



TREATMENT PROCEDURES

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In this last lesson, let's take a look at the generic treatment principles and procedures you must follow. We will discuss decontamination, airway control, ventilation, oxygenation, circulation and more. Be sure to pay close attention to use of activated charcoal.

Good studying!



Many hospitals and local governments have a set of standard procedures that need to be followed while handling poisonings and overdoses. Make sure you understand and follow them.

That said, some standard precautions are recommended for EMTs to follow. Some of them are:

- Assess the scene for safety, and if you're unsure of your safety, call for additional help.
- Use proper protective equipment
- Remove the clothing exposed to the chemical
- Identify the substance that a patient has been

exposed to

- Inform the receiving hospital if you think the patient may present a HAZMAT risk
- Bring a sample of the drug, medication, or substance, if it doesn’t pose any risk to you
- If you think the patient has been exposed to cyanide gas, call the medical control immediately.
- Any doubts or questions about poisons, reach out to the local poison control center.

Decontamination

- Choose a safe and appropriate place
- Package all the waste and infectious substances
- 2 persons in PPE must disinfect
- Third person must document
- Disinfect the outside part of unused medical equipment
- Remove drapes on walls and floors
- Wipe down the entire ambulance
- Dispose hazardous materials safely



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Decontamination is the process by which a particular area is cleansed of the harmful chemicals and substances that it was exposed to while handling a patient or transporting the patient to a hospital.

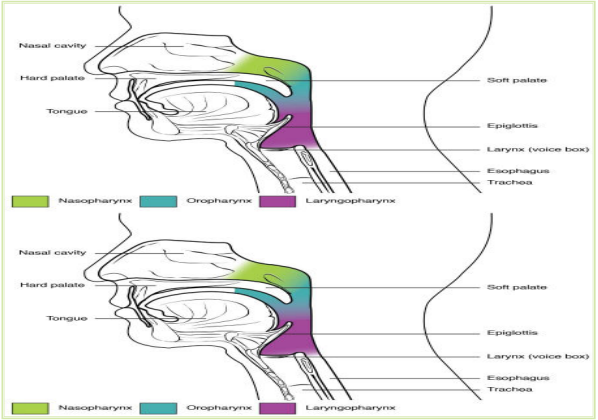
The Centers for Disease Control, or the CDC in short, has come up with a standard operating procedure for decontamination.

According to this SOP, to decontaminate a site or ambulance, choose an appropriate place that protects the vehicle and the decontamination team from weather elements. At the same time, it should

be a large and enclosed structure. Also, establish a perimeter for the safety of the public.
Once you have identified a site, package all the waste and infectious substances, and dispose of it appropriately. Limit the number of people who may use an ambulance after transporting an infected person. Next, two persons in PPE must decontaminate while the third person should document the process. All PPE should meet the existing standards and only EPA-registered hospital disinfectants must be used for decontamination. While doing the decontamination, disinfect the outside part of the unused medical equipment, remove the drapes on the walls and floors, and manually disinfect the entire patient compartment. Any area that has visible signs of the patient's fluids must be soaked in disinfectant before cleaning it. Finally, wipe down the entire ambulance, including the exterior doors and handles used for loading the patient. Dispose the hazardous materials safely.

Airway Control

- Airway control is providing oxygen
- Keep the patient in proper position
- Upright position vs supine position
- Check local protocols



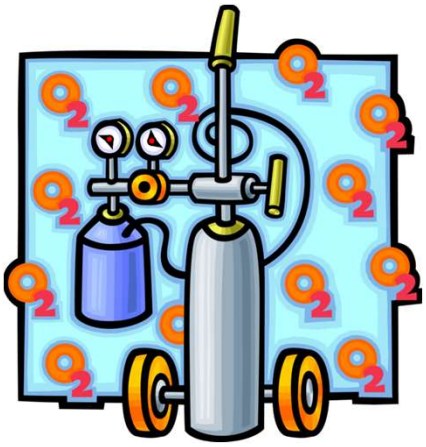
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One of the most crucial courses of action in poisonings and exposures, is airway control and management, where you provide oxygen at the earliest, and resuscitate the person before emergency transportation.
While managing the airway, keep in mind that the position of the patient is absolutely essential, as improper position can impact oxygenation and ventilation.
Earlier, the supine position was considered to be the best one for airway control and management. But now it is believed that supine is the most dangerous

