وزارة التعليم العالي والبحث العلمي
الجامعة التقنية الجنوبية
المعهد التقني العمارة
قسم التمريض

الحقيبة التدريسية لمادة

تمريض الجراحي
الصف الاول

تدريسي المادة

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الفصل الدراسي الثاني

جدول مفردات مادة تمريض الجراحي

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٢	**Amputation**
٣	**Renal Calculi**
٤	**Dialysis and Peritoneal Dialysis**
٥	**Hemodialysis Dialysis and Events happened suddenly during Hemodialysis**
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(يذكر كما في مفردات المنهج او الخطط الدراسية)

الهدف من دراسة مادة تمريض الباطني (الهدف العام): اكساب الطالب المعارف والمهارات لتقديم رعاية تمريضية شاملة في المستقبل

تهدف دراسة مادة التمريض الباطني للصف الاول الى:

١) فهم اساسيات الامراض الجراحية والعمليات
٢) تطبيق عملية التمريض
٣) تهيئة الطالب للتعامل مع امراض متعددة

(تذكر الأهداف الموجودة في الخطط الدراسية او مفردات المنهج)

الفئة المستهدفة:

طلبة الصف الاول / قسم التمريض

التقنيات التربوية المستخدمة:

١. سبورة واقلام
٢. السبورة التفاعلية
٣. عارض البيانات Data Show
٤. جهاز حاسوب محمول Laptop

الاسبوع الأول

الهدف التعليمي (الهدف الخاص لكل للمحاضرة):

وعلى التدريسي ان يعمل على تحقيقها في كل محاضرة للحصول على مخرجات تُحقق الأهداف العامة للمادة

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الأنشطة المستخدمة:

١. أنشطة تفاعلية صفية
٢. أسئلة عصف ذهني
٣. أنشطة جماعية (إذا تطلب الامر)
٤. واجب بيتي
٥. واجب الكتروني (ويفضل انشاء صفوف الكترونية Classrooms لدمج التعليم الحضوري بالتعليم الالكتروني حسب التوجهات الحديثة للتعليم والتعلم)

أساليب التقويم:

١. التغذية الراجعة الفورية من قبل التدريسي (التقويم البنائي).
٢. اشراك الطلبة بالتقويم الذاتي (تصحيح اخطائهم بأنفسهم).
٣. التغذية الراجعة النهائية (التقويم الختامي)، ويقصد به حل الأسئلة المعطاة كنشاط صفي في نهاية المحاضرة.

Fractures

A fracture is a complete or incomplete disruption in the continuity of bone structure. This results in damage to surrounding muscles and tissue, leading to
hemorrhage, edema, and local tissue damage.

Types of Fractures : common types of fractures

1. **Simple** fracture has one fracture line
2. **Fatigue** (stress) fracture results when excess strain occurs from recreational and athletic activities.
3. **Compression** fracture occurs from a loading force pressing on callus bone.
4. **Comminuted**: Bone is fragmented.
5. **Oblique**: Fracture occurs at oblique angle and across bone.
6. **Spiral**: Fracture occurs from twisting motion (common with physical abuse).
7. **Impacted**: Fractured bone is wedged inside opposite fractured fragment.
8. **Greenstick**: Fracture occurs on one side (cortex) but does not extend completely through the bone (most often in children).

Clinical Manifestations (Signs and Symptom)

The clinical signs and symptoms of a fracture include acute pain, loss of function, deformity, shortening of the extremity, crepitus, and localized edema and ecchymosis. Not all of these are present in every fracture.

Lab. Tests and Diagnosis

1. Standard radiographs, X-ray shows fracture may be displaced or not.
2. CT scan shows fracture-useful when patient's body part cannot be turned or positioned for imaging (e.g. the neck).

Complications

- **Early complications** include shock, fat embolism, and venous thromboemboli (deep vein thrombosis [DVT], pulmonary embolism [PE]).

❖ **Delayed complications** include delayed union, malunion, nonunion, avascular necrosis of bone.

Treatment

1. Immobilize broken bone—to stabilize area, initially may be done with splint until fracture reduced (replaced into proper position) and cast applied or fixation device applied surgically.
2. Pain management as needed.

