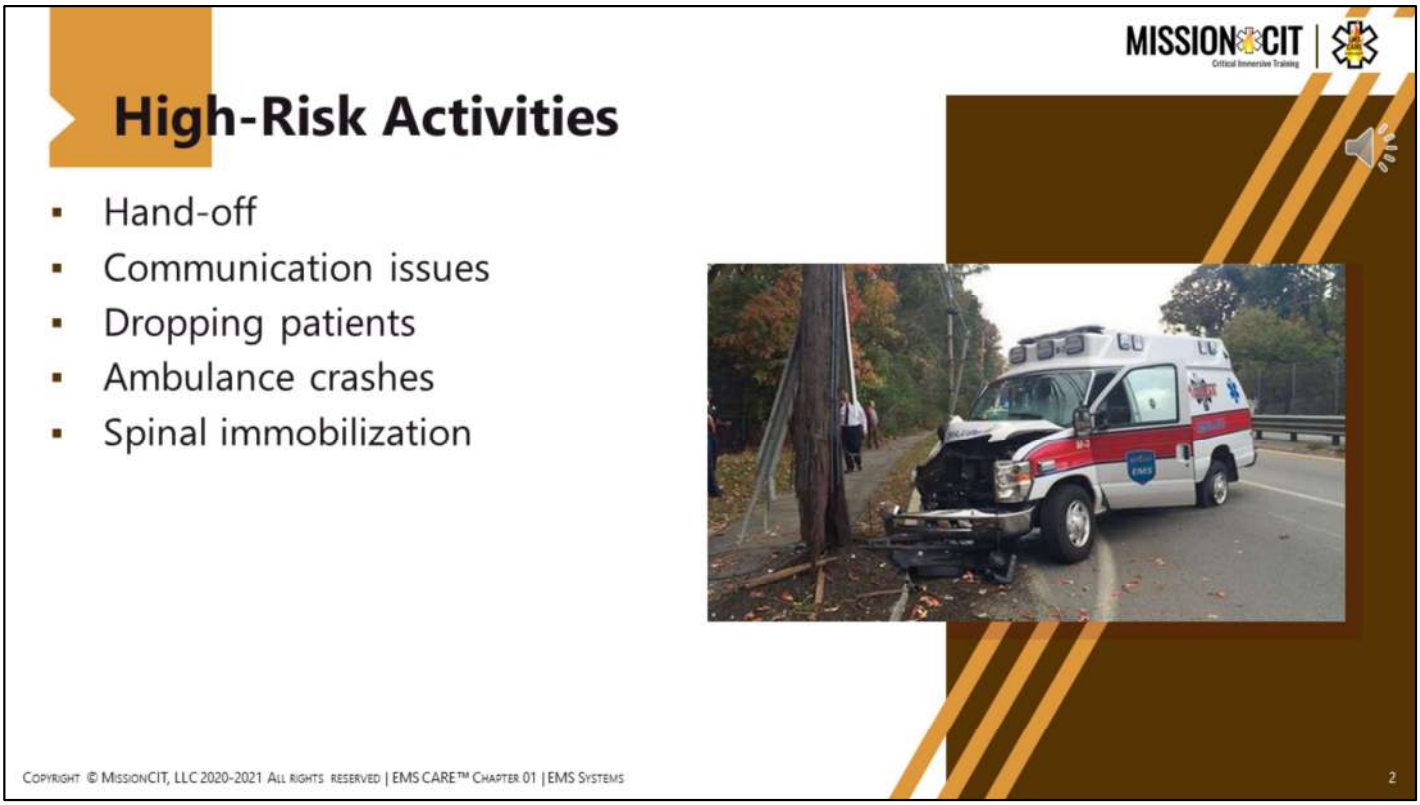


Hello again, this lesson discusses patient safety, a significant and one of the most urgent health care challenges. Here we will discuss high-risk activities you will perform, how errors happen and how to prevent them.



There are many activities that can lead to medical errors in EMS. Some of the more high-risk activities include hand-off, communication issues, dropping patients, ambulance crashes, and spinal immobilization.

