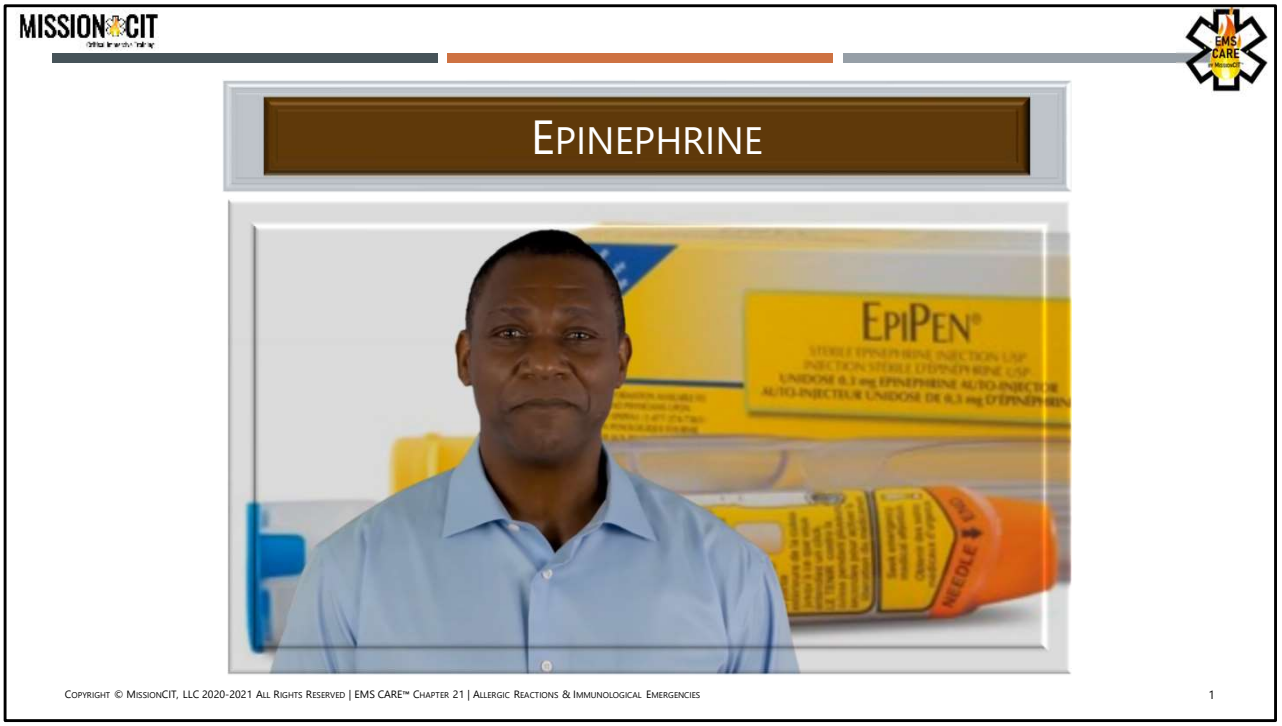
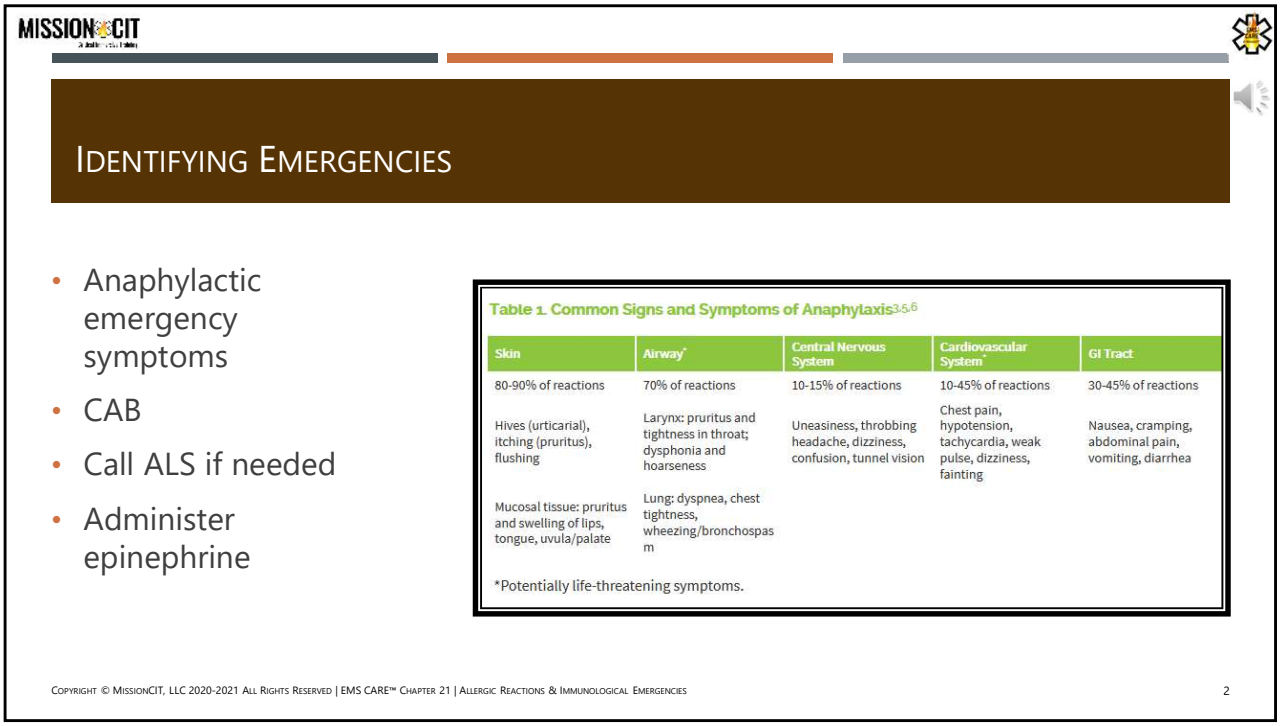