Immobilization secures the injured extremity in order to:

1. Prevent further injury.
2. Promote healing/circulation.
3. Reduce pain.
4. Correct a deformity.

Types of Immobilization Devices

1. Casts
2. Splints/immobilizers
3. Traction
4. External fixation
5. Internal fixation

Emergency Management (First Aid)

1. Immediately after injury, immobilize the body part before the patient is moved.
2. Splint the fracture, including joints near to the fracture, to prevent movement of fracture fragments.
3. Immobilization of the long bones of the lower extremities may be accomplished by bandaging the legs together, with the unaffected extremity serving as a splint for the injured one.
4. In an upper extremity injury, the arm may be bandaged to the chest, or an injured forearm may be placed in a sling.
5. Assess neurovascular status distal to the injury both before and after splinting to determine adequacy of peripheral tissue perfusion and nerve function.

6. Cover the wound of an open fracture with a sterile dressing to prevent contamination of deeper tissues.

Amputation

Amputation is the Surgical removal of a body part, most commonly an extremity. Amputations can be elective due to complications of peripheral vascular disease and arteriosclerosis (gangrene) caused by low blood flow or complete blockage of blood to the affected limb, or traumatic due to an accident.

Risk Factors

1. Traumatic injury (motor vehicle crashes, industrial equipment, and combat/war injuries).
2. Thermal injury (frostbite, electrocution, burns).
3. Peripheral vascular disease.
4. Malignancy.
5. Chronic disease processes (gangrene, Diabetes Mellitus, Infection).

Signs and Symptom

1. Altered peripheral pulses
2. Differences in temperature of extremities
3. Altered color of extremities
4. Presence of infection and open wounds
5. Lack of sensation in the affected extremity

Lab.Tests and Diagnosis

1. Angiography
2. Doppler laser and ultrasonography

Nursing Care

1. Apply direct pressure using gauze, if available, or clean cloth to prevent life-threatening hemorrhage.
2. Elevate the extremity above the heart to decrease blood loss.
3. Wrap the severed extremity in dry sterile gauze (if available) or in a clean cloth, and place in a sealed plastic bag.

4. Submerge the bag in ice water, and send with the injured patient.
5. Prevent postoperative complications (hypovolemia, pain, infection).
6. Assess surgical site for bleeding. Monitor vital signs frequently.
7. Monitor and treat pain, monitor for signs of infection and/or non-healing of incision

Renal Calculi

Kidney stones, also known as renal calculi or nephrolithiasis. Is the presence of calculi (stones) in the urinary tract. The patient may not have any symptoms from kidney stones until the stone attempts to move down the ureter towards the
bladder. The majority types of stones are composed of (Calcium Phosphate or
Calcium Oxalate, Uric Acid).

Signs and Symptoms

1. Hematuria
2. Unilateral spasms of pain in the flank area (renal colic) Extreme flank pain that comes slowly or quickly
3. Sever pain may radiate to lower abdomen, groin, scrotum or labia
4. Nausea, vomiting, and sweating
5. Elevated blood pressure

Lab. Tests and Diagnosis

1. Urinalysis shows red blood cells.
2. Ultrasound shows stones.
3. X-ray of kidneys, ureters, and bladder (KUB) shows stones.
4. CT, MRI scan shows stones.

Complications

1. Obstruction-A stone may block the passage of urine into the kidney, ureter, or bladder.
2. Hydronephrosis occurs when a stone has blocked a portion of the urinary tract.

Treatment

1. Analgesics (morphine, diclofenac acid).
2. Antispasmodics drugs, Antibiotics .
3. Increase fluid intake to flush through the urinary tract.
4. Surgical removal of stone.
5. Chemolysis (stone dissolution).
6. Stones fragmented with use of laser.

Nursing Care

1. Administer prescribed medications.
2. Save all urine to check for passage of the stone and save the stone for laboratory analysis.
3. Encourage increased oral intake to 3 L/day unless contraindicated.
4. Administer IV fluids as prescribed.
5. Encourage ambulation to promote passage of the stone.
6. Monitor for pain status, intake and output.
7. Provide preoperative and postoperative care.

