

The Clinical Evaluation of the Comatose Patient in the Emergency Department

Learning Objectives

- Review the optimal clinical evaluation, diagnostic testing, and treatment of Emergency Department patients with altered mental status (AMS) and coma.
- Discuss procedures and protocols that will assist the emergency physician in providing care to these critically ill and injured patients.

Background

One of the critical requirements of the emergency physician is to be able to efficiently diagnose and effectively treat patients who present to the Emergency Department with altered mental status (AMS) and coma. This lecture will highlight two specific skills that are part of this overall treatment strategy: the physical exam and diagnostic evaluation of these patients, including the detection of rostral-caudal deterioration, and the use of a protocol that includes glucose, naloxone, flumazenil, thiamine, fluids infusions, steroids, anti-epileptic drugs, and therapies designed to treat specific toxins.

In this Brain Injury Course, FERNE would like to stress the use of specific procedures and protocols in managing patients with neurological illness and injury. In effect, the goal is to take a surgeon's approach to treating medical problems in the Emergency Department, including complications related to AMS and coma.

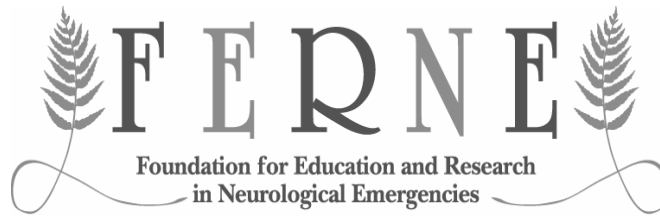
Key Clinical Questions

- What are the relevant clinical signs and symptoms in patients with AMS and coma?
- What is rostral-caudal deterioration and what does it signify in coma patients?
- How should patients with AMS and coma be empirically managed?
- What are the roles for the following therapies in the setting of coma: glucose, naloxone, flumazenil, thiamine, fluids infusions, steroids, anti-epileptic drugs, and therapies designed to treat specific toxins?

Featured Procedures or Protocols

- Step-wise systemic and neurological physical evaluation of the patient who presents in coma, including the identification of toxidromes associated with depressed mental status and coma.
- Evaluation of rostral-caudal deterioration in patients with suspected CNS herniation.
- Empiric treatment protocol in the management of the comatose patient, including the use of: glucose, naloxone, flumazenil, thiamine, fluids infusions, steroids, anti-epileptic drugs, and therapies designed to treat specific toxins.

FERNE would like to thank all of the individuals and organizations who have participated in the development and presentation of this Brain Injury Course, as well as Novo Nordisk, Inc., who has graciously supported content development and this meeting.



The Emergency Department Evaluation of Patients with a Sudden or Severe Headache

Learning Objectives

- Review the optimal way in which the clinical evaluation, diagnostic testing, and treatment of Emergency Department patients with acute cephalgia and suspected SAH can be conducted.
- Discuss procedures and protocols that will assist the emergency physician in providing care to these critically ill and injured patients.

Background

One of the critical requirements of the emergency physician is to be able to efficiently diagnose and effectively treat patients who present to the Emergency Department with acute cephalgia and suspected SAH. This lecture will highlight two specific skills that are part of this overall treatment strategy: the physical exam and diagnostic evaluation of these patients, including CT neuroimaging and lumbar puncture, and the use of a protocol that includes pain and nausea medications, steroids, and therapies designed to limit hemorrhage in SAH patients.

In this Brain Injury Course, FERNE would like to stress the use of specific procedures and protocols in managing patients with neurological illness and injury. In effect, the goal is to take a surgeon's approach to treating medical problems in the Emergency Department, including complications related to SAH.

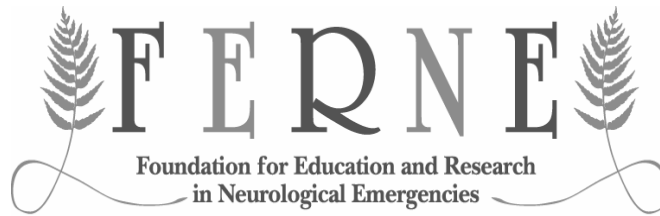
Key Clinical Questions

- What are the clinical signs and symptoms in patients with cephalgia and suspected SAH?
- How should patients with cephalgia and suspected SAH be managed?
- What are the roles for the following therapies in the setting of suspected SAH: pain and nausea medications, steroids, and therapies designed to limit hemorrhage in SAH patients?