position, because the tongue falls back to the posterior pharynx position while the patient is supine. Also, the soft tissues of the upper airway relax, and together the pharynx is compressed, thereby narrowing the airway.
This is why, keeping a patient in an upright position is the best way for airway control.
Check these aspects with the local government and its medical protocols.

Ventilation and Oxygenation

- Two physiological process
- Ventilation is exhalation and inhalation
- Provides alveoli with oxygen-rich air
- Oxygenation is the process of delivery oxygen to tissues
- Maintains cellular activity
- Ventilation can be monitored by external respiratory signs
- Oxygenation monitored by pulse oximeter



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Ventilation and oxygenation are two important physiological processes. Though they may seem similar, in reality, both are distinct processes, and understanding them is important.

Ventilation is the process of normal breathing that includes inhalation and exhalation. Both these together provide alveoli with oxygen-rich air.

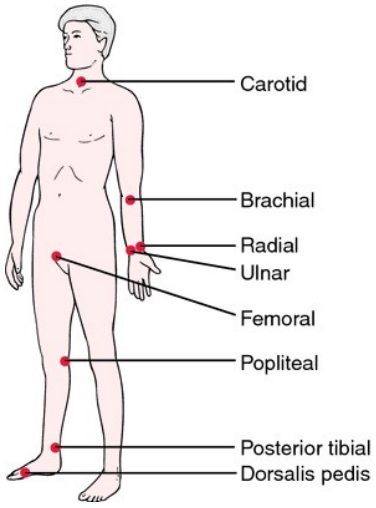
Oxygenation, on the other hand, is the process of delivery of oxygen to the tissues to maintain cellular activity.

Now, you can measure ventilation by assessing clinical signs such as chest rise and other external

respiratory signs. But oxygenation can’t be assessed by clinical signs alone, and requires a pulse oximeter.

Circulation

- ABC – Airway, Breathing, and Circulation
- Enough oxygen to the cells
- Check the patient's pulse – Carotid, Brachial or Radial
- Pulse – slow, fast, weak, strong, normal, thready, bouncy, abnormal or irregular.



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6

An important part of the patient assessment is ABC. This stands for airway, breathing, and circulation. Circulation is essential to ensure that the person is getting enough oxygen to the cells, and the best way to assess this circulation, is to check for the patient's pulse. While checking, note down its rate and characteristic.

To do that, check the carotid, brachial, or radial areas for a pulse. Once you assess, check if it is slow, normal, or fast. Likewise, check if the pulse is weak, strong, normal, thready, or bouncy, and make a note of it all. Also, see if the pulse rate is abnormal or

irregular, and if so, call for help right away, or do an emergency transport.

Use of Activated Charcoal

- Administered for poisonings
- Traps toxins in the gut
- Contains a negative charge
- Attracts positively-charged toxins
- Not absorbed by humans
- EMTs should know their local protocol on administration



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Activated charcoal is a fine, odorless, black powder, often used in emergency rooms to treat overdoses. Its toxin-absorbing properties have a wide range of medicinal and cosmetic uses. Superheating natural sources of carbon, such as wood, produces activated charcoal. The black powder stops toxins from being absorbed in the stomach by binding to them. The human body is unable to absorb activated charcoal. As a result, the toxins that bind to the charcoal leave the body in the feces.