Dialysis

The patient with increasing symptoms of renal failure is referred to a dialysis
and transplantation center early in the course of progressive renal disease. Dialysis is usually initiated when the patient cannot maintain a reasonable lifestyle with conservative treatment. Dialysis can sustain life for patients who have both acute and chronic renal failure.

Functions of dialysis

1. Rids the body of excess fluid and electrolytes
2. Achieves acid-base balance
3. Eliminates waste products
4. Restores internal homeostasis by osmosis, diffusion, and ultrafiltration

Types of Dialysis

1. Peritoneal dialysis
2. Hemodialysis

Peritoneal Dialysis

peritoneal dialysis removes toxins from the blood of a patient with acute or chronic renal failure that doesn't respond to other treatments. Unlike hemodialysis, it uses the patient's peritoneal membrane as a semipermeable dialyzing membrane.

Indications

1. Peritoneal dialysis is the treatment of choice for the older adult.
2. Peritoneal dialysis is indicated for patients requiring dialysis who:

a) Are unable to tolerate anticoagulation.
b) Have difficulty with vascular access.
c) Have chronic infections or are unstable.

Complications

1. Mechanical
2. Cardiovascular
3. Pulmonary
4. Neurologic
5. Metabolic

Nursing Care

1. Before dialysis, explain the purpose of the treatment,
2. After dialysis, change the catheter dressing every 24 hours, watch closely for developing complications.

Haemodialysis

Hemodialysis removes toxic wastes and other impurities from the blood of a patient with renal failure. In this technique, the blood is removed from the body through a surgically created access site, pumped through a dialyzing unit to remove toxins, and then returned to the body.

Indications

1. Renal insufficiency
2. Acute kidney injury
3. Chronic kidney disease

4. Drug overdose
5. Persistent hyperkalemia

Complications

1. Hypotension
2. Itching
3. Fever and chills
4. Muscle Cramps
5. Nausea and Vomiting, Headache
6. Chest pain and back pain

Nursing Care

1. Before hemodialysis, explain its purpose of hemodialysis, assess the access site.
2. After hemodialysis, Monitor the vascular access site for bleeding, make sure that the arm used for vascular access isn't used for any other procedure, assess circulation at the access site.

Events happened suddenly during Hemodialysis

(A) Arrhythmia: Arrhythmias during dialysis are especially common in patients receiving digitalis.

(B) Cardiac tamponed: Unexpected or recurrent hypotension during dialysis
may be a sign of pericardial effusion or impending tamponed.

(C) Intracranial bleeding: Underlying vascular disease and hypertension combined with heparin administration can sometimes result in intracranial bleeding.

(D) Seizures: This occur more often in children

(E) Haemolysis: Acute haemolysis during dialysis may be a medical emergency

(F) Air embolism: It is a potential catastrophe that can lead to death if not quickly detected and treated.

Kidney Transplant

End-stage of kidney disease, when the kidney can no longer function, may be treated with a kidney transplant.

The Recipient-Donor Characteristics

1. Donor for kidney transplantation may be living, non-heart-beating, or corpse donor.
2. Tissue typing includes assessment of blood type (ABO) compatibility and histocompatibility.
3. Patients receiving a donor kidney from a living, related donor-with matching tissue type-have the greatest chance of graft survival.

Complications

1. Organ rejection.
2. Acute tubular necrosis; A delay in transplanting the donor kidney after harvesting may result in hypoxic injury of the donor kidney.
3. Renal Artery Stenosis.
4. Thrombosis; A blood clot may form in a major vessel of the transplanted kidney.
5. Infection; Infection is the most common cause of fist-transplant-year morbidity and mortality.

Kidney Transplantation Procedure

With kidney transplantation, the donated kidney is implanted in the iliac fossa. The organ's vessels are then connected to the common iliac vein and common iliac artery, as shown below. Unless it will cause infection or high blood pressure, the diseased kidney is left in place.

Cardiovascular diagnostic procedures

Cardiovascular diagnostic procedures evaluate the functioning of the heart by monitoring for enzymes in the blood; using ultrasound to visualize the heart; determining the heart's response to exercise; and using catheters to determine blood volume, perfusion, fluid status, how the heart is pumping, and degree of artery blockage.

