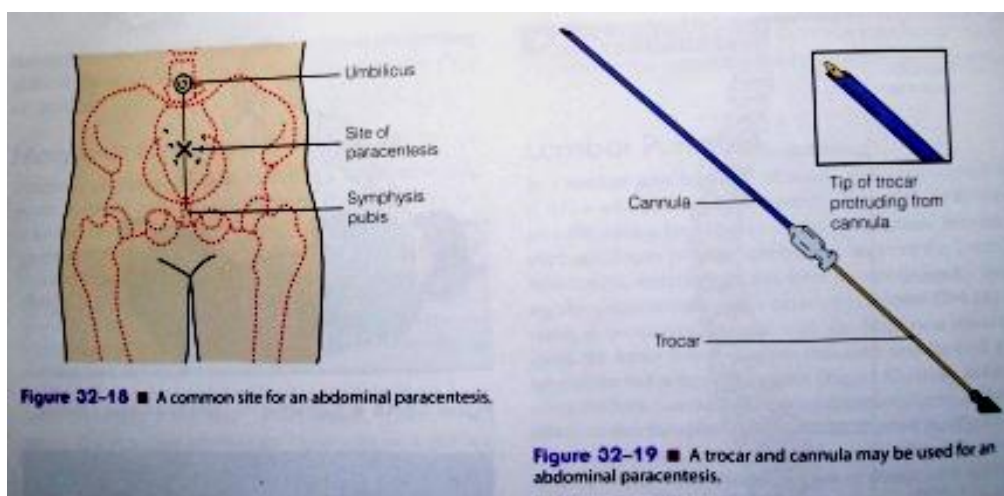
\* **Pretest-** The focus of this phase is on client preparation through communication and teaching strategies (Explaining what to do).

\* **Intra-test-** The focus of this phase is on specimen collection and performing or assisting with certain diagnostic testing.

\* **Post-test-** The focus of this phase is on nursing care of the client and follow-up activities and observations:

1. Compare the previous and current test results and modify nursing interventions as needed.
2. Report the results to appropriate health team members.

**Abdominal Paracentesis:** Normally, the body creates just enough peritoneal fluid for lubrication. The fluid is continuously formed and absorbed into the lymphatic system. However, in some disease processes, a large amount of fluid accumulates in the abdominal cavity; this condition is called **Ascitis**. Normal ascetic fluid is serous, clear and light yellow in color. An **abdominal paracentesis** is carried out to <sup>(1)</sup> *obtain a fluid specimen for laboratory study* and <sup>(2)</sup> *relieve pressure on the abdominal organs due to the presence of excess fluid*. A common site for abdominal paracentesis is the midway between the umbilicus and the symphysis pubis on the midline. A physician makes a small incision with a scalpel, inserts *trocar* (a sharp, pointed instrument) and *cannula* (tube) and withdraws the trocar, which is inside the cannula. Tubing is attached to the cannula and the fluid flow through the tubing into a receptacle. Normally, about 1.500 ml is the maximum amount of fluid drained at one time to avoid hypovolemic shock.



### Preparation of the patient:

1. Take vital signs.
2. Explain to the patient what will be done.
3. Empty the patient's bladder.
4. Put the patient in suitable position for the treatment as:

- a. Sitting up in the chair.
  - b. Fowler's position.
5. Put a sheet over patient or cover him/her and exposed the abdomen.
  6. Shave the area of operation.
  7. Disinfect the area of operation.

**Important point:**

1. Aseptic technique is used in process.
2. Prevent patient from moving during procedure.
3. Sterile drapes must have applied around the puncture site.
4. Skin should be prepared by cleansing with antiseptic solution.
5. Give attention to patient's appearance, skin color like paleness.
6. Record the amount, color, and odor of fluid.

**Thoracentesis:** Normally, only sufficient fluid to lubricate the pleura is present in the pleural cavity. However, excessive fluid can accumulate as a result of injury, infection, or other pathology. In such cases or in the case of pneumothorax, physician may perform thoracentesis to <sup>(1)</sup> *remove the excess fluid or air to ease breathing*. Also, thoracentesis is performed to <sup>(2)</sup> *introduce chemotherapeutic drugs intrapleurally*. The nurse assists the client to assume a position that allows easy access to the intracostal spaces (by sitting position with the arms above the head, which spread the ribs and enlarges the intracostal space. Two positions commonly used; one is the arm elevated and stretched forward and the other is which the client leans forward over a pillow). A site on the lower posterior chest is often used to remove fluid, and a site on the upper anterior chest is used to remove air. A chest X-ray prior to the procedure will help pinpoint the best insertion site.

**Important point:**

1. Assist physician as needed.
2. Observe the patient during procedure for paleness, dyspnea, and chest pulse rate.
3. Measuring fluid and record amount, color and appearance on intake and output sheet.

الاسئلة البعدية:

Put a circle in front of right sentences:

- 1- The purpose of abdominal paracentesis is:
  - a. Aspiration of fluid from the peritoneal cavity to diagnose it.
  - b. Assess the patient in his position.
  - c- Check vital signs.
- 2- The site of paracentesis is:
  - a. In the back.
  - b. Any site of the skin.

- c. Any abnormalities of skin & other structure.
  - d- Midway between the umbilicus & symphysis pubis in center of abdomen.
- 3- In which technique of physical examination used visual sense:
- a- Palpation examination.
  - b- Inspection examination.
  - c- Percussion examination.
  - d- Auscultation examination.
- 4- Tone meter used to test the:
- a- Pressure of the eye.
  - b- The various structures inside the eye.
  - c - Hearing.
5. Answer the true sentence by (True) and the false sentence by (False):
- A. Observation of the patient is purposeless in diagnosing his/her health problem.
  - B. Enema may be done before patient exam.
  - C. Laboratory tests can confirm diagnosis.
  - D. Before lab test, the nurse may explain to the patient what to do.
  - E. Urea and Creatinine don't used to evaluate renal functions.
  - F. If pH is more than neutral (7) it calls acidity.
6. Complete the followings with suitable words:
- a. The levels of hemoglobin are; in Male ..... g/dl, in Female .....d/ml.
  - b. RBCs count in Men is ..... /ml<sup>3</sup>, in Female ..... /ml<sup>3</sup>.

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<https://www.youtube.com/watch?v=bl0zbS0Ksgo>

رقم المحاضرة: الثالثة	
Body Mechanics, Patient Basic Needs, Body Care, Diet and Nutrition	عنوان المحاضرة
أ.د. رفاعي ياسين حميد طلبة المستوى الأول	اسم المدرس الفئة المستهدفة
تزويد الطلاب بفهم متكامل لجسم الإنسان واحتياجاته الأساسية، مع التركيز على العناية البدنية والتغذية السليمة.	الهدف العام من المحاضرة
سيتمكن الطالب من: * فهم آلية عمل الجسم. * التعرف على احتياجات المريض الأساسية. * اتباع نظام غذائي صحي ومتوازن. * تقديم العناية البدنية للمريض بالشكل المناسب للحالة المرضية. * القيام بعملية التغذية المعوية ورشف محتويات المعدة بالشكل الصحيح. * منع حدوث قرح الضغط.	الأهداف السلوكية او مخرجات التعلم
* التجارب الميدانية. * القصة القصيرة. * استخدام النماذج التشريحية. * محاكاة احتياجات المريض الأساسية. * طرح الأسئلة. * المناقشة الجماعية. * حلّ المشكلات. * التعلم التعاوني. * استخدام العروض التقديمية. * استخدام الفيديوهات.	استراتيجيات التيسير المستخدمة
* مهارات معرفية حول فهم وظائف أجهزة وأعضاء الجسم وعملياتها الفسلجية والعوامل المؤثرة عليها، ومعرفة احتياجات المريض الأساسية، وفهم أهمية العناية البدنية والغذاء الصحي. * تقييم احتياجات المريض الأساسية من الغذاء والماء والنوم وتوفير الرعاية اللازمة. * ممارسة العادات الصحية مثل النشاط البدني المنتظم واتباع نظام غذائي متوازن. * تخطيط وجبات الطعام الصحية المتوازنة التي تلبى احتياجات الجسم من العناصر الغذائية المختلفة. * مهارات التواصل مع المريض وعائلته وأعضاء الفريق الصحي. * مهارات التفكير النقدي. * مهارات حل المشكلة. * مهارات العمل الجماعي. * تلبية الاحتياجات اليومية الأساسية. * العناية البدنية الصحيحة. * اكتساب الطريقة الصحية بالتغذية المعوية والرشف المعدي. * إتباع الأسلوب الصحيح لمنع حدوث قرح الضغط.	المهارات المكتسبة
* الأختبارات. * كتابة التقارير. * المناقشة. * التأمل. * التحليل والتركيب. * التقييم الذاتي. * المراقبة أثناء العمل.	طرق القياس المعتمدة

Put a circle in front of right sentences:

- 1- The purpose of changing body position is:
  - a. For emotional status.
  - b. To feeling of self-confidence.
  - c. Used the base of support.
  - d. For diagnosis.
- 2- The purpose of back massage is:
  - a. To keep the teeth & mouth & gums in good condition.
  - b. To stimulate circulation of blood supply to the area.
  - c. Recording date & time of making procedure.
- 3- The requirement of foods depends on:
  - a. Activity & emotional status.
  - b. Clean & free from damp or solid of patient.
  - c. Comfortable position.

### **Body Mechanics**

\*\*\*\*\*

**Body mechanics:** is the term used to describe the physical coordination of all parts of the body.

#### **Fundamentals of Body Mechanics;**

1. Base of support.
2. Center of gravity (In human, the center of gravity when standing is located in the center of pelvis about midway between the umbilicus and symphysis pubis).
3. Using muscles for designated activities.

#### **Purpose:**

1. To keep important organs in their correct anatomical and physiological position.
2. To facilitate good muscular control and the smoothness of movement.
3. To move and work with minimum muscular effort.
4. To make good impression toward others and produce feeling of self-confidence.

**Body posture:** is the interrelation of various parts of the body at rest or in any phase of activity.

### **Principles of body mechanics:**

1. Use a wide base of support when moving object.
2. Keep objects to be moved close to the body.
3. Push, pull, roll or slides objects rather than lifting.
4. Avoid twisting the spine by pushing or pulling the objects.
5. Use the body weight when pushing objects.

### **Factors that influence body mechanics and posture:**

1. General health.
2. Nutrition.
3. Emotions.
4. Situational factors.
5. Life style.

### **The importance of exercises:**

1. Improve the strength and flexibility of all body muscle.
2. Maintain and build muscle strength.
3. Prevent deformity.
4. Improve blood circulation.
5. Promote good respiratory function.
6. Enhance endurance.
7. Relieve depression.
8. Maintain joints function.

### **Types of Exercise;**

1. **Isotonic exercises;** involve muscle shortening and active movement, as, carrying out activities of daily lie.
2. **Isometric exercises;** involves muscle contraction without shortening, as, contraction of gluteal muscles.
3. **Isokinetic exercises;** involves muscle contraction with resistance, as, rehabilitative exercises for knee injury.

### **Common Dangers of Immobility:**

1. **Respiratory system:** atelectasis, collapse of lung tissue.
2. **Circulatory system:** thrombosis, orthostatic hypotension.
3. **Musculoskeletal system:** osteoporosis, atrophy, contracture, stiffness and joint pain.
4. **Urinary system:** calculi or stone, urinary retention, urinary tract infection.
5. **Gastro intestinal system:** disturbance in appetite, poor digestion, constipation.
6. **Integumentary system:** reduced skin turgor, skin breakdown, pressure sores.
7. **Psychological effects:** frustration, lower self-esteem, withdrawal, angry, aggressive.

### **Changing patient's position:**

1. Helping the patient move to the side of the bed.
2. Raising the shoulder of helpless patient.

3. Raising the shoulder of semi helpless patient.
4. Moving the helpless patient up in the bed (**two nurses**).
5. Using a sheet to pull or move a helpless patient up in bed.
6. Assisting the patient to get out of bed and into a chair.

**Body position for comfort:**

1. Standing position (anatomical or Erect position).
2. Dorsal position.
3. Dorsal-recumbent position.
4. Sitting position.
5. Prone position.
6. Fowler's position.
7. Lateral position.
8. Sim's position.
9. Lithotomy position
10. Trendelenburgs position.
11. Knee-chest position.

**The purposes of changing position:**

1. For diagnosis.
2. To prevent bed sores.
3. To help out of drainage.
4. For rest.
5. For therapeutic.

**Patient's Basic Needs**

**Types:**

1. *Physiological needs*: as food, shelter, water, sleep, oxygen, nutrition, excretory functions, adjustment of body temperature, rest and avoidance of pain.
2. *Safety and security*; diagnostic tests, unfamiliar functions, different procedure; all these mentioned increase the fear of the patient.
3. *Love and belonging*; affection, identification and companionship; all these mentioned and others assist the patient to feel acceptable.
4. *Esteem and recognition*; self-esteem, self-respect, prestige, success, esteem of others, all that are necessary for the patient.
5. *Self-actualization*; self-fulfillment, achieving one's own capabilities.
6. *Aesthetic*; beauty, harmony, spiritual needs.

### **Relationship between levels of needs;**

- A. The basic physiological needs related to survival (food, water etc) must be met first of all.
- B. The basic physiological needs have a greater priority over those higher in the pyramid. They must be met before the person can move on to higher level needs. In other words, a person who is starving will not be concentrating on building his/her self-esteem. A patient in severe pain will not be concerned with improving his/her interpersonal relationships.
- C. Generally speaking, each lower level must be achieved before the next higher level(s) can be focused upon.

**Patient's Unit:** is a special area for the patient when he/she is in the hospital for treatment.

### **Methods of care of patient's unit:**

1. Concurrent disinfection; is the daily cleaning of the unit.
2. Terminal disinfection; is the care of the unit after the patient has been discharged from the hospital.

**Bed-Making;** is the process of applying or changing the bed linen or other components (as; mattress, pillow, blanket) to provide rest and sleep which are two essential factors in treatment of illness.

*Types of patient's bed:*

1. Closed bed.
2. Opened bed.
3. Occupied bed.
4. Surgical bed.

### **Objectives of bed-making:**

- A. Provide clean environment.
- B. Promote physical & psychological comfort.
- C. Prevent contamination.

## **Body Hygiene & Oral Care**

**Definition:** it means cleaning and freshening the teeth, gums and mouth.

### **Purpose:**

1. To keep the teeth, gums and mouth in a good condition.
2. To freshen the mouth and relieve of halitosis.
3. To prevent sores and infection.
4. Fresh the mouth and relieve unpleasant odor (Halitosis).
5. Provide a sense of well-being and comfort.
6. Prevent bacteria from entering to the digestive system.

### **Equipment:**

1. Tooth brush and paste.
2. Kidney basin.
3. Face towel.
4. Paper wipes.
5. Glass containing water or mouth wash.

**Halitosis:** bad odor of breath caused by high number of bacteria.

**Caries:** decay of teeth with the formation of cavities.

**Periodontitis or Pyorrhea:** severe inflammation of the gums, including bone tissue around the teeth.

**Back massage:** means making massage to the individual back to promote rest, comfort and therapeutic mean.

**Purpose:**

1. To promote circulation of blood supply to the area.
2. To observe any signs on the skin (ulcer).
3. To promote relaxation and relive tension.
4. Remove dirty oils.
5. Prepare patient to sleep.

**Important points:**

- \* If skin is dry don't use alcohol but use Vaseline or lotion.

**After making back massage:**

1. Recording date and time.
2. Any abnormal sign observed during making back massage.

**Bathing:**

*Types:*

A. Bed bath-

1. Complete bath; it means cleaning all the body.
2. Partial bath; it means cleaning the face, axilla, hands, genital area and alcohol back rub only with changing position in bed.

B. Bathing in the bathroom.

*Purposes:*

1. Clean the skin.
2. Relaxation.
3. Maintain good circulation.
4. Assess body prominences for pressure ulcers.
5. Assess range of motion.
6. Promote elimination from the skin.
7. Establish a communication pattern between the patient and the nurse.

## Pressure Ulcer (Bed sores)

Is a decay of the skin tissues and sometimes the tissues under it.

### Causes of bed sores:

1. Immobility; causes prolonged pressure on body areas, as- unconscious, paralysis and aged persons.
2. Diminished blood supply.
3. Friction.

### Predisposing factors:

#### 1. Patient-related factors:

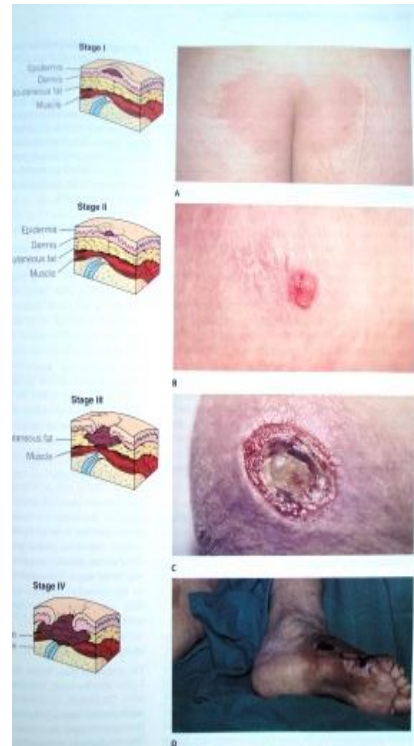
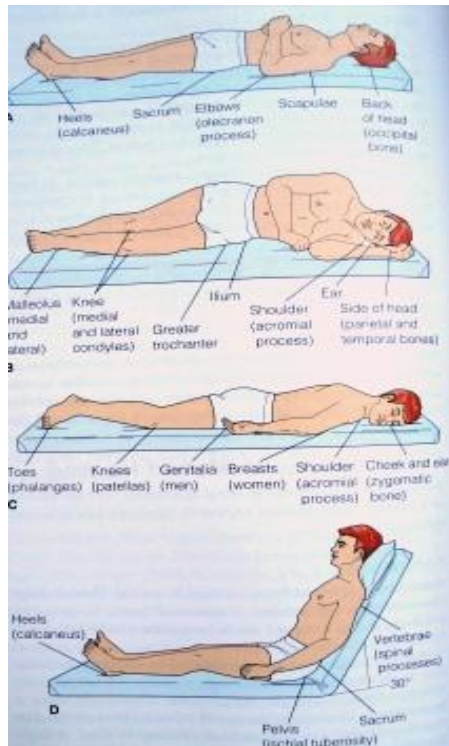
- Poor nutritional status as malnutrition especially protein & vitamin 'C' deficiency.
- Moisture of the skin by urine, feces incontinence.
- Diseases as; Diabetes Mellitus, Anemia, Obesity, Malignancy tumors.
- Mental status; due to diminished self-care abilities.

#### 2. Environmental-related factors:

- \* Wrinkled sheets or linen.
- \* Wet sheets or linen.
- \* Excessive skin massage.
- \* Excessive use of detergents substances.

### Areas of pressure sores:

1. Heels.
2. Elbows.
3. Coccyx.
4. Scapula.
5. Back of the head.



### Care of pressure ulcer:

It is important of proper positioning of the patient in order to prevent further pressure on affected areas.

### Equipment:

1. Sterile water.
2. Sterile sponges.
3. Lotion, powder, and alcohol.

### Prevention:

1. Regular changing of body position (2-4 hours).
2. Release pressure by using sheep skin pieces under the buttock.
3. Inspection of pressure areas when changing position.
4. Keep skin clean and dry.
5. Avoid friction.
6. Use floating mattress.
7. Improve patient's nutritional status.
8. Provide local protection for bony prominences.
9. Cleaning the bed.
10. Using heat, illumination and massage over bony prominences when changing.
11. Make back massage to prevent new sores.

## Nutrition

**Nutrients (Food or Diet)** are specific biochemical substances used by the body for growth, development, activity, reproduction, lactation, health maintenance and recovery from illness or injury. There are six classes of nutrients, *Supply-energy group* (carbohydrates, protein and lipids), and *regulation of body processes group* (vitamins, minerals and water). Energy in the diet is measured in the form of kilocalories commonly abbreviated as calories or cal. Water is important to maintain fluid balance in the body.

### Basal Metabolism Requirements:

**Basal metabolism**- is the amount of energy required to carry on the involuntary activities of the body at rest, as maintaining body temperature and muscle tone, producing and releasing secretions, gastro-intestinal movements, inflating the lungs and beating heart. Basal metabolic rate (**BMR**) is about "1" cal/kgm of body weight per hour for men and "0.9" cal/kgm per hour for women. Males have a higher basal metabolic rate than females, because of their larger muscle mass and hormones.

### The Requirement of the Foods: it depends on:

1. The demands of the body for growth and tissue repair.
2. Developmental considerations.
3. Sex (Gender).
4. Activity and climate.
5. Emotional status.
6. Pregnancy.
7. Elevated some hormones (e.g. Adrenaline and thyroid hormones).
8. Health status.
9. Medications administered.
10. Socio-cultural and Psychological factors.

**Appetite:** is a natural first defense against hunger.

**Hunger:** is a sensation which tells us that our body needs nourishment.

### Methods of calculating Caloric Requirements:

1. Calculate the Basal Metabolic Rate (BMR) or the amount of calories necessary to maintain body at rest, as;

**Male-**  $BMR = Wt \text{ (kgm)} \times 1 \text{ cal} \times 24 \text{ hours.}$

**Female- BMR = Wt (kgm) × 0.9 cal × 24 hours.**

2. Determine calories needed for specific activity levels, as;

**Moderate activity = (BMR × 0.7).**

**Heavy activity = (BMR × 1).**

**Example:** Calculate the caloric requirements for a man with moderate activity if you know that his weight is 65 kgm.

**BMR = wt (kgm) × 1 cal × 24 hours**

**= 65 kgm × 1 cal × 24 hours**

**= 1560 cal / day.**

**For moderate activity = BMR × 0.7 = 1560 × 0.7 = 1092 cal**

**Caloric requirement = BMR + calories needed for activity level**

**= 1560 + 1092 = 2652 cal / day needed.**

**Fluids and Electrolytes:** Water is the primary body fluid; it is the most important nutrient of life, although life can be sustained for many days without food, humans can survive for only a few days without water.

#### **Primary Functions of Water;**

1. Provide medium for transporting nutrients to cells and wastes from cells and for transporting substances as hormones, enzymes and blood cells.
2. Facilitate cellular metabolism and chemical functioning.
3. Consider solvent for electrolytes and non-electrolytes.
4. Help maintain normal body temperature.
5. Facilitate digestion and promote elimination.
6. Act as a tissue lubricant.

**Urinary Elimination;** Elimination from the urinary tract helps to rid the body from waste products. Nurse assist the patient with urination problems to resolve his/her problem related to urination. The urinary system composes of two kidneys, two ureters, bladder and urethra.

**Micturition-** is the process of emptying the bladder.

**Anuria-** The 24 hours urine voided is less than 100 ml (The normal daily urine amount is 1500-2000 ml).

**Oliguria-** decreased urine voided to (100-400 ml) daily.

**Dysuria-** Difficult urination.

***Polyuria-*** increased urine excreted.

***Urgency-*** Strong desire to urinate.

***Glycosuria-*** Presence of sugar in urine.

***Proteinuria-*** Presence of protein in urine.

***Melena-*** Blood in feces or stool.

**Nasogastric intubation:** is a medical process involving the insertion of a plastic tube (nasogastric tube, NG tube) through the nose, past the throat, and down into the stomach.