- Handoffs occur whenever the treatment team for a patient changes, also known as the transition of care. This includes both change of shift, and transfers between units, services or hospitals. The purpose of a handoff is to convey accurate information regarding the patient and their treatment, including the patient's current condition and any recent or anticipated changes. Handoffs are a common source for errors through miscommunication due to distractions, unclear plans or differing treatment perspectives. A structured handoff tool allows for improved communication with clear expectations for both parties, providing a two-way exchange of information.
- Communication issues: Timely and accurate communications are critical but present many challenges to all responders. There are many layers and components to communication, including command and control, technical solutions and the inherent cultures within each of the ambulance services.
- Dropping patients: Proper patient handling is something EMS professionals should think about regularly. Patient drops not only put patients at risk, they can also seriously injure EMS staff, resulting in reduced staffing, recovery times, and additional costs. Industry research indicates the leading causes of patient drops include:

    - Errors in operating or selecting equipment
    - Lack of balance or insufficient muscle strength
    - Failure to evaluate on-scene hazards
    - Improper maintenance of equipment or outright equipment failure, and
    - Provider complacency
- Ambulance crashes are a significant risk to prehospital care providers, the patients they are carrying, persons in other vehicles, and pedestrians. Four key factors that are generally associated with ambulance crashes: human; operational; environment; and vehicular.
- Finally, spinal immobilization sometimes may not be beneficial and can complicate care. Some pitfalls that might occur with this procedure are, while positioning your patient defeating the whole purpose of immobilization maneuver, chances of lateral movement when the board is tilted, and excruciating pain due to prolonged restraint on a hard board.



This video from NIOSH provides an overview of the history of ambulance design, ambulance crash statistics, and 3 national ambulance standards.