Cardiovascular diagnostic procedures that nurses should be familiar with include:

1. Cardiac enzymes and lipid profile
2. Echocardiogram
3. Stress testing

4. Hemodynamic monitoring
5. Angiography
6. Vascular Access

Cardiac Enzymes And Lipid Profile

Cardiac enzymes are released into the bloodstream when the heart muscle suffers ischemia. A lipid profile provides information regarding cholesterol levels and is used for early detection of heart disease.

Echocardiogram

An echocardiogram is an ultrasound of the heart, which is used to diagnose valve disorders and cardiomyopathy.

Stress Testing

The cardiac muscle is exercised by the client walking on a treadmill. This provides information regarding the workload of the heart. Once the client's heart rate reaches a certain rate, the test is discontinued.

Hemodynamic Monitoring

Hemodynamic monitoring involves special indwelling catheters, which provide information about blood volume and perfusion, fluid status, and how well the heart is pumping.

Angiography

A coronary angiogram, also called a cardiac catheterization, is an invasive diagnostic procedure used to evaluate the presence and degree of coronary artery blockage.

Vascular Access

The site and type of vascular access is determined by the characteristics of the prescribed therapy (medication type, pH and osmolality, length of time for therapy). The goal is to minimize the number of catheter insertions and the risk for adverse reactions.

Indications

1. Angina
2. Myocardial Infarction (MI)
3. Heart disease
4. Hyperlipidemia
5. Unstable angina and ECG changes (T wave inversion, ST segment elevation, depression).
6. Confirm and determine location and extent of heart disease.
7. Dysrhythmia
8. Cardiomyopathy.

Electrocardiography (ECG) (EKG)

The contraction and relaxation of cardiac muscle results from the depolarization and repolarization of myocardial cells. These electrical changes are recorded via electrodes placed on the limbs and chest wall and are transcribed on to graph paper to produce an electrocardiogram (commonly known as an ECG).

The ECG is a graphic representation of the electrical activity of the heart. A valuable diagnostic test that's now a routine part of every cardiovascular evaluation.

The Goal

Electrocardiography is a fundamental part of cardiovascular assessment. It is an essential tool for investigating cardiac arrhythmias and is also useful in diagnosing cardiac disorders such as myocardial infarction.

Components of ECG Device

It consist of Small pads containing electrodes are placed on the surface of the skin to detect the hearts electrical signal. Each electrode is connected with wires to an electrocardiograph, which draws up to 12 different graphical representation of the electrical signal.

❖ There are twelve electrodes used in a typical ECG:

bipolar limb leads I, II, and III; augmented limb leads AVR, AVL, and AVF; and precordial chest leads V1 through V6.

The six chest lead positions include:
V1 – 4th intercostal space, right sternal border
V2 – 4th intercostal space, left sternal border
V3 – midway between V2 and V4
V4 – 5th intercostal space, left mid-clavicular line
V5 – 5th intercostal space, left anterior axillary line
V6 – 5th intercostal space, left mid-axillary line.

Cardiopulmonary Resuscitation (CPR)

Basic life support is the maintenance of an airway and the support of breathing and the circulation without using equipment other than a simple airway device or protective shield. A combination of expired air ventilation (rescue breathing) and chest compression is known as cardiopulmonary resuscitation (CPR), which forms the basis of modern basic life support.

Primary ABC survey

- ✓ **Airway:** Open the airway
- ✓ **Breathing:** Provide positive-pressure ventilations
- ✓ **Circulation:** Give chest compressions

Cardiac Arrest

Cardiac arrest occurs when the heart stops to produce an effective pulse and circulate blood.

Clinical Manifestations

1. Unresponsiveness
2. Pulselessness
3. Shallow, gasping respirations may persist for a few minutes
4. The pupils of the eyes begin dilating within 45 seconds

Management

These steps are known as the “Chain of Survival”
1. Recognition of early warning signs
2. Activation of the Emergency Medical System (EMS)

3. Rapid initiation of basic (CPR)
4. Rapid Defibrillation (DC Shock)
5. Advanced Cardiovascular Life Support (ACLS), including airway management and intravenous (IV) medications.