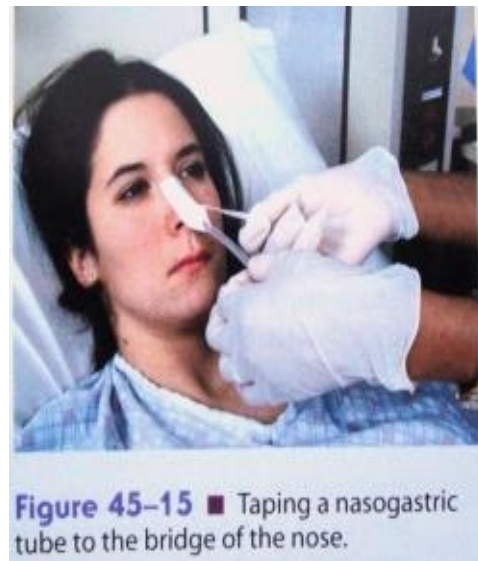
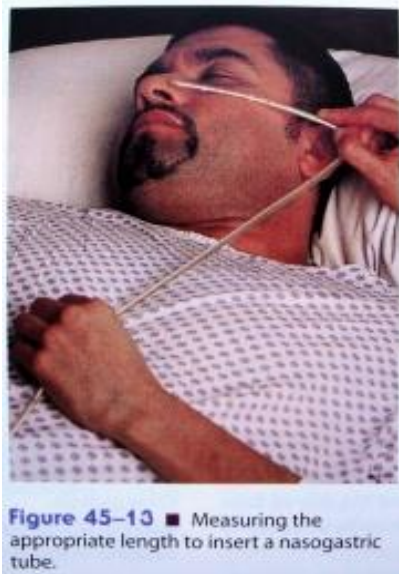
Uses:

1. Feeding and administering of drugs. For drugs and for minimal quantities of liquid, a syringe is used for injection into the tube. For continuous feeding, a gravity based system is employed, with the solution placed higher than the patient's stomach. Sometimes the tube is often connected to an electronic pump which can control and measure the patient's intake and signal any interruption in the feeding.
2. Treatment for severe anorexia nervosa can include nasogastric feeding to stabilize body weight.
3. Draining the stomach's contents via the tube.
4. Remove gastric secretions and swallowed air in patients with gastrointestinal obstructions. Nasogastric aspiration can also be used in poisoning situations when a potentially toxic liquid has been ingested, for preparation before surgery under anesthesia, and to extract samples of gastric liquid for analysis.

Technique:

Before an NG tube is inserted the health care provider must measure with the tube from the tip of the patient's nose to their ear and down to the Xyphoid process. Then the tube is marked at this level to ensure that the tube has been inserted far enough into the patient's stomach. The end of a plastic tube is lubricated (local anesthetic, such as 2% xylocaine gel, may be used, and inserted into one of the patient's anterior nostrils. The tube should be directed

aiming down and back as it is moved through the nasal cavity and down into the throat. When the tube enters the oropharynx and glides down the posterior pharyngeal wall, the patient may gag, in this situation the patient, if awake and alert, is asked to mimic swallowing and the tube continues to be inserted as the patient swallows. Once the tube is past the pharynx and enters the esophagus, it is easily inserted down into the stomach.



Great care must be taken to ensure that the tube has not passed through the larynx into the trachea and down into the bronchi. To ensure proper placement it is recommended (though not unequivocally confirmed) that injection of air into the tube be performed, if the air is heard in the stomach with a stethoscope, then the tube is in the correct position. Another more reliable method is to aspirate some fluid from the tube with a syringe. This fluid is then tested with pH paper (note not litmus paper) to determine the acidity of the fluid. If the pH is 5.5 or below then the tube is in the correct position. If this is not possible then correct verification of tube position is obtained with an X-ray of the chest/abdomen. This is the most reliable means of ensuring proper placement of an NG tube. If the tube is to remain in place then a tube position check is recommended before each feed and at least once per day. If the tube is to be used for continuous drainage, it is usually appended to a collector bag placed below the level of the patient's stomach; gravity empties the stomach's contents. It can also be appended to a suction system, however this method is often restricted to emergency situations, as the constant suction can easily damage the stomach's lining.

**Gastric gavage:** is a process of feeding the patient through a tube passed into the esophagus and stomach by way of the mouth or nose.

**Purpose:**

1. To provide food or fluid to patient who had unable to take nourishment by mouth in case of:
  - a. Unconsciousness.

- b. Fracture of jaw.
  - c. Cleft palate.
  - d. Psychosis and delirium patient.
  - e. Operations on the mouth or patient with nausea and vomiting.
2. To provide for maximal nutritional recovering from disease for injury.

**Important point:**

- 1. Tube feeding must be refrigerated for 15 -20 min.
- 2. Put patient in semi sitting position.
- 3. The food given must be fluids or semi-fluids.

**Nursing care:**

- 1. Clean the nostril and gastric tube with moistened cotton.
- 2. Apply water soluble lubricant to the nostril if it dries.
- 3. Giving frequent mouth care.
- 4. Record the intake and output liquid that gives to the patient.
- 5. Administer some amount of water after feeding to prevent closure of the tube by food particles.

**Gastric lavage:** it means emptying the content of the stomach by insertion of N.G. tube from mouth or nose to the stomach. Also, it means washing out of the stomach. The solutions used for gastric lavage are physiological saline, 1% sodium bicarbonate, plain water or a specific antidote for the poison. The procedure is performed before and after surgery to remove irritants or toxic substances and possibly before such examinations as endoscopy or gastroscopy.

**Nursing care:**

- 1. Clean the nose and mouth before and after procedure.
- 2. Collecting the specimens to measuring.
- 3. Return the procedure until solution from the stomach is clean.
- 4. Clean the equipment that used in procedure.
- 5. Record the time of procedure and abnormal signs of patient in chart.

الاسئلة البعدية:

Put a circle in front of right sentences:

- 1- The danger of immobility on respiratory system is:
  - a. Thrombosis.
  - b. Bed sores.
  - c. Collapse of lung tissue.
- 2- Factors that influence body mechanics is:
  - a. Nutrition & fluid.
  - b. Move & work with minimum muscular effort.
  - c. Use the body weight of client.
- 3- The area of pressure ulcer is:
  - a. Abdomen.

- b. Elbows & coccyx.
  - c. Any site in the back.
- 4- The cause of pressure ulcer:
- a. Poor Nutrition .
  - b. Pain in area of sores.
  - c. Redness in the area.
- 5- The purpose of back massage is:
- a. To keep the teeth & mouth & gums in good condition.
  - b. To stimulate circulation of blood supply to the area.
  - c. Recording date & time of making procedure.
- 6- The requirement of foods depends on:
- a. Activity & emotional status.
  - b. Clean & free from damp or solid of patient.
  - c. Comfortable position.
- 7- The purpose of making gastric gavage is: .
- a. To gives food & fluid to the patient who had unable to eat & drink.
  - b. Giving frequent mouth care.
  - c. Process of giving fluid.
- 8- The way of nasal gastric tube is:
- a. The tube passed through the mouth to the intestinal.
  - b. The tube inserted through one nostril down the nasal pharynx & esophagus in to the stomach.
- 9- Patient who needs gastric gavages are:
- a. Patient with injuries.
  - b. Patient who had fever.
  - c. Unconscious patient.

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## فيديوهات تعليمية مساعدة:

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<https://www.youtube.com/watch?v=4UCuQs2T9bA>

<https://www.youtube.com/watch?v=Ft4HSynhXmk>

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<https://www.youtube.com/watch?v=pNLxIJTDIjU>

رقم المحاضرة: الرابعة	
<b>Disinfection &amp; Sterilization, Wound Dressing</b>	<b>عنوان المحاضرة</b>
أ.د. رفاعي ياسين حميد	<b>اسم المدرس</b>
طالبة المستوى الأول	<b>الفئة المستهدفة</b>
تعليم الطالب مبادئ التطهير والتعقيم، واكتساب المعرفة والمهارات اللازمة لمنع العدوى وكذلك تعليمه وتدريبه على كيفية العناية بالجرح. سيكون الطالب قادراً على:	<b>الهدف العام من المحاضرة</b>
<ul style="list-style-type: none"> <li>* اختيار نوع المطهر او المعقم المناسب لكل حالة.</li> <li>* تطبيق تقنيات التطهير والتعقيم بشكل صحيح وآمن.</li> <li>* تنظيف وتعقيم الأدوات والمعدات الطبية بشكل صحيح.</li> <li>* تنظيف وتعقيم الجروح بشكل صحيح.</li> <li>* اتباع ممارسات مكافحة العدوى بدقة عند إجراء أي من هذه الإجراءات.</li> <li>* تقييم نوع الجرح وموقعه وحالة المريض.</li> <li>* اختيار نوع ضماد الجروح المناسب لكل حالة.</li> <li>* تطبيق تقنيات ضماد الجروح بشكل صحيح وآمن.</li> <li>* مراقبة الجروح وتغيير الضمادات بشكل منتظم.</li> <li>* تعليم المريض كيفية العناية بجروحه في المنزل.</li> </ul>	<b>الأهداف السلوكية او مخرجات التعلم</b>
<ul style="list-style-type: none"> <li>* التفاعل والمشاركة.</li> <li>* مراعاة الفروق الفردية.</li> <li>* التعلم الذاتي.</li> <li>* استخدام البوربوينت.</li> <li>* التحليل.</li> <li>* تقسيم الطلبة الى مجاميع صغيرة وتكليفهم بمحاكاة سيناريوهات مختلفة تتعلق بالعدوى وضماد الجروح.</li> <li>* ممارسة تقنيات التطهير والتعقيم وضماد الجرح على نماذج أو دمي.</li> <li>* عرض مقاطع فيديو.</li> <li>* الأخبارات.</li> </ul>	<b>استراتيجيات التيسير المستخدمة</b>
<ul style="list-style-type: none"> <li>* زيادة قدرة الطالب على استخدام وسائل التطهير والتعقيم.</li> <li>* تحسين قدرة الطالب على الطريقة الصحيحة في تضميد الجروح.</li> <li>* تطبيق تقنيات التطهير والتعقيم المناسبة للأدوات والمعدات الطبية والجلد والجروح.</li> <li>* اختيار نوع ضماد الجروح المناسب لكل حالة.</li> <li>* تطبيق تقنيات ضماد الجروح بشكل صحيح.</li> <li>* مراقبة الجروح وتغيير الضمادات بشكل منتظم.</li> <li>* التواصل الفعال مع المريض وعائلته لتقديم المعلومات الضرورية.</li> <li>* التواصل والتعاون مع أعضاء الفريق الصحي.</li> </ul>	<b>المهارات المكتسبة</b>
الأختبار، المناقشة، المحاكاة.	<b>طرق القياس المعتمدة</b>

### الاسئلة القبليه:

Answer by (True) against the true sentences and by (False) against the false sentences:

1. Disinfection means destruction of contagious agents with spores.
2. Surgical asepsis means practices that keep objects and areas free from all micro-organisms.

3. Antiseptics are chemical agents which stop or slow the growth of germs.

المحتوى العلمى:

### **Sterilization and Disinfection**

**Sterilization-** is the process by which all micro-organism including spores are destroyed.

**Disinfection-** is the process by which the contagious agents are destroyed without any effect on the spores.

**Medical Asepsis-** are practices which help to reduce the number of diseases producing micro-organisms as possible as can from one person or place to another.

**Surgical Asepsis-** are practices which render and keep objects and areas free from all micro-organisms.

**Antiseptics-** Antiseptics are chemical agents that slow or stop the growth of micro-organisms (germs) on external surfaces of the body and help prevent infections. Antiseptics should be distinguished from antibiotics that destroy micro-organisms inside the body, and from disinfectants, which destroy micro-organisms found on inanimate (non-living) objects. However, antiseptics are often referred to as skin disinfectants. Most chemical agents can be used as both an antiseptic and a disinfectant. The purpose for which it is used is determined by its concentration. For example hydrogen peroxide 6% solution is used for cleansing wounds, while stronger solutions (>30%) are used in industry as a bleach.

**Uses of Antiseptics;** Antiseptics are mainly used to reduce levels of microorganisms on the skin and mucous membranes. The skin and mucous membranes of the mouth, nose, and vagina are homes to a large number of what are usually harmless micro-organisms. However, when the skin or mucous membranes are damaged or breached in surgery, antiseptics can be used to disinfect the area and reduce the chances of infection. It is also important that people who are treating patients with wounds or burns adequately wash their hands with antiseptic solutions to minimize the risk of cross infection. It can also use for:

- Handwashing – chlorhexidine gluconate and povidone iodine solutions are often used in hand scrubs and hand rubs.
- Pre-operative skin disinfection – antiseptics applied to the operation site to reduce the resident skin flora.
- Mucous membrane disinfection – antiseptic irrigations may be instilled into the bladder, urethra or vagina to treat infections or cleanse the cavity prior to catheterization.
- Preventing and treating infected wounds and burns – antiseptic preparations are to treat minor cuts, abrasions and burns.
- Treating mouth and throat infections – dequalinium chloride has both antibacterial and antifungal properties and is the active ingredient in antiseptic throat lozenges.

**Wound Dressing;** Is covering the wound to protect it from harmful agents.

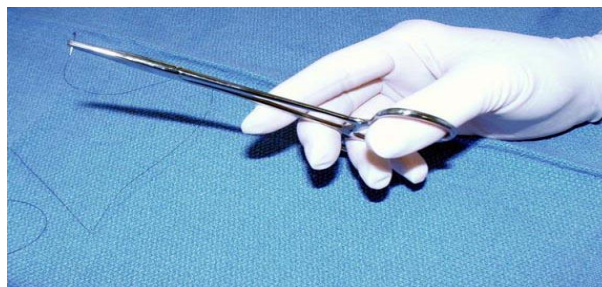
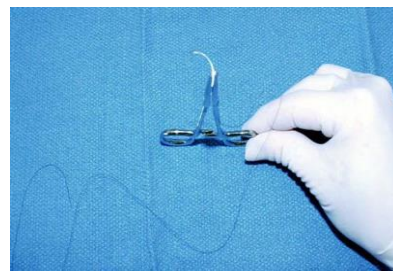
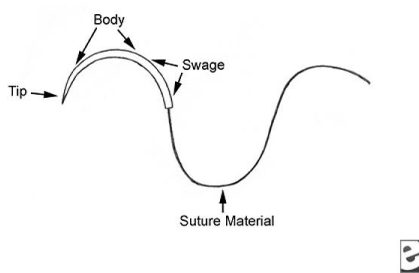
## Purposes of Wound Dressing:

- Maintain a moist environment at wound interface.
- Remove excess exudates.
- Provide thermal insulation and mechanical protection.
- Act as a barrier to micro-organisms.
- Allow gaseous exchange.
- Psychological support.

**Important Point:** Wound dressings are different from dry bandages because wound dressings keep the wound moist. Wounds heal more rapidly when moist wound dressings are applied. The moisture in the different types of wound dressings mimic healthy skin and cause the wound to heal faster and more completely.

## Principles of Dressing;

1. Hand washing.
2. The nurse may be far from any respiratory infection.
3. Put the mask on the nose & mouth.
4. Be sure that the door & windows of the patient's room are closed.
5. Wear sterile gloves.
6. Using aseptic techniques during dressing with the wound & instruments.
7. Be away far from touching the sterile space.
8. Clean the bottle os before using the solution.
9. When removing the wound sutures the nurse may;
  - A. Cut the stitches near the skin and pull them from the another side of it.
  - B. Don't cut the stitches from many sites.



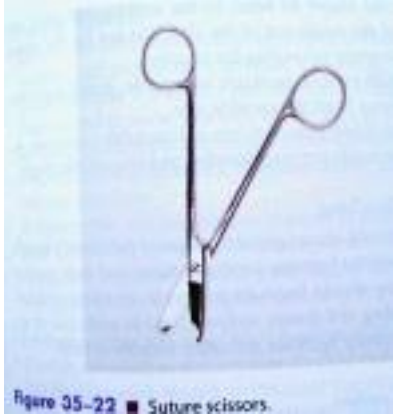


Figure 35-22 ■ Suture scissors.



Figure 35-24 ■ Removing a plain interrupted skin suture.

### الاسئلة البعدية:

Answer by (True) against the true sentences and by (False) against the false sentences:

1. Disinfection means destruction of contagious agents with spores.
2. Surgical asepsis means practices that keep objects and areas free from all micro-organisms.
3. Antiseptics are chemical agents which stop or slow the growth of germs.
4. Antibiotics destroy micro-organisms inside the body.
5. Wounds heal slowly when moist dressings are applied over the wound.
6. Cleaning the bottle os of the disinfectant solution is of no benefit.
7. When removing wound sutures, the nurse should cut the suture in the midpoint of it outside the wound, then pulling it.

### المصادر الأساسية:

- \* Kimberly Ernstmeyer, Elizabeth Christman (2020): Nursing Fundamentals, Wi Technical College Open Press.
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- \* Patricia A. Potter, Anne G. Perry, Patricia A. Stockert, Amy M. Hall and Wndey R. Osterdorf (2017): Fundamentals of Nursing, 9<sup>th</sup> Edition, Elsevier Inc., United States.

فيديوهات تعليمية مساعدة:

[https://www.youtube.com/watch?v=6ZYrh\\_bM\\_Yw](https://www.youtube.com/watch?v=6ZYrh_bM_Yw)

Vital Signs	عنوان المحاضرة
أ.د. رفاعي ياسين حميد	اسم المدرس
طالبة المستوى الأول	الفئة المستهدفة
تزويد الطالب بالمعرفة والمهارات اللازمة لتقييم الحالة الصحية للمريض بشكل دقيق وفعال، وكذلك تعريف الطالب بالعلامات الحيوية، قيمها الطبيعية، وكيفية قياسها.	الهدف العام من المحاضرة
سيتمكن الطالب من: * إتقان تقنيات قياس العلامات الحيوية الرئيسية. * استخدام الأدوات المناسبة لقياس العلامات الحيوية بشكل صحيح. * تحليل قياسات العلامات الحيوية لتحديد الحالة الصحية للمريض. * التعرف على العلامات التي تشير إلى وجود مشكلة صحية. * تحديد الحاجة إلى مزيد من التقييم أو التدخل الطبي. * إبلاغ الأطباء والممرضين الآخرين بنتائج قياسات العلامات الحيوية. * شرح معنى قياسات العلامات الحيوية للمرضى وعائلاتهم. * توثيق قياسات العلامات الحيوية في سجلات المريض بشكل واضح ودقيق. * استخدام مهارات قياس العلامات الحيوية وتفسيرها لتقييم المرضى في مختلف بيئات الرعاية الصحية. * رصد تغييرات العلامات الحيوية للمرضى واتخاذ الإجراءات المناسبة عند الحاجة. * الاستفادة من قياسات العلامات الحيوية لتقديم رعاية صحية عالية الجودة للمرضى.	الأهداف السلوكية او مخرجات التعلم
* محاكاة سيناريوهات تتعلق بقياس العلامات الحيوية وتفسيرها. * اجراء تطبيق عملي بين الطلبة. * عرض فيديوهات تعليمية. * مناقشات جماعية. * حلّ المشكلة. * التعلم التعاوني. * استخدام عروض تقديمية كالبوربوينت. * طرح الأسئلة. * الأصغاء. * التفكير التأملي. * مراعاة الفروق الفردية. التفاعل والمشاركة.	استراتيجيات التيسير المستخدمة
* تمكين الطالب من تطبيق الإجراءات الصحيحة عند قياس العلامات الحيوية. * تقديم الرعاية المناسبة عند حصول قيمة غير طبيعية لأحدى العلامات الحيوية.	المهارات المكتسبة
الاختبارات العملية، كتابة التقارير، التقييم الذاتي، مراقبة الطالب اثناء التدريب.	طرق القياس المعتمدة

### الاسئلة القبليه

Put a circle in front of right sentences:

1- Tachycardia means"

- Irregular pulse rhythm.
- Increase depth of respiration.
- Pulse rate is over 100 beat / minute.
- Pulse rate is below 60 beat / minute.

2- Factor affecting pulse rate is:

- a. Arterial wall condition.
  - b. Rhythm of pulse.
  - c. Volume of pulse.
- 3- Methods for measuring body temperature is:
- a. Planning progressing of patient.
  - b. Orally, Auxiliary & Rectal method.
  - c. Facial artery.
  - d. Femoral artery.
- 4- The purpose of checking vital signs is:
- a. For making diagnosis.
  - b. Change in health status.
  - c. For physical exercise.
  - d. For patient who breath from mouth

المحتوى العلمى:

### **Vital Signs**

Vital signs are measures of various physiological status, often taken by health professionals, in order to assess the most basic body functions. When these values are not zero, they indicate that a person is alive. All of these vital signs can be observed, measured, and monitored. This will enable the assessment of the level at which an individual is functioning. Vital signs are temperature, pulse, respiration and blood pressure.

#### **Times at which vital signs must be assessed:**

1. Change in health status.
2. Admission of the patient to the health care agency.
3. Nursing or medical order.
4. Before or after surgery or diagnostic procedure.
5. Before and after administration of medication.
6. Before and after any nursing intervention.

#### **The purpose of checking vital signs:**

- 1- For making diagnosis.
- 2- Planning progressing of patient.
- 3- Indicate reactions of patient to the specific medications treatment and care.

## Body Temperature

It means a balance between heat production and heat loss, the normal degree of body temperature as an average is (37) c° (98.6) F

### **Methods for measuring body temperature:**

- 1- Oral method.
- 2- Axillary method.
3. Rectal method.

**Oral temperature:** It means measuring body temperature by putting thermometer under the tongue for (3 -4) minute, and the degree of thermometer is depended as it is.

### **Contraindications:**

- 1- Unconscious patient.
2. Mental diseases.
- 3- Infants and young children.
- 4- Patient who breath from mouth.
- 5- Patient who has disease in the oral cavity or surgery of nose or mouth.
6. Nausea or Vomiting.
7. Cough.

*Oral temperature can be affected by number of variables; <sup>(1)</sup> the nurse has to wait 20-30 minutes after a client ingested hot or cold liquids or food or <sup>(2)</sup> has been smoking, or <sup>(3)</sup> has been involved in strenuous exercise, before temperature can be checked.*

**Axillary method:** It means measuring body temperature by putting the thermometer in axillary place (armpit) for at least (5) minute.

- ❖ Assure that thermometer is contact with skin surface.
- ❖ Add (0.5) degree to the degree of thermometer obtained.

**Rectal method:** It means measuring body temperature by inserting the thermometer into the rectum by using especial thermometer "with square bulb". This method provides the most accurate checking of temperature, for it can be used in discovering serious illness as meningitis or pneumonia. The thermometer must be stayed inside the rectum for (2-3) minutes and subtract (0.5) degree from the degree of the thermometer obtained.

*To record a rectal temperature <sup>(1)</sup> small amount of water-based lubricant should be placed on the colored tip of the thermometer. <sup>(2)</sup> The tip of the thermometer is inserted into the rectum no more than (1- 3 cm) and held there for two to three minutes. <sup>(3)</sup> The thermometer is removed, read as before, and wiped with an antibacterial wipe.*

*\* To convert body temperature from one system of checking to another (Fahrenheit to Celsius or opposite), the nurse need to know the following formula:*

$$\text{Celsius degree} = (\text{Fahrenheit} - 32) \times 5/9$$

$$\text{Fahrenheit degree} = (\text{Celsius} \times 9/5) + 32$$

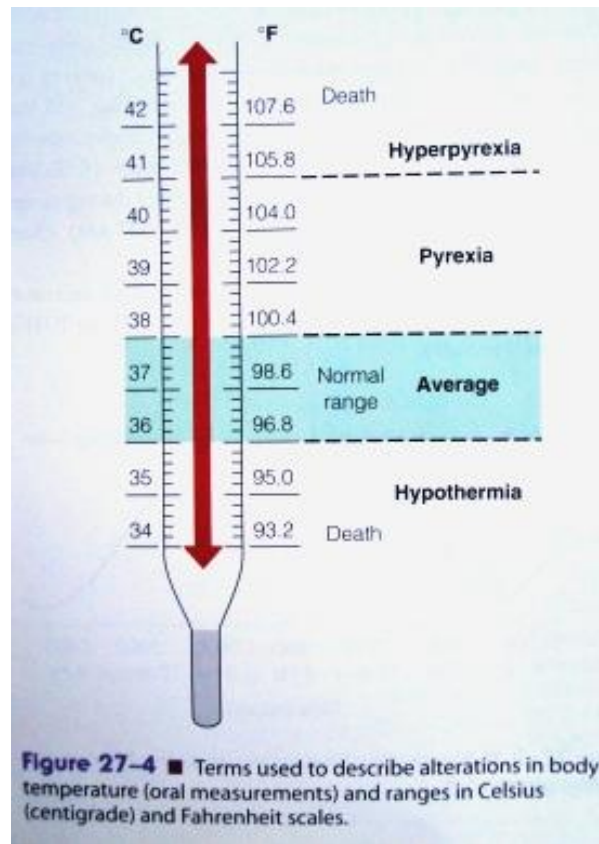
**Factors affecting body temperature:**

- 1- Time of the day (Diurnal variation).
- 2- Physical exercise.
- 3- Sex.
- 4- Health status.
- 5- Age and growth hormones.

