

# NeuroTrace Study Guide

**Domain:** Domain IV – Professional Practice, Safety & Emergency Response

**Section:** Emergency Response & Basic Life Support (BLS)

**Style:** Scenario-based, protocol-driven, exam-oriented

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## 1. Core Principles (Must Know)

### Patient Safety Is First Priority

- **Patient safety is the first priority in all situations**
- Safety overrides diagnostic yield
- Stop procedures if safety is compromised
- Maintain patient safety during emergencies
- Continue recording only if it can be done safely

### Technologists Must Be Prepared for Emergencies

- **Technologists must be prepared for emergencies:**
- Know emergency response protocols
- Maintain BLS certification (if required)
- Know facility emergency procedures
- Know when to activate emergency response

### Key Principle

- **Patient safety first, then diagnostic yield**
- Safety is always the priority
- When in doubt, prioritize patient safety
- Activate emergency response when needed

### Practical Application

- Always prioritize patient safety
  - Know emergency response protocols
  - Maintain current BLS certification
  - Activate emergency response promptly when needed
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## 2. Seizure Response Protocol

### During a Seizure

- **First priority: Ensure patient safety**
- Protect patient's head from injury (pillow, padding)
- Do NOT place anything in patient's mouth
- Do NOT restrain the patient
- Time the seizure duration
- Maintain airway if possible (positioning)
- Continue recording if it can be done safely

### Critical Rule: Never Place Objects in Mouth

- **NEVER place objects in a patient's mouth during a seizure:**
- Can cause broken teeth
- Can cause airway obstruction

- Can cause injury to patient or rescuer
- Can cause choking
- This is a critical safety rule

### **After a Seizure**

- **After a seizure:**
  - Position patient on side (recovery position)
  - Check breathing and pulse
  - Monitor patient condition
  - Document seizure duration and characteristics
  - Notify physician if required per protocol
  - Continue monitoring
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## **3. Status Epilepticus Recognition**

### **What Is Status Epilepticus?**

- **Status epilepticus:**
- Seizure lasting longer than 5 minutes (generalized tonic-clonic)
- OR multiple seizures without return to baseline
- OR continuous seizure activity
- Medical emergency requiring immediate intervention

### **Nonconvulsive Status Epilepticus**

- **Nonconvulsive status epilepticus:**
- Continuous seizure activity on EEG
- Patient may appear unresponsive or confused
- May not have obvious convulsions
- Requires EEG for recognition
- Medical emergency

### **Response to Status Epilepticus**

- **If status epilepticus is suspected:**
  - Ensure patient safety immediately
  - Activate emergency response per protocol
  - Notify physician immediately
  - Continue recording if it can be done safely
  - Do not wait - this is a medical emergency
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## **4. Basic Life Support (BLS) Principles**

### **ABCs of BLS**

- **A - Airway:** Ensure airway is open and clear
- **B - Breathing:** Check breathing, provide rescue breaths if needed
- **C - Circulation:** Check pulse, provide chest compressions if needed

### **Technologist Role in BLS**

- **Technologist role:**
- Maintain current BLS certification (if required by facility)
- Know when to activate emergency response

- Assist with BLS if trained and authorized
- Continue recording if it can be done safely
- Follow facility protocols

### **Key Principle**

- **Know your role and limitations**
  - Activate emergency response promptly
  - Assist within scope of practice and training
  - Do not exceed your training or authorization
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## **5. Emergency Response Activation**

### **When to Activate Emergency Response**

- **Activate emergency response for:**
- Status epilepticus
- Cardiac arrest
- Respiratory distress
- Severe allergic reaction
- Loss of consciousness (unexplained)
- Any life-threatening emergency

### **How to Activate**

- **Follow facility protocol:**
- Call emergency code (e.g., Code Blue)
- Use emergency call button if available
- Notify physician immediately
- Follow facility-specific procedures

### **Key Principle**

- **When in doubt, activate emergency response**
  - Do not delay for uncertain situations
  - Better to activate and cancel than delay
  - Patient safety requires prompt action
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## **6. Maintaining Recording During Emergencies**

### **Continue Recording If Safe**

- **Continue recording during emergencies if:**
- Patient safety is not compromised
- Recording does not interfere with emergency care
- Equipment remains functional
- Data is valuable for treatment decisions

### **Stop Recording If Necessary**

- **Stop recording if:**
- Recording interferes with patient care
- Equipment must be disconnected for safety
- Patient safety is compromised by continuing
- Emergency personnel require equipment removal

### Key Principle

- **Patient safety first, then recording**
  - Continue recording only if it can be done safely
  - Stop recording if it interferes with patient care
  - The data is valuable but safety is paramount
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## 7. Documentation of Emergencies

### What to Document

- **Document all emergency events:**
- Time of event onset
- Duration of event
- Patient condition before, during, and after
- Actions taken
- Emergency response activation
- Physician notification
- Outcome

### Key Principle

- **Document everything that happened**
  - Complete documentation is essential
  - Document times, actions, and outcomes
  - Follow facility documentation requirements
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## 8. Common Emergency Scenarios

### Scenario 1: Generalized Tonic-Clonic Seizure

- **Response:**
- Protect head, do NOT place objects in mouth
- Time duration, maintain airway
- Continue recording if safe
- Position on side after seizure
- Notify physician per protocol

### Scenario 2: Nonconvulsive Status Epilepticus

- **Response:**
- Recognize pattern on EEG
- Ensure patient safety
- Activate emergency response immediately
- Notify physician immediately
- Continue recording if safe

### Scenario 3: Cardiac Arrest

- **Response:**
- Activate emergency response immediately
- Begin BLS if trained and authorized
- Continue recording if it does not interfere
- Follow facility protocols

## Scenario 4: Respiratory Distress

- **Response:**
  - Ensure airway is clear
  - Activate emergency response
  - Notify physician
  - Continue recording if safe
  - Monitor patient condition
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## 9. Exam Readiness Checklist

Use this checklist to verify your understanding:

- ☐ Know seizure response protocol
  - ☐ Understand NEVER place objects in mouth during seizures
  - ☐ Can recognize status epilepticus
  - ☐ Know when to activate emergency response
  - ☐ Understand BLS principles (if applicable)
  - ☐ Know when to continue vs stop recording
  - ☐ Can document emergency events
  - ☐ Know facility emergency protocols
  - ☐ Understand technologist role in emergencies
  - ☐ Know patient safety is first priority
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## 10. Internal Cross-Links

### Workflow

- **Patient Safety & Professional Standards:** Safety protocols
- **Ethics & Professionalism:** Ethical considerations in emergencies

### Cases

- **Emergency response scenarios:** Cases involving emergencies
- **Seizure response cases:** Cases involving seizure management

### Quizzes

- **Emergency response MCQs:** Questions on emergency protocols
  - **Seizure response questions:** Questions on seizure management
  - **BLS questions:** Questions on basic life support
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## Study Tips

1. **Memorize seizure response:** Protect head, never place objects in mouth, time duration
  2. **Know status epilepticus:** 5+ minutes or continuous activity = emergency
  3. **Understand emergency activation:** When in doubt, activate
  4. **Learn BLS principles:** ABCs (Airway, Breathing, Circulation)
  5. **Remember recording priority:** Safety first, then recording
  6. **Know documentation:** Document all emergency events
  7. **ABRET focus:** Expect questions on seizure response, status epilepticus recognition, and emergency activation
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**End of Study Guide**

*For additional practice, complete quiz questions tagged: emergency-response, bls, seizure-response, status-epilepticus*