Featured Procedures or Protocols

- Diagnostic protocol utilizing CT neuroimaging and lumbar puncture in the evaluation of patients with cephalgia and suspected subarachnoid hemorrhage.
- Treatment protocol for the management of acute cephalgia in the Emergency Department, including the use of therapies to treat cephalgia, migraine headache, and subarachnoid hemorrhage.

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The Emergency Department Management of Traumatic Brain Injury Patients

Learning Objectives

- Review the optimal clinical evaluation, diagnostic testing, and treatment of Emergency Department patients with head trauma and suspected traumatic brain injury.
- Discuss procedures and protocols that will assist the emergency physician in providing care to these critically ill and injured patients.

Background

One of the critical requirements of the emergency physician is to be able to efficiently diagnose and effectively treat patients who present to the Emergency Department with head trauma and suspected trauma brain injury (TBI). This lecture will highlight two specific skills that are part of this overall treatment strategy, the management of increased intracranial pressure (ICP) and the ability to provide skull trephination in the rare circumstance in which there is clinical deterioration of the TBI patient and suspected uncal or brainstem deterioration.

In this Brain Injury Course, FERNE would like to stress the use of specific procedures and protocols in managing patients with neurological illness and injury. In effect, the goal is to take a surgeon's approach to treating medical problems in the Emergency Department, including complications related to TBI.

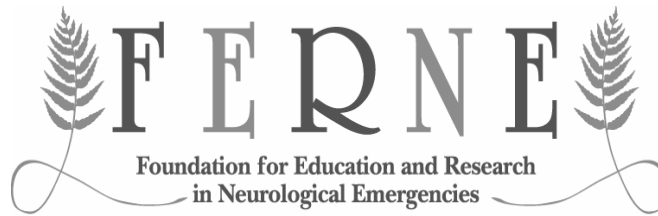
Key Clinical Questions

- What are the clinical signs and symptoms of increased ICP?
- How should patients with suspected increased ICP in the setting of TBI be managed?
- What are the roles for the following therapies in the setting of suspected increased ICP: lasix, mannitol, hyperventilation, steroids, anti-epileptic drugs, fluid infusions, pressors, intracranial pressure monitoring, and skull trephination?

Featured Procedures or Protocols

- Treatment protocol for the management of elevated intracranial pressure (ICP).
- Skull trephination for the management of suspected uncal herniation due to an expanding epidural hematoma.

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The Diagnosis and Treatment of ED Seizure and Status Epilepticus Patients

Learning Objectives

- Review the optimal clinical evaluation, diagnostic testing, and treatment of Emergency Department patients who present with seizures and status epilepticus (SE).
- Discuss procedures and protocols that will assist the emergency physician in providing care to these critically ill and injured patients.

Background

One of the critical requirements of the emergency physician is to be able to efficiently diagnose and effectively treat patients who present to the Emergency Department with seizures and status epilepticus (SE). This lecture will highlight two specific skills that are part of this overall treatment strategy, the physical exam and diagnostic evaluation of these patients, including the use of EEG monitoring and the use of a protocol that includes the benzodiazepines, the phenytoins, phenobarbital, valproate, and the continuous infusions of midazolam, pentobarbital, and propofol.

In this Brain Injury Course, FERNE would like to stress the use of specific procedures and protocols in managing patients with neurological illness and injury. In effect, the goal is to take a surgeon's approach to treating medical problems in the Emergency Department, including complications related to seizures and SE.

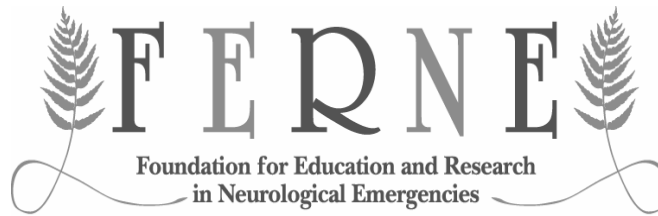
Key Clinical Questions

- What are the clinical signs and symptoms of patients who are seizing and in SE?
- How should patients with seizures and suspected SE be managed?
- What are the roles for the following therapies in the setting of seizures and suspected SE: the benzodiazepines, the phenytoins, phenobarbital, valproate, the continuous infusions of midazolam, pentobarbital, and propofol, antibiotics, antivirals, as well as other neuroprotectants therapies?