**Fever (pyrexia):** is an elevation of body temperature over than normal (over 37°C).

*Causes;*

1. Direct action on temperature regulating center in the hypothalamus.
2. Acute infections.
3. Emotions.
4. Trauma.
5. Dehydration.



### Signs and symptoms of fever:

1. Rapid heart rate.
2. High and depth of respiratory rate.
3. Flush face and sweating.
4. Back pain.
5. Fatigue.
6. Headache.
7. Nausea and vomiting.
8. Chilling and thirst.
9. Delirium.
10. Loss of appetite.

### Nursing care:

1. Check body temperature every 10 minute.
2. Using of cold compress.
3. Good nutrition especially protein.
4. Increase fluid taken.
5. Change clothing if necessary.
6. Make bathing if necessary.
7. Reduced physical activity.
8. Giving antipyretic drugs (as paracetamol, aspegic,....).

9. If temperature don't reduced used alcohol bath (70% alcohol with water).
10. Make oral hygiene.
11. Good ventilation and circulation.

**Preparation of disinfecting solution for thermometer:** To prepare (100 cc) of disinfected solution the nurse need to mix (99 cc) of alcohol 70% with (1cc) of iodine.

### **Pulse**

It is a palpable bounding of blood flow occurring with each ventricular contraction felt at any artery runs over a bone. The radial artery in the wrist is the point most commonly used to measure a pulse. A person's heart rate varies throughout the day. Approximately, 60-70 ml of blood enters aorta with each ventricular contraction (stroke volume). The normal range of pulse is (60 -80) beat /minute, while the best pulsation is 72 beat/minute.

### **Notes when checking pulse**

**A- Pulse rate:** Is the number of heart beat in minute, it is (60 -80) beat /minute.

#### **Factors affecting pulse rate:**

1. **Sleeping:** decreased pulsation.
2. **Sex:** female is faster about (7 -8) beat / minute than male.
3. **Age:** infant higher than adult.
  - ❖ Infant 120 - 130 beat /minute
  - ❖ Adult 60 - 80 beat /minute
4. **Body build:** body size and build may affect pulse rates:
  - ❖ Thin and long body ..... low pulse.
  - ❖ Fat and small body.....high pulse
5. **Emotions:** increased.
6. **Activity or exercises:** increased.
7. **Hypotension:** increased.
8. **Digestion of food:** increased.
9. **Hormones:** increased.

-**Tachycardiac:** it means that pulse rate is over 80 beat /minute

- **Bradycardiac:** it means that pulse rate is below 60 beat /minute

- **Arrhythmia:** it means irregular pulse rhythm.

**B- Rhythm of pulse:** it means the time interval between heart beats is equal.

**C- Volume of pulse:** is the degree of fullness of the artery and reflects the strength of the left ventricular contraction.

**D- Arterial wall condition:** it means the condition of wall artery and this become abnormal with old age

**Site of taking pulse:**

1. Radial artery
2. Temporal artery.
3. Carotid artery.
4. Facial artery.
5. Femoral artery
6. Posterior tibial artery.
7. Dorsalis pedis artery
8. Brachial artery.
9. Apical pulse rate.

*Elevation of every (1) °c of body temperature, increase the pulse about (7-10) beats/minute.*

#### **Nursing points when checking pulse:**

- The pulse can be recorded anywhere that a surface artery runs over a bone.
- The radial artery in the wrist is the point most commonly used to measure a pulse.
- To measure a pulse, one should place the index, middle, and ring fingers over the radial artery. It is located above the wrist, on the anterior or front surface of the thumb side of the arm.
- Gentle pressure should be applied, taking care to avoid obstructing blood flow.
- The rate, rhythm, strength, and tension of the pulse should be noted.
- If there are no abnormalities detected, the pulse can be counted for half a minute, and the result doubled.

### **Respiration**

Is the process by which oxygen and carbon dioxide are interchanged between individual and environment. Respiration involves two distinctly different processes. External respiration which is the movement of air between environment and lungs, Internal respiration that is the movement of oxygen between the hemoglobin and single cells. The normal adult breath is (14 – 24) time in minute.

#### **Notes while observed respiration:**

1. Respiratory rate.
2. Respiratory depth.
3. Nature of Respiration (regular, or irregular).
  - ❖ **Dyspnea:** difficult breathing.
  - ❖ **Stertorous:** breathing with sound "snoring sound"
  - ❖ **Tachypnea:** respiration rate is more than 20 times/minute.
  - ❖ **Bradypnea:** respiration rate is less than 10 times/minute.
  - ❖ **Apnea:** means absence of breathing that can be for few seconds or life threatening.

*Many factors affecting respiration, as; age, sex, exercises, emotions, rest and sleep.*

### **Blood pressure**

It is the force exerted on the wall of the arteries from blood when the left ventricle of the heart contracted and push blood into the aorta.

- ❖ *Systolic pressure*: is the maximum blood pressure "100 –140 mm/Hg".
- ❖ *Diastolic pressure*: is the minimum pressure "60 - 90 mm /Hg".
- ❖ The standard average of blood pressure 120/80 mm /Hg.

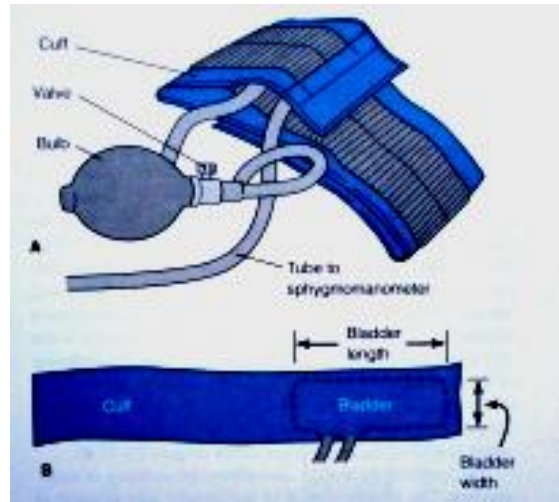
**Factors maintaining normal arterial blood pressure:**

1. Cardiac output (Stroke volume).
2. Peripheral resistance.
3. Blood volume.
4. Blood Viscosity.

- ❖ **Hypertension**: is a condition when the systolic blood pressure is above normal [over 140 mm/Hg], or the diastolic blood pressure is above [90 mm/Hg] as an average of two or more readings at subsequent visits.
- ❖ **Hypotension**: is a condition when the systolic blood pressure is [90 mm/Hg] or below, or the diastolic pressure is below 60 mm /Hg.
- ❖ Blood pressure checked by **sphygmomanometer** and **stethoscope**.
- *Factors influencing blood pressure* are [age- increased with age, stress, Medications, diurnal variation].
- The difference between systolic and diastolic blood pressure call **pulse pressure** which may be between (30-40) mm/Hg, while any increase or decrease around this rage indicate heart problem.

**Nursing points when checking blood pressure:**

- Physical exertion prior to measurement as climbing stairs, may affect the measurements. This should be avoided immediately before the measurement of one's blood pressure.
- Tobacco, caffeinated drinks, and alcohol should be avoided for 30 minutes prior to recording.
- A person should be sitting down or lying comfortably to ensure that the readings are taken in a similar position each time. There should be little excitement, which can affect the results.
- The equipment required include a watch with a second hand, an electronic or manual sphygmomanometer with an appropriate sized cuff, and a stethoscope.



### الاسئلة البعدية:

A). Answer by (True) against the true sentences and by (False) against the false sentences:

1. Vital signs are indicators of individual health status.
2. Some of the vital signs value can be zero.
3. Abnormalities of the heart should be diagnosed by temperature.
4. The pulse can be measured sometimes from the venous wall.
5. All vital signs elevated as age advanced.
6. Oral method for checking temperature is used in children.
7. In Axilla method for checking temperature, the nurse may subtract 0.5 °c from the thermometer reading.
8. In rectal method of checking temperature, the colored tip of the thermometer must lubricated with water-based lubricant.
9. Fever (Pyrexia) means elevated body temperature more than normal.
10. Tachycardia means low pulse rate.
11. While checking respiration, the nurse must explain to the patient what to do.
12. While dyspnea, there are no muscles to use that assist in respiration.
13. While blood pressure, the cuff of sphygmomanometer must wrapped around the upper arm, one inch above the elbow.
14. If diastolic blood pressure is above 90 mm/Hg, it calls hypertension.

B). The normal ranges of vital signs are; Temperature ( - ) F or ( ± ) °c, Pulse ( - ) Beat/Minute, Respiration ( - ) Breaths/Minute, Blood Pressure ( / ) mm/Hg.

المصادر الأساسية:

- \* Kimberly Ernstmeyer, Elizabeth Christman (2020): Nursing Fundamentals, Wi Technical College Open Press.
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- \* Jackie Crisp, Catherine Taylor, Clint Douglas and Geraldine Reberio; Fundamentals of Nursing, 4<sup>th</sup> Edition.

فيديوهات تعليمية مساعدة:

<https://www.youtube.com/watch?v=QBBqgXhKCD0>

<https://www.youtube.com/watch?v=xp8H8h3cGL4>

رقم المحاضرة: السابعة	
<b>Drug Administration</b>	<b>عنوان المحاضرة</b>
أ.د. رفاعي ياسين حميد	<b>اسم المدرس</b>
طلبة المستوى الأول	<b>الفئة المستهدفة</b>
تزويد بالمعرفة والمهارات اللازمة لإعطاء الأدوية للمرضى بشكل آمن وفعال، كذلك تعريف الطالب بالدواء، استخداماته، طرق إعطائه..	<b>الهدف العام من المحاضرة</b>
سيتمكن الطالب من: * إتقان تقنيات إعطاء الأدوية المختلفة بشكل صحيح. * القدرة على حساب الجرعة الصحيحة من الدواء للمريض. * القدرة على تقييم حالة المريض قبل إعطائه الدواء وتحديد ما إذا كان الدواء مناسباً له. * القدرة على التواصل الفعال مع المرضى وعائلاتهم حول الأدوية. * القدرة على توثيق إعطاء الأدوية في سجلات المريض بشكل دقيق وواضح. * القدرة على التعامل مع حالات الطوارئ المتعلقة بالأدوية. * التفريق بين طرق إعطاء الدواء. * استخدام الكمادات بأنواعها.	<b>الأهداف السلوكية او مخرجات التعلم</b>
طرح الأسئلة، الأصغاء، التفكير التأملي، مراعاة الفروق الفردية، التفاعل والمشاركة، الربط بالحياة، التفكير الجمعي، التعلم الذاتي، محاضرة تفاعلية مع العروض التقديمية، الأختبارات، المحاكاة على الدمية.	<b>استراتيجيات التيسير المستخدمة</b>
* إعطاء الدواء بالطريقة الصحيحة. * استخدام الكمادات حسب حاجة المريض.	<b>المهارات المكتسبة</b>
الاختبارات، مراقبة الطالب اثناء التدريب.	<b>طرق القياس المعتمدة</b>

### الاسئلة القبليه

Put a circle in front of right sentences:

1- The observation that record after injection is:

- The absorbed drug.
- The moving of area.
- Method & site of injection.
- Irritation of stomach by some drugs.

2- The principles of administration of drug is:

- Local & general effect.
- Peripheral resistance.
- Safety drugs that gives to the patient.
- Observe the six right when giving drugs.

3- The factors that help absorption of drugs is:

- Massage, moving of area & dilute of drug.

- b. Thickness of tissue.
  - c. Fasting of giving drug.
  - d. Recording the medication given.
- 4- The site of intra-dermal injection is:
- a. Any vein in the body.
  - b. Sub-scapular region of the back (the end of the shoulder).
  - c. Cephalic vein.
  - d. Intra-spinal injection.
- 5- Methods of parenteral administration of drugs are:
- a. Oral method.
  - b. Intra-spinal method.
  - c. Intra-dermal, intra muscular & intra venous injection.
  - d. Inhalation method.
- 6- The purpose of intra-dermal injection is:
- a. For administering quantity of medication.
  - b. For administering some medication which can't be administered in any other method.
  - c. For some drugs that can't be digested in stomach.
  - d. For diagnosis, prevention and treatment purposes.
- 7- The purpose of administration of drug is:
- a. For diagnosis and cure.
  - b. For giving drug by mouth.
  - c. The effect of drug.
  - d. The irritation of drug.
- 8- Disadvantage of administration of drug by mouth is:
- a. Cannot stop the action of drug.
  - b. Cannot measure the absorbed dose of drug.
  - c. Record the medication given to the patient.
  - d. May cause infection if the drug wrong.

## Drug Administration

**Drug:** is any substance that modifies body functions when it taken into the body. It has several names; {Chemical name- the precise description of the drug's composition, Trade name- the company which sells the drug selects this name}.

### Effect of drugs:

1. Local effect.
2. General effect.

### The purposes of giving drug:

1. For prevention (like vaccines).
2. For diagnosis (such as tuberculin test).
3. For cure (like antibiotic).
4. For treatment (like paracetamol, vitamins.....).

### Principles of administration of drugs:

1. Assure the physician prescription which includes:
  - a. Name of drug.
  - b. Name of patient.
  - c. Dosage.
  - d. Frequency.
  - e. Route or method.
  - f. Time.
  - g. Physician name.
  - h. Date.
  - i. Signature.
2. Washing hands before giving drugs.
3. Clean the equipment.
4. Don't give the drugs which don't reported in chart.
5. Don't handle the drug by hand.
6. Don't return the drug to the tube.
7. Be sure of expire date of the drug.
8. Don't mix two drugs or more without the order of physician.
9. Check the name of drug, patient, and physician before administering the drug to patient.
10. Repot the time of giving the drug, date, name, dosage, methods of giving drugs and the signature of the nurse.

### The six rights:

1. Right patient.
2. Right drug.

3. Right time.
4. Right route or method.
5. Right dose.
6. Right effect.

**Parts of Medication Order;** The medication order must have composed of seven parts; *Patient's name; Date and time; Name of drug; Dose of drug; Route of administration; Frequency of administration; Signature of person who prescribe the drug.*

**Routes of Drug Administration;** *Oral; Sublingual; Parenteral (Intradermal; subcutaneous; Intramuscular; Intravenous); Topical or skin; Ophthalmic installation; Optic or ear installation; Nasal installation; Vaginal; Rectal; Inhalation; Irrigation; and Intraperitoneal.*

**Disadvantages of drug administration by oral mouth:**

1. Irritation of stomach by some drug.
2. Some of drugs don't digested in stomach.
3. Cannot measure the absorbed dose of the drug.
4. If the patient has any defect in mouth, it can't be given.
5. Patient with vomiting or feeding tube or gastric lavage.

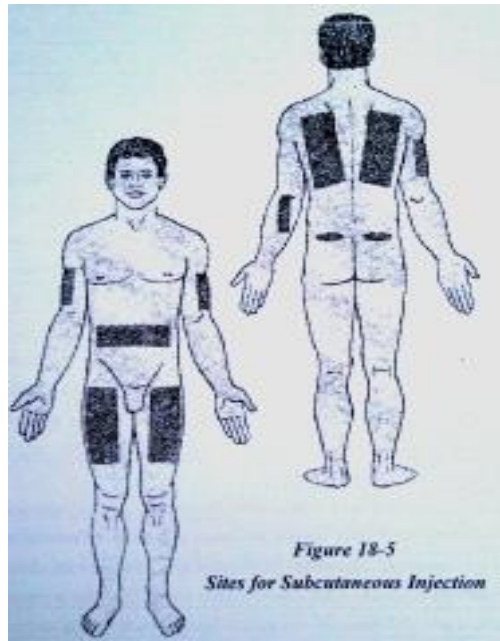
**Injection method:** It composed of four methods: Intradermal, Subcutaneous, Intramuscular and Intravenous.

**Mixing Medications in One Syringe-**

- When there are two drugs to be mixed, one from a vial and another from ampoule, the medication in the vial is prepared first and the medication in the ampoule is drawn up after the medication of the vial.
- The nurse must be aware of drug incompatibilities when preparing medication in one syringe. Certain medications are incompatible with other drugs in the same syringe.
- Other drugs have limited compatibility and should be administered within 15 minutes of preparation. Incompatible drugs may become cloudy or form a precipitate in the syringe.

Administering Medication Intradermally (ID)- The intradermal route has the longest absorption time of all parenteral routes. So, intradermal injections are used for diagnostic procedures, such as tuberculin test and allergies. The main sites used are inner surface of the forearm, the dorsal aspect of the upper arm and the upper back, while the dosage administered is small, usually less than 0.5 ml, and the injection angle is 15 degree.

Administering Medication Subcutaneously (S/c)- Subcutaneous tissue lies between the skin and the muscles. Because there is subcutaneous tissue all-over the body, various sites are used for injection, as, outer aspect of the upper arm, abdomen, anterior aspect of the thigh and upper back, the injection angle is 45 degree.



Administering Medication intramuscularly (Im.)- this route is used for irritating drugs because there are few nerve ends in deep muscle tissue. Absorption occurs in this route more rapidly because the greater vascularity of muscle tissue. The amount of 4 ml is considered the maximum to be administered in one site for an adult with well developed muscles. The injection angle is 90 degree. An important point in this route is the selection of a safe site away from large nerves, bones, and blood vessels, as; [**Gluteal muscle**- which is developed by walking, therefore it must not be used for children younger than three years of age; **Deltoid muscle**- injection in this site should be restricted to "1" ml of solution and used for adults; **Vastus Lateralis muscle**- this site is the outer middle third of the thigh, which is desirable for infants and children whose gluteal muscles are poorly developed]. Injection of the solution should be slowly so that it may disperse more easily into the surrounding tissues (10 seconds per one ml).

Administering Medication intravenously- This route is the most dangerous route of administration because the drug is administered directly into the bloodstream. This route is used in most emergency cases when immediate absorption is required. If the patient has infusion, drug can added to it and receives it slowly and over a period of time. The injection angle is 45 degree to puncture the vein then it should be 15 degree.

*Ointment provides prolonged contact of a medication with the skin, so it can be used for skin areas exposed to sunlight, while cream can be used for other skin areas.*

*Recording each dose of medication as soon as possible after it is given provides a documented record that can be consulted if there are any questions about whether the patient received the medication. The nurse should not record any medication before administering it.*

#### **Factors affecting the Selection of Length and Gauge of the Needle;**

- \* Viscosity of drug.
- \* Route or method of administration.

- \* Skin state or elasticity.
- \* Speed of administration.

**Cold compress:** the advantages;

1. Inhibit the activity of bacteria & prevent their multiplication and reduce inflammation.
2. Reduce the temperature of the body.
3. Assist in controlling hemorrhage.
4. Numbs the nerve ends & relieve pain.
5. Lessen blood supply to the swelling area.

**Hot compress:** the advantages;

1. Increase blood supply to the affected area.
2. Remove waste products.
3. Relax muscles.
4. Relieve pain & congestion.

### الأسئلة البعدية:

Put a circle in front of right sentences:

1- The observation that record after injection is:

- a. The absorbed drug.
- b. The moving of area.
- c. Method & site of injection.
- d. Irritation of stomach by some drugs.

2- The principles of administration of drug is:

- a. Local & general effect.
- b. Peripheral resistance.
- c. Safety drugs that gives to the patient.
- d. Observe the six right when giving drugs.

3- The factors that help absorption of drugs is:

- a. Massage, moving of area & dilute of drug.
- b. Thickness of tissue.

- c. Fasting of giving drug.
  - d. Recording the medication given.
- 4- The site of intra-dermal injection is:
- a. Any vein in the body.
  - b. Sub-scapular region of the back (the end of the shoulder).
  - c. Cephalic vein.
  - d. Intra-spinal injection.
- 5- Methods of parenteral administration of drugs are:
- a. Oral method.
  - b. Intra-spinal method.
  - c. Intra-dermal, intra muscular & intra venous injection.
  - d. Inhalation method.
- 6- The purpose of intra-dermal injection is:
- a. For administering quantity of medication.
  - b. For administering some medication which can't be administered in any other method.
  - c. For some drugs that can't be digested in stomach.
  - d. For diagnosis, prevention and treatment purposes.
- 7- The purpose of administration of drug is:
- a. For diagnosis and cure.
  - b. For giving drug by mouth.
  - c. The effect of drug.
  - d. The irritation of drug.
- 8- Disadvantage of administration of drug by mouth is:
- a. Cannot stop the action of drug.
  - b. Cannot measure the absorbed dose of drug.
  - c. Record the medication given to the patient.
  - d. May cause infection if the drug wrong.

A). Answer by (True) against the true sentences and by (False) against the false sentences:

1. Drug can be taken for prevention.
2. If there are two drugs mixed in one syringe, it can be delayed for a time before administered.
3. While administering such drug intrademally, it can be given in many (cc)s.
4. For infants, intramuscular method of injection can be used.
5. Cream is best than ointment for skin areas exposed to sunlight.
6. Hot compress relax muscles.
7. Cold compress assist in controlling hemorrhage.

B). The appropriate angles of injection are; Intrademally (.....), Subcutaneously (.....), Intramuscularly (.....) and Intravenously (.....).

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فيديوهات تعليمية مساعدة:

<https://www.youtube.com/watch?v=DCzk5LYX5tc>

رقم المحاضرة: الثامنة	
<b>Intravenous Infusion, Blood Transfusion</b>	عنوان المحاضرة
أ.د. رفاعي ياسين حميد	اسم المدرس
طلبة المستوى الأول	الفئة المستهدفة
تعريف الطالب بالسوائل الوريدية، الدم ومجاميعه والمضاعفات التي يمكن أن تحدث عند إعطاء الدم، كذلك تزويد الطالب بالمعرفة والمهارات اللازمة لتنفيذ هذه الإجراءات بشكل آمن وفعال.	الهدف العام من المحاضرة
سيتمكن الطالب من: * تركيب خط التسريب الوريدي (الكانيوولا). * التعرف على السوائل الوريدية. * إعطاء الادوية والمحاليل الوريدية. * إعطاء الدم. * اتباع ممارسات السلامة عند تركيب الكانيولا وإعطاء الأدوية والدم. * التعامل الصحيح مع المضاعفات التي يمكن أن تحدث خلال إعطاء السوائل الوريدية والدم. * التواصل مع المرضى وعوائلهم.	الأهداف السلوكية او مخرجات التعلم
التعلم النشط من خلال المشاركة والتفاعل، استخدام نماذج محاكاة ومعدات طبية حقيقية، سيناريوهات محاكاة تدريبية، استخدام الرسوم والعرض التقديمي والفيديوهات التعليمية، طرح الأسئلة، الأصغاء، التفكير التأملي، مراعاة الفروق الفردية، التفاعل والمشاركة، الربط بالحياة، التفكير الجمعي، التعلم الذاتي.	استراتيجيات التيسير المستخدمة
* تركيب خط التسريب الوريدي بشكل صحيح. * إعطاء الأدوية والمحاليل الوريدية بشكل آمن وفعال. * إعطاء وحدات الدم للمريض بشكل آمن وفعال. * مراقبة المريض أثناء التسريب الوريدي وإعطاء الدم للتأكد من عدم وجود أي مضاعفات. * التخلص من النفايات الطبية بشكل صحيح. * تقديم الدعم النفسي للمريض والعائلة. * التواصل والتعاون مع باقي الملاكات الصحية * منع واسعاف المضاعفات التي يمكن أن تحدث عند التسريب الوريدي..	المهارات المكتسبة
الاختبارات العملية، مراقبة الطالب اثناء التدريب، التقييم الذاتي.	طرق القياس المعتمدة

### الاسئلة القبليه:

Put a circle in front of right sentences:

1- The notes that the nurse should observed is:

- The size of needle.
- The infusion set.
- The continuity of solution into the vein.