Endotracheal (ET) Tube And Endotracheal Intubation

❖ A tube is inserted through the client's nose or mouth into the trachea. This allows for emergency airway management of the patient.

❖ Mouth intubation is the easiest and quickest form of intubation and is often performed in the emergency department.

❖ Nasal intubation is performed when the patient has facial or oral trauma.

Placement

1. Intubation is typically performed by a nurse anesthetist, anesthesiologist, or pulmonologist.
2. A chest x-ray verifies correct placement of the ET tube.
3. ET tubes may be cuffed or not. The cuff on the tracheal end of an ET tube is inflated to ensure proper placement and the formation of a seal between the cuff and the tracheal wall. This prevents air from leaking around the ET tube.
4. The seal ensures that an adequate amount of tidal volume is delivered by the mechanical ventilator when attached to the external end of the ET tube.

Nursing Actions

1. Have resuscitation equipment to include a manual resuscitation bag with a face mask at the bedside at all times.
2. Monitor the patient's vital signs and check tube placement.

Acute Pharyngitis

Acute pharyngitis, commonly referred to as a "sore throat," is a sudden painful inflammation of the pharynx, caused mostly by viral infections, with bacterial infections accounting for the remainder of cases.

Signs and Symptoms

1. Redness of Pharyngeal Membrane and Tonsils.
2. Lymph Nodes Enlarged and Tender
3. Fever, Malaise, and Sore Throat.
4. Hoarseness.

Nursing Care

1. Encourage bed rest during febrile stage of illness
2. Examine skin for possible rash
3. Administer warm saline gargles or irrigations
4. Apply an ice collar for symptomatic relief.
5. Perform mouth care to prevent fissures of lips

Chronic Pharyngitis

is common in adults who work or live in dusty surroundings, use their voice to excess, suffer from chronic cough, and habitually use alcohol and tobacco.

Signs and Symptoms

1. Constant sense of irritation or fullness in the throat
2. Mucus that collects in the throat and is expelled by coughing
3. Difficulty in swallowing

Nursing Care

1. Avoid contact with others until fever has disappear
2. Avoid alcohol, tobacco, exposure to cold, and pollutants
3. Encourage patient to drink plenty of fluids, and encourage
4. Gargling with warm salt water

Laryngitis

Laryngitis is an inflammation of the vocal cords. Acute laryngitis may occur as an isolated infection or as part of a generalized bacterial or viral upper respiratory tract infection. Repeated attacks of acute laryngitis cause inflammatory changes associated with chronic laryngitis.

- ❖ Acute laryngitis results from infection, excessive use of the voice,

inhalation of smoke or fumes, or aspiration of caustic chemicals. Chronic laryngitis results from upper respiratory tract disorders, mouth breathing, smoking, alcohol abuse, or cancer of the larynx.

Signs and symptoms

1. Hoarseness (Persistent Hoarseness in Chronic Laryngitis)
2. Changes in the Character of the Voice
3. Pain (especially when swallowing or speaking)
4. Dry Cough, Fever, Malaise, Dyspnea, throat clearing.

Treatment

1. Resting the voice
2. Analgesic
3. Antibiotic
4. Elimination Cause

Otitis media

Otitis media, or inflammation of the middle ear, may be acute, chronic, or serous. The infection appears suddenly and typically lasts only a short time. Its incidence rises during the winter months.

Signs and Symptoms

1. severe, deep, throbbing pain
2. upper respiratory tract infection
3. hearing loss
4. sensation of blockage in the ear, dizziness, nausea, and vomiting
5. purulent drainage in the ear canal

Treatment

1. Antibiotic (ampicillin, amoxicillin)
2. Acetaminophen (paracetmol) or ibuprofen to help control pain and fever

Sinusitis

Sinusitis is an inflammation of the mucous membranes of one or more of the sinuses. Swelling of the mucosa can block the drainage of secretions, which may cause a sinus infection.

Signs and Symptoms

1. Fever
2. Nasal congestion
3. Pain over the cheeks and upper teeth, eyes and eyebrows
4. Nasal discharge (possibly purulent)

Treatment

Antibiotic. A vasoconstrictor may reduce the amount of nasal secretions. Antihistamine, Corticosteroids

ومن الله التوفيق