

BODY INTERACT™

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Content package catalog **High Schools and CTE**

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Acronyms list

Target

CTE Career and Technical Education Programs

Exams

ABG Arterial Blood Gas

BIOCH Biochemistry

CBC Complete Blood Count

COAG Coagulation Tests

CT Computed Tomography

ECG Electrocardiogram

FAST Focused Assessment with Sonography for Trauma

MRI Magnetic Resonance Imaging

OPQRST Onset; Provocation / Palliation; Quality; Region / Radiation; Severity; Time

SAMPLE Signs and symptoms; Allergies; Medications; Past medical history or pertinent history; Last oral intake; Events leading to incident

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C25

Fundamentals for Future Healthcare Professions I

Recommended for: CTE

Complexity: Low

Overview

Fundamentals for Future Healthcare Professions I allows students to identify and apply basic healthcare knowledge. By learning with virtual patients, they will have the opportunity to reflect on their own practice and get ready for future challenges in a safe and interactive environment.

Clinical competencies

- Basic airway management
- Assess and interpret vital signs
- Lung examination
- Assess and interpret pulse and blood pressure
- Interpret capillary refill time
- Detect heart sounds and murmurs
- Pupillary and mental status assessment
- Blood sugar measurement and interpretation
- Laboratorial test interpretation
- Blood culture interpretation
- Arterial blood gas interpretation
- Gram stain interpretation
- Sputum analysis interpretation
- Catheter management
- Establish drug class
- O2 administration
- Chest x-ray interpretation
- Handle and position patients body
- Basic spirometry (vital capacity, FEV 1 and interpretation)
- Promote patient safety
- Hand and foot examination
- Refer to healthcare/ medical specialties



#150

Pneumonia with dry cough, fever, and chest pain

Rowan Garry | 58 years old



Emergency Room



Basic



Respiratory

Context

Mr. Garry has had a fever and a dry cough for the past three days. He also complains of chest pain and, because he felt no relief, he decided to go to the Emergency Department.

Main health conditions

Pneumonia

General objectives

Identify through dialogue severe respiratory conditions with infection

Identify ventilatory impairment (tachypnea and hypoxemia)

Start hypoxia correction

Administer antipyretics and antibiotics

Specific objectives

Identify the main complaints: dry cough (intensity, irradiation, relief, triggering factors)

Identify other comorbidities (chronic bronchitis) and related symptoms

Identify previous clinical history and treatment (antipyretics, analgesics, antibiotics, bronchodilators)

Search hypoxemia and increased respiratory rate (corrected by oxygen)

Search, through pulmonary auscultation, for basal rales and scattered snores

Identify hypoperfusion signs

Check state of confusion/disorientation

Search for peripheral edemas

Order and Interpret complementary diagnostic exams

Correct hypoxia with high-flow mask 40%

Treat symptoms and infection

Clinical competencies

Check this content in detail on the last page of the chapter

7 | 8 | 9 | 10 | 11 | 13 | 17 | 18 | 21 | 22 | 27 | 30 | 41 | 42 | 44 | 50 | 51 | 54 | 55 | 61 | 64 | 67 | 70



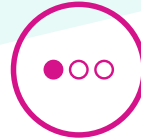
#177

Compromised cardiac output

Kevin Halpert | 70 years old



Emergency Room



Basic



Cardiology

Context

Patient has been brought to the emergency department due to dizziness, lack of strength, fatigue and intolerance to physical effort.

Main health conditions

Compromised cardiac output

General objectives

Identify signs and symptoms of compromised cardiac output

Specific objectives

Identify diagnostic activities that lead to data with referential integrity for the compromised cardiac output diagnosis

Implement interventions with referential integrity for compromised cardiac output diagnosis

Evaluate the effectiveness of the implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 13 | 39 | 44 | 55 | 64 | 67



#224

Mildly persistent asthma

Carlos Rivera | 37 years old



Emergency Room



Basic



Respiratory

Context

Carlos was admitted to the ER with audible wheezing on expiration and difficulty breathing. Took prescribed medications but they did not help.

Main health conditions

Mildly persistent asthma

General objectives

Recognize mild persistent asthma signs and symptoms

Specific objectives

Recognize breathing problem

Discuss need for medical intervention

Clinical competencies

Check this content in detail on the last page of the chapter

7 | 8 | 11 | 14 | 27 | 30 | 41 | 42 | 50 | 67



#225

Endocarditis and mitral stenosis

Maria Puente | 17 years old



Emergency Room



Basic



Cardiology

Context

Maria was admitted to the Pediatric unit due to high fever. She and her family recently moved to the U.S. from Puerto Rico. History of rheumatic fever at age 6.

Main health conditions

Endocarditis and mitral stenosis

General objectives

Recognizing signs and symptoms of endocarditis and mitral stenosis

Specific objectives

Recognize that heart sound is not normal
Explain the need to seek help

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 17 | 24 | 26 | 27 | 29 | 30 | 32 | 33 | 34 | 38 | 43 | 49 | 50



#226

Fractured neck of femur due to osteoporosis

Juan Candanoza | 81 years old



Emergency Room



Basic



Orthopedic

Context

Patient's son brought him to the ER after he fell in the bathtub. He is complaining of severe pain to his left hip and thigh and is unable to stand by himself.

Main health conditions

Osteoporosis with hypertension

General objectives

Manage a patient with a fracture at neck of femur

Specific objectives

Recognize the patient's frequency of broken bones
Discuss need for medical intervention

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 31 | 45 | 54 | 78



#227

Persistent high blood pressure

Sunny Black Bear | 35 years old



Emergency Room



Basic



Cardiology

Context

Earlier today Sunny experienced squeezing pressure in chest and pain radiating down right arm and pounding in the throat.

Main health conditions

Hypertension

General objectives

Manage a patient with high blood pressure

Specific objectives

Recognize high blood pressure

Discuss need for medical intervention

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 27 | 30 | 41 | 42



#344

Metastatic breast cancer patient with unretracking pain

Lucy Davis | 54 years old



Emergency Room



Basic



Triage

Context

Lucy Davis is being admitted to the oncology floor for shortness of breath and abdominal pain. She was diagnosed and treated for breast cancer five years ago. Chief complaints are left arm, armpit, and upper right quadrant pain. Her present pain medications are not working to lessen her pain. Her oncologist is admitting her directly to the oncology floor to assess her pain.

Main health conditions

Therapeutic communication, complete document with the findings of the patient assessment and patient safety

General objectives

Integrate the fundamentals of patient assessment, communications, documentation and patient safety

Specific objectives

- Perform a complete patient assessment
- Recognize the epidemiology and pathophysiology of a cancer patient
- Recognize current pain management is ineffective
- Provide the physician with the patient's assessment

Clinical competencies

Check this content in detail on the last page of the chapter

1 | 2 | 9 | 10 | 11 | 27 | 32 | 41 | 42 | 50 | 52 | 59 | 64



#345

Respiratory distress in male with ten years of COPD

Milton Terrell | 78 years old



Emergency Room



Basic



Triage

Context

Milton Terrell is being admitted after working outside at home and feeling short of breath. The patient says he has a ten-year history of Chronic Obstructive Pulmonary Disease (COPD) (emphysema) and still smokes. Symptoms have worsened over the past 24 hours. The patient is taking salbutamol and naproxen.

Main health conditions

Therapeutic communication, complete document with the findings of the patient assessment and patient safety

General objectives

Integrate the fundamentals of patient assessment, communications, documentation and patient safety

Specific objectives

Perform a complete patient assessment

Employ therapeutic communications skills with the patient

Correctly document the findings of the patient assessment into the patient chart

Evaluate the scene for potential patient safety issues

Clinical competencies

Check this content in detail on the last page of the chapter

9 | 10 | 11 | 13 | 32 | 39 | 50 | 52 | 55 | 59 | 61 | 67



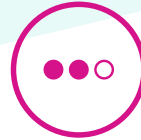
#346

Congestive heart failure

Laurie Flowers | 72 years old



Emergency Room



Intermediate



Triage

Context

Laurie Flowers came from the Emergency Department to the telemetry unit after increasing shortness of breath, signs and symptoms of worsening stage 3 congestive heart failure and increase in the swelling of feet and ankles. A month ago, she went to the Emergency Department due to her congestive heart failure. Her family, husband, and daughter are with her. Students should choose the following medication: furosemide 40 mg intravenous and digoxin 0.125 mg intravenously.

Main health conditions

Congestive heart failure

General objectives

Recognize the pathophysiology regarding the signs and symptoms of congestive heart failure

Specific objectives

Discuss the appropriate, prioritized nursing actions and plan care for patients with heart problems
Perform appropriate communication for the patient and family with heart problems
Provide the physician with the patient's assessment
Perform appropriate SBAR physician communication in paper

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 14 | 20 | 25 | 27 | 29 | 31 | 38 | 39 | 41 | 42 | 44 | 50 | 54 | 59 | 64 | 67



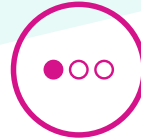
#382

Speech impairment and difficulty in moving right arm due to ischemic stroke

Francis Palmer | 70 years old



Emergency Room



Basic



Neurology

Context

Mr Palmer was having dinner at home when he suddenly felt difficulty in talking and moving his right arm. His wife called the emergency unit as soon as possible.

Main health conditions

Ischemic stroke

General objectives

Recognize acute stroke

Specific objectives

Start vital signs vigilance in acute care
Perform neurological assessments (NIHSS)
Treat stroke with alteplase

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 13 | 18 | 25 | 29 | 31 | 55 | 62 | 64 | 67 | 72

C29

Fundamentals for Future Healthcare Professions II

Recommended for: CTE

Complexity: Low

Overview

Fundamentals for Future Healthcare Professions II presents a wide range of clinical situations. With this package, students will have the chance to deepen their knowledge in the healthcare sector by exploring clinical scenarios in different environments.

Clinical competencies

- Basic airway management
- Assess and interpret vital signs
- Thorax and lung examination
- Assess and interpret pulse and blood pressure
- Interpret capillary refill time
- Blood sugar measurement and interpretation
- Detect heart murmurs
- Mental status assessment
- Abdominal examination (inspect, auscult, percuss and palp)
- Establish drug dosing for common medications
- O2 administration
- Blood component management
- Interpret imaging tests (X-ray; CT; MRI; ECG)
- Chest x-ray interpretation
- Abdominal ultrasound result interpretation
- Arterial blood gas interpretation
- Laboratorial test interpretation
- Utilize medical records
- Collect patients clinical information
- Recognize emergent situations - Pain assessment
- Refer to healthcare/ medical specialties



#76

Pneumonia with shortness of breath and fever with expectoration

Louis Perry | 79 years old



Emergency Room



Basic



Respiratory

Context

Two days ago, Louis was at home when he started feeling breathless and symptoms of fever. His symptoms have progressively worsened, and today he decided to come to the hospital.

Main health conditions

Hypoxemia

General objectives

Identify signs of hypoxemia in patients with chronic respiratory disease and hypercapnia

Specific objectives

Identify diagnostic activities that lead to the obtention of data with referential integrity for risk for hypoxemia and hypoxemia diagnosis

Implementation of interventions with referential integrity for risk for hypoxemia and hypoxemia diagnosis

Evaluate the effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

11 | 13 | 39 | 50 | 54 | 55 | 64 | 67



#126

Dementia and urinary retention

Malcom Cooper | 80 years old



Emergency Room



Basic



Urology

Context

Malcom felt abdominal discomfort and was subsequently brought to the Emergency Department.

Main health conditions

Urinary retention

General objectives

Adequate approach to a case of urinary retention

Specific objectives

Identify signs of urinary retention

Identify diagnostic activities that lead to acquiring data with referential integrity to diagnose urinary retention

Implement interventions with referential integrity to urinary retention diagnosis

Evaluate effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 8 | 9 | 11 | 13 | 15 | 44 | 55 | 67



#152

Acute cholecystitis with abdominal pain, fever, and vomiting

Corine Morse | 55 years old



Emergency Room



Basic



Gastrointestinal

Context

During the past four days, Ms. Morse has felt abdominal pain accompanied by nausea and vomiting. She has no diarrhea but has a fever. Today she has decided to go to the Emergency Department.

Main health conditions

Acute cholecystitis

General objectives

Identify through interrogation complicated abdominal pain with infection
 Identify respiratory compromise (tachypnea and hypoxemia) and perform its correction
 Identify shock and hypoperfusion and begin correction

Specific objectives

Identify the main complaints - abdominal pain, fever, nausea and vomiting for four days
 Characterize pain (location, intensity, type, onset, irradiation and position of relief or aggravation, triggering factors - respiratory movement or food)
 Ask about treatment (antipyretics, analgesics, antibiotics) in the previous few days and its results
 Ask about further co-morbidities (hypertension), similar situations in the past, regular medication, alcohol and smoking habits, previous hospitalizations
 Ensure airway permeability
 Identify hypoxemia and increased respiratory rate (corrected by oxygen)
 Identify shock and hypoperfusion signs (puncture peripheral vessel and initiate volume perfusion)
 Perform abdominal palpation (positive Murphy's sign) and verify fever
 Request complementary diagnostic exams (ABG; BIOCH; CBC; Chest X-Ray; Abdominal ultrasound)
 Administer antipyretics, analgesics and antiemetics
 Correct hypoxia with high-flow mask 40%
 Correct shock / hypoperfusion
 Call for general surgery - treat infection

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 3 | 7 | 8 | 9 | 10 | 11 | 13 | 18 | 21 | 22 | 31 | 44 | 54 | 55 | 64 | 67



#158

Hypovolemic shock with a bleeding wound and a right thigh open fracture

Jon Sherman | 33 years old



Emergency Room



Basic



Trauma

Context

Jon was driving his motorcycle when he was hit by a car. He presents with fractures and can't remember the accident.

Main health conditions

Severe pain
Hypovolemic shock

General objectives

Know how to act in a trauma context
Correct changes found (oxygen, volume, privilege blood if large losses, treat pain)
Call for help if necessary

Specific objectives

Define and characterize the main complaints (pain) in terms of location, intensity, relief and irradiation
Check for patient orientation and regular medication, other health problems, previous hospital admissions
Ensure airway permeability and perform blood suction
Identify hypoxemia (corrected by oxygen)
Search for pulmonary changes through pulmonary auscultation
Perform abdominal and chest palpation and percussion
Search for signs of shock or hypoperfusion
Perform pulse palpation
Perform assessment using Glasgow coma scale
Order and Interpret complementary diagnostic exams (ABG; X-Ray; ECG; BIOCH; COAG; CBC; Head CT; FAST)
Administer analgesics to treat pain
Puncture peripheral vessels and administer blood if necessary
Immobilize fractures
Call for differentiated help (Trauma surgery)

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 3 | 7 | 8 | 9 | 11 | 13 | 16 | 19 | 22 | 23 | 25 | 27 | 31 | 34 | 40 | 41 | 42 | 44 | 48 | 49 | 51
| 54 | 55 | 64 | 66 | 67 | 69 | 71 | 78



#380

Hypoglycemia and unconscious

Afua Abebe | 70 years old



Pre-Hospital



Basic



Endocrinology

Context

Ms. Abebe has type 2 diabetes. She was alone at home when the caregiver arrived and found her collapsed in the living room. She has no signs of bleeding or fractures. A glucometer was next to her, but no values were registered on it. This is the second time in the past week that the caregiver has found Ms. Abebe unconscious.