Thank you, Missah!

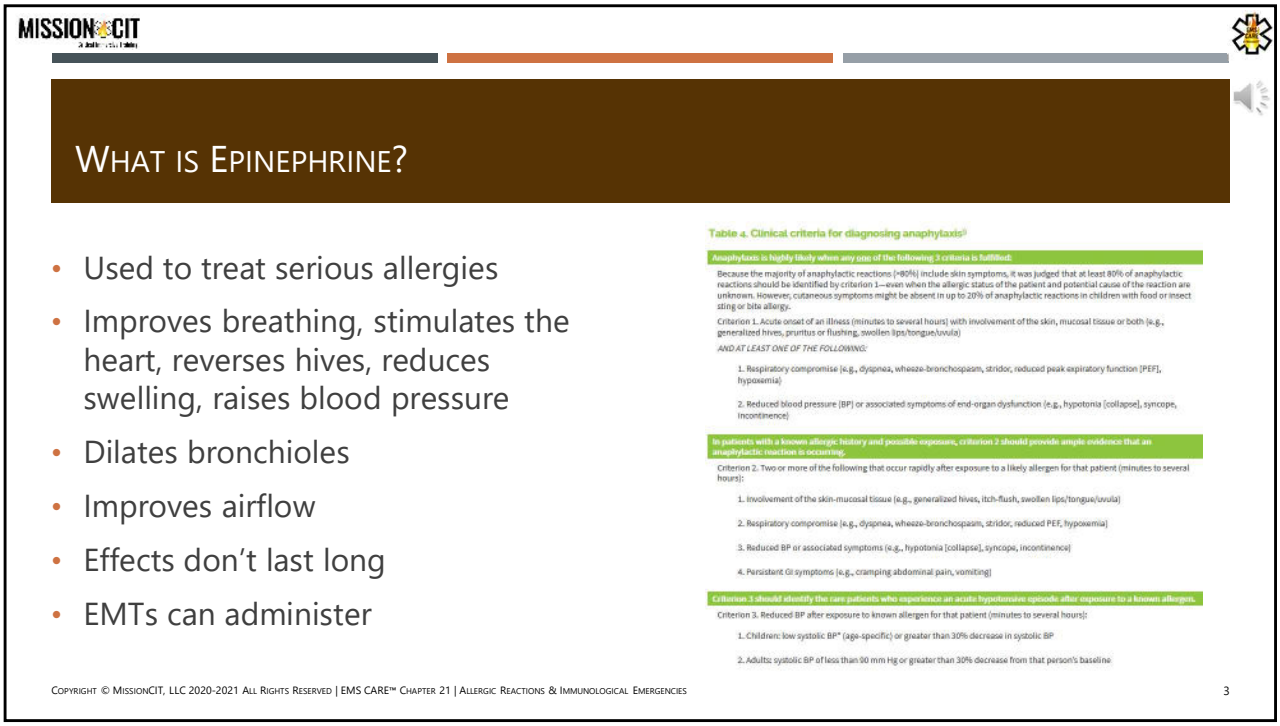
Welcome to the last lesson of this chapter, where we will talk about administering Epinephrine, its side-effects and contraindications, and how you can dispense it.