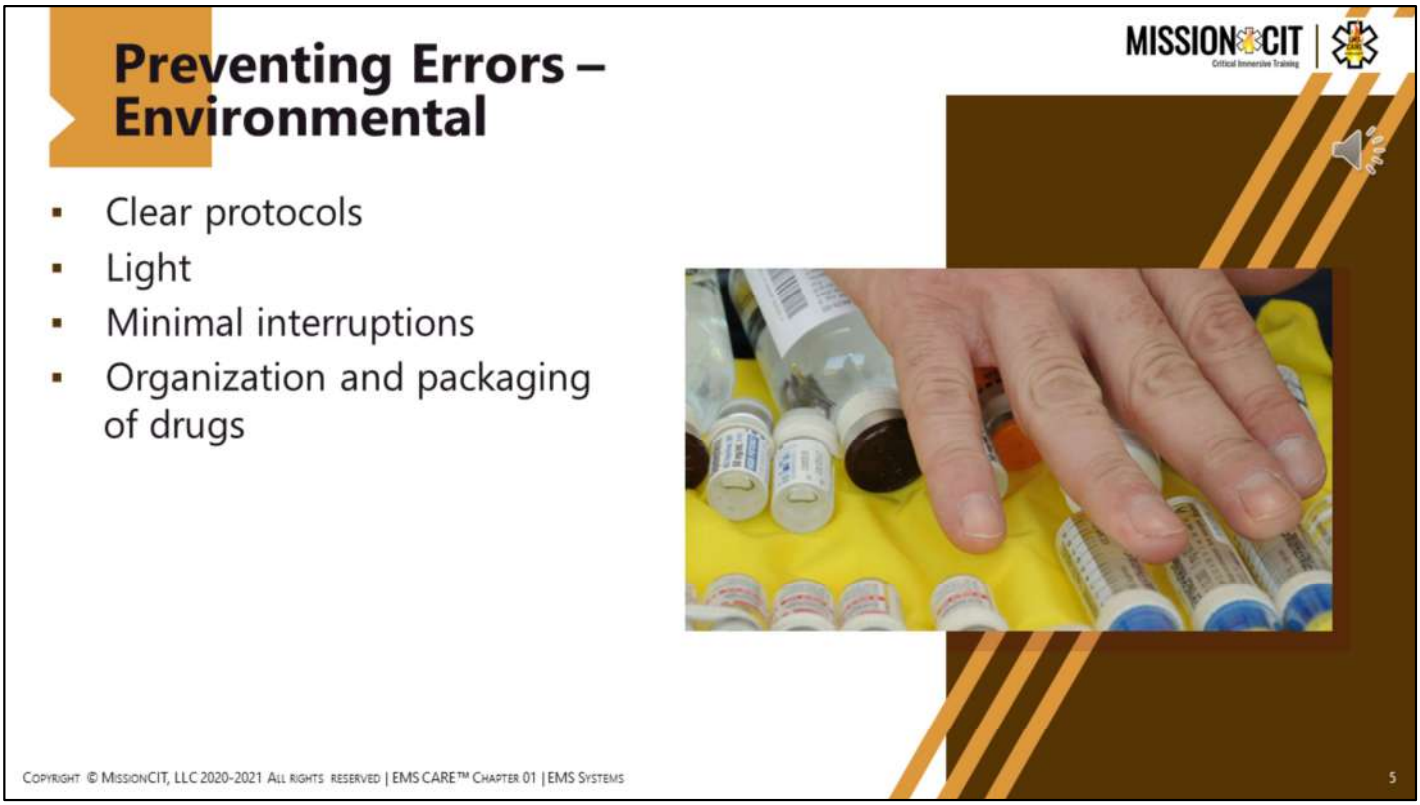


Quality Improvement is a dynamic system of continually evaluating and improving care and reducing errors.

The hurdle of creating quality feedback loops that improve the efficacy of treatment is one of our most urgent health care challenges.

There are 3 types of errors:

- Skills-based failure: You know what you are doing, but your actions don't go as planned (for example, slips, lapses, fumbles).
- Rules-based failure: You think you know what you are doing, but fail to notice contraindications, apply a bad rule, or fail to apply a good rule (for example, rule-based mistakes and/or violations).
- Knowledge-based failure: You're not really sure what you are doing (for example, knowledge-based mistakes in novel situations).