Main health conditions

Hypoglycemia

General objectives

Identify signs and symptoms of hypoglycemia

Specific objectives

Outline how to monitor blood glucose levels

Identify changes in consciousness

Perform adequate treatment

Clinical competencies

Check this content in detail on the last page of the chapter

4 | 5 | 18 | 64



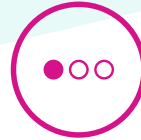
#391

Opioid intoxication

Dylan Brown | 37 years old



Pre-Hospital



Basic



Toxicology

Context

Dylan was found lying in the living room by his mother. She called for an ambulance and says she thinks he has started using drugs again.

Main health conditions

Drug intoxication

General objectives

Identify signs and symptoms of an opioid intoxication

Specific objectives

Collect patients clinical history applying the SAMPLE mnemonic
Treat properly opioid intoxication and administer the antidote

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 8 | 9 | 11 | 18 | 31 | 51 | 54 | 55 | 64 | 67



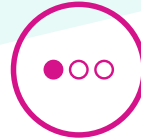
#539

Hypertensive crisis

Michael Banner | 56 years old



Pre-Hospital



Basic



Cardiology

Context

Michael is a 2nd shift fast food worker, works two jobs and normally eats his meals at the restaurant.

Main health conditions

Dispneic hypertensive crisis

General objectives

Identify signs and symptoms of hypertensive crisis

Specific objectives

Collect patient's clinical history applying SAMPLE and thoroughly assess pain with OPQRST
Call higher level of emergency medical services for advanced pre-hospital interventions
Provide supplemental care while waiting for differentiated help

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 18 | 24 | 29 | 55 | 63 | 64 | 67 | 75



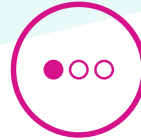
#542

Abdominal pain due to pregnancy

Jane Lee | 22 years old



Pre-Hospital



Basic



Obstetrics

Context

Jane is complaining of abdominal pain which started 2 days ago. She was resting at home when the pain came back again.

Main health conditions

Pregnancy

General objectives

Recognize the time since last menstrual cycle through interview

Specific objectives

Identify the time since the last menstrual cycle through interview

Thoroughly patients pain with OPQRST and collect clinical history through SAMPLE

Prescribe supplemental treatment during care

Provide transport to the hospital

Clinical competencies

Check this content in detail on the last page of the chapter

50 | 64



#551

Seizure of unknown origin

Jimmy Brown | 55 years old



Pre-Hospital



Basic



Neurology

Context

Jimmy was going to his car after a crossfit workout when he felt bad. His colleague came a little behind and said that he heard Jimmy fall and heard strange noises that seemed that he was shaking.

Main health conditions

Seizure of unknown origin

General objectives

Recognize the classic signs and symptoms of a seizure

Specific objectives

Rapidly assess and begin basic pre hospital interventions
Document events and treatments provided to the patient
Request paramedic transport and provide supportive care

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 13 | 18 | 27 | 29 | 41 | 42 | 50 | 51 | 54 | 55 | 61 | 64 | 67



#552

Flu OR COVID-19

Mia Sanchez | 48 years old



Pre-Hospital



Basic



Internal Medicine

Context

Mia is a dentist and has just returned from a trip where she attended a conference on dentistry and oral hygiene. Today she called an ambulance saying she doesn't feel well.

Main health conditions

Flu OR COVID-19

General objectives

Recognize through assessment and anamnesis that the patient has the signs and symptoms of influenza or COVID 19

Specific objectives

Discern through assessment that the patient is suffering from flu-like symptoms

Validate through the thorough assessment, in conjunction with the patient being in a "low risk" category, that the patient is fit to stay home if it is COVID 19

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 18 | 27 | 41 | 42 | 50 | 55 | 67

C45

Basic approach to trauma patients

Recommended for: CTE

Complexity: Low

Overview

Basic Approach to Trauma Patients allows students to learn a simple standard approach based on the history and physical examination of a trauma patient. This content package presents multiple virtual patients in various clinical settings.

Clinical competencies

- Basic airway management
- Assess and interpret oximetry and vital signs
- Assess and interpret pulse and blood pressure
- Thorax and Lung examination
- Interpret capillary refill time
- Detect heart sounds and murmurs
- Pupillary and mental status assessment (level of arousal, response to auditory stimuli, to visual stimuli, noxious stimuli)
- Blood sugar measurement and interpretation
- Abdominal, pelvis and back examination
- Establish drug dosing for common medications
- Ventilator management
- O2 administration
- Refer to healthcare/ medical specialties
- Interpret imaging tests (X-ray; CT; MRI; ECG)
- Interpret lab tests (Hematocrit; Coagulopathy rate; Cardiac Enzyme; Fluid/Electrolyte; Liver and Renal function; Urinalysis)
- Arterial blood gas interpretation
- Perform body immobilization
- General wound care
 - Control of gross external hemorrhage
- Hand and foot examination
- Handle and position patients body



#52

Head hemorrhagic wound

Frank Scott | 38 years old



Pre-Hospital



Basic



Trauma

Context

Frank was involved in a car accident. The car struck a telephone pole and he hit his head on the steering wheel. He got out of the car on his own and lay down on the ground.

Main health conditions

Blunt force trauma

General objectives

Rapidly assess and manage life-threatening injuries

Specific objectives

Safely handle and position the patient to prevent worsening injury severity

Perform a thorough patient assessment utilizing primary and secondary surveys to aid in pinpointing the problem

Call for differentiated help, providing the patients relevant clinical data

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 13 | 18 | 25 | 29 | 36 | 44 | 54 | 55 | 57 | 61 | 64 | 67



#158

Hypovolemic shock with a bleeding wound and a right thigh open fracture

Jon Sherman | 33 years old



Emergency Room



Basic



Trauma

Context

Jon was driving his motorcycle when he was hit by a car. He presents with fractures and can't remember the accident.

Main health conditions

Severe pain
Hypovolemic shock

General objectives

Know how to act in a trauma context
Correct changes found (oxygen, volume, privilege blood if large losses, treat pain)
Call for help if necessary

Specific objectives

Define and characterize the main complaints (pain) in terms of location, intensity, relief and irradiation
Check for patient orientation and regular medication, other health problems, previous hospital admissions
Ensure airway permeability and perform blood suction
Identify hypoxemia (corrected by oxygen)
Search for pulmonary changes through pulmonary auscultation
Perform abdominal and chest palpation and percussion
Search for signs of shock or hypoperfusion
Perform pulse palpation
Perform assessment using Glasgow coma scale
Order and Interpret complementary diagnostic exams (ABG; X-Ray; ECG; BIOCH; COAG; CBC; Head CT; FAST)
Administer analgesics to treat pain
Puncture peripheral vessels and administer blood if necessary
Immobilize fractures
Call for differentiated help (Trauma surgery)

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 3 | 7 | 8 | 9 | 11 | 13 | 16 | 19 | 22 | 23 | 25 | 27 | 31 | 34 | 40 | 41 | 42 | 44 | 48 | 49 | 51
| 54 | 55 | 64 | 66 | 67 | 69 | 71 | 78



#159

Head trauma with severe brain injury

Andrew Jordan | 30 years old



Emergency Room



Basic



Trauma

Context

This young man has been involved in a road accident. The victim was brought to the hospital by the emergency team. As reported, he was conscious at the scene, confused and hemodynamically stable.

Main health conditions

Severe brain injury

General objectives

Know how to act in a trauma context (check state of consciousness and cardio-respiratory stability, screen for life-threatening bleeding injuries, look for fractures and bleeding wounds)

Check hemodynamics stability, correct changes found - know how to administer oxygen, administer volume if necessary, privilege blood if large losses

Assess using Glasgow coma scale

Call for differentiated help, if necessary

Specific objectives

Know about medication administer during transport and at the scene of the accident

Ensure airway permeability, perform blood suction, perform Guedel tube insertion

Identify hypoxemia (corrected by oxygen) and search for pulmonary changes through pulmonary auscultation, perform chest palpation and percussion

Search for signs of shock or hypoperfusion

Perform pulse palpation

Perform Glasgow coma scale assessment and check pupil light reflex

Perform abdominal palpation

Order and Interpret complementary diagnostic exams (ABG; X-Ray; ECG; BIOCH; COAG; CBC; Head CT)

Administer analgesics to treat pain and fluids

Immobilize fractures (cervical collar)

Call for differentiated help (Neurosurgery)

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 7 | 8 | 9 | 11 | 13 | 18 | 19 | 22 | 23 | 25 | 27 | 31 | 34 | 40 | 41 | 42 | 44 | 49 | 50 | 51 | 54 | 55 | 61 | 64 | 66 | 67 | 69 | 71 | 76 | 78



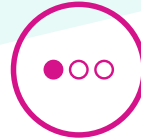
#228

Gunshot wound

Jorge Guzmán | 36 years old



Pre-Hospital



Basic



Trauma

Context

Jorge has lived in a rough neighborhood since he was a little boy. As he grew up, he decided to become a police officer and fight crime. Today on his day off he was walking near his home and heard gunshots.

Main health conditions

Gunshot wound

General objectives

Identify the source of hemorrhage and timely minimize the blood loss

Specific objectives

Apply tourniquet to avoid hemorrhagic shock as a result of extremity hemorrhage

Minimize pain and further injury as a result of potential fractures or dislocations, by applying a compressive bandage

Clinical competencies

Check this content in detail on the last page of the chapter

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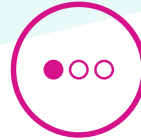
#506

Neck injury

Oliver Smith | 68 years old



Pre-Hospital



Basic



Trauma

Context

Oliver had a car accident and he got out of the car by himself. A bystander called an ambulance.

Main health conditions

Neck injury due to an accident

General objectives

Apply adequate mnemonics (SAMPLE and OPQRST) to interview the patient and identify pertinent clinical findings related to the patient's possible injuries

Specific objectives

Execute the Primary and Secondary Surveys to assess the patient condition

Perform adequate treatment according to the patient's complaints, request additional resources, and provide supportive care while waiting for paramedics

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 8 | 9 | 11 | 12 | 51 | 57 | 61 | 64 | 67



#507

Forehead wound and hypoglycemia

Benjamin Hunter | 18 years old



Pre-Hospital



Basic



Trauma

Context

Benjamin was at a playground with some friends when he fell resulting in a wound on his forehead.

Main health conditions

Forehead wound and hypoglycemia

General objectives

Apply adequate mnemonics (SAMPLE and OPQRST) to interview the patient and identify pertinent clinical findings related to the patient's possible injuries

Perform adequate pre-hospital treatment for wounds and hypoglycemia

Specific objectives

Execute the Primary and Secondary Surveys to assess the patient condition

Perform adequate treatment according to the patient's complaints, request additional resources, and provide supportive care while waiting for paramedics

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 18 | 25 | 31 | 36 | 64



#524

Ankle fracture

James Patterson | 21 years old



Pre-Hospital



Basic



Trauma

Context

James was playing basketball with some friends from the neighborhood when, trying to reach the basket, he suddenly landed badly on his foot and fell to the ground.

Main health conditions

Ankle fracture

General objectives

Identify a suspected fracture or dislocation and execute the correct stabilization

Specific objectives

Apply the correct pain treatment before attempting to move a suspected fracture
Select the adequate immobilizer (splint) to limit the movement of the suspected fracture member
Reassess the distal neurovascular status
Call a higher level of Emergency Medical Services

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 12 | 31 | 38 | 55 | 56 | 64 | 67



#527

Left arm injury with active bleeding

Candace Flynn | 26 years old



Pre-Hospital



Basic



Trauma

Context

Candace was helping her father with the tractor. While she was trying to show her father that she was able to drive it, she suddenly fell off and the tractor continued forwards and ran over her.

Main health conditions

Crushing injury with active bleeding

General objectives

Perform all the steps for an adequate trauma assessment and identify the possible injuries

Specific objectives

Identify the fractured member and perform the correct treatment
Place a tourniquet to prevent blood loss from extremity hemorrhage
Reassess the distal neurovascular status
Call a higher level of Emergency Medical Services

Clinical competencies

Check this content in detail on the last page of the chapter

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#589

Head hemorrhagic wound and abrasion

Jimmy Martin | 18 years old



Emergency Room



Basic



Trauma

Context

Jimmy was training for a skateboard competition when he fell. After the fall, he felt pain in his forehead and left arm and had several scrapes, so a friend called for an ambulance.

Main health conditions

Cleaning and disinfecting wound

General objectives

Analyze, categorize, clean, and disinfect the wound

Evaluate the patient's state of consciousness, investigate the traumatic memory of the incident, and relation to the traumatic brain injury through interrogation

Prevent the contagion risk through the application of the face mask

Specific objectives

Identify the main complaints and a possible confusional state (not presented in this case)

Manage patient anxiety

Monitor physiological parameters mainly heart rate, respiratory rate, blood pressure, and capillary glycemia

Evaluate the state of consciousness

Call for differentiated help (general surgery)

Apply the treatment of the wound

Clinical competencies

Check this content in detail on the last page of the chapter

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#645

Cleaning and disinfection of a hemorrhagic wound in the forehead

Nathan King | 15 years old



Emergency Room



Basic



Pediatrics

Context

Nathan was driving his bike with some friends when he lost control and fell down the shore. His friend Mark called for an ambulance. The paramedic team brings Nathan to the emergency department. Nathan complains of headaches and generalized pain.

Main health conditions

Hemorrhagic wound on the forehead and various abrasions Wound cleaning and disinfection performed

General objectives

Categorize the wound through observation

Perform wound cleaning and disinfection

Evaluate the patient's state of consciousness, check if the patient remembers the accident since he did not have protection

Emphasize prevention and risk measures to prevent accidents

Specific objectives

Characterize the main complaints and a possible confusional state (not presented in this case)

Identify similar situations in the past and further co-morbidities

Assess physiological parameters mainly heart rate, respiratory rate, blood pressure, and capillary glycemia

Evaluate the state of consciousness of the patient

Call for differentiated help - pediatric

Apply the correct treatment - wound cleaning and disinfection

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 18 | 47 | 55 | 58 | 59 | 64 | 67 | 73

C46

A glimpse into a Medical pathway

Recommended for: CTE

Complexity: Low

Overview

A glimpse into a Medical pathway presents a wide range of clinical scenarios from different medical specialties. With this package, students will have the opportunity to practice on several areas, discovering which one they identify the most with.