2- The purpose of giving intravenous infusion is:

- When very rapid effect of drugs is need.
- The size of needle that gives.

- c. The viscosity of the fluid.
- 3- The factors that affecting the rate of fluid administered is:
- a. The rapid of infusion.
  - b. High of the bottle & the viscosity of fluid.
  - c. Giving large quantity of solution directly in to the vein.

المحتوى العلمى:

### **Intra-venous infusion**

**Definition:** is giving a large quantity of solution directly into the vein.

**Water represents 45% – 75% of body's weight, It divides to:**

1. **Intracellular fluid (ICF);** within the cells, it constitutes two-third of body fluid, it contains only small amount of  $\text{Na}^+$  and  $\text{Cl}^-$ .
2. **Extracellular fluid (ECF);** it constitutes one-third of body fluid, and it divides to:
  - A. *Intravascular fluids*- within blood vessels, it composed one-fourth of ECF.
  - B. *Interstitial fluid*- between cells, it composed three-fourth of ECF.

\* **Bone**- one-third of it is water.

\* **Muscles and Brain Celss**- 70% of them is water.

\* **Body Fat**- is free from water.

*So, the ratio of water to body weight is greater in leanear people than in obese people.*

### **Functions of Water;**

1. Solvent for essential nutrients used by the body.
2. Transport nutrients and oxygen from blood to the cells and remove waste materials back to the blood.

*Every 2-5% of water loss results in a 30% decrease in work performance.*

### **Benefits of Electrolytes;**

1. Promote neuromuscular irritability.
2. Maintain body fluid osmolarity.
3. Regulate acid-base balance.
4. Distribute body fluids between fluid compartments.

**Main Electrolytes in body fluids are;  $\text{Na}^+$  ,  $\text{K}^+$  ,  $\text{Ca}^{++}$  ,  $\text{Mg}^{++}$ .**

**Daily Fluids Intake- natural sources of water entering the body are;**

1. Oral (Ingested) liquids= 1.500 ml.

2. Water in food= 700 ml.
3. Water from oxidation= 200 ml.

**Total = 2.400 ml / day**

### **Daily Fluids Output:**

1. Skin (Perspiration)= 300 – 400 ml.
2. Lungs (Respiration)= 300 – 400 ml.
3. Gastro-Intestinal Tract (Feces)= 200 ml.
4. Kidney (Urine)= 1.200 – 1.500 ml

### Intravenous Solutions:

\* **Isotonic Solutions:** *their molecules are similar to that in blood;*

- A. NS (9% NaCl) and Ringer's-** they remain in the vascular compartment expanding vascular volume, so, assess the patient for signs of hypervolemia as bounding pulse and shortness of breath.
- B. 5% Dextrose (DSW)-** It expands ICF and ECF volumes, so it must be avoided in patients at risk for Increased Intracranial Pressure (IICP), for it increases cerebral edema.

\* **Hypotonic Solutions:** *their molecules are smaller than that in blood;*

**0.45% NaCl and 0.33% NaCl:** they provide free water and treat cellular dehydration, and promote waste elimination by the kidneys, so it must be prevented for patients at risk of IICP.

\* **Hypertonic Solution:** *their molecules are larger than that in blood;*

**5% Dextrose in 9% NaCl , 5% Dextrose in 0.45 NaCl and 5% Dextrose in Lactated Ringer's:** they draw fluid out of ICF and Interstitial fluid to vascular compartment expanding vascular volume, so it must not be administered to patients with **Kidney or Heart Diseases or Dehydration.**

### IV solutions can be categorized according to their purpose:

- A. Nutrient solutions-** contain some form of carbohydrate (dextrose, glucose) and water. They are used in preventing dehydration and ketosis but do not provide sufficient calories to promote wound healing, weight gain, or normal growth of children. The most common solutions are 5% dextrose in water (D5W) and 5% dextrose in 0.45% sodium chloride.
- B. Electrolyte solutions-** solutions contain varying amounts of cations and anions. Commonly used solutions are; Normal Saline (0.9% sodium chloride solution), Ringer's solution (contains sodium, chloride, potassium and calcium), Lactated Ringer' solution (contains sodium, chloride, potassium, calcium and lactate). Lactate is metabolized in the liver to form bicarbonate. Saline and balanced electrolyte solutions commonly are used to restore vascular volume, particularly after trauma or surgery. They also may be used to replace

fluid and electrolytes for clients with continuing losses, as, due to gastric suction or wound drainage. Lactated Ringer's solution is an alkalinizing solution that may be given to treat metabolic acidosis. Acidifying solutions, in contrast, are administered to counteract metabolic alkalosis, as for acidifying solutions, 5% dextrose in 0.45% sodium chloride and 0.9% sodium chloride solution.

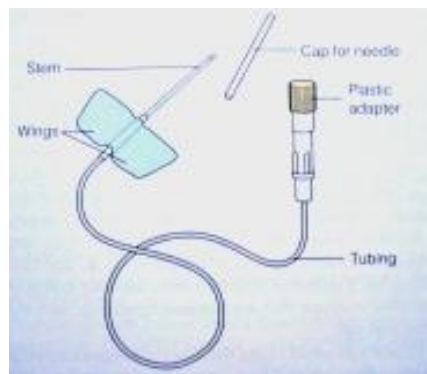
**C. Volume expanders-** are used to increase blood volume following severe loss of blood (e.g. hemorrhage), or loss of plasma (e.g. severe burn). Examples of expanders solutions are Plasma and Albumin.

**Purposes:**

1. When a very rapid effect is needed of drug.
2. When drug is too irritating or ineffective if given by any other way.
3. In replacing the blood and blood vessels.
4. When the patient is unable to take and return oral nourishment.

**Equipment that needed:**

1. Fluid.
2. Cannula.
3. Infusion set.
4. Tourniquet, cotton and alcohol.



**Factors affecting the rate of fluid administered:**

1. Size of the cannula.
2. High of the bottle.
3. Viscosity of the fluid.

**Notes that nurse should be observed:**

1. The rapid of infusion.
2. The continuity of solution into the vein.
3. The quantity of infusion that the patient need.
4. Any medication added to the infusion.
5. The movement of the arm because it cause tension of the vein and the cannula can be out from vein.

**Nursing Role during IV. Infusion;**

1. Determine the type and amount of solution to be infused.
2. Determine the amount (dose) of any medication to be added to a compatible solution.
3. Determine the flow or the time over which the infusion to be completed by using the formula:

$$\frac{\text{Solution amount in ml} \times 15}{\text{Time in minutes}} = \text{Drops / Minute}$$

Each one ml or cc = 15 drop.

Example- Administer One pint (500 ml) of dextrose solution during five hours.

$$\frac{500 \times 15}{5 \times 60} = 25 \text{ drop / minute}$$

4. Maintain asepsis by using sterile techniques.
5. Comfort the patient.
6. Notice infiltration signs.
7. Observe any sign of reaction to the infusion solution.
8. Restrict the movement of the patient.
9. At the end, record the amount of the solution, time and any observations on the patient in the patient's record.

**Blood Transfusion-** is the introduction of whole blood or blood components (RBCs, Platelets, Albumin) into the venous circulation.

**Purpose-** To (1) replace blood components or blood's ability to transport oxygen and carbon dioxide, to (2) clot, to (3) fight infection, and to (4) keep extracellular fluid within the intravascular compartments.

**Blood Group-** Human blood is commonly classified into four main groups (**A, B, AB, and O**). The surface of an individual's red blood cells contains a number of proteins known as *antigens*. Antigens A, B, and Rh are the most important in determining blood group or type. Performed *antibodies* to RBC antigens are present in the plasma; these antibodies are called *agglutinins*. People with blood group A have B antibodies (agglutinins); A antibodies are present in people with blood group B; and people with blood group O have antibodies to both A and B antigens. People with group AB blood do not have antibodies to either A or B antigens. When blood is transfused, the blood group of the donor and recipient must match to avoid an antigen-antibody reaction and destruction (hemolysis) of RBCs.

**Rhesus (Rh) Factor-** The Rh factor is present approximately in 85% of people. Blood that contains the Rh factor is known as Rh-positive (Rh<sup>+</sup>); when it is not present in the blood it says to be Rh-negative (Rh<sup>-</sup>). However, on exposure to blood containing Rh factor (e.g., an Rh- mother carrying a fetus with Rh<sup>+</sup> blood, or transfusion of Rh<sup>+</sup> blood into a client with Rh-), Rh antibodies develop. Subsequent exposure to Rh<sup>+</sup> blood place the client at risk for an antigen-antibody reaction or hemolysis of RBCs.

**The Procedure and Care;**

1. Ascertain the blood of the patient (Group and Rh) before administration through blood compatibility and cross-matching procedures.
2. Maintain the blood in the refrigerator till using.
3. Small rise in body temperature is common during transfusion.
4. Headache is common during transfusion.
5. Adjust blood flow and observe it carefully.
6. Notice any reaction observed while transfusion (e.g., hemolytic reaction, febrile reaction-sensitivity to blood, allergic reaction, circulatory overload, and sepsis).
7. At the end of transfusion, clamp the infusion tube and withdraw the needle slowly, and apply pressure with alcohol sponge over puncture site for 2-3 minutes.
8. Record amount of blood given, time of infusion and any observations noticed on the patient during infusion in the chart of the patient.

**TABLE 50-11 The Blood Groups with Their Constituent Agglutinogens and Agglutinins**

Blood Types	RBC Antigens (Agglutinogens)	Plasma Antibodies (Agglutinins)
A	A	B
B	B	A
AB	A and B	—
O	—	A and B

**Blood transfusion reactions:**

**A. Hemolytic reaction:** When this happened it caused the following signs:

- |                |              |                 |
|----------------|--------------|-----------------|
| 1-Fever.       | 2- Chilling. | 3- Headache.    |
| 4-Back pain.   | 5- Oliguria. | 6- Jaundice.    |
| 7- Chest pain. | 8- Cyanosis. | 9- Hypotension. |

**Nursing intervention:**

1. Discontinue blood transfusion immediately.
2. Notify the physician.

3. Maintain (I.V) infusion with 5% dextrose in water or saline.
4. Monitor vital signs every 15 minute.
5. Record fluid intake and output.

**B. Febrile reaction:** the signs and symptoms of this condition are:

- 1- Fever.
- 2- Chilling
- 3- Diarrhoea
- 4- Warm and flushed skin
- 5- Confusion and delirium.

**Nursing intervention:**

1. Discontinue blood transfusion.
2. Monitor vital signs every 30 minute.
3. Notify the physician.
4. Implement therapy as order of doctor.
5. Apply alcohol sponges for fever if necessary.

**C. Allergic reaction:** the signs and symptoms of this condition are:

1. Urticaria and itching.
2. Nasal congestion.
3. Bronco-spasm.
4. Severe dspnea.

**Nursing intervention:**

1. Monitor vital signs.
2. Notify the physician.
3. In severe cases discontinue blood transfusion.

**الأسئلة البعدية:**

Put a circle in front of right sentences:

- 1- The notes that the nurse should observed is:
  - a. The size of needle.
  - b. The infusion set.
  - c. The continuity of solution into the vein.
- 2- The purpose of giving intravenous infusion is:
  - a. When very rapid effect of drugs is need.
  - b. The size of needle that gives.
  - c. The viscosity of the fluid.
- 3- The factors that affecting the rate of fluid administered is:
  - a. The rapid of infusion.
  - b. High of the bottle & the viscosity of fluid.

c. Giving large quantity of solution directly in to the vien.

Answer by (True) against the true sentences and by (False) against the false sentences:

1. Dextrose solution can be used for wound healing.
2. Ringer solution is used mainly for dehydrated patient.
3. Plasma solution can be used for severe burn.
4. Blood can be given to fight infection.
5. Antigen A and B are found in people with blood group O.
6. People with blood group O have antibodies to both A and B antigens.
7. People with blood group AB have antibodies to A and B antigens.
8. If the donor blood differs from recipient blood, hemolysis of RBCs will occur.
9. A donor of blood group A of Rh<sup>+</sup> can give blood to a recipient of blood group A of Rh-.
- 10 If febrile reaction occurs while blood transfusion, the nurse can complete the transfusion.

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فيديوهات تعليمية مساعدة:

<https://www.youtube.com/watch?v=bfXBYh-Bx4>

<https://www.youtube.com/watch?v=POjoc1FPpfQ>

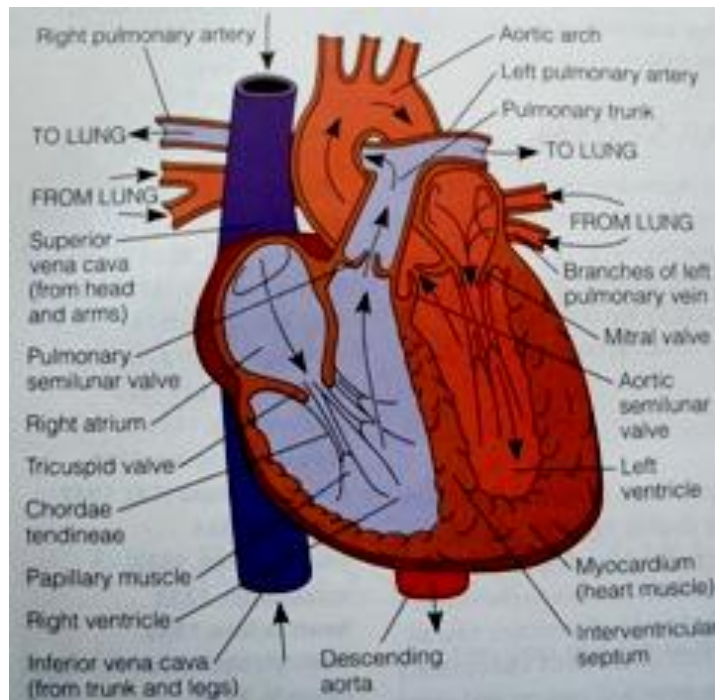
<b>Cardiac Care Unit, Intensive Care Unit, Respiratory Care Unit</b>	<b>عنوان المحاضرة</b>
أ.د. رفاعي ياسين حميد	<b>اسم المدرس</b>
طالبة المستوى الأول	<b>الفئة المستهدفة</b>
تعريف الطالب بالوحدات الخاصة التي يمكن أن يحتاجها المريض عند الضرورة، كذلك إعداد الطالب ليصبح ممارس رعاية صحية مؤهلاً لرعاية المرضى الذين يعانون من حالات طبية معقدة تهدد حياتهم.	<b>الهدف العام من المحاضرة</b>
سيتمكن الطالب من: * تحديد مشكلة المريض من خلال جهاز المراقبة. * إجراء فحص القلب الكهربائي. * إجراء عملية التنفس الاصطناعي. * التعرف على عملية قص الوريد واستخدامها في حالة الضرورة.	<b>الأهداف السلوكية او مخرجات التعلم</b>
الأصغاء، التفكير التأملي، مراعاة الفروق الفردية، التفاعل والمشاركة، الربط بالحياة، المناقشة، التعلم الذاتي، حل المشكلة، التمثيل الأيضاحي، عرض مقاطع الفيديو المتعلقة، التعلم التعاوني.	<b>استراتيجيات التيسير المستخدمة</b>
* إجراء عملية تخطيط القلب. * إجراء عملية التنفس الاصطناعي. * إجراء عملية الأنعاش القلبي الرئوي. * رعاية المرضى الذين يعانون من صدمات. * تنفيذ الإجراءات التمريضية المختلفة للمرضى في ردهات العناية القلبية والتنفسية والفائقة. * استخدام أجهزة الرصد والمراقبة للمرضى. * تسجيل البيانات الطبية بشكل دقيق.	<b>المهارات المكتسبة</b>
الاختبارات، مراقبة الطالب اثناء التدريب.	<b>طرق القياس المعتمدة</b>

**الاسئلة القبليه:**

Answer by (True) against the true sentences and by (False) against the false sentences:

1. Resuscitation equipment can be used by all patients.
2. Resuscitation drugs should not be replaced till expire.
- . After heart attack, the patient admits to medical wards.
2. The main equipment in Intensive Care Unit is the physiologic monitoring system.
3. Pulse oximeter uses for checking intracranial pressure.

### Coronary Care Unit (C.C.U)

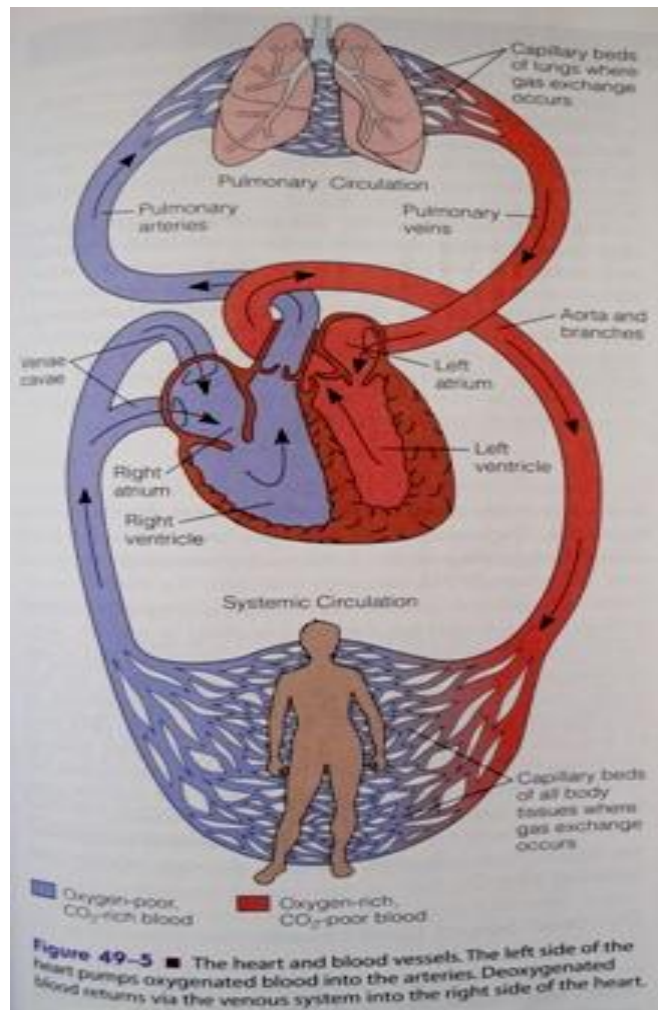


**Definition of C.C.U:** is an area in hospital that is equipped with special electronic devices in monitoring patient with actual or potential heart problem.

#### The equipment of C.C.U:

1. Bed side C.C.U monitor.
2. Central station monitor, used for.
  - a. Monitoring the patient.
  - b. Direct record of E.C.G.
  - c. Alarm system.
3. E.C.G. machine.
4. Pulse oximeter.
5. Temporal pacemaker.
6. Defibrillator (D.C. Shock).
7. Resuscitation equipment, this includes.
  - a. Laryngoscope.
  - b. Endo tracheal tubes.
  - c. Oral airway (different sizes).
  - d. Ambo-bag mask.
  - e. Ventilator.
  - f. Lubricant, adhesive tape, syringes.
8. Suction machine and sterile tube.
9. Sphygmomanometer, stethoscope and thermometer.

- 10. Ophthalmoscope.
- 10. Portable x ray machine.
- 11. Medication for all cases.



### Responsibility of the nurse:

1. The nurse can act on behalf of the patient, guide him, and provide physical and psychological support.
2. Instruct the patient about his condition and treatment.
3. The nurse should be responsible for informing relatives that the patient has been admitted the hospital.
4. The nurse should be qualified of constant awareness, patience, optimism and maturity.

### Nursing the patient in C.C.U:

1. Providing physical and psychological support.
2. Keeping the body clean.
3. Rest and sleep.
4. Provide the patient with food and fluids orally or by intravenous infusion for the first 24 hours before the diet is gradually started.

5. Initially, patient may be suffering from nausea or vomiting because of the sedation that gives to him, so, the nurse should give him/her anti emetic, and if vomiting don't stop, oral fluid should be discontinued and intravenous therapy must be given.

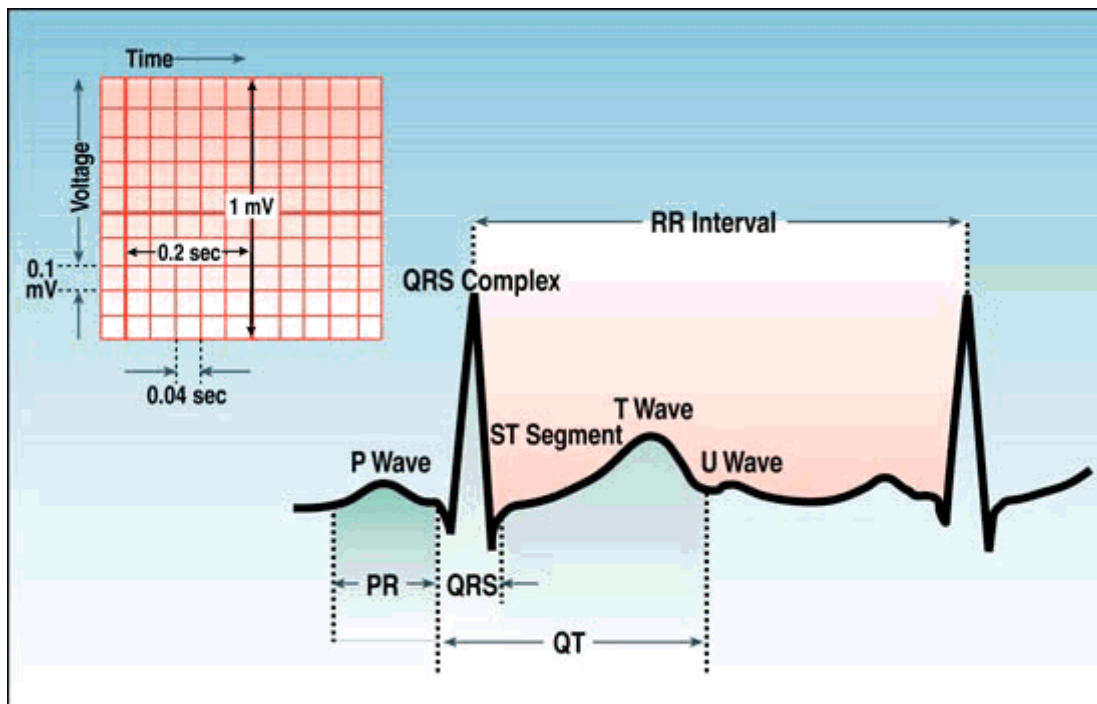
#### **Classification of patient admitted to the C.C.U:**

- 1). **Angina pectoris:** is a clinical syndrome characterized by severe pain or feeling of pressure in the anterior chest over sternum bone radiated to the left arm and shoulder and sometimes fainting, due to Insufficient blood supply to the myocardium muscle which caused inadequate of oxygen and diet supply.
- 2). **Myocardial infarction:** is a damage to an area of myocardium muscle occurred by thrombus or air embolus. It is characterized by severe pain for long time even patient have drug, paleness, sweating, nausea and vomiting and sometimes fainting.

**Electrocardiogram-** is a visual representation of the electrical activity of the heart as reflected by changes in electrical potential at the skin surface. In order to facilitate the interpretation of the ECG, data about the patient's age, sex, blood pressure, height, weight, symptoms, and medications (especially digitalis and antiarrhythmic drugs) should be noted on the ECG requisition. Electrocardiography is particularly useful in the evaluation of conditions that interfere with normal heart functions, such as disturbances of rate of rhythm, disorders of conduction, enlargement of heart chambers, presence of a myocardial infarction, and electrolyte imbalances.