Featured Procedures or Protocols

- Diagnostic protocol using the physical exam, CT neuroimaging, EEG monitoring, and lumbar puncture in the evaluation of ED patients with seizures and suspected SE.
- Treatment protocol utilizing antibiotics, antivirals, the benzodiazepines, the phenytoins, phenobarbital, valproate, the continuous infusions of midazolam, pentobarbital, and propofol, as well as other therapies in the management of patients with seizures and suspected SE.

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The Diagnosis and Management of ED Patients with Intracerebral Hemorrhage

Learning Objectives

- Review the optimal way in which the clinical evaluation, diagnostic testing, and treatment of Emergency Department patients with acute stroke symptoms and suspected ICH can be managed.
- Discuss procedures and protocols that will assist the emergency physician in providing care to these critically ill and injured patients.

Background

One of the critical requirements of the emergency physician is to be able to efficiently diagnose and effectively treat patients who present to the Emergency Department with acute stroke symptoms and suspected ICH. This lecture will highlight two specific skill areas that are part of this overall treatment strategy. The first includes the physical exam and diagnostic evaluation of these patients, including calculation of hemorrhage volume using CT neuroimaging, as well as predicting outcome in ICH using hemorrhage volume and the GCS score. The latter involves the use of a protocol that includes steroids, anti-epileptic drugs, pain and nausea medications, and therapies designed to limit hemorrhage in the subset of ICH patients who are anti-coagulated and who may have an elevated INR.

In this Brain Injury Course, FERNE would like to stress the use of specific procedures and protocols in managing patients with neurological illness and injury. In effect, the goal is to take a surgeon's approach to treating medical problems in the Emergency Department, including complications related to ICH.

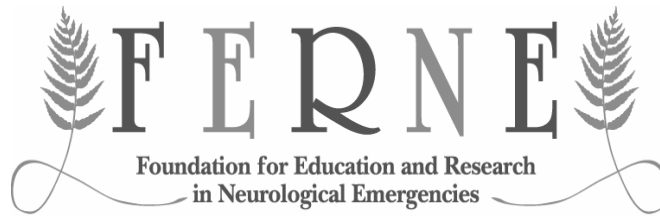
Key Clinical Questions

- What are the clinical signs and symptoms in patients with cephalgia and suspected ICH?
- How should patients with cephalgia and suspected ICH be evaluated and managed?
- What are the roles for the following therapies in the setting of ICH and anti-coagulation: steroids, anti-epileptic drugs, pain and nausea medications, and therapies designed to limit ongoing hemorrhage?

Featured Procedures or Protocols

- Diagnostic protocol utilizing calculation of hemorrhage volume using CT neuroimaging, as well as predicting outcome in ICH using hemorrhage volume and the GCS score.
- Treatment protocol for the management of ICH in the setting of anti-coagulation, including the use of steroids, anti-epileptic drugs, pain and nausea medications, and therapies designed to limit hemorrhage.

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The Clinical Evaluation of ED Patients with Suspected Spinal Cord Illness or Injury

Learning Objectives

- Review the optimal clinical evaluation, diagnostic testing, and treatment of Emergency Department patients with head trauma and suspected spinal cord illness or injury.
- Discuss procedures and protocols that will assist the emergency physician in providing care to these critically ill and injured patients.

Background

One of the critical requirements of the emergency physician is to be able to efficiently diagnose and effectively treat patients who present to the Emergency Department with suspected spinal cord illness or injury. This lecture will highlight two specific skills that are part of this overall treatment strategy, the physical exam and diagnostic evaluation of these patients and the use of a protocol that includes antibiotics, antivirals, steroids and other therapies in the management of patients with suspected spinal cord illness or injury.

In this Brain Injury Course, FERNE would like to stress the use of specific procedures and protocols in managing patients with neurological illness and injury. In effect, the goal is to take a surgeon's approach to treating medical problems in the Emergency Department, including complications related to spinal cord illness and injury.