Clinical competencies

Basic airway management
Airway suctioning
Thorax and Lung examination
Assess and interpret oximetry and vital signs
Assess and interpret pulse and blood pressure
Interpret capillary refill time
Detect heart sounds and murmurs
Pupillary and mental status assessment
Blood sugar measurement and interpretation
Arterial blood gas interpretation
Establish drug class and dosing for common medications
O2 administration
Refer to healthcare/ medical specialties
Perform body immobilization
Handle and position patients body
Pupillary and mental status assessment
Abdominal and extremity examination
Hand and foot examination
Ventilator and Catheter management
Interpret imaging tests (X-ray; CT; MRI; ECG; Ultrasound)
Interpret lab tests (Hematocrit; Coagulopathy rate; Cardiac Enzyme; Fluid/Electrolyte; Liver and Renal function; Urinalysis; Blood culture; Sputum analysis)



#151

ST elevation myocardial infarction with precordial pain

Cameron Lindsey | 45 years old



Emergency Room



Basic



Cardiology

Context

Cameron was having a domestic quarrel with his wife when suddenly he felt very ill. His pain didn't improve, so his wife called for an ambulance.

Main health conditions

ST Elevation myocardial infarction

General objectives

Identify through interrogation characteristics of chest pain
 Appreciate the importance of treating pain
 Call for differentiated help

Specific objectives

Characterize pain complaints
 Identify about further co-morbidities
 Identify previous clinical history
 Ensure airway permeability
 Confirm increased respiratory rate without hypoxemia
 Check for tachycardia without shock signs or hypoperfusion
 Order and Interpret complementary diagnostic exams (ECG; Chest X-ray)
 Administer analgesics
 Call for differentiated help

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 13 | 18 | 21 | 22 | 27 | 29 | 31 | 41 | 41 | 42 | 51 | 55 | 61 | 64 | 67



#153

Short-term ischemic embolic stroke

Melyssa Hilton | 75 years old



Emergency Room



Basic



Neurology

Context

Melyssa was found lying on the floor by her daughter at home. She complained about a lack of strength in her right arm, her speech was confused and it was difficult to understand what she was saying. Her daughter took her immediately to the emergency room.

Main health conditions

Short-term left ischemic embolic stroke

General objectives

Identify, by talking with the patient, the neurological framework with deficits.

Identify neurological compromise

Optimize oxygenation (sat > 95%) and perfusion (medium BP > 65 mmHg).

Call for differentiated aid (neurologist/neurosurgery)

Specific objectives

Call a family member and ask about the circumstances in which the patient was found

Identify further co-morbidities and cardiovascular risk factors (hypertension, diabetes, atherosclerosis)

Identify previous clinical history

Ensure airway permeability

Search for signs of oxygenation alterations or perfusion

Check for patient consciousness and orientation

Perform a neurological examination (Glasgow coma scale, NIHSS, pupil light reflex, blood glucose)

Check for pulse symmetry of great vessels and for bruises and wounds

Order and Interpret complementary diagnostic exams (ABG; X-Ray; ECG; Head CT)

Ensure proper oxygenation and perfusion

Call for differentiated help treatment – Neurology

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 13 | 18 | 21 | 22 | 25 | 29 | 35 | 44 | 50 | 51 | 52 | 55 | 60 | 61 | 62 | 64 | 65 | 67 | 68



#154

Septic shock due to kidney stones

Lizette Wynne | 55 years old



Emergency Room



Basic



Urology

Context

Lizette had complaints of left lumbar pain and fever with four days of evolution. She was medicated by her General Physician with an antibiotic and an anti-inflammatory, but she didn't improve, so she went to the ER.

Main health conditions

Severe kidney stones
Sepsis

General objectives

Identify, through interrogation, complicated lumbar pain with infection
Identify ventilatory compromise (tachypnea and hypoxemia) and perform its correction
Identify shock and hypoperfusion and begin its correction
Call for differentiated help (urologist)

Specific objectives

Characterize pain complaints (left lumbar pain, fever for four days)
Identify further co-morbidities (hypertension)
Identify previous clinical history and treatment in the few days and similar crises in the past
Ensure airway permeability
Identify hypoxemia and increased respiratory rate (corrected by oxygen)
Identify hypoperfusion and signs of shock
Perform abdominal palpation (positive Murphy sign) and check for fever
Order and Interpret complementary diagnostic exams (ABG; X-Ray; BIOCH; CBC; Cultures; Ultrasound)
Administer analgesics, antipyretics, antibiotics
Correct hypoxia with high-flow mask 40%
Correct shock / hypoperfusion
Call for differentiated help - Urology

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 7 | 8 | 9 | 10 | 11 | 13 | 15 | 17 | 19 | 21 | 22 | 27 | 30 | 34 | 40 | 41 | 42 | 44 | 49 | 50 | 54
| 55 | 64 | 66 | 67 | 71 | 72 | 73



#161

Anaphylactic shock with pruritus, rash, and dyspnea

Pearl Garry | 40 years old



Emergency Room



Basic



Allergy/Immunology

Context

Pearl has bronchial asthma history. Today, after lunch (shrimp cocktail) she presented skin rash, shortness of breath and neck tightness sensation. She took an antihistamine and felt better, however, one hour later, the symptoms came back.

Main health conditions

Anaphylactic shock

General objectives

Identify, through interrogation, food allergy (dyspnea, feeling of “tightness” in the throat, and exanthema)
 Establish temporal evolution
 Search for alarm signals in the physiological parameters (signs of respiratory difficulty, hypoxia, wheezing, stridor, rash, signs of hypoperfusion) and promote their correction

Specific objectives

Characterize main complaints
 Identify the evolution of complaints and what has been done to mitigate the symptoms
 Identify further co-morbidities, similar crises in the past and types of allergen
 Check regular medication, alcohol and smoking habits, previous hospital admissions
 Perform suction of secretions from the oropharynx, check edema of tongue or epiglottis, check for stridor
 Identify hypoxemia and increased respiratory rate, search for alterations through pulmonary auscultation
 Identify hypoperfusion and signs of shock
 Check state of confusion/disorientation
 Assess the extent of the skin rash
 Order and Interpret complementary diagnostic exams (ABG; X-Ray; BIOCH)
 Ensure airway with suction of oropharyngeal secretions
 Correct hypoxia with high-flow mask 30%
 Administer corticosteroids and bronchodilators
 Correct associated hypoperfusion with fluids and electrolytes

Clinical competencies

Check this content in detail on the last page of the chapter

7 | 8 | 9 | 10 | 11 | 13 | 18 | 21 | 22 | 30 | 44 | 50 | 51 | 54 | 55 | 61 | 64 | 67



#164

Coma due to severe hypoglycemia with type 2 diabetes

Ulysses Jordan | 45 years old



Emergency Room



Basic



Endocrinology

Context

Mr. Jordan was walking his dog when he felt ill and collapsed on the street. A neighbor called an ambulance, and Mr. Jordan was taken to the Emergency Department.

Main health conditions

Severe hypoglycemia

General objectives

Identify coma and identify the misdirected metabolic cause

Correct hypoglycemia

Recognize the misleading cause of hypoglycemia

Specific objectives

Confirm with the paramedics the circumstances in which patient was found

Consult patient's history at the Hospital

Ensure airway permeability, perform suction of secretions from the oropharynx, remove foreign bodies and place Guedel tube

Assess changes in oxygenation and perfusion

Perform Glasgow coma scale assessment, check pupil light reflex and blood glucose level

Search for wounds or bruises

Order and interpret complementary diagnostic exams (ABG; X-Ray; BIOCH; ECG)

Administer oxygen

Administer hyperglycemic agents

Clinical competencies

Check this content in detail on the last page of the chapter

7 | 8 | 9 | 11 | 13 | 18 | 21 | 27 | 30 | 41 | 42 | 44 | 50 | 51 | 54 | 55 | 61 | 67



#166

Peripheral vertigo with nausea and vomiting

Pauleen Lawson | 68 years old



Emergency Room



Basic



Internal Medicine

Context

Pauleen has vertigo caused by head movements three days ago, with nausea and vomiting. She has decided to go to the emergency department.

Main health conditions

Peripheral vertigo
Nausea / vomiting

General objectives

Identify peripheral vertigo
Call for differentiated help

Specific objectives

Characterize the main complaints (vertigo for 3 days aggravated by head rotation movements)
Identify associated problems (nausea and vomitings, fever, headache, abdominal pain)
Check regular medication, alcohol and smoking habits, previous hospital admissions
Ensure airway permeability and remove foreign bodies
Check oxygen saturation and respiratory rate and perform pulmonary auscultation
Check for signs of shock or hypoperfusion
Perform Glasgow coma scale assessment and check pupil light reflex
Perform abdominal palpation
Order and interpret complementary diagnostic exams (ABG; X-Ray; ECG)
Administer antiemetics
Call for differentiated help (otolaryngology)

Clinical competencies

Check this content in detail on the last page of the chapter

7 | 8 | 9 | 10 | 11 | 13 | 21 | 27 | 30 | 41 | 42 | 44 | 55 | 64 | 67



#168

Acute pancreatitis with shock

Albert Goodwin | 55 years old



Emergency Room



Basic



Gastrointestinal

Context

Albert was having dinner at home four days ago when he started feeling abdominal pain. Albert's pain has been worsening since then, and today his pain is really intense, so he has decided to go to the emergency department.

Main health conditions

Acute pancreatitis

General objectives

Identify, through interrogation, complicated abdominal pain, and, through the characterization of pain, predict the diagnosis of pancreatitis

Identify respiratory compromise (tachypnea and hypoxemia) and perform its correction

Identify shock and hypoperfusion and begin the correction

Call for differentiated help

Specific objectives

Characterize the main complaints (abdominal pain, fever, nausea, vomiting for four days)

Characterize the pain (location, intensity, type, irradiation, relief, triggering factors)

Identify other co-morbidities, previous similar situations and previous medication

Check regular medication, alcohol and smoking habits, previous hospital admissions

Ensure airway permeability

Check for hypoxemia and increased respiratory rate (corrected by oxygen)

Check for signs of shock or hypoperfusion

Perform abdominal palpation and check for fever

Order and interpret complementary diagnostic exams (ABG; X-Ray; ECG; BIOCH; cultures; Ultrasound)

Administer antipyretics, analgesics, and antiemetics

Administer oxygen to correct hypoxia

Administer fluids and electrolytes

Call for differentiated help (surgeon)

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 3 | 7 | 8 | 9 | 10 | 11 | 13 | 17 | 19 | 21 | 22 | 27 | 30 | 33 | 34 | 40 | 41 | 42 | 44 | 49 | 50
| 54 | 55 | 66 | 67



#169

Community-acquired pneumonia with septic shock

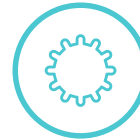
Jerrard Darrell | 50 years old



Emergency Room



Basic



Infectious diseases

Context

Five days ago Jerrard was at home when he started feeling weak, with fever and a cough and sweating. His condition has been worsening and now he complains of depression of consciousness and shortness of breath. For this reason, the emergency unit was called.

Main health conditions

Pneumonia
Sepsis

General objectives

Identify infection (fever; elevated CRP leukocytosis), its location and origin
Identify septic shock (systolic AT < 90 mmHg) and initiate correction of septic shock with crystalloid perfusion
Correct hypoxemia
Initiate treatment of symptoms (hyperglycemia)
Call for differentiated help

Specific objectives

Define main complaints: cough and fever
Characterize associated complaints and other co-morbidities
Check for similar symptoms in the past that have led to a doctor being consulted
Check alcohol or smoking habits
Identify hypoxemia and increased respiratory rate (corrected by oxygen)
Identify pulmonary auscultation alterations: rales and reduction of vesicular murmurs in left hemithorax
Identify shock and hypoperfusion with hyperlactacidemia (correct with crystalloid perfusion)
Fever (correct with antipyretics)
Order and interpret complementary diagnostic exams (ABG; CBC; BIOCH; X-Ray; cultures)
Shock therapy: volumotherapy
Antibiotic therapy adjusted to focus and origin of infection
Call for pulmonology

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 6 | 7 | 8 | 9 | 10 | 11 | 13 | 17 | 18 | 19 | 21 | 22 | 27 | 29 | 30 | 34 | 40 | 41 | 42 | 44 | 49
| 50 | 51 | 54 | 55 | 61 | 64 | 66 | 67 | 70 | 71



#196

Compromised airway clearance - non-invasive ventilation patient

Randall Nash | 79 years old



Emergency Room



Basic



Respiratory

Context

Patient has been brought to the emergency room due to signs of increased respiratory difficulty and worsening of level of consciousness.

Main health conditions

Ineffective airway clearance

General objectives

Identify situations in which airway permeability, due to the presence of secretions, is or might be compromised in a patient with non-invasive ventilation

Specific objectives

Recognize signs and symptoms of airway obstruction

Identify diagnostic activities that lead to the obtainment of data with referential integrity for compromised airway permeability diagnosis

Implementation of interventions with referential integrity for airway clearance diagnosis

Evaluate the effectiveness of the implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

6 | 11 | 13 | 39 | 55 | 67 | 77



#461

Tricyclic antidepressant intoxication

Anna Thomas | 65 years old



Emergency Room



Basic



Toxicology

Context

Anna's sister found her lying on the couch unconscious.

Main health conditions

ADT intoxication

General objectives

Identify drug intoxication

Specific objectives

Identify a probable overdose during questioning

Diagnose the cause and determine the probable treatment through the physical examination and complementary exams

Call the ICU

Clinical competencies

Check this content in detail on the last page of the chapter

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C47

A glimpse into a Nursing pathway

Recommended for: CTE

Complexity: Low

Overview

A glimpse of a Nursing pathway allows students to be introduced and get to know more about the different areas of nursing specialization in a dynamic and interactive environment. Nursing offers a career flexibility that allows students to choose the path that best suits them. Thus, this package allows them to practice with a variety of virtual patients in the pre-hospital and emergency room environment.