*Electrical Conduction through the Heart-* The normal electrical impulse of the heart, which inscribes the ECG and causes the heart to contract, begins in the Sinoatrial (SA) node, which is located in the superior portion of the right atrium. After beginning in the SA node the impulse travels across the atria so that an atrial contraction occurs. The impulse then arrives at the atrioventricular (AV) node, which lies between the atria and ventricles. The impulse is somewhat delayed in the AV node and then travels down the right and left bundle branches and Purkingi fibers to the ventricular muscle, then the ventricles contract. Both the SA and AV nodes are connected to two main nerve systems that the rate at which the heart beats.

**Waves, Complexes, and Intervals:** The ECG is composed of several components or waves, including **P** wave, **QRS** complex, **T** wave, **ST** segment, **R** interval and possibly **U** wave (usually indicates an abnormality) as in figure below.



**P-Wave;** represents atrial muscle depolarization. It is normally 2.5 mm or less in height and is 0.11 second or less in duration. It is positive deflection.

**QRS- Complex;** represents ventricular muscle depolarization, is measured from the beginning of the **Q** wave or the **R** wave if no **Q** wave is present to the end of the **S** wave . The **QRS complex** is normally 0.04 to 0.10 second in duration. It is composed of:

**Q- wave;** is negative deflection, it is less than 0.03 seconds in duration and less than 25% of the **R** wave amplitude.

**R- wave;** is positive deflection after **Q** wave.

**S- wave;** is negative deflection after **R** wave.

When the **QRS complex waves** is less than 5 mm vertical, small letters (q, r, s) are used, and when a wave is greater than 5 mm vertically, capital letters (Q, R, S) are used. Not QRS complexes have all three wave forms.

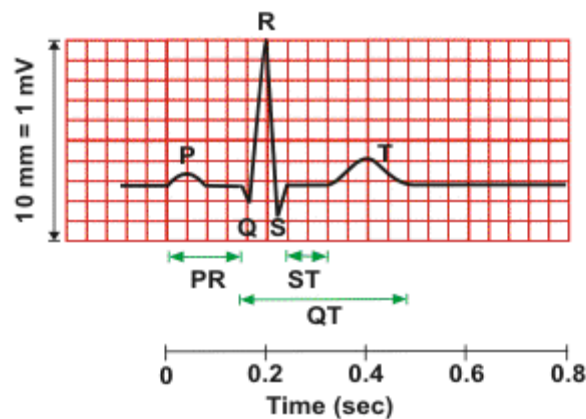
**T- wave;** represents ventricular muscle repolarization. It follows the **QRS complex** and is usually of the positive deflection.

**U –wave;** is sometimes is seen, and follows **T** wave. If presents it indicate an electrolyte abnormality.

**St- segment;** it represents early ventricular repolarization of the ventricles, it is from the end of **S** wave to the beginning of the **T** wave.

**P-R interval;** is measured from the beginning of the **P** wave to the beginning of the **Q** wave, or to the beginning of **R** wave if no **Q** wave is present, and represents the time required for the impulse to travel through the atria and conduction system to the Purkingi fibers. In adults, the **P-R** interval normally ranges from 0.12 second to 0.20 second in duration.

**Q-T interval;** it presents electrical systole, is measured from the beginning of the **Q** wave, or the **R** wave if no **Q** wave is present to the end of the **T** wave. The **Q-T** interval varies with heart rate, is usually less than the **R-R** interval (measured from the beginning of one **R** wave to the beginning of the next **R** wave), and usually is 0.32 to 0.40 second in duration if the heart rate is 65 to 95 beat/ minute.



P wave (0.08 - 0.10 s)      QRS (0.06 - 0.10 s)  
P-R interval (0.12 - 0.20 s)      Q-T<sub>c</sub> interval (≤ 0.44 s)\*  
\*QT<sub>c</sub> = QT / √RR

**Note:** Because the electrical resistance of the dry skin surface, it is desirable to wet skin surface in order to reduce the resistance between the body and the metal electrodes.

**Cardiac monitor-** The cardiac monitor is a device that shows the electrical and pressure waveforms of the cardiovascular system for measurement and treatment. Parameters specific to respiratory function can also be measured. Because electrical connections are made between the cardiac monitor and the patient, it is kept at the patient's bedside.

**Purpose-** The cardiac monitor continuously displays the cardiac electrocardiogram (ECG) tracing. Additional monitoring components allow cardiovascular pressures and cardiac output to be monitored and displayed as required for patient diagnosis and treatment. Oxygen saturation of the arterial blood can also be monitored continuously. Most commonly used in emergency rooms and critical care areas, bedside monitors can be interconnected to allow for continual observation of several patients from a central display. Continuous cardiovascular and pulmonary monitoring allows for prompt identification and initiation of treatment. Cardiac

monitors display such vital signs as heart rate, pulse, and blood pressure for patients in the intensive care unit.



## Resuscitation Equipment

Provision should be made in all clinical areas to have immediate access to resuscitation drugs and equipment to facilitate rapid resuscitation of the patient in cardiopulmonary arrest. Ideally, the equipment used for cardiopulmonary resuscitation (including defibrillators) and the layout of equipment and drugs should be standardized throughout an institution.

The choice of resuscitation equipment should be defined by the resuscitation committee and will depend on anticipated workload and specialized local requirements. Whilst it is difficult to plan for every eventuality, institutions should undertake a risk assessment to determine what additional resources may be required depending on local circumstances and specific locations. Where possible, resuscitation equipment should be single use. In addition to the resuscitation equipment listed below, clinical areas should have immediate access to stethoscopes, a device for measuring blood pressure, a pulse oximeter, a 12-lead ECG recorder and facilities for blood gas analysis. A method for verifying correct placement of the tracheal tube is recommended e.g., end-tidal carbon dioxide monitoring, or an oesophageal detector device.

**The following items are the recommended minimum requirement:**

### **\* AIRWAY EQUIPMENT;**

- Pocket mask with oxygen port (should be widely available in all clinical areas)
- Self-inflating resuscitation bag with oxygen reservoir and tubing (ideally, the resuscitation bag should be single use – if not, it should be equipped with a suitable filter)
- Clear face masks, sizes 3,4 & 5
- Oropharyngeal airways, sizes 2, 3 & 4
- Nasopharyngeal airways, sizes 6 & 7

- Portable suction equipment
- Tracheal suction catheters, sizes 12 & 14
- Laryngeal mask airways (sizes 4 & 5), or ProSeal LMAs (sizes 4 & 5), or Combitube (small)
- Magill forceps
- Tracheal tubes – oral, cuffed, sizes 6, 7 & 8
- Lubricating jelly
- Laryngoscope handles (x 2) and blades (standard and long blade)
- Spare batteries for laryngoscope and spare bulbs (if applicable)
- Fixation for tracheal tube (e.g., ribbon gauze/tape)
- Scissors
- Selection of syringes
- Oxygen mask with reservoir (non-rebreathing) bag
- Oxygen cylinders
- Cylinder key

**\* CIRCULATION EQUIPMENT;**

- Defibrillator
- ECG electrodes
- Defibrillation gel pads or self-adhesive defibrillator pads (preferred)
- Selection of intravenous cannula
- Selection of syringes and needles
- Cannula fixing dressings and tapes
- Central venous catheter kit
- Intravenous infusion sets
- 0.9% sodium chloride - 1000 mL x 2
- Arterial blood gas syringes
- Tourniquet

**\* DRUGS;**

a) Immediately available prefilled syringes

- Adrenaline (epinephrine) 1 mg (1:10,000) x 4
- Atropine 3 mg x 1

b) Other readily available drugs.

*Intravenous medications:*

- \* Adrenaline 1 mg (1:10,000) x 4
- \* Adrenaline 1 mg (1:1,000) x 2
- \* Calcium Chloride 10 ml of 100mg per ml x 1
- \* Furosemide 50 mg x 2
- \* Glucose 10% 500 ml x 1

- \* Hydrocortisone 100 mg x 2
- \* Lidocaine 100 mg x 1
- \* Magnesium Sulphate 50% solution 2 g (4 ml) x 1
- \* Normal Saline 10 ml ampoules
- \* Potassium Chloride for injection
- \* Sodium Bicarbonate 8.4% - 50 ml x 1

*Other medications / equipment:*

- \* Salbutamol (5 mg x 2).
- \* Nebuliser device and mask
- \* Aspirin 300 mg

**\* ADDITIONAL ITEMS;**

- \* Clock
- \* Gloves/Goggles/Aprons
- \* Audit forms
- \* Sharps container and clinical waste bag
- \* Large scissors
- \* Alcohol wipes
- \* Blood sample bottles

### **Respiratory Care Unit (R.C.U.)**

**Definition of R.C.U:** is an area where the patient can be treatment by the most highly qualified staff with most modern equipment every 24 hours daily.

**Patient who needs R.C.U:**

1. Unconscious patient.
2. Head injury patient.
3. Paralyzed patient.

4. Patient with obstructive trachea disease who need intensive care to help him to breath by making to him tracheotomy.

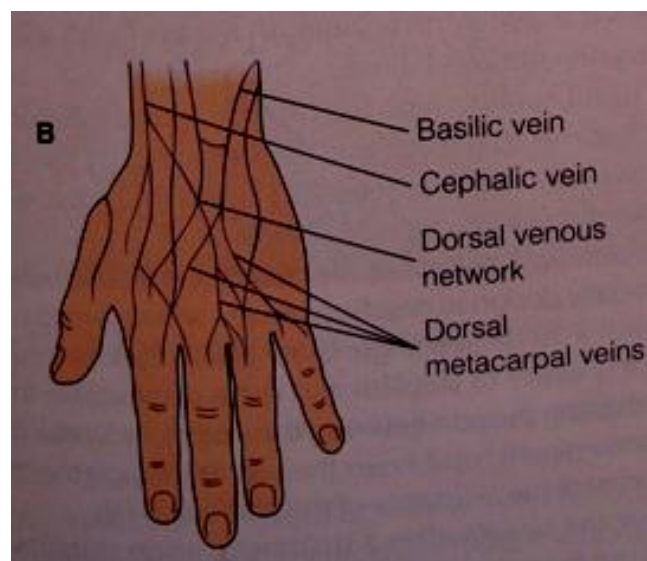
**Equipment:**

1. Endo tracheal tube.
2. Tracheotomy tube and set.
3. Nasal cannula or tube.
4. Face mask.
5. Suction machine.
6. Mechanical ventilation, to maintain respiration for long time and it used to patient who can unable to breath.

**Venipuncture**

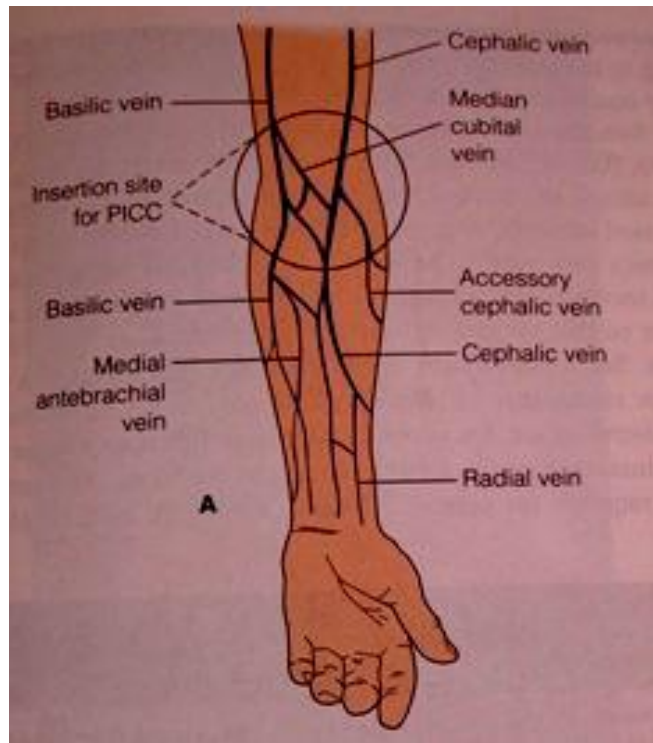
**Venipuncture-** is a puncture of a vein for collection of a blood or for infusion of therapeutic solutions. The site chosen for venipuncture varies with the client's age, the length of time the infusion is to run, the type of solution used, and the condition of veins. For adults, veins in the hand and arm are commonly used; for infants, veins in the scalp and dorsal foot veins are often used. Large veins are preferred for infusions that need to be given rapidly and for solutions that could be irritating.

The metacarpal, basilic, and cephalic veins are commonly used for intermittent or continuous infusion.

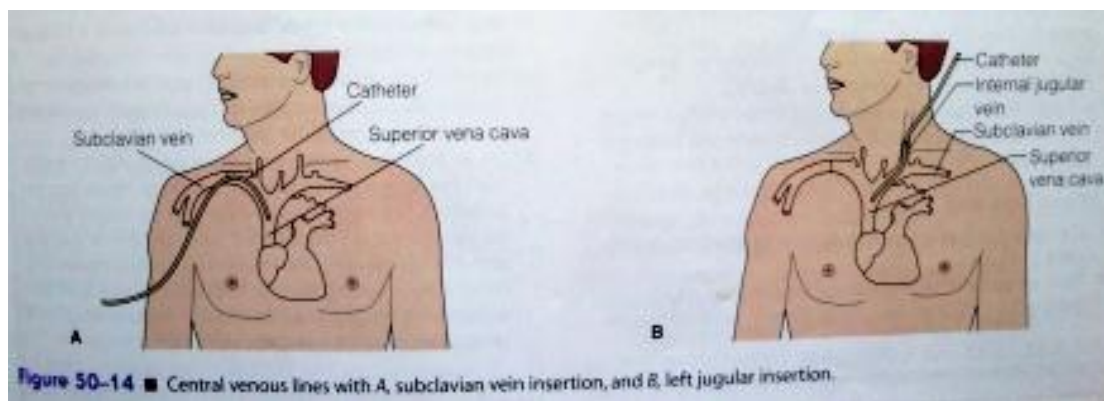


The ulna and radius act as natural splints at these site, and the client has greater freedom of arm movements for activities such as eating. Although the basilic and median cubital veins in the antecubital space are convenient sites for veinpuncture, they are usually used for blood

draws, bolus injections of medication, and insertion sites for a peripherally inserted central catheter line.



When long-term IV therapy or parenteral nutrition is anticipated or the client is receiving IV medications that are damaging to vessels (e.g., chemotherapy), a central venous catheter may be inserted. **Central Venous Catheters** usually are inserted into the subclavian or jugular vein, with the distal tip of the catheter resting in the superior vena cava just above the right atrium.

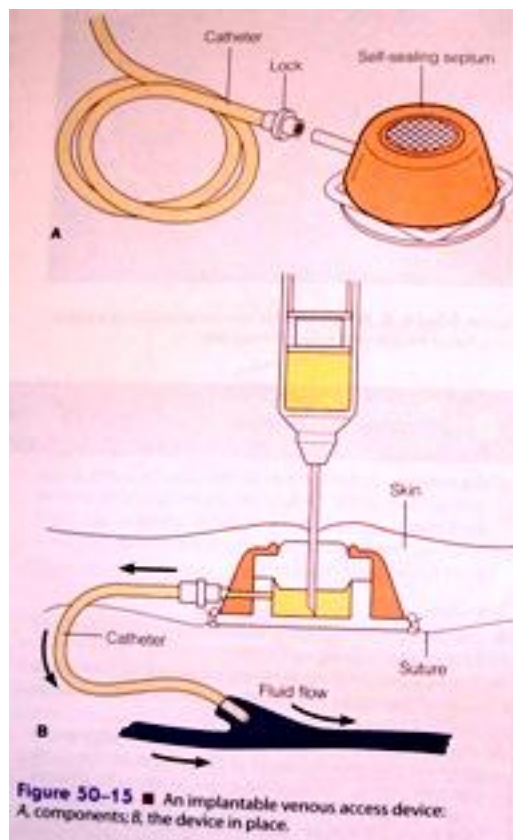


Subclavian venous catheters permit freedom of movements for ambulation; however, there is a risk of pneumothorax on catheter insertion. Assess the client closely for manifestations

such as shortness of breath, chest pain, cough, hypotension, tachycardia, and anxiety after the insertion procedure.

With a **peripherally inserted central venous catheter (PICC)**, the catheter is inserted in the basilic or cephalic vein just above or below the antecubital space of one arm especially the right arm. The tip of the catheter rests in the superior vena cava. The risk of pneumothorax is eliminated with PICC. These catheters frequently are used for long-term intravenous access when the client will be managing IV therapy at home.

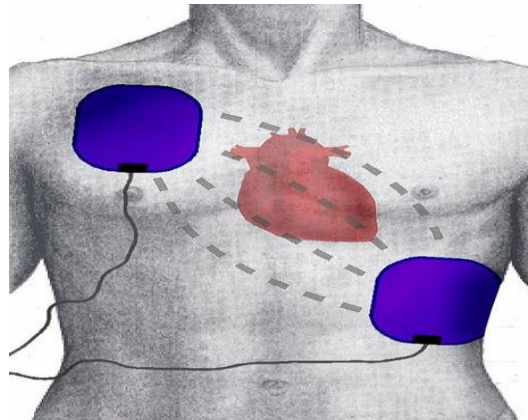
Implantable venous access device or port is used for clients with chronic illness who require long-term IV therapy (e.g., intermittent medications as chemotherapy, total parenteral nutrition, and frequent blood samples). The device is designed to provide repeated access to the central venous system, avoiding the trauma and complications of multiple veinpunctures.



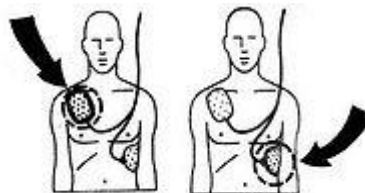
### **Defibrillation;**

Is the definitive treatment for the life-threatening [cardiac arrhythmias](#), [ventricular fibrillation](#) and pulseless [ventricular tachycardia](#). Defibrillation consists of delivering a therapeutic dose of electrical energy to the affected heart with a device called a **defibrillator**. This depolarizes

a critical mass of the heart muscle, terminates the arrhythmia, and allows [normal sinus rhythm](#) to be reestablished by the body's [natural pacemaker](#), in the [sinoatrial node](#) of the heart.



**Placement:** Anterio-apical placement of external defibrillator electrodes (When defibrillation is unsuccessful, anterior-posterior placement is also sometimes attempted). Resuscitation electrodes are placed according to one of two schemes. The anterior-posterior scheme (conf. image) is the preferred scheme for long-term electrode placement. One electrode is placed over the left pericardium (the lower part of the chest, in front of the heart). The other electrode is placed on the back, behind the heart in the region between the scapula. This placement is preferred because it is best for non-invasive pacing. The anterior-apex scheme can be used when the anterior-posterior scheme is inconvenient or unnecessary. In this scheme, the anterior electrode is placed on the right, below the clavicle. The apex electrode is applied to the left side of the patient, just below and to the left of the pectoral muscle. This scheme works well for defibrillation and cardioversion, as well as for monitoring an ECG.

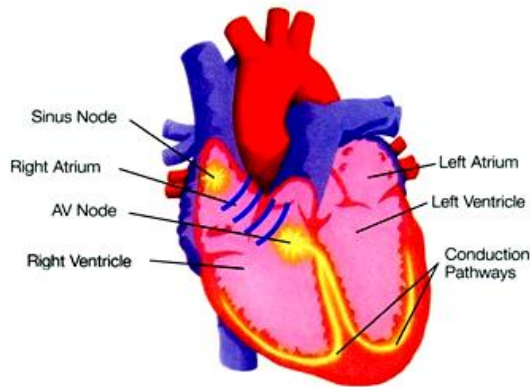


**Cardioversion- (Direct-Current" or DC cardioversion);**

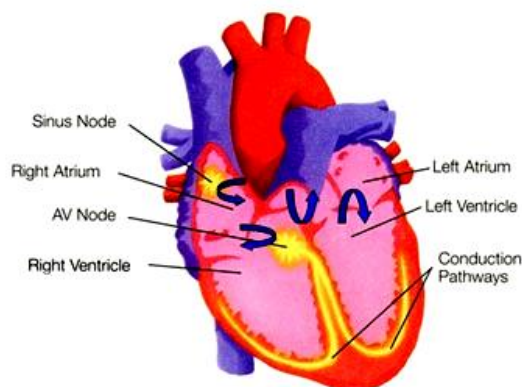
Cardioversion is a brief procedure where an electrical shock is delivered to the heart to convert an abnormal heart rhythm back to a normal rhythm. Most elective or "non-emergency" cardioversions are performed to treat atrial fibrillation or atrial flutter, benign heart rhythm disturbances originating in the upper chambers (atria) of the heart. Cardioversion is used in emergency situations to correct a rapid abnormal rhythm associated with faintness, low blood pressure, chest pain, difficulty breathing, or loss of consciousness.

Each normal heartbeat starts in an area of the heart known as the sinus node which is located in the upper right chamber of the heart (right atria) [Figure 1 - Normal Conduction). The sinus node contains specialized cells that send an organized electrical signal through the heart resulting in a perfectly timed, rhythmic heartbeat. In patients with atrial fibrillation, however, the atria fibrillate (or "quiver") due to chaotic electrical signals that circulate

throughout both atria. This typically results in a fast and irregular heartbeat. While some patients have no symptoms, others may experience shortness of breath and fatigue. Depending on your specific medical history and symptoms, your physician may recommend a cardioversion to return your heart to a normal rhythm.

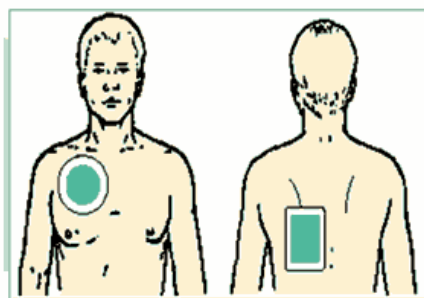


*Figure- 1A: normal conduction*



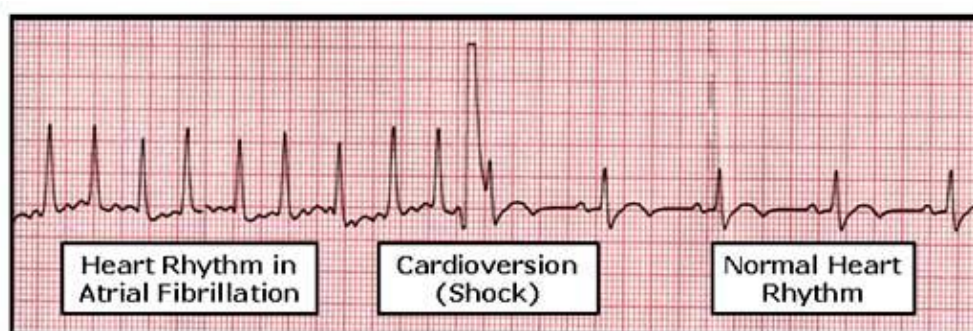
*Figure- 1B: Atrial Fibrillation*

Cardioversion can be "chemical" or "electrical". Chemical cardioversion refers to the use of antiarrhythmia medications to restore the heart's normal rhythm. Antiarrhythmia medications work by modifying the heart's electrical properties to reduce the frequency of abnormal heart rhythms and to help restore a normal rhythm. Electrical cardioversion (also known as "direct-current" or DC cardioversion) is a procedure whereby a synchronized (perfectly timed) electrical shock is delivered through the chest wall to the heart through special electrodes or paddles that are applied to the skin of the chest and back [Figure 2]. The goal of the cardioversion is to disrupt the abnormal electrical circuit(s) in the heart and to restore a normal heart beat. The shock causes all the heart cells to contract simultaneously, thereby interrupting and terminating the abnormal electrical rhythm (typically fibrillation of the atria) without damaging the heart. This split second interruption of the abnormal beat allows the heart's electrical system to regain control and restore a normal heartbeat.