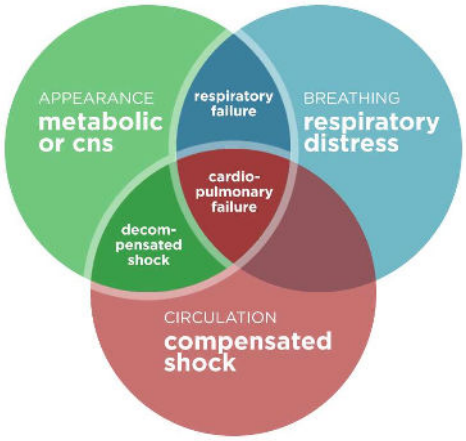
This is why activated charcoal is widely administered in

the case of poisonings.

Depending on your local protocol, EMTs may either administer, assist, or have no role other than to monitor and transport. Be sure to check your local policies and protocols regarding administration.

Pediatric Assessment

- Check CAB – Circulation, Airways, and Breathing
- Abnormal in the following cases
  - ✓ Labored breathing
  - ✓ Unresponsive to external stimuli
  - ✓ Noisy breathing
  - ✓ Use of abdominal muscles
  - ✓ Rigid or floppy muscle tone
  - ✓ Does not cry or speak
- Call for ALS
- Reassess en route and document



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8

Toxicology secondary assessment depends to a large extent on the patient's age. In the case of children, immediately identify and correct any life threats. It is abnormal if the child does not respond to external stimuli, does not cry or speak, or if the muscle tone is rigid or floppy. Likewise, it is abnormal if the breathing is labored, abdominal muscles are used, and the breathing is noisy. While checking the airways, look for any obstruction. Use the A V P U scale.

If you notice any significant abnormality, call for Advanced Life Support. Also, reassess the child

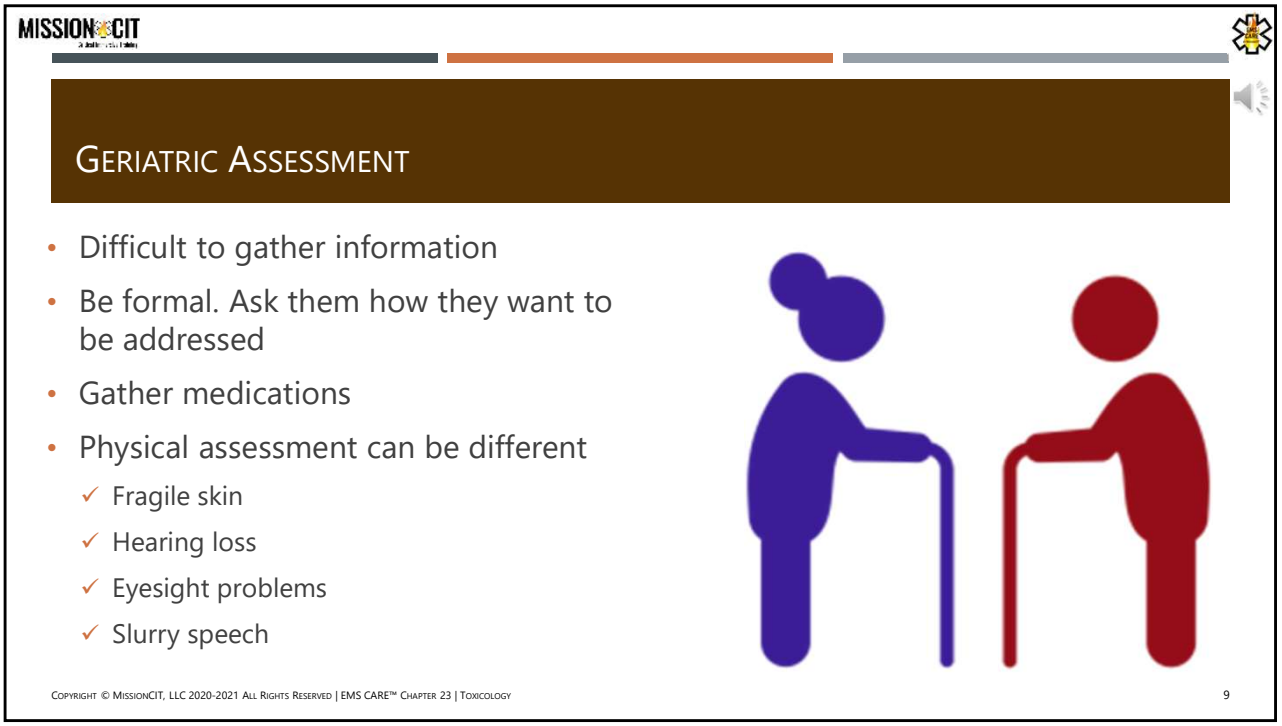
frequently, continue during transport, and be sure to document everything.