Clinical competencies

- Basic airway management
- Assess and interpret oximetry and vital signs
- Assess and interpret pulse and blood pressure
- Thorax and lung examination
- Interpret capillary refill time
- Detect heart sounds and murmurs
- Blood sugar measurement and interpretation
- Establish drug class
- Airway suctioning
- Catheter management
- O2 administration
- Refer to healthcare/ medical specialties
- Chest x-ray interpretation
- Arterial blood gas interpretation
- Hematocrit interpretation
- Electrocardiogram interpretation
- Blood culture interpretation
- Sputum analysis interpretation
- Handle and position patients body
- Interpret lab tests (Hematocrit; Blood culture; Arterial blood gas; Sputum analysis)
- Inhalation therapy technique



#85

Impaired airway clearance with tracheostomy tube

Paul Caldwell | 78 years old



Emergency Room



Basic



Respiratory

Context

Paul presents excess of secretions and abnormal respiratory sounds, and for that reason his family decided to bring him to the emergency department.

Main health conditions

Impaired airway clearance

General objectives

Recognize signs and symptoms of airway obstruction

Specific objectives

Identify diagnostic activities that lead to the obtention of data with referential integrity for impaired airway permeability diagnosis

Implementation of interventions with referential integrity for impaired airway permeability diagnosis

Evaluate the effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

6 | 11 | 13 | 50 | 67



#148

Atrial fibrillation and complete left bundle branch block

Jamal Lee | 71 years old



Pre-Hospital



Basic



Cardiology

Context

Mr. Lee is a mechanic and works hard to pay off some bills that his wife incurred with the loss of her own business. He has a personal history of heart failure, atrial fibrillation, hypertension, and obesity.

Main health conditions

Anterior myocardial infarction

General objectives

Identify atrial fibrillation in the 12-lead-ECG in a patient with heart failure through the patient's condition, dialogues, and complementary diagnostic tests (12-lead-ECG)

Specific objectives

Identify main complaints (chest pain, palpitations, easy fatigue, and limb edema)

Identify other co-morbidities, similar situations in the past, regular medication, and previous hospitalizations

Check the patient's vital signs

Check for limb edemas

Perform a 12-lead ECG

Inform the hospital

Optimize oxygenation

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 27 | 29 | 38 | 41 | 42 | 50 | 54 | 55 | 58 | 64 | 67 | 73



#187

Compromised consciousness in patient with hemorrhagic stroke

Johannes Alderson | 61 years old



Emergency Room



Basic



Neurology

Context

Patient has been brought to the emergency department due to loss of consciousness outside on the street.

Main health conditions

Decreased intracranial adaptive capacity

General objectives

Identify signs and symptoms of consciousness' state changes

Specific objectives

Identify diagnostic activities that lead to data with referential integrity for diagnosis of compromised consciousness

Implement interventions with referential integrity for diagnosis of compromised consciousness

Evaluate the effectiveness of the implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 13 | 35 | 39 | 44 | 51 | 53 | 55 | 60 | 61 | 64 | 65 | 67 | 68



#534

Dehydration due to vomiting and diarrhea

Anthony Clark | 80 years old



Emergency Room



Basic



General surgery

Context

Mr. Clark was brought to the emergency department by the nursing home nurse. She reported the patient presented diarrhea, nausea, and abdominal pain for the last three days.

Main health conditions

Dehydration due to vomits and diarrhea

General objectives

Identify the signs of dehydration

Stabilize the patient's condition according to medical indication

Specific objectives

Identify the main complaints (disorientation, vomits, diarrhea, and abdominal pain), and aggravated symptoms

Identify further co-morbidities (blood pressure, hypertension, diabetes)

Check regular medication (anti-hypertensives and anti-diabetics), alcohol and smoking habits, and previous hospitalizations

Identify hypoperfusion signs

Search for hypotension, tachycardia, increased capillary perfusion time, diuresis (lower than 05 ml/Kg/h)

Evaluate the consciousness state

Request complementary diagnostic exams (ECG; BIOCH; CBC; venous blood gas; urinalysis)

Administer fluids to correct hyponatremia

Administer analgesics and antiemetics for the pain and nausea/vomits

Call for differentiated help - general medicine

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 18 | 19 | 21 | 29 | 31 | 34 | 39 | 40 | 46 | 49 | 51 | 55 | 58 | 59 | 64 | 66 | 67 | 73



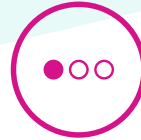
#584

Bladder globe

Edson Campbell | 88 years old



Emergency Room



Basic



Urology

Context

Edson lives with his wife. Today, he has come to the Emergency Department reporting that he hasn't urinated much in the past 24 hours.

Main health conditions

Urinary retention

General objectives

Identify urinary retention through interrogation and related signs and symptoms
Apply correct treatment for urinary retention and hyperglycemia

Specific objectives

Identify the main complaints (abdominal pain - supra-pubic) and ask about complaints evolution
Search for further co-morbidities, similar crises in the past (diabetes), regular medication, alcohol, smoking, and eating habits
Search for abdominal pain
Check blood glucose level
Perform urinalysis
Apply the correct interventions (such as vesical catheterization) to treat the urinary retention
Administer analgesic and hypoglycemic agents
Check blood glucose level
Call for differentiated help (urology)

Clinical competencies

Check this content in detail on the last page of the chapter

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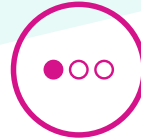
#590

Schizophrenia and agitation

Daniel Auerbach | 32 years old



Emergency Room



Basic



Psychiatry

Context

Daniel has a clinical history of schizophrenia. He has been trying to manage his personal life after his recent father's death.

Main health conditions

Non-adherence to therapeutic regime

General objectives

Recognize a possible episode of psychosis and provide care in the least restrictive and stigmatizing environment

Refer to Psychiatry

Specific objectives

Identify positive symptoms (delusions, hallucinations) or negative symptoms (alogia, abolition) of a psychosis episode

Question the relatives regarding psychiatry history, response and adherence to psychiatric treatments, substance use history (use of tobacco, alcohol, and other substances), family and social history (exposure to violence or aggressive behavior)

Check the vital signs

Promote a safe environment by raising bed rails

Call for differentiated help (Psychiatry), communicating the level and nature of the risk identified

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 55 | 59 | 64 | 67



#599

Urinary infection and fever

Sophia Parker | 20 month(s)



Emergency Room



Basic



Pediatrics



Urology

Context

Sophia was in kindergarten when she started to become irritated and tearful for no apparent reason. Her mother is worried since she has a fever and noticed a strange smell in her diaper.

Main health conditions

Urinary Infection

General objectives

Identify and treat urinary tract infections according to medical indication

Specific objectives

Characterize the main complaints - pain (localization and intensity) and fever

Ask about related symptoms, previous medication, previous similar situations, further co-morbidities, regular medication, and previous hospitalizations

Evaluate the vital signs

Search for pain through abdominal palpation

Order and interpret complementary diagnostic exams (Urine cultures Urinalysis CBC)

Administer antibiotics and antipyretics

Call for differentiated help - pediatrics

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 8 | 10 | 11 | 18 | 21 | 30 | 40 | 44 | 51 | 55 | 58 | 59 | 64 | 67 | 73 | 74



#642

Grade 3 pressure ulcer

Barbara Mayer | 89 years old



Medical Appointment



Basic



Wound care

Context

Mrs. Mayer has been gradually losing her cognition and becoming more dependent on her daily activities over the last months. She has no close relatives that could look after her husband died, so she was admitted to a nursing home.

Main health conditions

Grade 3 pressure ulcer

General objectives

Define basic pathophysiology of skin and pressure ulcers

Identify and classify the stage of pressure ulcers

Apply the Braden scale for predicting the pressure ulcer risk

Specific objectives

Characterize main complaints

Ask about further co-morbidities (urine and bowels dysfunction), regular medication, diet, mobility, and activity

Check vital signs

Perform skin observation and classify the pressure ulcer stage

Apply the risk assessment tool Braden scale for prevention of further ulcers

Repositioning the patient to prevent the development of pressure injuries

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 18 | 39 | 47 | 55 | 58 | 59 | 67 | 73



#643

Grade 2 pressure ulcer

Samuel Smith | 80 years old



Pre-Hospital



Basic



General surgery

Context

Mr. Smith was at home when the nurse arrived. Susan does weekly home nursing care because Mr. Smith is a patient with reduced mobility and lives far from health centers.

Main health conditions

Identification of a grade 2 ulcer

General objectives

Define basic pathophysiology of skin and pressure ulcers

Identify the ulcer degree

Specific objectives

Characterize the main complaints (pain)

Identify further co-morbidities (mobility), pain relief medication, precautions, activities, smoking habits, and nutrition

Check vital signs

Assess the skin and describe the signs of a pressure ulcer

Perform the proper wound treatment with an aseptic technique (wound cleaning and dressing)

Reinforce education regarding self-care, and state the ways to prevent pressure ulcers

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 18 | 36 | 38 | 47 | 58 | 59 | 73



#663

Early repolarization

Amelia Sheperd | 26 years old



Emergency Room



Basic



Cardiology

Context

Miss Sheperd was on a marathon when suddenly felt odd and had to stop running. She is normally healthy and has no personal background.

Main health conditions

Early repolarization

General objectives

Identify an early repolarization pattern through the patient's condition, dialogues, and complementary diagnostic tests (12-lead-ECG).

Specific objectives

Identify main complaints and related symptoms

Identify other co-morbidities, similar situations in the past, regular medication, and previous hospitalizations

Check the patient's vital signs

Perform complementary diagnostic exams (12-lead ECG)

Safety measures - handwashing

Call different help - Cardiologist

Keep patient under surveillance

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 19 | 29 | 55 | 59 | 64 | 67

C48

A glimpse into an EMS pathway

Recommended for: CTE

Complexity: Low

Overview

A glimpse into an EMS pathway allows students to understand what is demanded from a Emergency Medical Service professional. This package allows them to practice with different types of patients in a controlled pre-hospital environment.

Clinical competencies

- Basic airway management
- Thorax and lung examination
- Assess and interpret oximetry and vital signs
- Assess and interpret pulse and blood pressure
- Interpret capillary refill time
- Detect heart sounds and murmurs
- Pupillary and mental status assessment
- Blood sugar measurement and interpretation
- Perform body immobilization
- Establish drug class and dosing for common medications
- Administration of prescription drugs
- O2 administration
- Refer to healthcare/ medical specialties
- Handle and position patients body
- Pupillary and mental status assessment
- Abdominal and extremity examination
- Hand and foot examination
- Electrocardiogram interpretation
- Universal precautions and personal and patient safety measures procedures
- Recognize emergent situations - Illness severity assessment
- Utilize medical records and collect patients clinical information



#78

Asthma attack

Jerry Benson | 22 years old



Pre-Hospital



Basic



Respiratory

Context

Jerry was running in the park in the middle of spring when he felt unwell.

Main health conditions

Asthma attack

General objectives

Utilize the SAMPLE and OPQRST mnemonics to interview the patient in order to discover pertinent findings

Recognize the classic signs and symptoms of asthma

Specific objectives

Perform a thorough patient assessment and anticipate potential intubation due to prior history of intubation

Provide supplemental treatment while you waiting for differential help

Call for differential help, providing patients clinical information in a organized manner

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 13 | 18 | 29 | 31 | 33 | 50 | 54 | 55 | 64 | 67



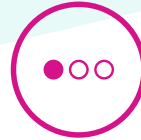
#310

Bradycardia and atrial fibrillation

Paul Finch | 40 years old



Pre-Hospital



Basic



Cardiology

Context

Paul's wife was on holiday visiting their daughter while Paul had to stay at home because of his work. By the time she arrived back home, she found him collapsed on the floor with an altered mental status.

Main health conditions

Bradycardia

General objectives

Identify bradycardia rhythm and possible underlying cause

Specific objectives

Collect patient's clinical history applying SAMPLE and thoroughly assess pain with OPQRST

Recognize a possible medication overdose

Call for a higher level of Emergency Medical Services

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 18 | 29 | 44 | 54 | 55 | 64 | 67



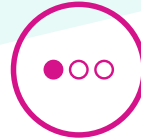
#391

Opioid Intoxication

Dylan Brown | 37 years old



Pre-Hospital



Basic



Toxicology

Context

Dylan was found lying in the living room by his mother. She called for an ambulance and says she thinks he has started using drugs again.

Main health conditions

Drug intoxication

General objectives

Identify signs and symptoms of an opioid intoxication

Specific objectives

Collect patients clinical history applying the SAMPLE mnemonic
Treat properly opioid intoxication and administer the antidote

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 8 | 9 | 11 | 18 | 31 | 51 | 54 | 55 | 64 | 67



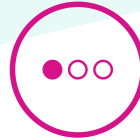
#392

Peanuts allergy with anaphylaxis shock

Olivia Bolton | 30 years old



Pre-Hospital



Basic



Allergy/Immunology

Context

Olivia was celebrating the first week in a new house with her husband when she suddenly started having difficulty breathing after having a piece of chocolate cake.

Main health conditions

Anaphylaxis

General objectives

Identify signs and symptoms of anaphylactic shock

Specific objectives

Collect patient's clinical history applying SAMPLE mnemonic

Call for any additional resources

Provide supplemental care while waiting for differentiated help

Clinical competencies

Check this content in detail on the last page of the chapter

5 | 8 | 9 | 10 | 11 | 18 | 54 | 55 | 67



#393

Left hypertensive pneumothorax

Dianne Bailey | 35 years old



Pre-Hospital



Basic



Respiratory



Trauma

Context

Dianne was found lying on the living room floor by her husband after falling down the stairs.

Main health conditions

Hypertensive Pneumothorax

General objectives

Identify signs and symptoms of a hypertensive pneumothorax

Specific objectives

Collect patients clinical history applying the SAMPLE mnemonic
Call for differentiated help, supplying the adequate patients data

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 8 | 9 | 11 | 18 | 54 | 55 | 57 | 64 | 67 | 70



#394

Right ischemic stroke in patient with hypertension

Brenda Laurel | 80 years old



Pre-Hospital



Basic



Neurology

Context

Brenda's caregiver found her lying on the floor at home. Brenda was complaining about a lack of strength in her left arm.

Main health conditions

Non-adherence to therapeutic regime

General objectives

Recognize signs and symptoms of onset stroke

Specific objectives

Collect patient's clinical history applying SAMPLE mnemonic
Provide supplemental care and make transport decision
Call a higher level of emergency medical services for ALS backup

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 18 | 39 | 55 | 62 | 64 | 67



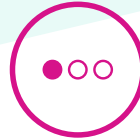
#542

Abdominal pain due to pregnancy

Jane Lee | 22 years old



Pre-Hospital



Basic



Obstetrics

Context

Jane is complaining of abdominal pain which started 2 days ago. She was resting at home when the pain came back again.