*Figure- 2: Pad placement*

An electrical cardioversion is performed in a hospital setting such as an emergency room, intensive care unit, recovery room, special procedure room or Electrophysiology Laboratory. A cardiologist, a nurse and/or an anesthesiologist are present to monitor your breathing, blood pressure and heart rhythm. Special cardioversion pads are placed on your chest and back (or alternatively, both pads can be placed on the front of the chest). The pads are connected to an external defibrillator by a cable. The defibrillator allows the medical team to continuously monitor your heart rhythm and to deliver the electrical shock to restore your heart's rhythm back to normal [Figure - 3].



*Figure- 3: Conversion of Atrial Fibrillation to Normal Rhythm*

Since the shock can be painful, an anesthesiologist or specially trained nurse administers intravenous sedation. Once you are asleep (but still breathing on your own), the physician charges the defibrillator to a specified energy level and then delivers the shock by pressing a button on the defibrillator. The shock is transmitted along the cable to the pads on the chest where the energy is delivered across the chest wall to the heart muscle. Additional shocks at higher energy levels can be delivered if the first shock does not restore the rhythm back to normal. Rarely, minor skin redness can occur at the site of the cardioversion pads where the electrical energy was delivered. Patients typically awake quickly without any recollection of the shocks, due to the amnesic effects of the sedatives. Because of residual effects of the anesthetic medications used, patients are advised not to drive or make any important decisions for the rest of the day. A responsible adult should be available to provide transportation home. The anesthetic agents typically used for the procedure are short acting; therefore most patients are able to go home an hour or so after the procedure. A normal heart rhythm can be restored more than 90% of the time, although abnormal rhythms may recur in about half the patients within one year. The success of electrical cardioversion often depends on the duration of atrial

fibrillation and the underlying cause (heart disease). Cardioversion is not appropriate for every patient with atrial fibrillation.

Because the upper chambers of the heart are fibrillating (quivering) and do not squeeze uniformly in patients with atrial fibrillation, there is a potential risk that blood clots may form. The process of restoring a normal rhythm could potentially dislodge a blood clot from the heart resulting in a heart attack or a stroke. Fortunately, thinning the blood prior to cardioversion can prevent most blood clots. This is a process called "anticoagulation". Anticoagulant medications include aspirin, heparin or warfarin (Coumadin). Warfarin is a pill taken daily and dosed according to blood test results. This test, referred to as the INR or International Normalized Ratio, monitors the "thinness" or "thickness" of the blood and typically should be in the [2.0-3.0] range (a normal INR in someone who is not on warfarin is typically around 1.0). If the INR is too low, there may be at an increased risk of forming a blood clot. If the INR is too high, there may be at an increased risk for bleeding. Heparin is a blood thinner that can be given as an intravenous solution or shots in the skin. It acts more quickly and its effects are reversed more rapidly than warfarin (Coumadin). Frequently, patients are placed on heparin until warfarin (Coumadin) becomes effective, as this may take several days.

Prior to performing a cardioversion, your physician will determine your risk of blood clot formation (and thus, your risk of stroke or heart attack) and choose an anticoagulant medicine. In patients with atrial fibrillation or flutter that has been present for a while, the blood must be adequately thinned for at least [3-4] weeks prior to the cardioversion to reduce the risk of stroke. Because it takes many hours for blood clots to form, cardioversion can be safely performed without blood thinning medication in patients who have had their heart rhythm problem for less than (48) hours. Occasionally, your physician may recommend a special ultrasound of the heart (called a transesophageal echocardiogram or TEE). During a transesophageal echocardiogram, a special probe is placed in the esophagus. It allows your physician to directly visualize the atria to scan for potential blood clots. Typically, anticoagulation is continued after the cardioversion for an additional (4) weeks to (6) months, even if the cardioversion is successful.

#### الأسئلة البعدية:

Put a circle in front of right sentences:

- 1- The causes of angina pectoris is:
  - a. Severe exercise & heavy meat eating.
  - b. Severe pain for long time even patient have drug.
  - c. Because of radiogenic shock.
- 2- The nursing care that gives to the patient who inters CCU is:
  - a. Observe the secretion of patient.

- b. Provide the patient with food & fluid orally or by venous infusion for the first 24 hours.
- c. Assist the patient to have good ventilation.

Answer by (True) against the true sentences and by (False) against the false sentences:

1. After heart attack, the patient admits to medical wards.
2. The main equipment in Intensive Care Unit is the physiologic monitoring system.
3. Pulse oximeter uses for checking intracranial pressure.
4. Ventilator is important device in ICU.
5. Electrocardiogram is a visual representation of the electrical activity of the heart.
6. Electrocardiogram is a visual representation of the picture of the heart.
7. Resuscitation equipment can be used by all patients.
8. Resuscitation drugs should not be replaced till expire.
9. The veins of anterior forearm and dorsal hand are the best veins for venipuncture.
10. Central Venous Catheter that is used for long term infusion can also be inserted in the veins of forearm.
11. Defibrillator terminates the arrhythmia.
12. A gel must not be applied on the electrodes while using the defibrillator.
13. One electrode of the defibrillator can be placed over the left pericardium while the other can be placed on the back behind the heart between scapula.

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- \* Patricia A. Potter, Anne G. Perry, Patricia A. Stockert, Amy M. Hall and Wndey R. Osterdorf (2017): Fundamentals of Nursing, 9<sup>th</sup> Edition, Elsevier Inc., United States.
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فيديوهات تعليمية مساعدة:

<https://www.youtube.com/watch?v=Ww7RenmM6IQ>

<https://www.youtube.com/watch?v=FJfu7FTqhzg>

<b>Oxygen Administration, Tracheostomy</b>	<b>عنوان المحاضرة</b>
أ.د. رفاعي ياسين حميد	<b>اسم المدرس</b>
طلبة المستوى الأول	<b>الفئة المستهدفة:</b>
تعريف الطالب بأهمية الأوكسجين والحاجة اليه، كذلك بعملية فغر الرغامى، كذلك إعداد الطالب ليصبح ممارس رعاية صحية مؤهلاً لتقديم رعاية ملائمة للمرضى الذين يعانون من حالات طبية تتطلب دعماً تنفسياً.	<b>الهدف العام من المحاضرة</b>
سيتمكن الطالب من: * قياس العلامات الحيوية للمريض بشكل صحيح. * تقييم حالة الجهاز التنفسي للمريض. * اختيار وتطبيق طرق إعطاء الأوكسجين المناسبة. * تشغيل أجهزة التنفس الاصطناعي المختلفة بشكل صحيح. * إجراء فغر الرغامى باستخدام تقنية معقمة. * مراقبة المرضى الذين يتلقون دعماً تنفسياً بشكل دقيق. * تسجيل البيانات الطبية بشكل دقيق. * التواصل بشكل فعال مع المرضى وعائلاتهم. * العمل بشكل تعاوني مع أعضاء فريق الرعاية الصحية الآخرين. * العناية بعملية فغر الرغامى.	<b>الأهداف السلوكية او مخرجات التعلم</b>
فلم علمي، البوسترات والأشكال التوضيحية، مراعاة الفروق الفردية، التفاعل والمشاركة، المناقشة، التعلم الذاتي، التمثيل الأيضاحي، المحاكاة.	<b>استراتيجيات التيسير المستخدمة</b>
* إعطاء الأوكسجين بكافة الطرق. * الأسلوب الصحيح بالعناية بفغر الرغامى.	<b>المهارات المكتسبة</b>
الاختبارات، مراقبة الطالب اثناء التدريب.	<b>طرق القياس المعتمدة</b>

**الاسئلة القبليه:**

Put a circle in front of right sentences:

1. Indication of giving O<sub>2</sub> is:
  - a. Toxicity by CO<sub>1</sub>.
  - b. Respiratory problem.
  - c. Oxygen mask& tent.
2. Important point of giving oxygen is:
  - a. Don't allow open flam or smoking & using of electric devices.
  - b. Patient who have asthma.
  - c. Patient with heart failure.
3. The indication of using inhalation:
  - a. For head injury.
  - b. For respiratory insufficiency & asthma.
  - c. For paralyzed patient.

4. The nursing care that gives to the patient after operation is:

- a. Oxygen is giving while there is pain.
- b. Sterile dressing is done to prevent the complication.

المحتوى العلمى:

### **Oxygen Administration**

Is introduction of oxygen to patients whose respiratory capacity diminished to maintain health and life, as in;

1. Respiratory problems or insufficiency.
2. Asthma.
3. Emphysema.
4. Heart failure.
5. Pneumonia.
6. Toxicity by CO<sub>1</sub>.

Three factors should be depended while oxygen administration, they are;

- A. Concentration of oxygen administered.
- B. Method of delivery.
- C. Liter flow per minute.

#### **Equipment needed:**

- ❖ Oxygen supply (Wall-piped outlet system, Tanks or cylinders).
- ❖ Oxygen mask or tent or nasal catheter.

**Hypoxia:** insufficiency or oxygenation of blood caused by heart failure, respiration inefficiency and asthma.

**Cyanosis:** bluish color of membranes, nail, or skin due to deoxygenation of hemoglobin.

**Important point:** Because oxygen is colorless, odorless, and tasteless, people are often unaware of its presence. While oxygen itself will not burn or explode, it facilitates combustion, so the patient's unit must be:

1. Free from flame or smoking.
2. Free from electrical devices.
3. Don't use oil, alcohol, or lotion.
4. Use matters without wool, or nylon

Oxygen administered from a cylinder or wall-outlet system is dry. Dry gases dehydrate the respiratory mucous membranes. Humidifying devices that add water vapor to inspired air are thus an essential adjunct of oxygen therapy, particularly for liters flow over 2 liter/minute. These devices provide 20% - 40% humidity. The oxygen passes through distilled water or tap water and then along a line to the device through which the moistened oxygen is inhaled (e.g., cannula, nasal catheter, or oxygen mask).



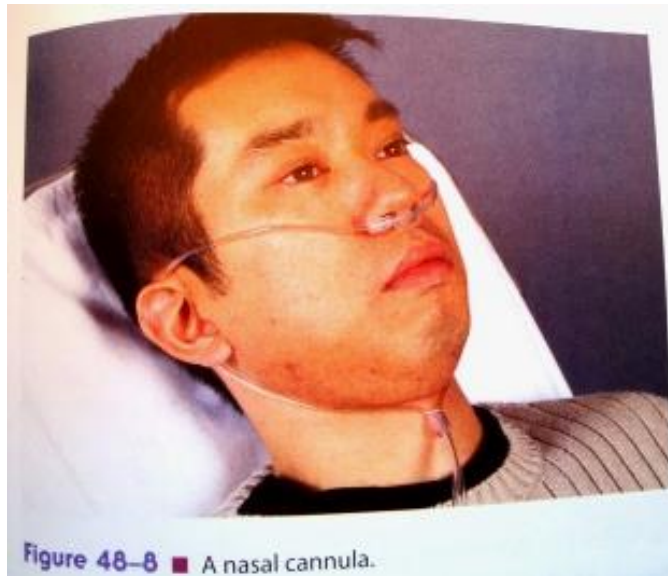
Figure 48-7 ■ An oxygen humidifier attached to a wall outlet oxygen flow meter.

Humidifiers prevent mucous membranes from drying and becoming irritated and loosen secretions for easier expectoration. The more bubbles created during this process, the more

water vapor is produced. Very low liter flows (e.g., 1 – 2 liter/minute by nasal cannula) do not require humidification.

### **Oxygen Delivery Systems;**

1. *Nasal cannula (nasal prongs)*; It is most common device, easy to apply and does not interfere with the client's ability to eat or talk, and permits some freedom of movement, and well tolerated by the client, it delivers low concentration of oxygen (24% - 45%) at flow rates of (2–6 L/minute).



2. *Face Mask*; It covers the client's nose and mouth to be used for oxygen inhalation, while exhalation ports on the sides of the mask allow exhaled CO<sub>2</sub> to escape. There are many types of masks that deliver oxygen at various concentration (40% - 60% with liter flow of 5 – 8 L/m.; 60% - 90% with flow rate of 6 -10 L/m.; 95% – 100% with liter flow of 10 – 15 L/m.; 24% - 50% with flow rate of 4 – 10 L/m.).

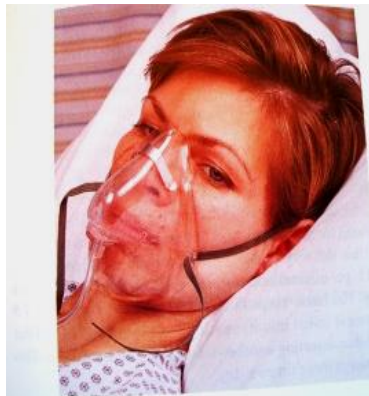


Figure 48-9 ■ A simple face mask.



Figure 48-10 ■ A partial rebreather mask.

3. *Child Oxygen Tent*; it provides oxygen concentration of 30% with flow rate of 10 – 15 L/m.



Figure 48-15 ■ Pediatric oxygen tent.

### Complications of Oxygen Administration;

1. Convulsion.
2. Irritation of the respiratory mucous membranes.
3. Blindness among infants if excessive oxygen administered.

### Tracheostomy

**Tracheotomy** and **tracheostomy** are surgical procedures on the neck to open a direct airway through an incision in the trachea (the windpipe). They are performed by emergency physicians, and surgeons. Surgical technique is widely used.

*Uses of tracheostomy; The conditions in which a tracheostomy may be used are:*

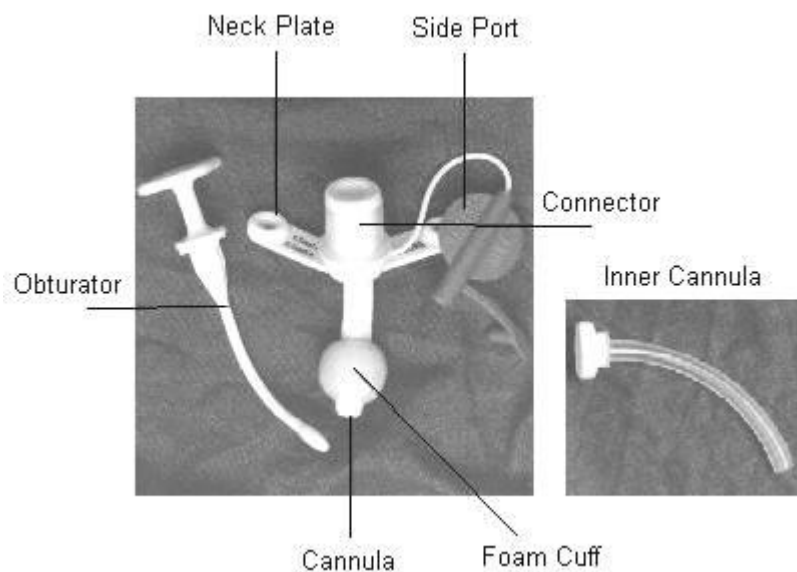
- Acute setting - maxillofacial injuries, large tumors of the head and neck, congenital tumors, e.g. branchial cyst, acute inflammation of head and neck.
- Chronic / elective setting - when there is need for long term mechanical ventilation and tracheal toilet, e.g. comatose patients, surgery to the head and neck.

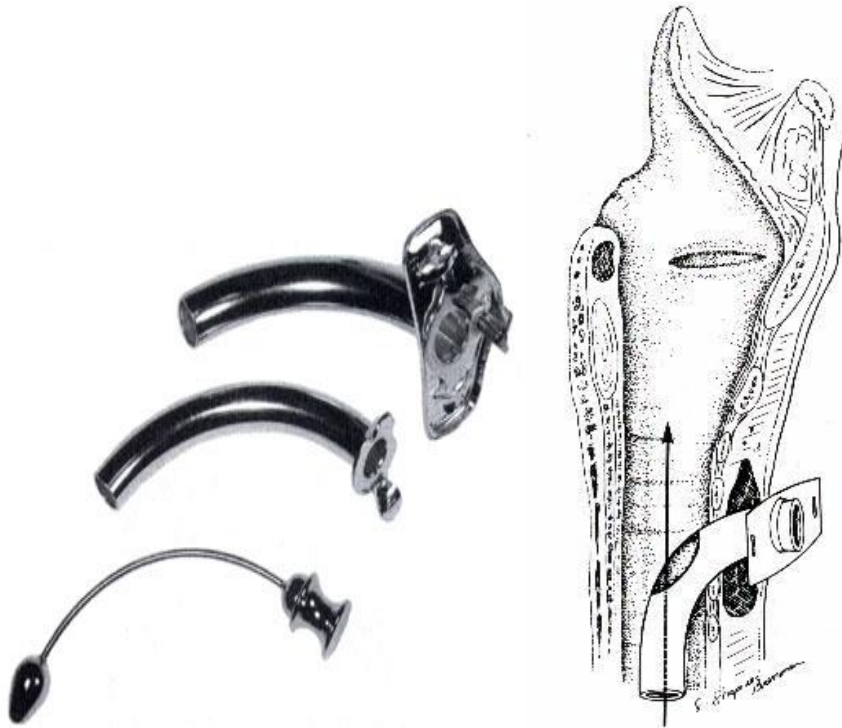
**Types of tracheostomy tube:**

1- Metal with an inner tube, which is useful when there are thick secretions.

2- Protex, they are:

- A. Uncuffed, used later when the secretions are less voluminous and the tracheostomy tract is formed.
- B. Cuffed used mainly during the first hours to prevent aspiration or when positive ventilation is needed.





**Important point:** How to made tracheostomy:

- 1- Horizontal incision about 5 cm. in length is made 2cm. below lower border of the cricoids or 2 fingers above the upper end of sternum.
- 2- A transverse incision is made in the inter-cartilaginous membrane between the 2<sup>nd</sup> and 3<sup>rd</sup> tracheal ring or below that.

**Nursing care after operation:**

- 1- The nurse should be using mask, gloves during the procedure.
2. Sterile dressing is done to prevent the complication.
3. Put the patient in semi-fowler position to stimulate respiration and prevent edema.

4. Giving sedation as ordered to inhibit cough reflex.
5. Sucking the secretion every 1 -2 hours.
6. Observe the patient continuously.
7. Prevent any strain to the patient.

### الأسئلة البعدية:

Put a circle in front of right sentences:

1. Indication of giving O<sub>2</sub> is:
  - a. Toxicity by CO<sub>1</sub>.
  - b. Respiratory problem.
  - c. Oxygen mask & tent.
2. Important point of giving oxygen is:
  - a. Don't allow open flam or smoking & using of electric devices.
  - b. Patient who have asthma.
  - c. Patient with heart failure.
3. The indication of using inhalation:
  - a. For head injury.
  - b. For respiratory insufficiency & asthma.
  - c. For paralyzed patient.
4. The nursing care that gives to the patient after operation is:
  - a. Oxygen is giving while there is pain.
  - b. Sterile dressing is done to prevent the complication.
5. The important point of making tracheostomy is:
  - a. Horizontal incision about five cm. in length is made two cm. below lower border of the cricoids or two fingers above the upper end of sternum.
  - b. Upper respiratory tract obstruction.

Answer by (True) against the true sentences and by (False) against the false sentences:

1. Oxygen administers in case of heart failure.
2. Dry oxygen dehydrates the respiratory mucous membranes.
3. Humidification may be done including very low liter flows.

4. Nasal cannula (prongs) is easy than other devices.

5. Convulsion can be occurred in case of high oxygen administration.

#### المصادر الأساسية:

- \* Kimberly Ernstmeyer, Elizabeth Christman (2020): Nursing Fundamentals, Wi Technical College Open Press.
- \* Cue C. Delaune and Patricia K. Lander (2011); Fundamental of Nursing: standards and Practice, 4<sup>th</sup> edition, United States, Cengage Learning.
- \* Patricia A. Potter, Anne G. Perry, Patricia A. Stockert, Amy M. Hall and Wndey R. Osterdorf (2017): Fundamentals of Nursing, 9<sup>th</sup> Edition, Elsevier Inc., United States.
- \* Jackie Crisp, Catherine Taylor, Clint Douglas and Geraldine Reberio; Fundamentals of Nursing, 4<sup>th</sup> Edition.

#### فيديوهات تعليمية مساعدة:

<https://www.youtube.com/watch?v=CuHZa9DR-cc>

<https://www.youtube.com/watch?v=pzMrEIVHce4>

Urinary Cauterization, Enema	عنوان المحاضرة
أ.د. رفاعي ياسين حميد	اسم المدرس
طالبة المستوى الأول	الفئة المستهدفة
تعريف الطالب بالقتطرة البولية وأهدافها، وكذلك تعريف الطالب بالحقنة الشرجية.	الهدف العام من المحاضرة
سيتمكن الطالب من: * قياس العلامات الحيوية للمريض بشكل صحيح. * تقييم حالة الجهاز البولي للمريض. * اختيار وتطبيق تقنية القتطرة البولية المناسبة. * تعقيم المعدات. * إدخال القتطرة البولية بشكل صحيح مع مراعاة التعقيم. * مراقبة المريض بعد القتطرة البولية. * تسجيل البيانات الطبية بشكل دقيق. * تقييم حالة الجهاز الهضمي للمريض. * إعداد الحقنة الشرجية بشكل صحيح. * إعطاء الحقنة الشرجية بشكل صحيح مع مراعاة التعقيم. * مراقبة المريض بعد الحقنة الشرجية.	الأهداف السلوكية او مخرجات التعلم
فلم علمي، البوسترات والأشكال التوضيحية والبوربوينت، التفاعل والمشاركة، المناقشة، التعلم الذاتي. المحاكاة على الدمية.	استراتيجيات التيسير المستخدمة
* إدخال وإخراج القتطرة البولية بالطريقة الصحيحة وتقليل المخاطر المصاحبة. * استخدام الحقنة الشرجية عند الضرورة.	المهارات المكتسبة
الاختبارات العملية، التقارير والسمنارات، مراقبة الطالب اثناء التدريب.	طرق القياس المعتمدة

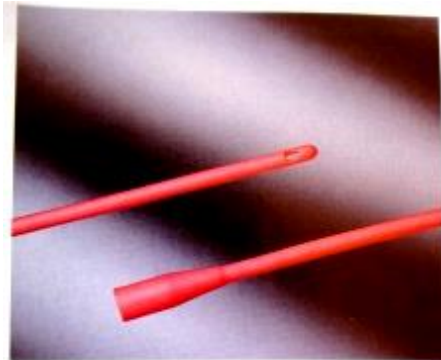
الاسئلة القبليه:

Put a circle in front of right sentences:

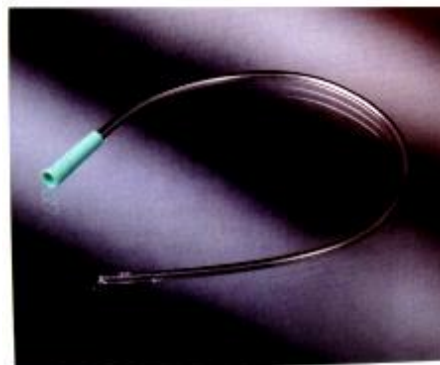
- 1- The nursing care that gives to the patient with catheterization is:
  - a. Change the position of patient.
  - b. Measuring the amount of urine & record intake & output sheet.
- 2- The purpose of making catheterization is:
  - a. To remove urine from the bladder.
  - b. To prevent hypotension.

## Catheterization

*Urinary catheterization* is the introduction of a catheter through the urethra into the urinary bladder.



A



B

Figure 47-8 ■ Red-rubber or plastic Robinson straight catheters. (Courtesy of Bard Medical Division.)