Good Studying



Anaphylactic emergencies are characterized by hypotension, hypoxia, and altered mental status. Just like other diseases, the faster the allergy, the higher the chances for fatalities. Together, making Anaphylaxis indeed a life-threatening condition.

The treatment should also be equally aggressive to counter this allergic reaction and bring the immune system back to equilibrium. In a prehospital setting, the therapy includes C A B, calling ALS if needed, and administering Epinephrine.



Epinephrine is a medication used to treat severe conditions like Anaphylaxis, asthma, cardiac arrest, blood coagulation disorder, and more.

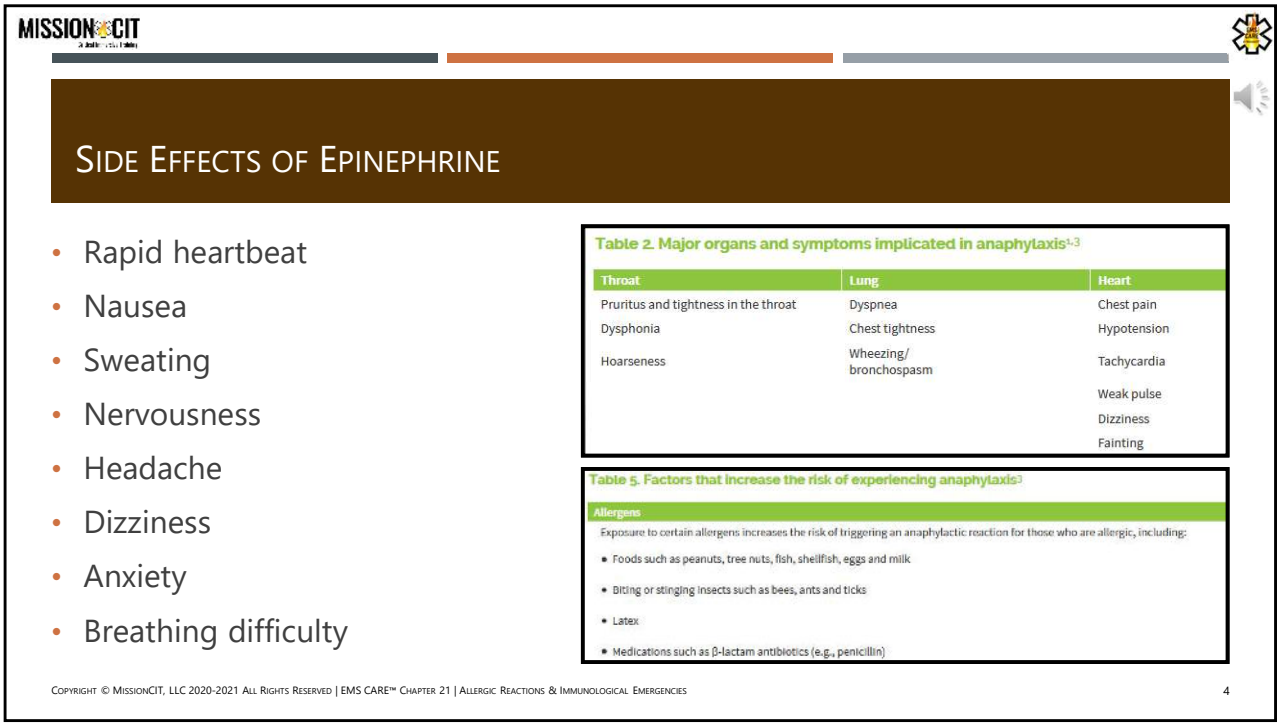
It improves breathing, stimulates the heart, reverses hives or allergic reactions, reduces swelling, and raises blood pressure. It also dilates the bronchioles, and in the process, improves airflow to the lungs. The effects of this medicine rapidly combat the severe condition, but its effects don't last long.