Main health conditions

Pregnancy

General objectives

Recognize the time since last menstrual cycle through interview

Specific objectives

Identify the time since the last menstrual cycle through interview

Thoroughly patients pain with OPQRST and collect clinical history through SAMPLE

Prescribe supplemental treatment during care

Provide transport to the hospital

Clinical competencies

Check this content in detail on the last page of the chapter

50 | 64



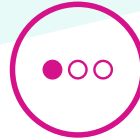
#546

Unconscious due to hypoglycemia

Patricia Lopez | 57 years old



Pre-Hospital



Basic



Endocrinology

Context

Patricia is a human resources specialist and has been on a crash diet preparing for her wedding.

Main health conditions

Hypoglycemia

General objectives

Identify signs and symptoms of hypoglycemia

Specific objectives

Collect patients clinical history applying SAMPLE and thoroughly assess pain with OPQRST
 Rapidly assess and begin advanced pre-hospital interventions
 Request a higher level of emergency medical services for safe transport

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 13 | 18 | 24 | 27 | 29 | 31 | 42 | 42 | 44 | 51 | 55 | 61 | 64 | 67 | 75



#550

Severe dehydration

Lisa Taylor | 42 years old



Pre-Hospital



Basic



Internal Medicine

Context

Lisa is a chef in a restaurant. In the past few days she has been preparing various dishes for a TV contest and she thinks that maybe she ate something that was not good.

Main health conditions

Severe dehydration

General objectives

Recognize signs and symptoms of severe dehydration

Specific objectives

Collect patients clinical history applying SAMPLE and thoroughly assess pain with OPQRST
Rapidly assess and begin basic prehospital interventions

Clinical competencies

Check this content in detail on the last page of the chapter

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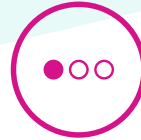
#556

Sickle cell disease

Adeola Rogers | 26 years old



Pre-Hospital



Basic



Hematology

Context

Adeola is a business women. She was working when she felt bad. Her colleague called an ambulance.

Main health conditions

Sickle Cell disease

General objectives

Identify that the patient is suffering from a Sickle Cell Crisis, through the assessment and interpretation of the suited physical examination, medical tests and medical history collected, furthermore applying the convenient decision aids tools

Specific objectives

Do a thorough patient assessment on all patients utilizing standard pneumonics to aid in pinpointing the problem

Call for medical consult upgrading the response to a paramedic response for advanced prehospital interventions and transport

Provide supplemental treatment and offer to send the patient to the hospital

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 18 | 27 | 29 | 42 | 42 | 54 | 55 | 64 | 67

C49

Introduction to Respiratory Care

Recommended for: CTE

Complexity: Low

Overview

Introduction to Respiratory Care offers each student the opportunity to learn about clinical practice in the respiratory area. Designed for respiratory care majors, this package focus on the development of assessment and treatment skills needed for dealing with a variety of virtual patients in the Emergency Room.

Clinical competencies

- Basic airway management
- Assess and interpret oximetry and vital signs
- Assess and interpret pulse and blood pressure
- Thorax and lung examination
- Interpret capillary refill time
- Detect heart sounds and murmurs
- Blood sugar measurement and interpretation
- Establish drug class
- Airway suctioning
- Catheter management
- O2 administration
- Refer to healthcare/ medical specialties
- Chest x-ray interpretation
- Arterial blood gas interpretation
- Hematocrit interpretation
- Electrocardiogram interpretation
- Blood culture interpretation
- Sputum analysis interpretation
- Handle and position patients body
- Interpret lab tests (Hematocrit; Blood culture; Arterial blood gas; Sputum analysis)
- Inhalation therapy technique



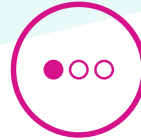
#75

Pneumonia with fluids in the respiratory tract

Peter Martinson | 78 years old



Emergency Room



Basic



Respiratory

Context

Mr. Martinson was bedridden at home when he started feeling prostration with fever three days ago and also had difficulty breathing. His wife decided to call the emergency team, and he was brought to the hospital.

Main health conditions

Impaired airway clearance

General objectives

Identify the situations, that by secretions presence or by changes in patient's state of consciousness, airway permeability is or can be impaired

Specific objectives

Identify diagnostic activities that lead to the obtention of data with referential integrity for impaired airway clearance and for impaired airway clearance diagnosis

Implementation of interventions with referential integrity for impaired airway clearance diagnosis

Evaluate the effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

6 | 11 | 13 | 50 | 55 | 67



#77

Pulmonary edema

Anthony Richards | 83 years old



Emergency Room



Basic



Respiratory

Context

Anthony arrived at the emergency service due to worsening of shortness of breath and tiredness for the past few days. He also presents with worsening edema in the lower limbs, up to his knees, and his weight has increased by three kilos in three days.

Main health conditions

Orthopnea

General objectives

Evaluate patient through ABCDE assessment in a systematic manner

Specific objectives

Identify diagnostic activities that lead to the obtention of data with referential integrity for orthopnea diagnosis

Implementation of interventions with referential integrity for orthopnea diagnosis

Evaluate the effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 13 | 39 | 44 | 50 | 55 | 67



#83

Ineffective cough and orthopnea

John Mondy | 72 years old



Emergency Room



Basic



Respiratory

Context

John was brought to the emergency department due to a worsening of his usual dyspnea patterns and to an increase in his expectoration.

Main health conditions

Orthopnea

General objectives

Evaluate patient through ABCDE Assessment in a systematic manner

Specific objectives

Identify diagnostic activities that lead to the obtention of data with referential integrity for orthopnea diagnosis

Implementation of interventions with referential integrity for orthopnea diagnosis

Evaluate the effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 13 | 18 | 39 | 44 | 50 | 51 | 55 | 61 | 67



#86

Shortness of breath and fever without expectoration due to pneumonia

Marcus Masters | 39 years old



Emergency Room



Basic



Respiratory

Context

Marcus has fever symptoms for two days now. Marcus also feels shortness of breath, so he decided to go to the emergency unit.

Main health conditions

Hypoxemia

General objectives

Identify signs and symptoms of hypoxemia in critical patients

Specific objectives

Prevent hypoxemia installation in patients without chronic respiratory disease

Identify signs of hypoxemia in patients without chronic respiratory disease

Prevent severe hypoxemia installation in patients without chronic respiratory disease

Identify diagnostic activities that lead to the obtention of data with referential integrity for risk for hypoxemia and hypoxemia diagnosis

Evaluate the effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 13 | 18 | 39 | 44 | 50 | 51 | 54 | 55 | 61 | 64 | 67



#157

Expectoration and fever due to pneumonia

Pattie Sinclair | 85 years old



Emergency Room



Basic



Respiratory

Context

Pattie was brought to the hospital by her nursing home staff, due to right thoracic pain, cough with expectoration and fever. She is conscious but confused.

Main health conditions

Pneumonia

General objectives

Identify respiratory infection through interrogation
 Identify ventilatory compromise (tachypnea and hypoxemia)
 Start hypoxia correction
 Administer antipyretics and antibiotics

Specific objectives

Define and characterize the main complaints (pain) in terms of location, intensity, relief and irradiation
 Check for patient orientation and regular medication, other health problems, previous hospital admissions
 Ensure airway permeability and perform blood suction
 Identify hypoxemia (corrected by oxygen)
 Search for pulmonary changes through pulmonary auscultation
 Perform abdominal and chest palpation and percussion
 Search for signs of shock or hypoperfusion
 Perform pulse palpation
 Perform assessment using Glasgow coma scale
 Order and Interpret complementary diagnostic exams (ABG; X-Ray; ECG; BIOCH; COAG; CBC; Head CT; FAST)
 Administer analgesics to treat pain
 Puncture peripheral vessels and administer blood if necessary
 Immobilize fractures
 Call for differentiated help (Trauma surgery)

Clinical competencies

Check this content in detail on the last page of the chapter

6 | 7 | 8 | 9 | 10 | 11 | 13 | 17 | 18 | 21 | 22 | 27 | 29 | 30 | 40 | 41 | 42 | 44 | 50 | 54 | 55 | 64 | 67 | 70 | 71



#163

Fever and hypoxia due to pneumonia

Zechariah Macy | 77 years old



Emergency Room



Basic



Respiratory

Context

Zechariah complains of cough and fever with four days' evolution. His family doctor prescribed him antibiotics but because he did not get better, his family decided to come with him to the ER.

Main health conditions

Pneumonia
Hypoxia
Fever

General objectives

Identify respiratory infection through interrogation
Identify ventilatory compromise (tachypnea and hypoxemia) and start hypoxia correction
Administer antipyretics and antibiotics

Specific objectives

Define the main complaint – cough and fever for four days
Characterize mucus (yellow, thick, abundant)
Identify similar situations in the past, other co-morbidities
Check regular medication, current medication, alcohol or smoking habits, previous hospital admissions
Ensure airway permeability and perform suction of oropharyngeal secretions
Identify hypoxemia, increased respiratory rate and changes in pulmonary auscultation
Identify hypoperfusion and signs of shock
Check for state of confusion/disorientation
Order and Interpret complementary diagnostic exams (ABG; X-Ray; ECG; cultures; BIOCH; CBC)
Perform suction of oropharyngeal secretions to ensure airway permeability
Correct hypoxia with high flow mask
Treat symptoms and infection
Correct associated hypoperfusion with fluids

Clinical competencies

Check this content in detail on the last page of the chapter

7 | 8 | 9 | 10 | 11 | 13 | 17 | 18 | 21 | 22 | 27 | 30 | 40 | 41 | 42 | 44 | 50 | 54 | 55 | 64 | 67 | 70 | 71



#167

Severe asthma exacerbation with dyspnea and fever

Marcia Cooper | 41 years old



Emergency Room



Basic



Respiratory

Context

Marcia has already suffered from a crisis of breathlessness some years ago. She has been feeling difficulty in breathing for two days now. Marcia was at home playing with her son when she suddenly felt worsening of her difficulty in breathing. Her husband decided to call the emergency unit.

Main health conditions

Severe asthma exacerbation

General objectives

Identify asthmatic crisis through interrogation

Identify ventilatory compromise (tachypnea and hypoxemia) and start hypoxia correction

Administer antipyretic, antibiotic, bronchodilator and corticoid

Specific objectives

Define the main complaint – sudden onset of dyspnea and fever for two days

Characterize mucus

Identify similar situations in the past, evolution of dyspnea, other co-morbidities

Check regular medication, current medication, alcohol or smoking habits, previous hospital admissions

Ensure airway permeability and perform suction of oropharyngeal secretions

Identify hypoxemia, increased respiratory rate and changes in pulmonary auscultation

Identify hypoperfusion and signs of shock

Check for state of confusion/disorientation

Order and interpret complementary diagnostic exams (ABG; X-Ray; ECG; BIOCH; culture)

Perform suction of oropharyngeal secretions to ensure airway permeability

Correct hypoxia with high-flow mask

Treat symptoms of fever and bronchospasm

Call for differentiated help (pneumology)

Clinical competencies

Check this content in detail on the last page of the chapter

7 | 8 | 9 | 10 | 11 | 13 | 17 | 19 | 21 | 22 | 27 | 30 | 34 | 40 | 41 | 42 | 44 | 49 | 50 | 54 | 55 | 64 | 66 | 67 | 70 | 71



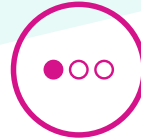
#244

Hypoxia in hypercapnic patient with COPD Group C

Anthony Yates | 75 years old



Emergency Room



Basic



Respiratory

Context

Patient has come to the hospital due to a heightened feeling of shortness of breath.

Main health conditions

Hypoxia

General objectives

Identify signs of hypoxemia in hypercapnic patients with Chronic Obstructive Pulmonary Disease (COPD)

Specific objectives

Identify diagnostic activities that lead to the obtention of data with referential integrity for compromised respiratory system diagnosis

Prevent severe hypoxemia in hypercapnic patients with COPD

Implementation of interventions with referential integrity for the respiratory process domain

Evaluate the effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 13 | 18 | 39 | 44 | 50 | 51 | 54 | 55 | 61 | 64 | 67



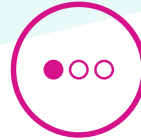
#246

Compromised airway clearance in COPD group D patient

Donald Davis | 85 years old



Emergency Room



Basic



Respiratory

Context

Patient has come to the hospital due to an altered state of consciousness.

Main health conditions

Ineffective airway clearance

General objectives

Identify the situations in which, due to the presence of secretions or consciousness impairment, airway permeability is or may be compromised

Specific objectives

Implementation of interventions with referential integrity for airway clearance diagnosis
Evaluate the effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

6 | 8 | 9 | 10 | 11 | 13 | 18 | 39 | 43 | 44 | 50 | 51 | 55 | 61 | 67 | 70



#249

Ineffective airway clearance in patient with COPD Group D

George Acton | 75 years old



Emergency Room



Basic



Respiratory

Context

Patient has come to the hospital due to abundant expectoration and increased shortness of breath.

Main health conditions

Ineffective airway clearance

General objectives

Identify signs of hypoxemia in hypercapnic patients with COPD

Specific objectives

Identify diagnostic activities that lead to the obtention of data with referential integrity for compromised respiratory system diagnosis

Prevent severe hypoxemia in hypercapnic patients with COPD

Implementation of interventions with referential integrity for impaired airway permeability diagnosis

Evaluate the effectiveness of implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

6 | 8 | 9 | 10 | 11 | 13 | 18 | 39 | 43 | 44 | 50 | 51 | 54 | 55 | 61 | 64 | 67

C50

Heart Challenge

Recommended for: CTE

Complexity: Low

Overview

The Heart Challenge prepares students for basic cardiovascular care in the pre-hospital and emergency room environment. Students can learn about Myocardial Infarction, Arrhythmia, Suspect Acute Coronary Syndrome, among other clinical conditions.

Clinical competencies

- Basic airway management
- Assess and interpret oximetry and vital signs
- Assess and interpret pulse and blood pressure
- Lung examination
- Interpret capillary refill time
- Detect heart sounds and murmurs
- Pupillary and mental status assessment
- Blood sugar measurement and interpretation
- Assess and interpret temperature
- Establish drug class
- O2 administration
- Catheter management
- Refer to healthcare/ medical specialties
- Interpret imaging tests (X-ray; ECG)
- Arterial blood gas interpretation
- Electrocardiogram interpretation
- Bladder catheterization (male and female)
- Handle and position patients body
- Vagal maneuvers performance
- Educate and inform patient, relatives and/or caregivers
- Extremity examination
- Cardiac enzyme interpretation



#155

Congestive heart failure

John Clayton | 66 years old



Emergency Room



Basic



Cardiology

Context

John has been feeling more shortness of breath than usual. He can hardly get some sleep and needs to be sitting all the time, otherwise he can't breathe.