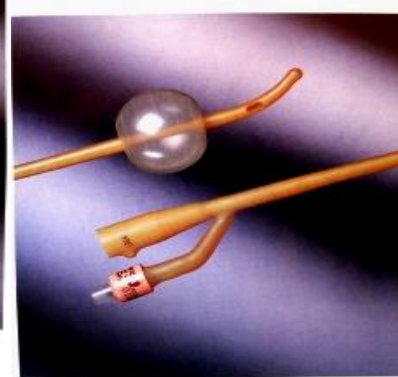


Figure 47-9 ■ A coudé catheter. (Courtesy of Bard Medical Division.)

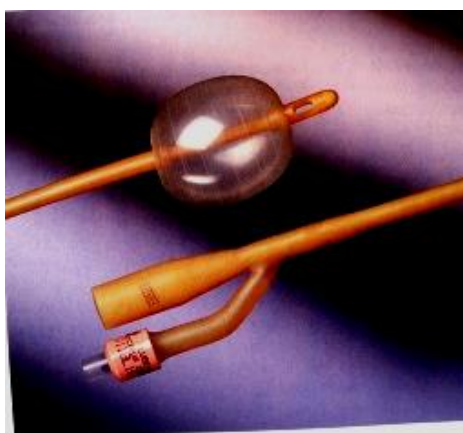


Figure 47-10 ■ A retention (Foley) catheter with the balloon inflated. (Courtesy of Bard Medical Division.)



Figure 47-11 ■ A three-way Foley catheter. (Courtesy of Bard Medical Division.)

### ***Purposes;***

1. To relieve discomfort due to bladder distension or to provide gradual decompression of a distended pressure.
2. To assess the amount of residual urine if the bladder empties incompletely.
3. To obtain a urine specimen.
4. To empty the bladder completely prior to surgery.
5. To facilitate accurate measurement of urinary output for critically ill clients whose output needs to be monitored hourly.
6. To provide for intermittent or continuous bladder drainage and irrigation.
7. To prevent urine from contacting an incision after perineal surgery.
8. To manage incontinence when other measures have failed.

### ***Hazards of Catheterization;***

1. Infection.
2. Trauma, particularly among males.

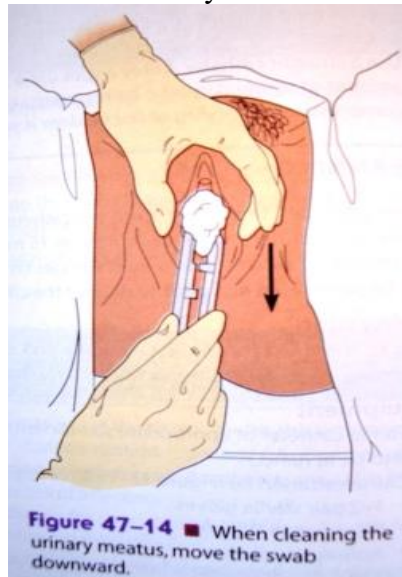
### ***Nursing Performance and Care:***

1. Explain to the client what to do.
2. Wash hands and depend sterile technique.
3. Provide for client privacy.
4. Place the client in the appropriate position and drape all areas except the perineum; Male- supine position with legs slightly abducted, while Female- supine with knees flexed and externally rotated.
5. Apply clean gloves and inject 10-15 ml Xylocaine gel into the urethra, and wait for 5 minutes for the gel to take effect before inserting the catheter.
6. Open the catheterization kit. Place a waterproof drape under the buttocks (Female) or penis (Male) without contaminating the center of the drape with your hands.
7. Apply sterile gloves.
8. Saturate the cleansing balls with antiseptic solution.

9. Attach the prefilled syringe to the indwelling catheter inflation hub and test the balloon to ensure suitability.
10. Lubricate the catheter (1 - 2 inches for females, 6 – 7 inches for males) and place it with the drainage end inside the collection container.
11. Cleanse the meatus;

*for Women-*

- \* use the nondominant hand to spread the labia.
- \* pick up a cleansing ball with the forceps in your dominant hand and wipe one side of the labia majora in an anteroposterior direction, and use new ball for the labia minora and use the last ball to cleanse directly over the meatus.



*For Men-*

- \* Use nondominant hand to grasp the penis just below the glans,
  - \* Hold it firmly upright with slight tension,
  - \* Pick up a cleansing ball with the forceps in your dominant hand and wipe from the center of the meatus in a circular motion around the glans,
  - \* Use a new balls and repeat three more times.
12. Insert the catheter;

- \* Grasp the catheter firmly 2-3 inches from the tip, and ask the client to take a slow deep breath and insert the catheter as the client exhales.
  - \* Advance the catheter 2 inches further after the urine begins to follow through it to be sure that it is in the bladder.
13. Hold the catheter with the monodominant hand.
    14. For an indwelling catheter;
      - \* Inflate the retention balloon with the designated volume , if the client complains of discomfort, immediately withdraw the instilled fluid and advance the catheter further and attempt to inflate the balloon again.
      - \* Pull gently on the catheter until resistance is felt to ensure that the balloon has inflated and placed inside the bladder.
  15. For an indwelling catheter, secure the catheter tubing to the inner thigh of the female clients.
  16. Hang the urine bag below the level of the bladder.
  17. Wipe the perineal area of any remaining antiseptic solution.
  18. Discard all used supplies in appropriate receptacles and wash hands.
  19. Document the catheterization process including catheter size and results in the client record.

**Enema-** is a solution introduced into a rectum and large intestine. The action of the enema is to distend the intestine and sometimes to irritate the intestinal mucosa, thereby increasing peristalsis and excretion of feces and flatus.

***Types of Enema;***

1. **Cleansing Enema-** is to:

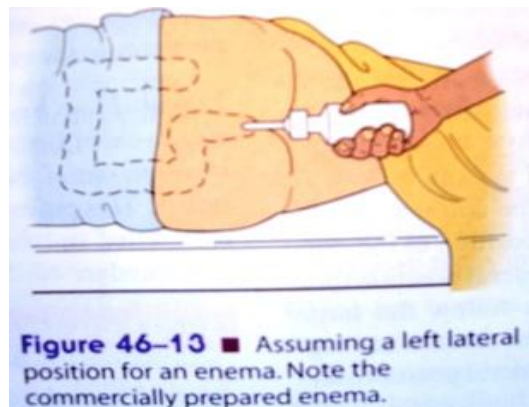
- \* Prevent the escape of feces during surgery.
- \* Prepare intestine for certain diagnostic tests as X-ray or visualization tests (e.g., colonoscopy).
- \* Remove feces in intestines or constipation or impaction.

Various solutions can be used; **Hypertonic solution** (tap water); **Isotonic solution** (normal saline, soapsuds). Some enemas are large volume (e.g., 500 – 1000 ml). The client changes from the left lateral position to the dorsal recumbent position and then to the right lateral position during administration so that the solution can flow the large intestine.

2. Carminative Enema- is given primarily to expel flatus, and in turn distends the rectum and colon, thus stimulating peristalsis. For an adult, 60-80 ml of fluid is administered.
3. Retention Enema- introduce oil or medication into the rectum and sigmoid colon, the liquid is retained for a relatively long period (e.g., 1-3 hours);
  - \* *An oil retention enema*- acts to soften the feces and lubricate rectum and anal canal, thus facilitating passage of feces.
  - \* *Antibiotic enema*- are used to treat infections locally.
  - \* *Anthelmintic enema*- to kill helminths such as worms and intestine parasites.
  - \* *Nutritive enema*- to administer fluids and nutrients to the rectum.
4. Return-Flow Enema- is used occasionally to expel flatus. Alternating flow of (100-200 ml) of fluid into and out of rectum and sigmoid colon stimulates peristalsis. This process is repeated five or six times until the flatus is expelled and abdominal distension is relieved.

#### ***Nursing Performance and Care:***

1. Explain to the client what to do.
2. Wash hands, apply clean gloves, and observe appropriate infection control procedures.
3. Provide for client privacy.
4. Assist the adult client to a left lateral position, with the right leg as acutely flexed as possible, and the linen-saver pad under the buttocks.



5. Insert the rectal tube;

- \* For client in the left lateral position, lift the upper buttock.
- \* Insert the tube smoothly and slowly into the rectum, directing toward the umbilicus after lubricating it about (5 cm.).

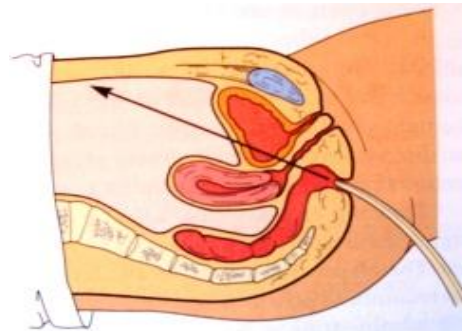


Figure 46-14 ■ Inserting the rectal tube following the direction of the rectum.

- \* Insert the tube (7-10 cm.) into the rectum.
- \* If resistance is encountered at the internal sphincter, ask the client to take deep breath, then run a small amount of solution through the tube to relax the anal sphincter.
- \* Never force tube or solution entry. If instilling a small amount of solution does not permit the tube to be advanced or the solution to freely flow, withdraw the tube. Check for any stool that may have blocked the tube during insertion. If present flush it and retry the procedure. You may also perform a digital rectal examination to determine if there is an impaction or other mechanical blockage. If resistance persists, end the procedure and report the resistance to the physician.

6. Slowly administer the enema solution;

- \* Raise the solution container and open the clamp to allow fluid flow, or compress a pliable container by hand.
- \* During most low enemas, hold or hang the solution container no higher than 30 cm. above the rectum. During a high enema, hang the solution container about 45 cm..
- \* Administer the fluid slowly, if the client complain of fullness or pain, use the clamp to stop the flow for 30 seconds, and then restart the flow at a slower rate.
- \* After all the solution has been instilled or when the client cannot hold any more and feels the desire to defecate (the urge to defecate usually indicates that sufficient fluid has been administered), close the clamp, and remove the rectal tube from the anus.

7. Encourage the client to retain the enema;

- \* Ask the client to remain lying down because gravity promoted drainage and peristalsis.
- \* Request that the client retain the solution for the appropriate amount of time, for example, 5-10 minutes for a enema or at least 30 minutes for retention enema.

8. Assist the client to defecate;

- \* Assist the client to a sitting position on the bedpan, or toilet, for a sitting position facilitates the act of defecation.
- \* Ask the client who is using the toilet not to flush it, for the nurse needs to observe the feces.
- \* If a specimen of feces is required, ask the client to use a bedpan not toilet.

#### الأسئلة البعدية:

Put a circle in front of right sentences:

- 1- The nursing care that gives to the patient with catheterization is:
  - a. Change the position of patient.
  - b. Measuring the amount of urine & record intake & output sheet.
- 2- The purpose of making catheterization is:
  - a. To remove urine from the bladder.
  - b. To prevent hypotension

Answer by (True) against the true sentences and by (False) against the false sentences:

1. Urinary catheterization uses to empty distended bladder.
2. Stop insertion of the catheter with the first urine flow from it.
3. Complete inflation of the catheter balloon even if the client discomforts.
4. Hang the urine bag below the level of the bladder.
5. Enema is done to stimulate peristalsis.
6. Enema can't be used for diagnostic purposes.
7. Ask the patient to take deep breathing while administering the enema.

8. If enema is exact, defecation will occur not more than 30 minutes.

#### المصادر الأساسية:

- \* Kimberly Ernstmeyer, Elizabeth Christman (2020): Nursing Fundamentals, Wi Technical College Open Press.
- \* Cue C. Delaune and Patricia K. Lander (2011); Fundamental of Nursing: standards and Practice, 4<sup>th</sup> edition, United States, Cengage Learning.
- \* Patricia A. Potter, Anne G. Perry, Patricia A. Stockert, Amy M. Hall and Wndey R. Osterdorf (2017): Fundamentals of Nursing, 9<sup>th</sup> Edition, Elsevier Inc., United States.
- \* Jackie Crisp, Catherine Taylor, Clint Douglas and Geraldine Reberio; Fundamentals of Nursing, 4<sup>th</sup> Edition.

#### فيديوهات تعليمية مساعدة:

<https://www.youtube.com/watch?v=ua6emqHEjmk>  
[https://www.youtube.com/watch?v=Z\\_1zQTjaN4o](https://www.youtube.com/watch?v=Z_1zQTjaN4o)  
<https://www.youtube.com/watch?v=KdpPsHahQ3U>

Peri-Operative Care; Pre, Intra, and Post-operative Care, Complications	عنوان المحاضرة
أ.د. رفاعي ياسين حميد	اسم المدرس
طالبة المستوى الأول	الفئة المستهدفة
اعداد الطالب ليصبح ممارس رعاية صحية مؤهلاً لتقديم رعاية شاملة وعالية الجودة للمرضى قبل، أثناء، وبعد العملية الجراحية. سيتمكن الطالب من:	الهدف العام من المحاضرة
<ul style="list-style-type: none"> <li>* قياس العلامات الحيوية للمريض بشكل دقيق.</li> <li>* تقييم حالة المريض الجسدية والنفسية.</li> <li>* إعداد المريض للعملية الجراحية، بما في ذلك: <ul style="list-style-type: none"> <li>+ التعليم والتوجيه.</li> <li>+ تحضير المريض جسدياً.</li> </ul> </li> <li>* رعاية المريض أثناء العملية الجراحية، بما في ذلك: <ul style="list-style-type: none"> <li>+ مراقبة العلامات الحيوية للمريض.</li> <li>+ الحفاظ على تعقيم بيئة غرفة العمليات.</li> <li>+ مساعدة الجراح حسب الحاجة.</li> <li>+ تقديم الدعم النفسي للمريض.</li> </ul> </li> <li>* رعاية المريض بعد العملية الجراحية، بما في ذلك: <ul style="list-style-type: none"> <li>+ تقييم حالة المريض من حيث الألم والراحة والشفاء.</li> <li>+ تقديم الأدوية حسب التعليمات الطبية.</li> <li>+ تعليم المريض كيفية العناية بجرحه.</li> <li>+ تقديم الدعم النفسي للمريض وعائلته.</li> <li>+ منع حدوث المضاعفات المحتملة.</li> <li>+ مراقبة المضاعفات المحتملة.</li> </ul> </li> <li>* التواصل بشكل فعال مع المرضى وعائلاتهم وأعضاء فريق الرعاية الصحية الآخرين.</li> <li>* تسجيل البيانات الطبية بدقة واكتمال.</li> <li>* اتخاذ قرارات سريعة ودقيقة بشأن رعاية المريض.</li> <li>* حل مشكلات رعاية المريض بشكل فعال.</li> <li>* العمل بشكل مستقل وضمن فريق.</li> </ul>	الأهداف السلوكية او مخرجات التعلم
فلم علمي، التفاعل والمشاركة، المناقشة، التفكير الجمعي، طرح الأسئلة، التأمل، التعلم الذاتي، استخدام البوربوينت، المحاكاة الواقعية، مقاطع الفيديو والسيناريوهات المناسبة.	استراتيجيات التيسير المستخدمة
<ul style="list-style-type: none"> <li>* الاعداد الصحيح للمريض قبل العملية الجراحية.</li> <li>* منع حدوث المضاعفات بعد العملية الجراحية.</li> <li>* العناية الصحيحة بالمضاعفات بعد العملية الجراحية.</li> </ul>	المهارات المكتسبة

الاسئلة القبليه:

Put a circle in front of right sentences:

1- The complication that happened during 24 hours is:

- a. Fear of operation.
- b. Toxicity by CO<sub>1</sub>.
- c. Hemorrhage & shock.

2- The signs & symptoms of internal bleeding is:

- a. Hypotension & tachycardia.
- b. Fever & sweating.
- c. Loss of appetite.

3- When the wound is infected the nursing responsibility is:

- a. Check vital signs every (15) minutes.
- b. Dressing the wound to remove discharge or pus.
- c. Giving sedation.

4- Shock can be happened because of:

- a. Increase of potassium.
- b. Sedation that gives to the patient.
- c. Loosing large quantity of blood.

5- Pre-operative care are:

- a. Psychological & physiological support.
- b. Nutritional instruction after operation.
- c. A & B.

6- Routine care includes:

- a. Checking and reporting vital signs.
- b. A & C.
- c. Observe any abnormal signs & notify physician.

7- The nursing responsibility during operative day is:

- a. Gives sedation before the operation.
- b. Put the patient in lateral position.
- c. Clean the mouth from the secretion.

8- Nursing responsibility in recovery room is:

- a. Empty the bladder from urine.
- b. Put air way tube to help patient to breath.
- c. A & B.

المحتوى العلمى:

### **Peri-Operative Care: Pre-Operative, Intra-Operative and Post-Operative Care**

#### **Preoperative Nursing Care:**

It is a term used to describe the wide variety of nursing activities, which begins with decision for surgical intervention and ends with the transfer of the patient to the operating room.

#### **Purposes;**

1. To promote the patient for the best possible physical and psychological condition for the operation.
2. To reduce post-operative discomfort and complications.

#### **Preoperative care:**

1. Taking health history from the patient, perform physical examination, measure vital signs and perform diagnostic tests as blood analysis, endoscopies and urine and stool studies as requested.
2. Explain the diagnosis; the goal, duration of operation.
3. Allow the family to participate in providing support to the patient.
4. Use spiritual therapy, as, praying, reading parts of Quran or other Holy books.
5. Encourage high; protein, carbohydrate and vitamins (A, C and K) diet several days prior operation (*Protein is essential for tissue repair, Vitamin C is required for wound healing and synthesis of collagen, and vitamin K is necessary for blood clotting*).
6. If the patient is overweight, weight reduction may be undertaken due to the risk for pulmonary complications (*Fatty tissue is not highly resistant to infection, and poor ventilation increases*).

7. Stop smoking 4-6 weeks prior operation and report any signs or symptoms of respiratory infection (*To have optimum respiratory function*).
8. If there is liver or renal problem, hyper or hypoglycemia, or allergy history to drug or blood, report to the physician. Prior drug therapy must be reported to the physician, e.g., steroids, thiazide, phenothiazine, anti-depressants, insulin and antibiotics especially mycin (*Liver and kidney are involved in the excretion of anesthetic drugs. Hyper or hypoglycemia, are potential in uncontrolled D.M. Antidepressant and phenothiazine "Largactil" increases the potential effect of anesthesia, while thiazide and mycin antibiotics may cause respiratory depression. If steroids therapy stopped suddenly before the surgery, it may cause cardiovascular collapse*).
9. Withhold food and water at midnight the day of operation (*To prevent aspiration during operation*).
10. Give enema if requested the evening before an operation (*To prepare the intestine and prevent defecation during the operation*).
11. Prepare the skin bathing, and then shaving the site of operation (*To reduce the risk of skin contamination of the surgical wound*).
12. Teach the patient about; Deep breathing and coughing, and getting out of bed (*To promote lung ventilation and blood oxygenation following general anesthesia*).
13. Clothe the patient with short gown, cover hair with a cap, and remove denture and jewelry (*Gown simplifies the exposure of operation site, hair cap prevents hair spreading, dentures may cause throat obstruction*).
14. Encourage the patient to void immediately before sent to the operation room (*To empty the bladder*).
15. Give pre-anesthetic medication which may include Morphine or Pethidine and Atropine 45 minutes to 1.5 hour before anesthesia has begun (*Morphine or Pethidine is used to decrease the amount of general anesthesia required while Atropine reduces respiratory tract secretion and prevents severe reflex slowing of the heart during anesthesia*).
16. Check the pro-operative list and report any unusual last minute observation.
17. Transfer the patient on a prepared stretcher and cover him/her with a blanket.

***The most general tests performed pre-operatively are; Complete blood count "RBCs- Hb-hematocrit- WBCs", Blood group and Rh, Serum electrolytes "Na, K, Ca, Mg, Cl, HCO<sub>3</sub>", Fasting blood sugar "FBS", Blood urea "BU", Creatinine, SPOT, SGPT, LDH, Bilirubin, Serum albumin, Total protein analysis, Chest X-ray and Electrocardiogram "ECG".***

### **Intra-operative Care:**

It is a wide variety of nursing activities begins when the patient is transferred to the surgery department.

### ***Purposes;***

1. Control operation environment.
2. Prepare equipment for operation.
3. Position the patient during operation.
4. Assist surgeon during operation.
5. Maintain aseptic technique.

### ***Intra-operative care;***

1. Wear operation room attire with mask, head gear and comfortable covered shoes to reduce microorganism transmission.
2. Control operation environment; temperature, humidity, cleansing frequently with soap and water or detergent germicides.
3. Position the patient in the required position for the operation.
4. Surgical hand washing.
5. Wear operation gown, sterile gloves.
6. Apply sterile drapes.
7. Prepare the surgical equipment kits, and open them for using.
8. Assist the surgeon during operation.

### ***Nursing responsibilities in the recovery room:-***

- 1- Put the patient on dorsal position without pillow under head to prevent aspiration of secretion or vomiting.
- 2- Put airway tube in his mouth to prevent obstruct of air way.
- 3- Gives O<sub>2</sub> by mask to the patient.
- 4- Clean the mouth from accumulation of secretion.
- 5- Put blanket on the patient to prevent chilling.
- 6- Check vital signs every 15 minute.
- 7- Observe the dressing wound to observe bleeding if happened.
- 8- Observe intravenous infusion that gives to the patient.
- 9- Giving sedation to reduce the pain of operation.
- 10- Observe level of conscious.
- 11- Take the patient to his room in the surgical ward after becoming awakens.

### ***Post-operative care:***

It is a term used to describe the side variety of nursing activities which begin with receiving the patient from the recovery room and ends with evaluating the patient for discharge.

### **Purposes;**

1. Assist the patient to maintain optimum respiratory function.
2. Assess the cardiovascular status of the patient.
3. Promote comfort and safety.
4. Maintain fluid and electrolytes balance, proper nutrition and adequate elimination.
5. Enhance wound healing.
6. Encourage activity.

### **Post-operative management;**

1. **Pain management-** pain is usually greatest at (12 -36) hours after surgery, and decreasing after that period, so, continuous analgesic must be administered through IV line if prescribed, therefore;
  - \* Monitor IV infusion and amount of analgesic administration.
  - \* Assess the client's pain relief.
  - \* Notify the physician if the client is experiencing unacceptable side effects or inadequate pain relief.
  - \* Parenteral or oral analgesics should be administered on a routine basis (every 2-6 hours depending on the drug, route, and dose) for the first 24 hours.
  - \* An anti-inflammatory agent as ibuprofen is often administered in conjunction with a narcotic analgesic to enhance pain relief.
  - \* Because muscle tension increases pain perception and responses, so, using non-pharmacologic measures are necessary as, warm, back rub, position changes, diversional activities and so on.
2. **Positioning-**
  - \* Clients who have had spinal anesthetics usually lie flat for (8-12) hours.
  - \* An unconscious or semiconscious client is placed on one side with the head slightly elevated, or in a position that allows fluids to drain from the mouth.
  - \* Unless contraindicated, elevation of the affected extremities (e.g., following foot surgery) with the distal extremity higher than heart promotes venous drainage and reduces swelling.
3. **Deep-Breathing and Coughing Exercises-** Deep breathing exercises help remove mucus which can form and remain in the lungs due to the effects of general anesthetic and analgesics and prevent the accumulation of secretions, also deep breathing helps prevent

pneumonia and atelectasis (collapse of the alveoli), which may result from stagnation of fluid in the lungs. Deep breathing frequently initiates the coughing reflex.

- \* Voluntary coughing in conjunction with deep breathing facilitates the movement and expectoration of respiratory tract secretions.
- \* Encourage the client to do deep-breathing exercises hourly, or at least every (2) hours.
- \* Assist the client to be in sitting position in bed or on the side of the bed.
- \* Instruct the client to splint the incision with a pillow when coughing, or the nurse can splint the incision for the client to reduce discomfort.
- \* An incentive spirometer is often ordered for postoperative client to encourage deep breathing.



**4. Leg Exercises-** The client should done leg exercises taught preoperatively every (1-2) hours, because muscle contraction compress the veins, preventing the stasis of blood in the veins which is the cause of **thrombus** (stationary clot adhered to the wall of vessels) formation and subsequent **thrombophlebitis** (inflammation of a vein followed by formation of a blood clot) and **emboli** (a blood clot that has moved). Contraction also promote arterial blood flow.