Since this is such a life-saving drug, EMTs always carry it

and are allowed to administer it.

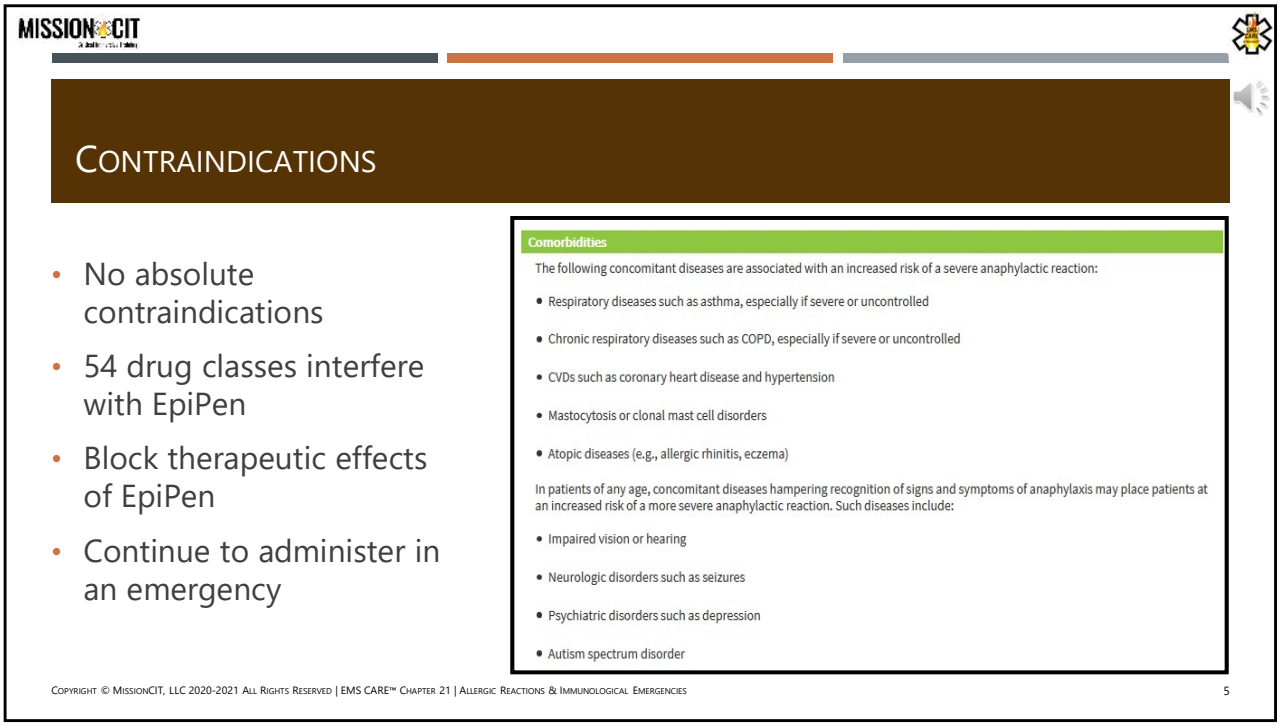
Now, this brings up the next question of how much you can administer. Well, the United States Joint Task Force on Practice Parameters for Allergy and Immunology state that 0.2 to 0.5 mg of Epinephrine can be injected in the lateral thigh muscle, once every 5 to 10 minutes. If Anaphylaxis is extremely severe, the frequency can be increased.

This should be stored at a controlled temperature of 77 degrees Fahrenheit, though anywhere from 56 to 86 degrees are allowed. It should not be refrigerated, and also, this drug is light sensitive, so store it in a tube that can protect it from exposure to light.