Main health conditions

Congestive heart failure

General objectives

Identify through interrogation the usual complaints of heart failure (fatigue on small efforts, orthopnea, cough for two days)

Search for the cause of aggravation (not taking medication, infection)

Recognize signs of hypoxia and hypoperfusion

Call for differentiated help

Specific objectives

Characterize pain complaints: fatigue on small efforts, orthopnea, and peripheral edemas

Identify further co-morbidities (Chronic Obstructive Pulmonary Disease (COPD), heart failure, fever)

Identify previous clinical history

Ensure airway permeability

Search for increased respiratory rate with hypoxemia

Check for tachycardia with hypoperfusion signs

Search for peripheric edemas, and perform abdominal palpation

Order and Interpret complementary diagnostic exams (ABG; X-Ray; ECG; BIOCH; CBC)

Administer oxygen therapy

Call for differentiated help

Clinical competencies

Check this content in detail on the last page of the chapter

7 | 8 | 9 | 10 | 11 | 13 | 18 | 21 | 22 | 27 | 29 | 30 | 41 | 42 | 44 | 50 | 51 | 54 | 55 | 61 | 64 | 67



#170

Hypovolemic Shock

Jane Palmer | 70 years old



Emergency Room



Basic



Cardiology

Context

Patient has been brought to the emergency department due to abundant blood loss in soft stools.

Main health conditions

Hypovolemic Shock

General objectives

Identify signs and symptoms of hypovolemic shock

Specific objectives

Identify diagnostic activities that lead to data with referential integrity for the hypovolemic shock diagnosis

Implement interventions with referential integrity for hypovolemic shock diagnosis

Evaluate the effectiveness of the implemented interventions

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 13 | 15 | 21 | 39 | 44 | 55 | 64 | 67



#312

Supraventricular tachycardia

Jane Scott | 34 years old



Pre-Hospital



Basic



Cardiology

Context

Jane was shopping at a store when she had a discussion with the store seller. After she left the store she felt bad.

Main health conditions

Regular Narrow Complex Tachycardia – Stable

General objectives

Utilize the appropriate mnemonics (SAMPLE and OPQRST) to interview patient in order to discover pertinent clinical findings

Identify through physical examination assessment and collection of medical history that the patient is suffering from fast and regular heartbeat, but is stable

Specific objectives

Call for paramedics informing of patient current condition and relevant collected clinical data

Provide continual treatment and reassessment while waiting for paramedics

Clinical competencies

Check this content in detail on the last page of the chapter

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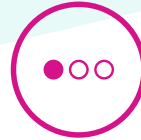
#390

Non-ST elevation myocardial infarction

Edward Carter | 39 years old



Pre-Hospital



Basic



Cardiology

Context

Edward felt a strong pain in his chest after having an argument with his neighbor.

Main health conditions

Suspect acute coronary syndrome

General objectives

Identify signs and symptoms of a possible acute coronary syndrome

Specific objectives

Collect patients clinical history applying the SAMPLE mnemonic
Call for differentiated help, supplying the adequate patients data

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 18 | 31 | 54 | 55 | 64 | 67



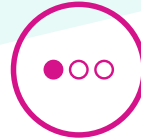
#395

STEMI with chest pain and tightness

Ellen Smith | 67 years old



Pre-Hospital



Basic



Cardiology

Context

Ellen has been struggling to change her diet and improve her lifestyle to be less sedentary. Today she was walking outside with her daughter and felt chest discomfort with palpitations.

Main health conditions

Myocardial infarction

General objectives

Timely identify signs and symptoms of a possible myocardial infarction

Specific objectives

Collect patient's clinical history applying SAMPLE and thoroughly assess pain with OPQRST
Determine the time of symptom onset and initiate pharmacological interventions in order to stabilize patient
Call for a higher level of Emergency Medical Services, providing patient's clinical information in a organized manner

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 18 | 29 | 31 | 54 | 55 | 64 | 67



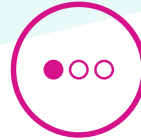
#705

Early repolarization

James Dean | 48 years old



Emergency Room



Basic



Cardiology

Context

Mr. Dean was on a bicycle marathon race, when suddenly, on a curve, had a fall and broke his leg. He was stabilized at the scene and after that, immediately brought to the Emergency Department.

Main health conditions

Early repolarization

General objectives

Identify an early repolarization pattern through the patient's condition, dialogues, and complementary diagnostic tests (12-lead-ECG)

Specific objectives

Ask about main complaints and related symptoms

Ask about other co-morbidities, similar situations in the past, regular medication, and previous hospitalizations

Evaluate the patient's vital signs

Order and interpret complementary diagnostic exams (12-lead ECG)

Call for differentiated help - Cardiology

Keep patient under surveillance

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 27 | 29 | 41 | 42 | 55 | 64 | 67



#706

Fatigue and edema of the lower limbs due to atrial fibrillation

Brian Coleman | 76 years old



Emergency Room



Basic



Cardiology

Context

Mr. Coleman has a personal history of heart failure, atrial fibrillation, hypertension, and obesity. He is retired and works only in agriculture, living with his wife.

Main health conditions

Atrial fibrillation and complete left bundle branch block

General objectives

Identify atrial fibrillation through 12-lead-ECG in patient with heart failure

Specific objectives

Ask about main complaints (chest pain, palpitations, easy fatigue, and limb edema)

Ask about other co-morbidities, similar situations in the past, regular medication, and previous hospitalizations

Evaluate patient's vital signs

Check for limb edemas

Order and interpret complementary diagnostic exams (12-lead ECG)

Call for differentiated help - Cardiology

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 10 | 11 | 13 | 19 | 21 | 22 | 27 | 29 | 38 | 41 | 42 | 50 | 55 | 64 | 67



#710

First-degree heart block

David Finn | 63 years old



Emergency Room



Basic



Cardiology

Context

Mr. Finn is a gardener. Lately, he has been feeling down, with some family problems and also at work.

Main health conditions

First degree heart block

General objectives

Identify first-degree atrioventricular block in the 12-lead-ECG

Specific objectives

Ask about main complaints (chest pain, palpitations) and related symptoms

Ask about other co-morbidities, similar situations in the past, regular medication, and previous hospitalizations

Evaluate the patient's vital signs

Order and interpret complementary diagnostic exams (12-lead ECG)

Call for differential help - Cardiology

Clinical competencies

Check this content in detail on the last page of the chapter

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#711

Respiratory sinus arrhythmia

Roger Waters | 26 years old



Emergency Room



Basic



Cardiology

Context

Mr. Waters was walking his dog outside when suddenly felt chest palpitations and fainted in the garden. His sister called for an ambulance.

Main health conditions

Respiratory sinus arrhythmia

General objectives

Identify respiratory sinus arrhythmia through the 12-lead-ECG

Recognize a rhythm disturbance of vagal cause (ischemic, systemic diseases, or secondary to drugs excluded)

Specific objectives

Ask about main complaints and related symptoms

Ask about other co-morbidities, similar situations in the past, regular medication, and previous hospitalizations

Evaluate the patient's vital signs

Order and interpret complementary diagnostic exams (12-lead ECG)

Call for differentiated help - Cardiology

Clinical competencies

Check this content in detail on the last page of the chapter

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#713

Misperformance of a 12-lead ECG due to electrode swapping

Zuri Moyo | 58 years old



Emergency Room



Basic



Cardiology

Context

Ms. Moyo was at home with his grandmother, when she started feeling palpitations and anxiety. Her grandmother tries to understand what is happening with her, but she just mentions that she's not feeling well.

Main health conditions

Eletrodes exchange

General objectives

Identify the misperformance of a 12-lead ECG due to electrode swapping

Specific objectives

Ask about main complaints (chest pain, palpitations) and related symptoms

Ask about other co-morbidities, similar situations in the past, regular medication, and previous hospitalizations

Evaluate the patient's vital signs

Order and interpret complementary diagnostic exams (12-lead ECG)

Call for differentiated help - Cardiology

Clinical competencies

Check this content in detail on the last page of the chapter

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C51

First Aid I

Recommended for: CTE

Complexity: Low

Overview

First Aid allow students to quickly and easily learn First Aid techniques, namely, Hypoglycemia, Seizures, Stroke, Anaphylatic shock, among other clinical conditions.

This content package is designed to provide students with the opportunity to train basic victim approach skills with virtual patients.

Clinical competencies

- Blood sugar measurement and interpretation
- Administration of fast acting carbohydrates
- Refer to healthcare/ medical specialties
- Administration of prescription drugs
- Basic airway management
- Assess and interpret vital signs
- Assess and interpret pulse (rate, rhythm and volume)
- Extremity examination
- Lesion qualities assessment (petechiae, urticaria, jaundice, vesicles, etc)
- Handle and position patients body
- Hand and foot examination
- General wound care
- Abdominal examination (inspect, auscult, percuss and palp)
- Refer to healthcare/ medical specialties



#757

Hypoglycemia while tutoring the student

Liz Johnson | 30 years old



Pre-Hospital



Basic



Endocrinology

Context

Ms. Johnson was tutoring Francisco in mathematics when she suddenly started feeling sick.

Main health conditions

Hypoglycemia

General objectives

Identify and treat hypoglycemia

Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient and understand what is the most likely main problem

Observe patient skin and extremities

Check patient blood glucose

Clinical competencies

Check this content in detail on the last page of the chapter

4 | 18 | 33 | 47 | 64



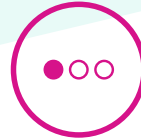
#758

Seizure

Chantelle Whitney | 17 years old



Pre-Hospital



Basic



Neurology

Context

Chantelle was at a friend's house after school waiting for her mother to pick her up. She suddenly stopped talking and her eyes were gazing.

Main health conditions

Seizures

General objectives

Call for differentiated help - Emergency Medical Services

Specific objectives

Minimize adverse events after seizure activity by positioning the patient to a lateral safety position (PLS)
Understand risks associated if restrain the patient while on seizure or place any object between the patient's teeth or mouth

Clinical competencies

Check this content in detail on the last page of the chapter

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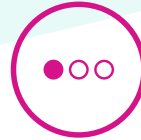
#759

Short-term left ischemic embolic stroke

Ethan Owens | 60 years old



Pre-Hospital



Basic



Neurology

Context

Mr. Owens was at home with his wife, he is an assistant in the local school. When his grandson arrives he noticed that Mr. Owens wasn't ok.

Main health conditions

Stroke

General objectives

Identify a possible concussion and associate it with signs of mild confusion
Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient and understand what is the main complaints
Observe the patient skin (head hematoma from the fall)

Clinical competencies

Check this content in detail on the last page of the chapter

64



#760

Confused with head hematoma

Chan Jackson | 75 years old



Pre-Hospital



Basic



Trauma

Context

Mr. Jackson was playing hide and seek with his grandson at home while waiting for the parents to pick him up after school. When he was coming down on the stairs, slipped his foot and fell off. He doesn't recall the event and is mildly confused. He has past medical history of previous ischemic stroke.

Main health conditions

Concussion

General objectives

Identify a stroke through the patient's signs and symptoms, using the FAST (face drooping, arm weakness, speech difficulties, and time to call)

Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient and his wife, and understand what is the most likely main problem

Observe the patient's face (face drooping)

Understand that the patient has speech difficulties

Clinical competencies

Check this content in detail on the last page of the chapter

47 | 64



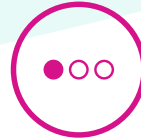
#761

Possible acute coronary syndrome

Helen Bennett | 52 years old



Pre-Hospital



Basic



Cardiology

Context

Ms Bennett was preparing the lunch when she started feeling discomfort in the center of the chest. When the pain started she thought about calling the medical emergency, but then sat down and waited for her son to arrive. He always comes home for lunch and it's time for him to arrive.

Main health conditions

Possible acute coronary syndrome

General objectives

Identify signs and symptoms of a possible acute coronary syndrome
Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient and understand what is the most likely main problem
Administer aspirin

Clinical competencies

Check this content in detail on the last page of the chapter

9 | 11 | 31 | 64



#762

Anaphylactic shock due to nut allergy

Paul Smith | 18 years old



Pre-Hospital



Basic



Allergy/Immunology

Context

Paul was in conversation with his colleagues outside the school, when he started with shortness of breath after having lunch with his friends. During lunch, he tasted food from a friend.

Main health conditions

Anaphylactic shock

General objectives

Identify signs and symptoms of anaphylactic shock
Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient and his colleague to understand what is the most likely main problem
Administer adrenalin auto-injector

Clinical competencies

Check this content in detail on the last page of the chapter

5 | 9 | 11 | 13 | 64 | 67



#763

Right ankle sprain

Jamal Duff | 17 years old



Pre-Hospital



Basic



Trauma

Context

Jamal was playing basketball outside the school, but suddenly landed badly on his right foot, and fell to the ground.

Main health conditions

Sprain

General objectives

Identify a possible dislocation of the right ankle
Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient and understand the main complaints
Observe the skin and identify right ankle edema
Apply cold to the edema area

Clinical competencies

Check this content in detail on the last page of the chapter

36 | 38 | 64



#764

Food poisoning with vomiting and dehydration

Oliver Solberg | 16 years old



Pre-Hospital



Basic



Gastrointestinal

Context

Oliver was playing outside the school after lunch when suddenly felt nausea and started having abdominal pain and cramps, which led him to fall in the school backyard.

Main health conditions

Suspected food poisoning and dehydration

General objectives

Recognize, through history-taking and patient's complaints, the signs and symptoms of food poisoning associated with dehydration

Specific objectives

Interrogate the patient and understand the main complaints
Call for differentiated help - Emergency Medical Services

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 64 |



#765

Right knee sprain

Morgan Smith | 17 years old



Pre-Hospital



Basic



General surgery

Context

Morgan was on break with his friends when they decided to make a bet that Morgan would be able to climb the tree.

Main health conditions

Abrasions on the left arm and open wound on the forehead

General objectives

Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient and understand the main complaints
Observe the skin

Clinical competencies

Check this content in detail on the last page of the chapter

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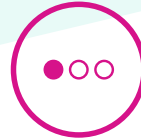
#766

First-degree burn

Amelia Abbott | 46 years old



Pre-Hospital



Basic



Wound care

Context

Ms. Abbott is a cook at the school and was making lunch for the students when she accidentally spilled a pot of hot water. With his nerves and pain, she came out into the street.

Main health conditions

First-Degree Burn

General objectives

Identify a burn and apply wet compresses
Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient and understand the main complaints
Observe the skin

Clinical competencies

Check this content in detail on the last page of the chapter

47 | 64 |

C52

First Aid II

Recommended for: CTE

Complexity: Low

Overview

First aids allow students learn First Aid techniques, namely, recovery position, Cardiopulmonary resuscitation. First aid II include from dressing a minor wound to prevent shock to keeping someone's heart beating during a cardiac event.