#### **5. Moving and Ambulation-**

- \* Encourage the client to turn from side to side at least every (2) hours.
- \* Avoid placing pillows or rolls under the client's knees because pressure on the popliteal blood vessels can interfere with blood circulation to and from the lower extremities.
- \* The client should ambulate as soon as possible after surgery in accordance with the surgeon's orders. Generally, client begin ambulation the evening of the day of surgery or the first day after surgery, unless contraindicated. Early ambulation prevents respiratory, circulatory, urinary and gastrointestinal complications. It also prevents general muscle weakness. Ambulation should be gradual, starting with the client sitting on the bed and dangling the feet over the bed.

- \* A client who cannot ambulate periodically must be assisted to be in sitting position in bed, if allowed, and turned frequently. The sitting position permits the greatest lung expansion.

## **6. Hydration-**

- \* When oral intake is permitted, initially offer only small sips of water. Large amount of water can induce vomiting because anesthetics and narcotic analgesics temporarily inhibit the mobility of the stomach.
- \* The client who cannot take fluids by mouth may be allowed by the surgeon's orders to suck ice chips.
- \* Provide mouth care and place mouthwash at the client's bedside.
- \* Measure the client's fluid intake and output for at least (2) days or until fluid balance is stable without an intravenous infusion.
- \* Ensuring adequate fluid intake is important to keep the respiratory mucous membranes and secretions moist and facilitate expectoration of mucus during cough, also to maintain renal and cardiovascular function.
- \* Maintain IV infusion as ordered to replace body fluids lost either before or during surgery.

## **7. Diet-**

- \* Depending on the extent of surgery and the organs involved, the client may be allowed nothing by mouth for several days or may be able to resume oral intake when nausea is no longer present.
- \* When "diet as tolerated" is ordered, offer clear liquids initially. If the client tolerates these, with no nausea, the diet can often progress to full liquids, and then to a regular diet, provided that gastrointestinal functioning is normal.
- \* Assess the return of peristalsis every (4-6) hours by auscultating the abdomen, gurgling and rumbling sounds indicate peristalsis. Anesthetic agents, narcotics, handling of the intestines during abdominal surgery, fasting, and inactivity inhibit peristalsis.
- \* Oral fluids and food are usually started after the return of peristalsis.
- \* Assist very weak client to eat.
- \* Observe the client's tolerance of the food and fluids ingested and note and report the passage of flatus or abdominal distension.

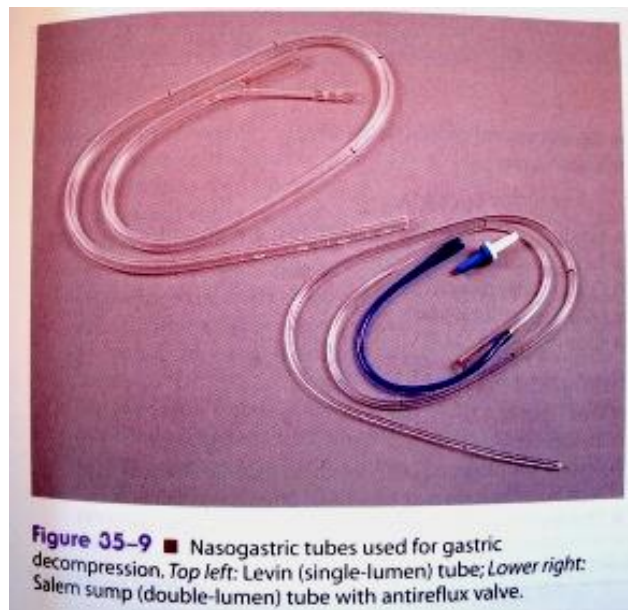
## **8. Urinary Elimination-**

- \* Provide measures that promote urinary elimination, as, help male clients stand at the bedside, or female clients to a bedside commode if allowed, and ensure that fluid intake is adequate.

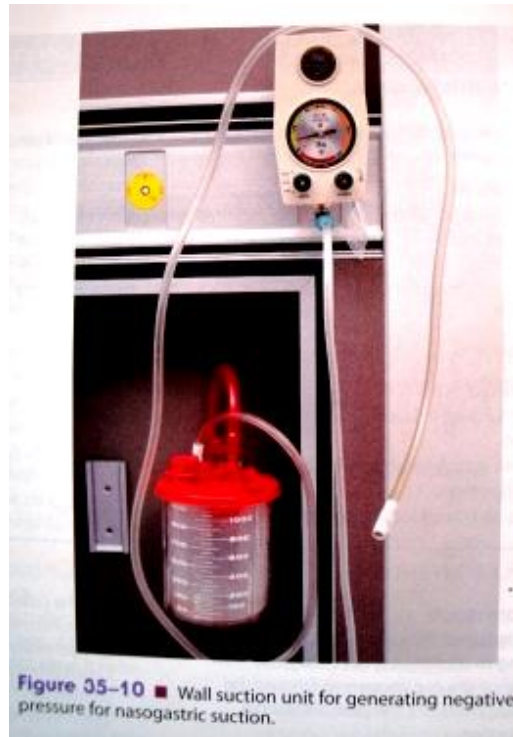
- \* Determine whether the client has any difficulties during voiding and assess the client for bladder distension.
- \* Report to the surgeon if a client does not void within (8) hours following surgery, unless another time frame is specified.
- \* Anesthetic agents temporarily depress urinary bladder tone, which usually returns within (6-8) hours after surgery. Surgery in the pubic area, vagina, or rectum, during which the surgeon may manipulate the bladder, often causes urinary retention. If all measures to promote voiding fail, a urinary catheterization is often ordered.
- \* Measure the fluid intake and output (I & O) of all new postoperative clients.
- \* Generally, (I & O) records are kept for at least (2) days or until the client reestablishes fluid balance without an IV or catheter in place.

## 9. Suction-

- \* Some clients return from surgery with a gastric or intestinal tube in place and orders to connect the tube to suction. The suction ordered can be continuous or intermittent. Intermittent suction is applied when a single-lumen gastric tube is used to reduce the risk of damaging the mucous membrane near the distal port of the tube.



- \* Fluids and electrolytes must be replaced IV when gastric suction or continuous drainage is ordered.
- \* Nasogastric tube may be irrigated before and after tube feedings or the instillation of medications.
- \* Suction may also be applied to other drainage tubes as chest tubes or wound drain. The type and amount of suction is ordered by the physician.



\* Check the drainage receptacle frequently to prevent excess drainage from interfering with the suction apparatus, empty or change the receptacle according to the agency policy.

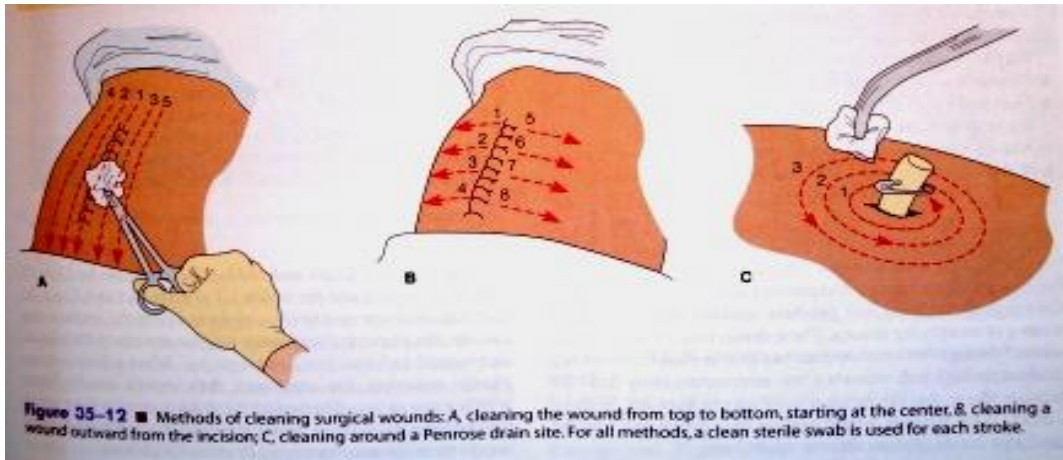
**10. Wound Dressing-** Most clients return from surgery with a sutured wound covered by a dressing, although in some cases the wound may be left unsutured. Dressing are inspected regularly to ensure that they are clean, dry, and intact. Excessive drainage may indicate hemorrhage, infection or an open wound. When dressing are changed. The nurse assesses the wound for appearance, size, drainage, swelling, pain and the status of a drain or tubes. Because surgical incisions heal by primary intention, the nurse can expect the following sequential signs of healing:

- A). Absence of bleeding and appearance of a clot binding the wound edges-** The wound edges are well approximated and bound by fibrin in the clot within the first few hours after surgical closure.
- B). Inflammation (redness, and swelling)** at the wound edges for (1-3) days.
- C). Reduction in inflammation when the clot diminishes-** as granulation tissue starts to bridge the area. The wound is bridged and closed within (7-10) days. Increased inflammation associated with fever and drainage is indicative of wound infection; the wound edges then appear brightly inflamed and swollen.
- D). Scar formation-** collagen synthesis starts (4) days after injury and continues for (6) months or longer.
- E). Diminished scar size over a period of months or years.**

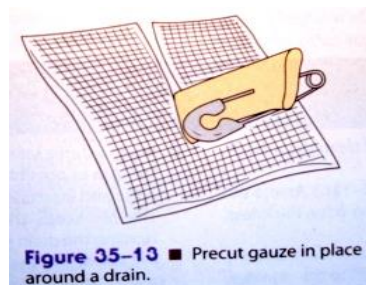
**11. Surgical Dressing-** Not all surgical dressings require changing. Sometimes surgeon in the operating room apply a dressing that remains in place until the sutures are removed, and no further dressings are required. In many situations, however, dressings are changed regularly to prevent the growth of microorganisms.

**Performance and Care of Surgical Dressing;**

- Explain to the patient what to do.
- Wash hands and observe other appropriate infection control procedures.
- Provide for client privacy.
- Remove binders and tape:
  - + Remove binders, if used, and place them aside. Unite tie tapes, if used. Tie tapes are commonly used for wounds requiring frequent dressing changes.
  - + If adhesive tape was used, remove it by holding down the skin and pulling the tape gently but firmly toward the wound. Pulling the tape toward the incision is to prevent strain on the suture or wound.
  - + Use a solvent or acetone to loose tape, if required. Moistening the tape lessens the discomfort of removal, particularly from hairy surfaces.
  - + Remove and dispose of solid dressings appropriately.
  - + Assess the location, type (color, consistency), and odor of wound drainage, and the number of gauzes saturated or the diameter of drainage collected on the dressings.
- Set up the sterile supplies:
  - + Open the sterile dressing set, using surgical aseptic technique.
  - + Place the sterile drape beside the wound.
  - + Open the sterile cleaning solution and pour it over a gauze sponges in the plastic container.
  - + Put on sterile gloves.
- \* Clean the wound, if indicated-
  - + Use the cleaning methods as in the figure below;



- + Use a separate swab for each stroke and discard each swab after use.
- + If drain is present, clean it next, taking care of it, avoid reaching across the cleaned incision. Clean the skin around the drain site by swabbing in half or full circles from around the drain site outward, using separate swabs for each wipe.
- + Support and hold the drain erect while cleaning around it. Clean as many times as necessary to remove the drainage.
- + Dry the surrounding skin with dry gauze swabs as required. Do not dry the incision or wound itself. Moisture facilitates wound healing.
- Apply dressing to the drain site and the incision:
  - + Place a precut gauze snugly around the drain.



- + Apply the sterile dressings at one time over the drain and the incision. Place the bulk of the dressing over the drain area and below the drain, depending on the client's usual position.
- + Apply the final surgical pads, remove gloves, and dispose of them, secure the dressing the tape or ties.
- Document the procedure and all nursing assessments.

## 12. Wound Drains and Suction-

- \* **Penrose Drain-** are inserted to permit the drainage of excessive sero-anguineous fluid and purulent material and to promote healing of underlying tissues. These drains may be inserted and sutured through the incision line, but that are most commonly inserted

through stab wounds a few centimeters away from the incision line so that the incision itself may be kept dry. Without a drain some wounds will heal on the surface and trap the discharge inside, and an abscess might form. Drainage vary in length and width. The length can be (25-35) cm., and the width (1.2-4) cm. To facilitate drainage and healing of tissues from the inside to the outside, the drain pulled out or shortened (2-5) cm. each day. When a drain is completely removed, the remaining stab wound usually heals within a day or two. Shortening the drain is usually done when the dressing is changed.

- \* **Close-Wound Drainage System-** consists of a drain connected to either electric suction or a portable drainage suction, such as a **Hemovac** or **Jackson-Pratt** (the figures below), The closed system reduces the possible entry of microorganisms into the wound through the drain. The drainage tubes are sutured in place and connected to a reservoir. These portable wound suctions also provide for accurate measurement of the drainage.



Figure 35-16 ■ Hemovac closed-wound drainage system.



Figure 35-17 ■ Two Jackson-Pratt devices compressed to facilitate collection of exudates.

The surgeon inserts the wound drainage tube during surgery. Generally the suction is discontinued from (3-5) days postoperatively or when the drainage is minimal. Nurses are responsible for maintaining the wound suction, which hastens the healing process by draining excess exudates that might otherwise interfere with the formation of granulation tissue.

When emptying the container, the nurse should wear gloves and avoid touching the drainage port;



Figure 35-18 ■ Emptying drainage from Hemovac drainage system.

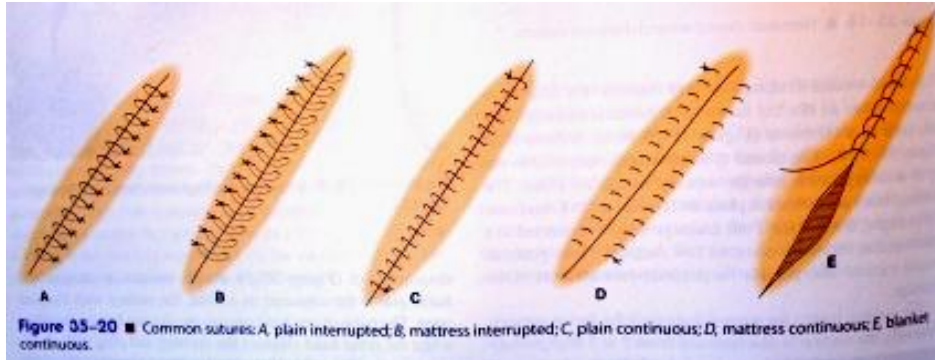
To reestablish suction, the nurse places the container on a solid, flat surface with the port open. The palm of one hand presses the top and bottom together while the other hand cleanses the opening and plug with an alcohol swab;



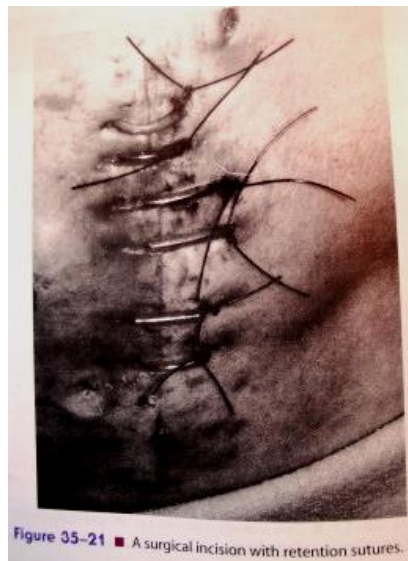
Figure 35-19 ■ With one hand, press the top and bottom together. With the other hand, cleanse the opening and plug with an alcohol swab. Replace the plug before releasing hand.

Replace the drainage plug before releasing hand pressure to reestablish the vacuum necessary for the closed drainage system to work.

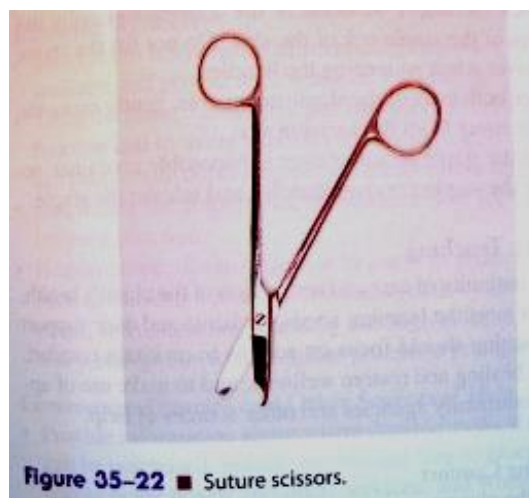
**Sutures-** It is a thread used to sew body tissues together. Sutures used to attach tissues beneath the skin are often made of an absorbable material that disappears in several days. Skin sutures, by contrast, are made of a variety of non-absorbable materials, as silk, cotton, linen, wire, nylon, and polyester fiber. Silver wire clips or staples are also available. Usually skin sutures are removed (7-10) days after surgery. There are various types of suturing.



Retention sutures are very large sutures used in addition to skin sutures for some incisions. They attach underlying tissues of aft and muscle as well as skin and are used to support incisions in obese individuals or when healing may be prolonged. They are frequently left in place longer than skin sutures (14-21) days, but in some instances are removed at the same time as the skin sutures.



Sterile technique and special suture scissors are used in suture removal. The scissors have a short, curved cutting tip that readily slides under the suture;



Wire clips or staples are removed with a special instrument that squeezes the center of the clip to remove it from the skin;



Figure 35-23 ■ Staple remover.

***Guidelines for removing sutures and staples;***

- Before removing skin sutures, verify the orders for suture removal,
- Whether a dressing is to be applied following the suture removal.
- Inform the client that suture removal may produce slight discomfort, such as a pulling or stinging sensation, but should not be painful.
- Cleaning the suture line with an antimicrobial solution before and after suture removal to prevent infection.
- Put on sterile gloves.
- Remove plain interrupted sutures as follow;
  - + Grasp the suture at the knot with a pair of forceps.
  - + Place the curved tip of the suture scissors under the suture as close as to the skin as possible, either to the side opposite the knot, or directly under the knot.

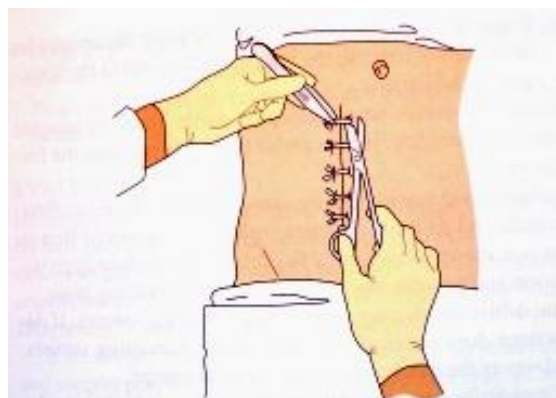


Figure 35-24 ■ Removing a plain interrupted skin suture.

- + Cut the suture, sutures are cut as close to the skin as possible on one side of the visible part because the suture material that is visible to the eye is in contact with the resident bacteria of the skin and must not be pulled beneath the skin during removal. Suture materials that is beneath the skin is considered free from bacteria.
- + Wipe the forceps, pull the suture out in one piece. Inspect the suture carefully to make sure that all suture material is removed. Suture material left beneath the skin acts as a foreign body and cause inflammation.

### **Post- operative complications:**

The complication that happened during (24) hours after surgery is **Hemorrhage**- that can be External bleeding or Internal bleeding.

#### Signs & symptoms of internal bleeding:

- 1- Hypotension.
- 2- Tachycardia.
- 3- Restless of patient.
- 4- Pallor of skin.
- 5- Thirsty & cold skin.
- 6- Shock because of losing of large quantity of fluid or blood or pain.
- 7- Hypoxia because of sedation that gives before operation.
- 8- Cardiac arrest due to:
  - a. Hypotension.
  - b. Decreased of blood quantity in the artery.
  - c. Increase of potassium.
- 9- Cardiac failure may be occurring.

#### **In case of cardiac arrest happened the nursing care that must be given are:**

- 1- Giving artificial respiration.
- 2- Cardiac massage must be done.
- 3- Tracheotomy can be done to stimulate respiratory system action.

#### **General post-operative complications are:**

- 1- Vomiting.
- 2- Pain in the area of operation.
- 3- Retention of urine.
- 4- Constipation or distention of abdomen.
- 5- Paralytic illues.
- 6- Complication of respiratory system, like pneumonia, bronchitis.
- 7- Thrombosis.
- 8- Wound infection.

### **Nursing care of complications:**

- 1- Put the patient in bed rest.
- 2- Change the position of the patient to prevent retention of urine & stimulate blood circulation.
- 3- Giving large quantity of fluid.
- 4- Applying hot compress on the abdomen to prevent constipation.
- 5- Encourage the patient to made breathing exercises to stimulate the secretion out of the body.

### الأسئلة البعدية:

Put a circle in front of right sentences:

- 1- The complication that happened during 24 hours is:
  - a. Fear of operation.
  - b. Toxicity by CO<sub>1</sub>.
  - c. Hemorrhage & shock.
- 2- The signs & symptoms of internal bleeding is:
  - a. Hypotension & tachycardia.
  - b. Fever & sweating.
  - c. Loss of appetite.
- 3- When the wound is infected the nursing responsibility is:
  - a. Check vital signs every (15) minutes.
  - b. Dressing the wound to remove discharge or pus.
  - c. Giving sedation.
- 4- Shock can be happened because of:
  - a. Increase of potassium.
  - b. Sedation that gives to the patient.
  - c. Loosing large quantity of blood.
- 5- Pre-operative care are:
  - a. Psychological & physiological support.
  - b. Nutritional instruction after operation.
  - c. A & B.
- 6- Routine care includes:

- a. Checking and reporting vital signs.
- b. A & C.
- c. Observe any abnormal signs & notify physician.

7- The nursing responsibility during operative day is:

- a. Gives sedation before the operation.
- b. Put the patient in lateral position.
- c. Clean the mouth from the secretion.

8- Nursing responsibility in recovery room is:

- a. Empty the bladder from urine.
- b. Put air way tube to help patient to breath.
- c. A & B.

**A).** Answer by (True) against the true sentences and by (False) against the false sentences:

1. Preoperative care objects to reduce postoperative complications.
2. Reduce high vitamin C diet preoperatively.
3. Overweight considers a risk of pulmonary complications.
4. Oral food intake may be continued till the morning of the operation day.
5. Atropine must have administered preoperatively to reduce respiratory tract secretions.
6. Intra-operative care aims to control operation environment.
7. Tracheostomy is an opening on the neck directly to the esophagus to introduce feeding.

**B).** Answer by (True) against the true sentences and by (False) against the false sentences:

1. Assess the cardiovascular status of the patient is from the postoperative care.
2. An anti-inflammatory agent are of no benefit postoperatively.
3. Elevation of the affected extremities higher than heart promotes venous drainage and reduces swelling.
4. Spirometer encourages deep breathing.
5. Pillows must be placed under the knees postoperatively.

6. Ambulation must be done the evening of the operation or the first day postoperatively unless it is contraindicated.
7. Large amount of water orally postoperatively can induce vomiting.
8. The client can be able to resume oral intake when nausea is no longer present.
9. Oral fluids and food are usually started before the return of peristalsis.
10. It can be a problem if the client doesn't void till 8 hours postoperatively.
11. It is not important to check intake and output fluids.
12. Fluid and electrolytes must be replaced IV in case of gastric suction.
13. Excessive drainage may not indicate hemorrhage, infection or open wound.
14. Inflammation of the wound can be occurred in the first hours after operation.
15. Clean wound bridged and closed within 7-10 days postoperatively.
16. If drain is present, it must be cleaned later.
17. The wound or incision must be dries at last.
18. Generally, the suction is discontinued from 3-5 days postoperatively.
19. Wound sutures can be removed 3-4 days postoperatively.

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