Because of pediatric high metabolic demands and decreased respiratory reserves, these patients are highly susceptible to hypoxia secondary to toxic exposures.

Manage hypoxia or respiratory disorders with ventilations and supplemental oxygen as needed. Provide cardiovascular support by addressing existing issues such as hypovolemia and hypotension.

Because of decreased glycogen stores, hypoglycemia is a common effect of many toxins in children. Many substances, such as ethanol, generally do not cause hypoglycemia in adults, but commonly do so in pediatric patients.

When confronting an altered mental status, the blood glucose should be evaluated. Hypoglycemia may be corrected by administering oral glucose if conditions permit.



Though the basic assessment procedures of geriatric patients will not change much when compared to younger adults, there are still some useful tips to keep in mind.

First off, some geriatric patients may not be open to telling the problem as they may feel like they are a burden to you. Also, when they have many problems and a long medical history, they may be reluctant to repeat it to EMTs, doctors, and other caregivers multiple times. Given these situations, it can get a little difficult to gather all the information. In some cases, the patient may not even be able to

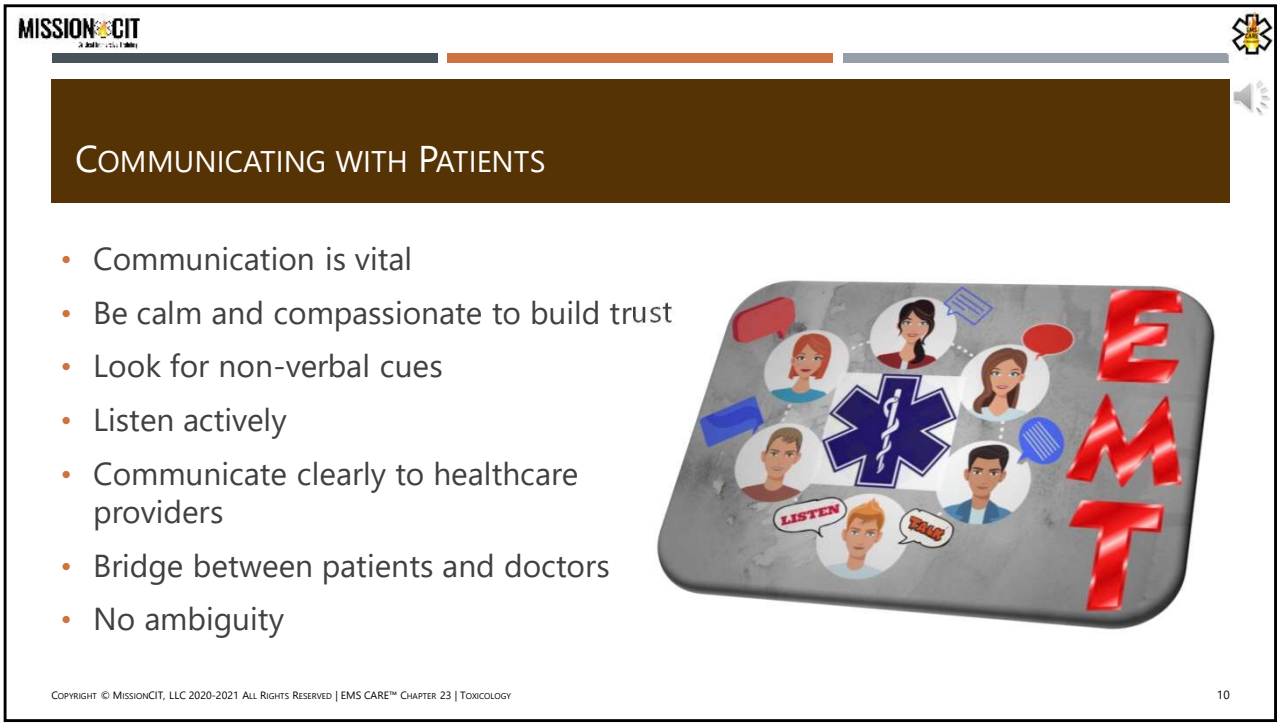
coherently tell you the problem. Despite these impediments, coax them gently to gather as much information as possible.