Clinical competencies

- Administration of prescription drugs
- Assess and interpret pulse (rate, rhythm and volume)
- Assess and interpret vital signs
- Basic life support (CPR) performance
- Basic airway management
- Control of gross external hemorrhage
- Establish drug dosing for common medications
- Extremity examination
- General wound care
- Lesion qualities assessment (petechiae, urticaria, jaundice, vesicles, etc)
- Mental status assessment (level of arousal, response to auditory stimuli, to visual stimuli, noxious stimuli)
- Personal and patient safety measures procedures
- Refer to healthcare/ medical specialties
- Respiratory rate and rhythm assessment and interpretation
- Universal precautions



#767

Anaphylactic reaction due to a wasp sting

Lucy Liu | 27 years old



Pre-Hospital



Basic



Allergy/Immunology

Context

Miss Liu was at school watching the kids playing outdoors. One kid was playing on a tree and, suddenly, a wasp nest fell.

Main health conditions

Anaphylaxis

General objectives

Identify signs and symptoms of anaphylactic reaction due to a wasp sting

Specific objectives

Interrogate the patient to identify the main problem and the complaints

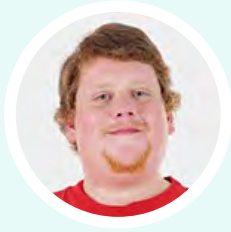
Administer adrenalin auto-injector from the first-aid emergency kit

Call for differentiated help - Emergency Medical Services

Clinical competencies

Check this content in detail on the last page of the chapter

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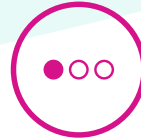
#768

Cardiac arrest

Kevin Ferri | 35 years old



Pre-Hospital



Basic



Cardiology

Context

Mr. Ferri is a full-time gardener at the school. Last month he was hospitalized for chest pain and was diagnosed with acute myocarditis. He also has a personal history of chronic asthma.

Main health conditions

Cardiac arrest

General objectives

Identify a cardiac arrest and correctly apply basic life support maneuvers
Call for differentiated help - Emergency Medical Services

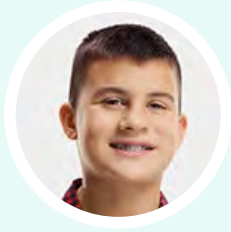
Specific objectives

Perform airway observation
Interrogate the colleague and understand the main problem

Clinical competencies

Check this content in detail on the last page of the chapter

9 | 11 | 13 | 64 | 67 | 79



#769

Asthma crisis

Elijah Wood | 16 years old



Pre-Hospital



Basic



Respiratory

Context

Elijah has had asthma and seasonal allergies since he was a little kid. Today was playing football at school at started developing shortness of breath.

Main health conditions

Asthma exacerbation

General objectives

Recognize the classic signs and symptoms of asthma

Specific objectives

Interrogate the patient to understand what is the main problem and complaints

Administer patient's salbutamol inhaler

Call for differentiated help - Emergency Medical Services

Clinical competencies

Check this content in detail on the last page of the chapter

9 | 11 | 15 | 41 | 84 | 87



#770

Recovery position due to drug intoxication

Anne Price | 17 years old



Pre-Hospital



Basic



Toxicology

Context

Anne is a student and has been feeling a lot of pressure with the exams coming up next week. Today she told her friend that last dawn she took some pills to have more energy to study.

Main health conditions

Possible drug intoxication

General objectives

Understand the need to place a patient in a safe lateral position
Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient's colleague to understand what is the main problem and complaints
Perform AVPU

Clinical competencies

Check this content in detail on the last page of the chapter

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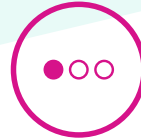
#771

Open fracture on the leg and wound on his forehead

Jack Russell | 17 years old



Pre-Hospital



Basic



Trauma

Context

Jack was trying to grab a ball on the school roof that went after a huge kick. He lost his balance and had a 6m high fall to the ground. When a friend found him, he was very agitated and confused.

Main health conditions

Leg fracture

General objectives

Identify trauma injury and maintain the correct immobilization of the leg
Perform wound cleaning of the head

Specific objectives

Interrogate the patient's colleague to identify the trauma mechanism
Maintain correct immobilization of the leg without moving patient's position
Call for differentiated help - Emergency Medical Services

Clinical competencies

Check this content in detail on the last page of the chapter

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#772

Injured by chainsaw with open wound in the left arm

Leon Cruz | 17 years old



Pre-Hospital



Basic



Trauma

Context

Leon was with some friends in the school garden when he suddenly saw the chainsaw of the school gardener. His friends began to challenge Leon to start the chainsaw and cut off a branch from the tree. However, while Leo was trying to turn on the chainsaw and play with it, he lost control. A colleague who has a first aid course rescued him.

Main health conditions

Open fracture in the left arm

General objectives

Identify an open wound and apply direct pressure
Call for differentiated help - Emergency Medical Services

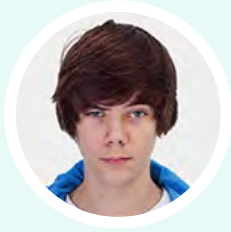
Specific objectives

Interrogate the patient to understand the complaints and the risk of severe bleeding with potential hemorrhagic shock (pale skin and sweaty, extremities cold to touch, weak and rapid pulse)

Clinical competencies

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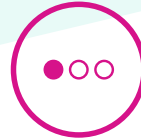
#773

Airway obstruction

Anthony Joshua | 15 years old



Pre-Hospital



Basic



Respiratory

Context

Anthony was doing a picnic outside the school with some friends when, by distraction, grabbed a bite of the meat sandwich and choked with one bone. He has a medical history of type 2 diabetes.

Main health conditions

Airway obstruction

General objectives

Identify airway obstruction and encourage continued coughing

Specific objectives

Interrogate the patient to understand the main complaints (able to speak for short periods due to airway obstruction)

Recognize the importance of clinical history in airway obstruction by a foreign body

Call for differentiated help - Emergency Medical Services

Clinical competencies

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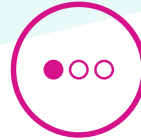
#774

Open wound in the chest

Robert Myers | 17 years old



Pre-Hospital



Basic



Trauma

Context

Robert was arriving at school when a classmate with serious psychiatric problems attacked him with a knife.

Main health conditions

Open wound in the chest

General objectives

Identify an open wound and apply direct pressure to the wound
Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient to understand what happened, main complaints, and understand the risk of severe bleeding
Wear gloves for personal protection

Clinical competencies

Check this content in detail on the last page of the chapter

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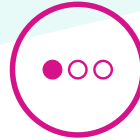
#775

Right knee injury

Sarah Wagner | 16 years old



Pre-Hospital



Basic



Trauma

Context

Sarah was having lunch with some friends when she saw a snake. She is very afraid of snakes, so she ran away and fell down.

Main health conditions

Right knee sprain

General objectives

Apply ice cold pack in the knee
Call for differentiated help - Emergency Medical Services

Specific objectives

Interrogate the patient to understand the complaints and understand what is the main problem

Clinical competencies

Check this content in detail on the last page of the chapter

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#776

Eye injury

Jessica Reynolds | 22 years old



Pre-Hospital



Basic



Trauma

Context

Jessica was helping her little brother with a school project, using sand and small objects to glue to a frame with the whole family. Her brother's friend started throwing the project materials for fun, and one hit her in the eyes.

Main health conditions

Eye injury

General objectives

Identify an eye injury and promptly assist with an eyewash irrigation solution

Specific objectives

Interrogate the patient to understand the main complaints (eye pain, redness in the eye, watering)
Observe the patient's eye and perform irrigation with eyewash solution

Clinical competencies

Check this content in detail on the last page of the chapter

4 | 36 | 47

C71

Sports Medicine

Recommended for: High School

Complexity: Medium

Overview

This content package is designed as an introduction to the fields of sports medicine and students will be exposed to clinical cases relevant to the first aid and recognition and treatment of athletic injuries. A immersive learning experience in several areas, such as trauma, cardiology, orthopedics, and neurology will be covered.

Clinical competencies

- Assess and interpret vital signs (pulse; Blood Pressure; Respiratory Rate)
- Basic airway management
- Basic life support (CPR) performance
- Blood sugar measurement and interpretation
- Cardiac defibrillation
- Catheter management
- Contribute to the implementation of physiotherapy interventions
- Electrocardiogram interpretation
- Establish drug dosing for common medications
- Extremity examination
- General wound care
- Hand and foot examination
- Handle and position patients body
- Identify heart sounds
- Lesion qualities assessment
- Thorax and Lung examination
- Mental status assessment
- Oximetry interpretation and O2 administration
- Perform body immobilization
- Personal and patient safety measures procedures
- Promote patient safety
- Pupillary examination
- Refer to healthcare/ medical specialties
- Universal precautions
- Ventilator management



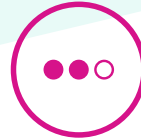
#985

Cardiac arrest on the pitch

Jack White | 28 years old



Pre-Hospital



Intermediate



Cardiology

Context

Mr. White was playing a football game when suddenly fell to the ground.

Main health conditions

Cardiac arrest

General objectives

Identify a cardiac arrest and correctly apply basic life support maneuvers
Call for differentiated help - Emergency Medical Services

Specific objectives

Recognize that the patient does not respond verbally
Administer manual ventilation
Administer manual chest compressions

Clinical competencies

Check this content in detail on the last page of the chapter

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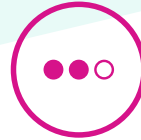
#986

Ventricular fibrillation on the pitch

Rebecca Duncan | 22 years old



Pre-Hospital



Intermediate



Cardiology

Context

Ms. Duncan was playing a basketball game when suddenly fell to the ground.

Main health conditions

Ventricular fibrillation

General objectives

- Identify a cardiac arrest with a defibrillate rhythm
- Apply chest compressions at an adequate rate
- Establish adequate relation between compressions and ventilations
- Employ the defibrillator correctly

Specific objectives

- Administer manual ventilation and manual chest compressions
- Employ the defibrillator to the patient

Clinical competencies

Check this content in detail on the last page of the chapter

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#987

Head trauma with a hemorrhagic wound

Rose Jones | 27 years old



Pre-Hospital



Intermediate



Trauma

Context

Ms. Jones was in a women's soccer tournament. When the player, while heading a ball, bumped into a colleague's head.

Main health conditions

Hemorrhagic frontal head injury

General objectives

Identify a head trauma injury
Call for differentiated help - Neurosurgery

Specific objectives

Understand the mechanism of trauma
Apply wound cleaning, disinfection, and suture

Clinical competencies

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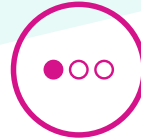
#988

Head trauma with concussion and anisocoria

Noah Vargas | 20 years old



Pre-Hospital



Basic



Trauma

Context

Mr. Vargas was on his way home from a hockey game when he felt sick outside his house.

Main health conditions

Possible traumatic brain

General objectives

Identify a head trauma injury with anisocoria
Call for differentiated help - Emergency Medical Services

Specific objectives

Understand the mechanism of trauma
Call for differentiated help

Clinical competencies

Check this content in detail on the last page of the chapter

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#989

Ankle sprain

Susan Wang | 28 years old



Emergency Room



Basic



Trauma

Context

Miss Wang was on the last round of a marathon, when misstep her feet and fell to the ground.

Main health conditions

Ankle sprain

General objectives

Identify a possible dislocation of the right ankle

Specific objectives

Understand the mechanism of trauma

Identify main complaints (pain), relief position, temporal evolution, and the associated problems

Apply cold to the edema area

Prepare the area to be taped, and perform tape application

Clinical competencies

Check this content in detail on the last page of the chapter

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#990

Neck injury

John Brown | 17 years old



Pre-Hospital



Basic



Trauma

Context

John was playing football and was tackled from behind while running with the ball. He lost his balance and landed on his head.

Main health conditions

Neck injury

General objectives

Assess and identify neck injury

Apply first-aid procedures that can minimize injury - place a cervical collar for immobilization

Call for differentiated help - Emergency Medical Services

Specific objectives

Apply cervical collar for immobilization

Clinical competencies

Check this content in detail on the last page of the chapter

33 | 38 | 47 | 51 | 57 | 64



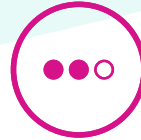
#991

Convulsions at a basketball game

William Malone | 25 years old



Emergency Room



Intermediate



Neurology

Context

Mr. Malone was playing a basketball game when suddenly fell to the ground.

Main health conditions

Convulsions

General objectives

Identify a convulsion and apply first aid properly

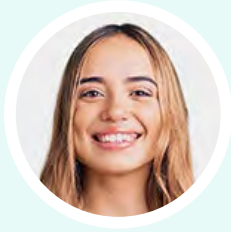
Specific objectives

- Recognize that the patient does not respond verbally
- Apply nasopharyngeal tube
- Place the patient in a lateral decubitus
- Call for differentiated help - Emergency Medical Services

Clinical competencies

Check this content in detail on the last page of the chapter

9 | 10 | 11 | 13 | 18 | 39 | 55



#992

Clavicle fracture at a basketball game

Sophie Turner | 23 years old



Emergency Room



Basic



Trauma

Context

Sophie was playing basketball and was pushed from behind. She lost her balance and landed on the floor.

Main health conditions

Clavicle fracture

General objectives

Assess and identify clavicle injury

Apply first-aid procedures that can minimize injury - place a clavicle immobilization

Specific objectives

Characterize the main complaints, shoulder and clavicle pain

Perform clavicle immobilization

Treat pain

Clinical competencies

Check this content in detail on the last page of the chapter

9 | 11 | 31 | 47 | 67



#993

Left ribs fracture after 2 players collided

Lucas Mendez | 27 years old



Pre-Hospital



Basic



Trauma

Context

Mr. Mendez collided with a player when he was playing soccer

Main health conditions

Left ribs fracture

General objectives

Diagnose possible fractured ribs and apply first aid properly
Call for differentiated help - Emergency Medical Services

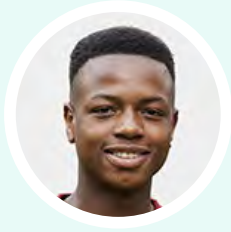
Specific objectives

Characterize the main complaints, chest pain and dyspnea (aggravates with inspiratory movements), and shortness of breath
Administer analgesics
Administer high-flow mask
Call for differentiated help - Emergency Medical Services

Clinical competencies

Check this content in detail on the last page of the chapter

9 | 11 | 31 | 54 | 55 | 64 | 67 | 71



#994

Torn the anterior cruciate ligament

Thomas Warner | 22 years old



Pre-Hospital



Basic



Orthopedic

Context

Mr. Warner was returning home after baseball training. When he was throwing a ball in a quick change of direction, he felt a pop in his knee, pain, and difficulty walking. He didn't want to go to the hospital right away, so a colleague dropped him off at home.

