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# Triage, Stabilization and Endpoints of Resuscitation - Part 1

micro drip study guide

January 27, 2022

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## Basics of Fluid Therapy

- Types of IV fluids
  - Crystalloids
    - Hypotonic
    - Isotonic
    - Hypertonic
  - Colloids
    - Natural
    - Artificial



The basic types of IV fluids are crystalloids or colloids. Crystalloids can be hypotonic, so those are going to be things that have a lower tonicity than the blood. We have isotonic fluids. Those are things that have the same tonicity as the blood. And then we have hypertonic crystalloids, like hypertonic saline. They actually have a higher tonicity than the blood.

And they do have their uses. Hypotonic is not going to be a resuscitative fluid. It has its use in critically ill patients, but it's not one that you're going to want to actually resuscitate a patient with, meaning that you don't want to grab a bag of D5W and bolus that into the patient.

Both isotonic and hypertonic crystalloids can be useful for resuscitation. Most places are going to have isotonic crystalloids. And the type of isotonic crystalloid rarely makes a huge difference. If you have hypertonic saline, that is also a useful resuscitative fluid.

And then we also have colloids available. So natural colloids would be things like plasma or canine albumin. And then artificial colloids would be things like Hetastarch or VetStarch. And again, we don't use a lot of natural colloids for resuscitation in our patients. In the human world, that's a bit more common, but it's not something that we do quite frequently in veterinary medicine. The use of artificial colloids is, I guess, becoming somewhat controversial. And again, we'll cover that controversy.

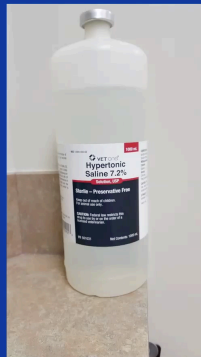


This is just-- this is like a little quiz. We'll just have to do it internally. So as these come up here, just kind of try to think to yourself, like, what type of fluid is this? Is this a crystalloid or a colloid? And then, is this isotonic crystalloid, hypotonic, or hypertonic? And if it's a colloid, is this artificial or natural?

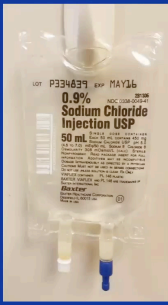
So this is Normosol-R. So this one's been up here for a while, so I will just tell you guys at this point this is an isotonic crystalloid.



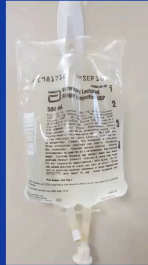
Oh you guys probably can't see these things, but this is-- it looks like VetStarch. I even had to look on my-- VetStarch. So this is an artificial colloid.



This is hypertonic saline. So the answer is really there in the name of that one. That's a type of hypertonic crystalloid.



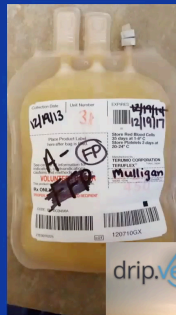
0.9% sodium chloride, this is a isotonic crystalloid.



This is Lactated Ringer's. This is also an isotonic crystalloid.



We've got 5% dextrose. So this is like D5W basically. This is a hypotonic crystalloid, and again not one that we want to use for resuscitative purposes.



This is-- well it's frozen plasma now. You can see the FP circled and the FFP crossed out. It used to be fresh frozen plasma; now it's frozen plasma. And this would be an example of a natural colloid.