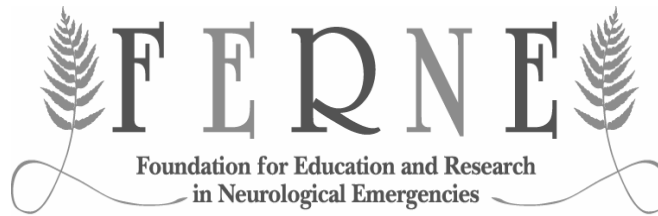
Key Clinical Questions

- What are the clinical signs and symptoms of patients who have spinal cord illness or injury?
- How should patients with a suspected spinal cord deficit be managed?
- What are the roles for the following therapies in the setting of suspected spinal cord pathology: antibiotics, antivirals, steroids, fluid infusions, pressors, and other neuroprotectants therapies?

Featured Procedures or Protocols

- Diagnostic protocol using the physical exam, CT and MRI neuroimaging, and lumbar puncture in the evaluation of ED patients with suspected spinal cord illness or injury.
- Treatment protocol utilizing antibiotics, antivirals, steroids and other therapies in the management of patients with suspected spinal cord illness or injury.

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The Emergency Department Evaluation and Treatment of Patients with Suspected CNS Infection

Learning Objectives

- Review the optimal clinical evaluation, diagnostic testing, and treatment of Emergency Department patients with altered mental status and suspected CNS infection.
- Discuss procedures and protocols that will assist the emergency physician in providing care to these critically ill and injured patients.

Background

One of the critical requirements of the emergency physician is to be able to efficiently diagnose and effectively treat patients who present to the Emergency Department with altered mental status and suspected CNS infection. This lecture will highlight two specific skills that are part of this overall treatment strategy: the physical exam and diagnostic evaluation of these patients and the use of a protocol that includes antibiotics, antivirals, steroids and other therapies in the management of patients with suspected CNS infection.

In this Brain Injury Course, FERNE would like to stress the use of specific procedures and protocols in managing patients with neurological illness and injury. In effect, the goal is to take a surgeon's approach to treating medical problems in the Emergency Department, including complications related to CNS infection.

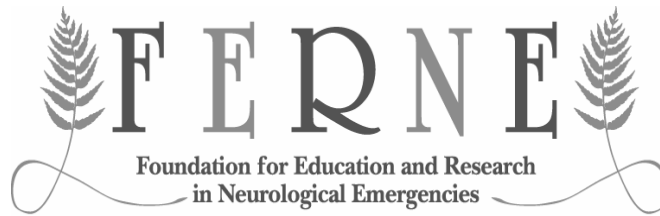
Key Clinical Questions

- What are the clinical signs and symptoms in patients with CNS infection?
- How should patients with suspected CNS infection in the setting of altered mental status be managed?
- What are the roles for the following therapies in the setting of suspected CNS infection: antibiotics, antivirals, steroids, and anti-epileptic drugs?

Featured Procedures or Protocols

- Diagnostic protocol using the physical and neurological exam, CT neuroimaging, and lumbar puncture in the evaluation of ED patients with suspected CNS infection.
- Treatment protocol utilizing antibiotics, antivirals, and steroids in the management of patients with suspected CNS infection.

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The Clinical Evaluation and Treatment of ED Ischemic Stroke Patients

Learning Objectives

- Review the optimal clinical evaluation, diagnostic testing, and treatment of Emergency Department patients with a neurological deficit and suspected ischemic stroke.
- Discuss procedures and protocols that will assist the emergency physician in providing care to these critically ill and injured patients.

Background

One of the critical requirements of the emergency physician is to be able to efficiently diagnose and effectively treat patients who present to the Emergency Department with a neurological deficit and suspected ischemic stroke. This lecture will highlight two specific skills that are part of this overall treatment strategy, the ability to estimate the NIH stroke scale (NIHSS) and the emergent treatment of accelerated hypertension in the setting of an acute stroke.

In this Brain Injury Course, FERNE would like to stress the use of specific procedures and protocols in managing patients with neurological illness and injury. In effect, the goal is to take a surgeon's approach to treating medical problems in the Emergency Department, including complications related to acute stroke.

Key Clinical Questions

- What are the clinical signs and symptoms of acute ischemic stroke?
- How should patients with accelerated hypertension in the setting of ischemic stroke be managed?
- What therapies should be utilized in order to treat hypertension, and in what clinical setting should they be utilized?
- What should be the clinical endpoint for effectively treating hypertension in acute stroke patients?

Featured Procedures or Protocols

- Estimation of the NIH stroke scale (NIHSS) based on the initial ED neurological exam.
- Treatment protocol for the management of accelerated hypertension in acute stroke patients.

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