Main health conditions

Possible torn the anterior cruciate ligament in right knee

General objectives

Identify a possible torn anterior cruciate ligament

Specific objectives

Understand the mechanism of trauma

Apply instant cold pack

Apply compression bandage

Clinical competencies

Check this content in detail on the last page of the chapter

8 | 9 | 11 | 31 | 33 | 36 | 47 | 57

C72

Physical Medicine & Rehabilitation

Recommended for: MBBS, MD, DO, PA, CNS, APRN

Complexity: Medium

Overview

This content package is concerned with the diagnosis, treatment, and prevention of physical impairments, particularly those associated with disorders of the muscles, and nerves, among the others. It has comprehensive, patient-centered treatment to maximize function and quality of life for its patients, who can range in age from infants to adults.

Clinical competencies

- Abdominal examination (inspect, auscult, percuss and palp)
- Assess and interpret vital signs
- Back examination
- Basic airway management
- Basic exercise testing
- Chest x-ray interpretation
- Conduct physical assessment (body structure, function impairments, activity limitations and participation restrictions)
- Consultation management
- Contribute to the implementation of physiotherapy interventions.
- Coordination assessment
- Cranial nerves assessment
- Detect heart murmurs
- Handle and position patients body
- Identify S1 and S2 heart sounds (tricuspid, mitral, pulmonary, aortic)
- Lesion qualities assessment (petechiae, urticaria, jaundice, vesicles, etc)
- Level of alertness assessment
- Thorax examination and lung examination
 - Mental status examination
- Motor function (voluntary movements, reflex withdraw, spontaneous, involuntary movements, tone)
- Oximetry interpretation
- Refer to healthcare/ medical specialties
- Respiratory rate and rhythm assessment and interpretation
- Spine x-ray interpretation
- Ultrasonography interpretation
- Visual fields assessment



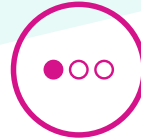
#512

T4 syndrome, an alteration of the Autonomic Nervous System on the upper limbs

Mark Jacobs | 35 years old



Consultation



Basic

Physical Medicine
and Rehabilitation

Context

Mr. Mark Jacobs is a full-time musician, an orchestral double bass player. He has been referred to you for review and a treatment plan after presenting with persistent pain.

Main health conditions

An alteration of the ANS

General objectives

Identify a classic presentation of the automatic nervous system driven by intervertebral T4 mobility

Specific objectives

Evaluate the main complaints (constant pain and sweating), characterize its temporal evolution and the associated symptoms (rest relief the pain)

Clinical competencies

Check this content in detail on the last page of the chapter

11 | 12 | 67 | 69 | 82 | 83 | 84



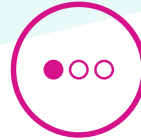
#671

Low back pain aggravated/maintained by psychosocial factors

Mark Jacobs | 35 years old



Consultation



Basic

Physical Medicine
and Rehabilitation

Context

Ms. Snow is a young woman complaining about low back pain that started one year ago. Since the patient refused to go to the hospital, the Rehabilitation Department scheduled an appointment. The GP wants to have a psychosocial assessment.

Main health conditions

Low back pain aggravated/maintained by psychosocial factors

General objectives

Evaluate the psychosocial factors affecting the patient and the necessity of a referral
Employ the appropriate management

Specific objectives

Identify main complaints, their temporal evolution, and the associated problems
Check other co-morbidities and regular medication
Prescribe patient management/education about the following concepts: central sensitization, psychosocial factors role, and graded exposure concept

Clinical competencies

Check this content in detail on the last page of the chapter

64 | 83 | 84



#672

Lateral ligament injury of the ankle

Jamie García | 33 years old



Emergency Room



Basic



Physical Medicine
and Rehabilitation

Context

Mr. García is a young man who twisted his ankle while walking on the street. He was able to reach the hospital. After the triage, the traumatologist referred him to the Physiotherapy department.

Main health conditions

Sprained ankle

General objectives

Employ the knowledge related to taping principles

Specific objectives

Identify main complaints (pain), relief position, temporal evolution, and the associated problems

Check regular medication

Prepare the area to be taped

Perform tape application

Review the safety of tape application

Clinical competencies

Check this content in detail on the last page of the chapter

84



#673

Vertebrobasilar insufficiency due to a cervical whiplash injury

Mary Olsen | 19 years old



Consultation



Intermediate

Physical Medicine
and Rehabilitation

Context

Ms. Olsen is a young handball player who had a cervical whiplash on her last match seven days ago. After the assessment in the Emergency Department, on the incident day, she received a recommendation to rest and a referral to the Physiotherapy department today.

Main health conditions

Vertebrobasilar insufficiency

General objectives

Recognize the knowledge related to cervical risk factors assessment and management

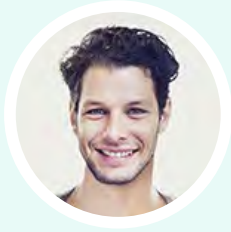
Specific objectives

Identify main complaints, their temporal evolution, and the associated problems
Check other co-morbidities and regular medication

Clinical competencies

Check this content in detail on the last page of the chapter

64 | 83 | 84



#674

Patellar tendinopathy on the left knee with pain during knee flexion

Markus Belton | 29 years old



Consultation



Intermediate

Physical Medicine
and Rehabilitation

Context

Mr. Belton is a semi-professional volleyball player who works as an officer too. He had anterior knee pain on the left leg after training and with prolonged sitting for the last 4 days. He is worried as he has had several episodes of chondromalacia patellae in the last year. The team doctor made a referral to the team physiotherapist today.

Main health conditions

Patellar tendinopathy

General objectives

Recognize the knowledge related to the patellar tendinopathy assessment and management

Specific objectives

Identify main complaints, their temporal evolution, associated problems, and other co-morbidities
Establish a differential diagnosis among chondromalacia patellae and patellar tendinopathy
Recommend a rehabilitation program and progression criteria for patellar tendinopathy

Clinical competencies

Check this content in detail on the last page of the chapter

83 | 84



#675

Bronchiolitis in a 14-month-old toddler who has taken antidiabetics for 5 days

Gael Verdú | 14 month(s) old



Consultation



Intermediate



Pediatrics

Physical Medicine
and Rehabilitation

Context

Gael is a baby with respiratory problems. He had a cough and mild fever for three days and the Emergency Pediatric department made a referral to the physiotherapist today, after ruling out Covid-19.

Main health conditions

Bronchiolitis

General objectives

Recognize the knowledge related to an infant bronchiolitis assessment and management

Specific objectives

Establish a differential diagnosis among bronchiolitis and pneumonia

Apply an acute/subacute physiotherapy management on an infant bronchiolitis

Clinical competencies

Check this content in detail on the last page of the chapter

2 | 9 | 11 | 13 | 22 | 27 | 42 | 42 | 47 | 50 | 51 | 55 | 67 | 83 | 84 | 85 | 86 | 87 | 88 | 89



#676

Long COVID-19 in a patient with COPD

Floriane Sánchez | 60 years old



Consultation



Basic

Physical Medicine
and Rehabilitation

Respiratory

Context

Mrs. Sánchez is a patient diagnosed with chronic obstructive pulmonary disease 5 years ago. She has been controlled by his GP these years. Today the GP has referred her to the Physiotherapist to help her with her tiredness and fatigue using therapeutic exercise. Your goal is to perform a subjective and physical examination, in order to achieve a working hypothesis, a management plan, and an intervention proposal, following the requirements of the guidelines.

Main health conditions

Long COVID-19

General objectives

Apply the knowledge related to the Long-term effects of COVID-19 assessment and management

Specific objectives

Evaluate the main complaints, their temporal evolution, and the associated problem

Recognize the differential diagnosis among COPD and long-term effects of COVID-19

Employ the individualized planning care, pulmonary rehabilitation program, and progression criteria for long-term effects of COVID-19

Clinical competencies

Check this content in detail on the last page of the chapter

64 | 71 | 81 | 83 | 90



#677

Evaluate a patient recovering from a traumatic brain injury with the NIHSS

Bowen Chang | 35 years old



Pre-Hospital



Intermediate

Physical Medicine
and Rehabilitation

Context

Mr. Bowen is a male gardener with spastic right hemiplegia and a minor hemiparesis after a traumatic brain injury caused by a fall while climbing a mountain 5 weeks ago. After being in ICU and the Care facility during this period, he has finally been transferred to the Neurological Rehabilitation area of the hospital. Today, he was discharged and sent to his home.

Main health conditions

NIHSS (National Institute of Health Stroke Score)

General objectives

Recognize the knowledge related to patient postural management

Specific objectives

Identify main complaints, their temporal evolution, associated problems, and other co-morbidities
Prepare the laying down of the patient in bed and perform adequate postural management
Improve the patient's postural control and manage his limitations and pain

Clinical competencies

Check this content in detail on the last page of the chapter

39 | 81



#678

Long COVID-19 in a patient with COPD

Françoise Desvignes | 44 years old



Consultation



Intermediate



Orthopedic

Physical Medicine
and Rehabilitation

Context

Françoise is a young woman who has had persistent elbow pain for three months. She is a nurse working in a hospital. She recently visited her GP, who referred her to the Physiotherapy Department of the same hospital.

Main health conditions

Medial elbow pain (golfer's elbow)

General objectives

Apply the knowledge related to medial epicondylalgia

Specific objectives

Evaluate the main complaint of elbow pain, temporal evolution and associated symptoms

Identify other co-morbidities and past family history

Apply a manual therapy treatment

Define take-home recommendations

Clinical competencies

Check this content in detail on the last page of the chapter

82 | 83 | 84



#679

Fibromatosis colli on the right sterno-cleidomastoid

Luka Paez | 1 month(s) old



Consultation



Intermediate



Pediatrics

Physical Medicine
and Rehabilitation

Context

Luka is a healthy newborn. But today comes with his mother into the Physiotherapy hospital department with neck problems after a pediatrician referral.

Main health conditions

Fibromatosis colli

General objectives

Apply the knowledge related to fibromatosis colli and congenital muscular torticollis presentations

Specific objectives

Evaluate the main complaints, namely agitation, irritation, and bulge on the neck; additionally, their temporal evolution, and associated symptoms

Identify family history

Manage fibromatosis colli and congenital muscular torticollis presentations according to evidence-based physiotherapy

Clinical competencies

Check this content in detail on the last page of the chapter

47 | 72 | 82 | 83 | 84

Clinical competencies

- 1 - Abdominal bruit
- 2 - Abdominal examination (inspect, auscult, percuss and palp)
- 3 - Abdominal ultrasound result interpretation
- 4 - Administration of fast acting carbohydrates
- 5 - Administration of prescription drugs
- 6 - Airway suctioning
- 7 - Arterial blood gas interpretation
- 8 - Assess and interpret blood pressure (various sites and body positions)
- 9 - Assess and interpret pulse (rate, rhythm and volume)
- 10 - Assess and interpret temperature
- 11 - Assess and interpret vital signs
- 12 - Back examination
- 13 - Basic airway management
- 14 - Basic spirometry (vital capacity, FEV 1 and interpretation)
- 15 - Bladder catheterization (male and female)
- 16 - Blood component management
- 17 - Blood culture interpretation
- 18 - Blood sugar measurement and interpretation
- 19 - Cardiac enzyme interpretation
- 20 - Cath lab techniques interpretation
- 21 - Catheter management
- 22 - Chest x-ray interpretation
- 23 - Coagulopathy rate interpretation
- 24 - Collect patients clinical information
- 25 - Computed tomography (CT) and Magnetic resonance imaging (MRI) result interpretation
- 26 - Control of gross external hemorrhage
- 27 - Detect heart murmurs
- 28 - Educate and inform patient, relatives and/or caregivers
- 29 - Electrocardiogram interpretation
- 30 - Establish drug class
- 31 - Establish drug dosing for common medications
- 32 - External eye anatomy examination
- 33 - Extremity examination
- 34 - Fluid/Electrolyte test interpretation
- 35 - Gait and station assessment
- 36 - General wound care
- 37 - Gram stain interpretation
- 38 - Hand and foot examination
- 39 - Handle and position patients body
- 40 - Hematocrit interpretation
- 41 - Identify S1 heart sounds (tricuspid, mitral)
- 42 - Identify S2 heart sounds (pulmonary, aortic)
- 43 - Inhalation therapy technique
- 44 - Interpret capillary refill time

- 45 - Interpret pelvic Computed tomography (CT)
- 46 - Laboratorial test interpretation
- 47 - Lesion qualities assessment (petechiae, urticaria, jaundice, vesicles, etc)
- 48 - Limb x-ray interpretation (including epiphyses)
- 49 - Liver function test interpretation
- 50 - Lung examination (percuss, fremitus, auscult and qualities of air sound, lobar locations)
- 51 - Mental status assessment (level of arousal, response to auditory stimuli, to visual stimuli, noxious stimuli)
- 52 - Mouth and throat examination
- 53 - Muscle tone, bulk, strength assessment
- 54 - O2 administration
- 55 - Oximetry interpretation
- 56 - Pelvic examination
- 57 - Perform body immobilization
- 58 - Personal and patient safety measures procedures
- 59 - Promote patient safety
- 60 - Proprioception assessment
- 61 - Pupillary examination
- 62 - Recognize emergent situations - Illness severity assessment
- 63 - Recognize emergent situations - Pain assessment
- 64 - Refer to healthcare/ medical specialties
- 65 - Reflexes assessment
- 66 - Renal function test interpretation
- 67 - Respiratory rate and rhythm assessment and interpretation
- 68 - Sensation assessment
- 69 - Spine x-ray interpretation
- 70 - Sputum analysis interpretation
- 71 - Thorax examination (shape, movement, diameters, ribs and diaphragm)
- 72 - Ultrasonography interpretation
- 73 - Universal precautions
- 74 - Urinalysis interpretation;
- 75 - Utilize medical records
- 76 - Vagal maneuvers performance
- 77 - Ventilator management
- 78 - X-ray interpretation
- 79 - Basic life support (CPR) performance
- 80 - Cardiac defibrillation
- 81 - Contribute to the implementation of physiotherapy interventions
- 82 - Conduct physical assessment (body structure, function impairments, activity limitations and participation restrictions)
- 83 - Consultation management
- 84 - Contribute to the implementation of physiotherapy interventions.
- 85 - Level of alertness assessment
- 86 - Cranial nerves assessment
- 87 - Visual fields assessment
- 88 - Coordination assessment
- 89 - Motor function (voluntary movements, reflex withdraw, spontaneous, involuntary movements, tone)
- 90 - Basic exercise testing

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