Another important, and often overlooked part of communication, is the tone and words. Remember, they grew up in a different time, a more formal period, so they may not feel too comfortable being called “hon” or “sweetie”. So, ask them how they would like to be addressed.

The next aspect is the medications. Senior citizens may take help from a visiting family member for their weekly organizer med boxes and may have stored tablets in an old bottle that contains the label of a different medicine. So, take some time to gather all the medications and take them with you.

The physical assessment may be a bit different too, as the skin will be thinner and more fragile, hearing loss is common, the joints can be inflexible, eyesight tends to diminish, and speech can be slurry.

So, consider these aspects while assessing a geriatric patient.



Since communicating with patients is an essential part of the physical assessment, here are some tips to make it as effective as possible.

First off, understand that patients may be emotionally-charged, so always communicate calmly and with compassion to build trust. Likewise, listen actively because the patients may give a lot of clues about their well-being, and look for body language and other non-verbal cues as well, to size up the situation.

Similarly, communicate all that you know to the healthcare provider, so the right course of treatment can

be determined. Be clear and describe only the facts and your observations, as there is no room for ambiguity here.

Overall, you will be the bridge between the patient and the healthcare provider, so good communication with both these groups of people is essential.



Documentation is another key task of EMTs. The prehospital care report, or PCR in short, must contain the administrative information such as the unit's identification, dispatch address, names of crew members, time of dispatch, time of the incident report, arrival time at the scene, departure time from the scene, arrival time at the medical facility, and the dispatch details.

Next, it should have the patient's name and details such as age, address, SSN, care given before the arrival of EMTs, vital signs such as pulse, breathing, skin, blood pressure, etc.. Also, this report should

contain the narrative of the patient and the primary caregivers who were present with the patient at that time along with the emergency treatment that was provided.
If a patient refused treatment or was not cooperative, those should be noted down as well. This report has to be as comprehensive as possible to help healthcare providers make the right treatment decisions.
Also, never erase anything from the PCR. Simply strike out and make a change if you have to, and initial it. Remember, medical procedures require separate documentation for special incidences such as physical or sexual abuse, exposure to infectious diseases and poison, and injury to a crew member. Lastly, PCR documentation is not required during multiple-casualty incidents as the focus should be on treating the patients.

Transport Decisions

- Transportation is a critical decision
- Depends largely on
  - ✓ Patient's condition
  - ✓ Possibility of intervention
  - ✓ Distance to the nearest hospital
  - ✓ Availability of specialized care



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A critical decision that you will make is whether you should transport a patient to the nearest medical facility or treat the patient at home. A lot of times, this answer will depend on the criticality of the patient's situation and the time-sensitive interventions that would be needed.
For example, if you think the patient may die before getting to a hospital, you have to provide critical interventions needed to stabilize the patient. On the other hand, if there is nothing much you can do to stabilize, you must transport the patient right away. Likewise, the stability of the patient's vitals, distance

to the nearest hospital, availability of specialized care, and the potential benefits of transportation versus critical intervention are some of the other factors to consider.
With this, we come to the end of this topic. Next, Missah will discuss Synthetic Stimulants.