Epinephrine has its share of side effects too. Some of the notable ones include Rapid heartbeat, Nausea, Sweating, Nervousness, Headache, Dizziness, Anxiety, and, Breathing difficulty.

So, when a patient experiences any of these side effects, reassure the patient, and transport quickly. Inject more doses if needed, before you get to the hospital.



First off, understand that there are no absolute contraindications against Epinephrine, and all the existing ones are relative contraindications.

That said, there are about 54 drugs and drug classes that are known to interact with Epinephrine. Patients who take these drugs tend to have side effects that are greater in severity and have a more prolonged impact. Some of those drugs that enhance the side effects of Epinephrine are tricyclic antidepressants and monoamine oxidase inhibitors.

Some conditions of the patient block the therapeutic

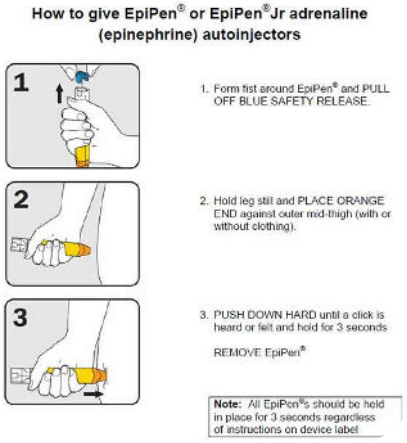
effects of Epinephrine, so you may have to administer it more frequently. Such conditions include hyperthyroidism, cardiovascular diseases, diabetes, and pregnancy. Also, anyone weighing less than 30 kilograms for Epinephrine or 15 kilograms for epinephrine junior.

However, these side effects and contraindications should not stop you from administering them during a life-threatening situation because the benefits tend to outweigh the risks in these cases.

In case of mild to moderate allergic reactions, weigh the risks and benefits, and evaluate if you should administer it.

AUTO-INJECTOR

- Best administered through auto injectors
- Tiered doses
- Depends on the weight of the patient
- Side of the thigh
- Injection through clothing
- Hold it in place for 10 seconds
- Look for adverse reactions
- Administer once every 5-15 minutes



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Epinephrine is best administered through an auto-injector as it contains a fixed-dose depending on the patient's weight. For example, if a patient weighs over 30 kilograms or 66 pounds, 0.3 milligrams is administered. For those weighing from 15 to 30 kilograms, give a 0.15-milligram dosage.

If you're going to inject it, do so on the anterolateral or the side of the thigh. You can inject it through the clothing. However, make sure you hold the auto-injector in place while administering. Listen for an activation click sound that indicates that the injector has started

delivering the drug. Hold it in place until the drug is administered entirely.

Wait for a few minutes to see if the patient is developing an adverse reaction, and help them as indicated. Administer Epinephrine up to two times, and contact medical control or ALS for guidance if you believe additional doses are required.

Also, make sure never to give Epinephrine intravenously or into the buttocks. Likewise, Epinephrine should never be given orally because it degrades in the GI tract, and is not absorbed by the body at all.

Never use Epinephrine that is discolored or has any precipitate matter present in it.

Remember, Epinephrine is not a treatment by itself; instead, it is a supportive medication that helps in emergencies. So, if not transporting, advise patients to reach out to a healthcare provider at the earliest.

Use of Vials and Ampules to inject Epinephrine

- EpiPen's are becoming too expensive
- Departments switching to Ampules and Vials
- Practice and be sure you know how to administer



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The cost of Epinephrine auto-Injectors is becoming prohibitively expensive for many departments and agencies. As a result, they are switching to vials and ampules for injection.

The best practice for treating Anaphylaxis is still to administer Epinephrine via an auto-injector. However, sometimes you may need to know how to dispense an epinephrine injection from an ampule or vial. Examples could be if the patient has a biphasic reaction or if an auto-injector is not available at that moment.

Drawing up Epinephrine from a vial or ampule isn't

always intuitive, so we recommend regularly reviewing and practicing. A video follows this lesson on using vials and ampules to deliver a proper dosage to a patient.

With this, we have come to the end of this chapter. After the video, Missah will take you through the chapter review.