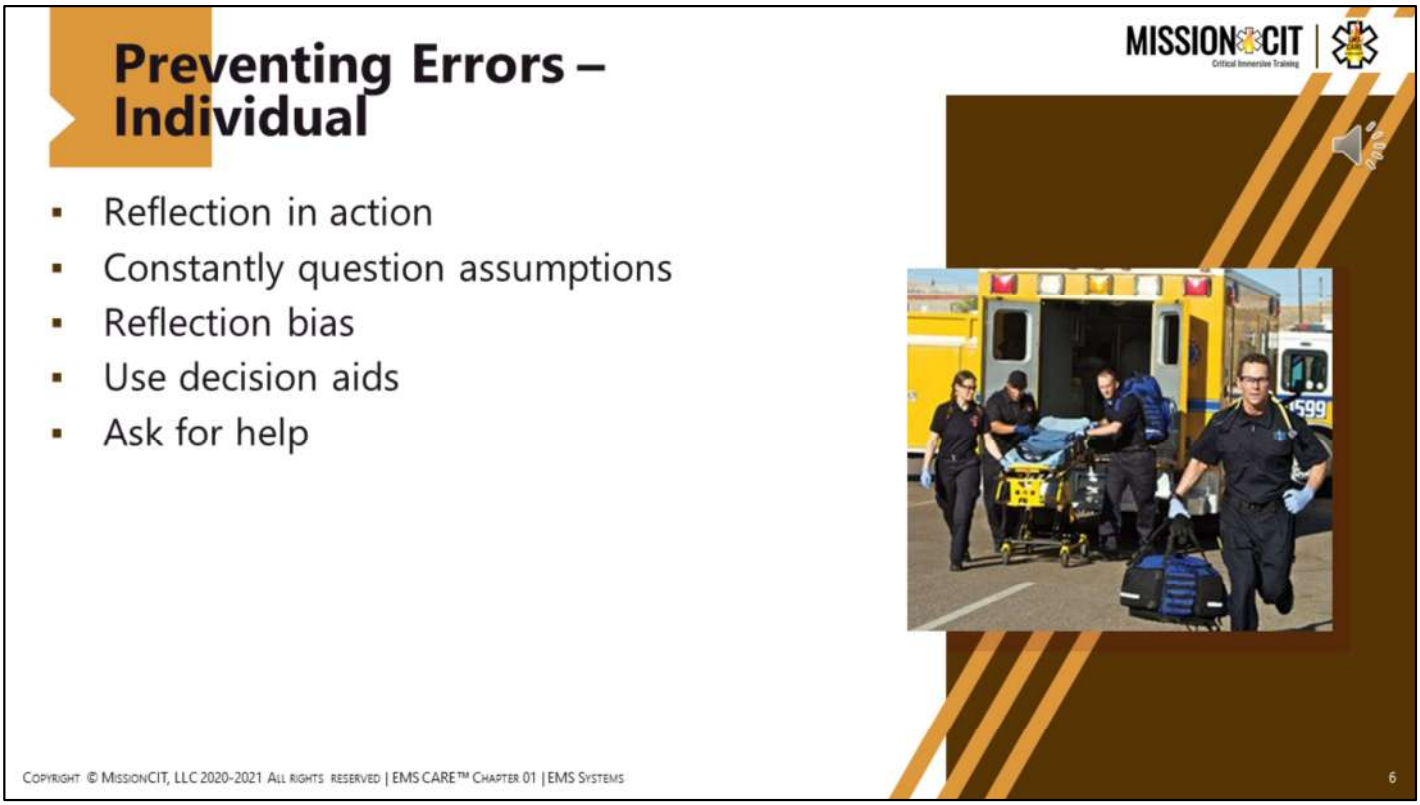


Most errors can be avoided by maintaining skill proficiency; by following established rules and protocols; by maintaining team communications; and by ensuring an adequate knowledge base in patient care procedures and related EMS duties. Methods to avoid medical errors in EMS can be grouped into environmental methods and individual methods.

Environmental methods that can help prevent medical errors include:

- Clear protocols: Agencies need to have clear protocols, which are detailed plans that describe how certain patient issues, such as chest pain or shortness of breath, are to be managed. These protocols need to be understood by all personnel within the service.
- Light: The cramped, often poorly lit environment of an EMS vehicle and the pressures inherent in emergency situations, contribute to the risk of product selection errors. Ensure that there is sufficient lighting for patient assessment and patient care procedures too.
- Minimal interruptions: Preventing errors requires being conscientious of protocols with minimal interruptions while providing care duties.
- Organization and packaging of drugs: The labeling and/or packaging of medications, such as look-alike product names or packaging, and ambiguous presentation of expiration dates on labels, contribute to a number of errors. For purposes of stocking an EMS vehicle, it is important to choose products, if possible, that do not look alike and have easy-to-read labeling and packaging. Store all EMS medications and solutions with the principal display panel of the label facing forward to better enable reading, rather than in a top-up

presentation in which only the cap is visible.



Individual methods comprise personal activities to improve patient safety. These include:

- Reflection in action: Think during an event when things do not go as planned. Reflection in action allows us to reshape what we are working on *while* we are working on it. It helps us as we complete a task. Reflection in action promotes critical thinking and bridges the gap between "knowing and doing."
- Constantly question assumptions: Apply critical thinking to continuously look for good ideas and new solutions. This will help to set priorities and to problem solve.
- Reflection bias: Avoid the tendency to judge an event, because a bad outcome is known from a previous experience you had. Reflection bias is the inclination to see events that have occurred in the past as more predictable than they really were. Review the events after the fact and you might foresee the outcome as more preventable. Replace hindsight with insight.
- Use decision aids: Use evidence-based decision aids and guidelines to simplify decision making and improve patient safety. Decision aids can also facilitate patients' participation in decisions about their care, when appropriate.
- Ask for help: You are functioning as part of a team. Don't be hesitant to ask your crew members or medical direction for help or advice, if the need arises. If you are unsure about a decision, drug dose, or procedure, remember that patient safety comes first.

This brings us to the end of this lesson and in the next one, Missah will take you through the chapter review.