

## Care Coordination Series, Season 1, Episode 5: Sepsis Readmission Prevention

[00:00:00] Welcome to our care coordination quickinar series. So, joining us today for our featured presentation is Trish Cruz, quality advisor with HSAG. More and more people are surviving sepsis now and about 29 percent of the survivors are discharged to a SNF. One week post-hospital discharge, there's a high rate of mortality. There's also high rates of depression, PTSD, and post-sepsis syndrome. If that wasn't enough, additionally, there's high rates of readmissions. And a third of sepsis readmissions happen within the first seven days. And so, today we're going to talk about what sepsis is and the basic pathophysiology, talk a little bit about the sepsis bundle, how to implement early recognition and treatment protocol, and also talk about post-sepsis [00:01:00] syndrome.

So, the sepsis definition is, first of all, sepsis is not an infection. It's the body's overwhelming and dysfunctional reaction to infection. So, let's talk about what happens to the body in sepsis. What first happens is the body's infected by a pathogen. So, it's that infection that is occurring and there's an immune response where white blood cells increase to try to fight off the infection. And when that happens, they produce histamine interferons. Histamine interferons, interleukins, so it's inflammatory mediators. And then, because of that causes vessels to dilate, capillaries to leak, blood to clot. And with that happening, then it causes a decreased blood flow to organs. And with a decreased blood flow to organs, that means less [00:02:00] oxygen getting to the organs, and that can lead to metabolic acidosis because the body can't get rid of waste, the kidneys can't produce enough bicarbonate to balance the pH, and that leads to an increase in lactic acid. That can lead to septic shock, where the body does not respond to fluids. And if sepsis continues, then it goes into multi-organ failure, and the more organs that don't work properly, the higher the mortality is, and then then, of course, then that can lead to death. So, what we want to do is recognize sepsis early and treat it right away.

So, in order to recognize sepsis, the patient needs to have either a confirmed or a suspected infection and then two triggers. And that's two or more from either of these tools: the tool is systemic inflammatory response syndrome or (SIRS), if the patient has a high temp, a low [00:03:00] temp, a high heart rate, a high respiratory rate, or white blood cell count that's either high or low or bands greater than 10%. The quick sequential organ failure assessment, we call acute SOFA. There are three criteria here. So, altered mentation, and that would be more than usual, high respiratory rate, and a low blood pressure.

Once you recognize sepsis, then we need to treat sepsis. Step 1 this is the bundle that Medicare looks at. So, this is a core measure bundle. The first four items there, so draw a lactate, get blood cultures before antibiotics, give a broad-spectrum antibiotic. And then fluids, thirty mls per kilo if the patient has low blood pressure, or if their lactate is greater than equal to four. So, that's supposed to be done [00:04:00] within the first three hours. If the patient, if their blood pressure does not respond to fluids, then you move into the six-hour bundle, and that is vasopressors or a drug if the blood pressure is still low and that drug is to keep the blood pressure higher, documentation of reassessment of tissue perfusion, and redrawing the lactate if the first one was high.

And this is what Medicare looks at. This is the core measure bundle. And if you look at the two of them, they're very, very similar. You draw a lactate, you get another one if it's higher than two, blood cultures before antibiotics. Broad-spectrum antibiotics, fluids, and vasopressors if the fluids didn't work. The one thing that's missing there is that documentation of reassessment of tissue perfusion. So, what I usually recommend is you do everything on the step one side, but you do it in an hour. And I'm going to tell you why that hour is important. Every

[00:05:00] hour delay of appropriate antibiotics is 7.6 percent lower survival rate for your patient. So, it's really important to get that care as soon as possible.

You want to get your blood cultures first and you want to give your antibiotics to cover the most likely pathogen. So, that's often called tailored antibiotics. And remember that sepsis is an emergency the same way for a semi-heart attack, time is muscle, or for a stroke, time is brain, while with sepsis, time is tissue.

So, this is probably the most important. This is from the Minnesota Hospital Association, and I think that it really simplifies both recognizing sepsis and treating it right away. And so, the 100 seeing sepsis, that's actually a badge buddy. [00:06:00] So, everyone can wear these and it's important that your CNAs use this to look for sepsis with residents all the time. So, is the resident's temp above a hundred? Heart rate above a hundred? Blood pressure below a hundred? Or does the resident just not look right? So, if there's any of those things, then the CNA should tell the nurse and then the nurse will screen for sepsis, and the sepsis screening tools... If the patient has a positive screen for sepsis, then it gives guidance as to what to do before calling the provider. And I love this tool recommends reviewing the advanced directive. Then you notify the provider and it'll tell you basically one of two things are going to happen: Either the patient's going to transfer to the hospital, or they're going to stay in the facility. And it tells you what to expect with either of those scenarios.

This is an HSAG [00:07:00] post-acute sepsis SBAR. And so, this is a handy tool when now you've seen that, you know, I think my patient has sepsis. They've got this positive sepsis screen and you can use this when calling the provider.

So, let's talk a little bit about post-sepsis syndrome. One thing that COVID did for us is that it made it easier to talk about post-sepsis syndrome because post-COVID syndrome and COVID-long-haulers syndrome is the same thing as post-sepsis syndrome: physical symptoms, like insomnia; hard time falling asleep or staying asleep. I've heard the muscle and joint pain described as absolutely disabling. Just very, very severe, a lot of fatigue and lethargy. More than the physical symptoms, hard time sleeping. And in addition to the physical symptoms, nightmares, hallucinations, panic attacks. And those panic attacks are often preceded [00:08:00] by some sort of noise and it triggers these panic attacks, and presumably that is because of alarms that patients heard, especially while they were in ICU.

Some interventions that you can do are to understand the potential for post-sepsis syndrome, communicate with the provider, and sometimes just giving your patient an opportunity to talk and knowing that you're there for them will help tremendously.

So, again, if you prevent that infection, then you cannot get sepsis. Hand hygiene. The number one thing that you can do make sure that not only you are washing your hands, but you're making sure that your patients have an opportunity to perform hand hygiene and anybody who enters their room. Get the tubes out, avoid fully and central lines as much as you possibly can.

You and patients, if you stay up to date on vaccines, then that's going to decrease the risk of [00:09:00] infection.

For patients with wounds, make sure that you provide proper wound care, encourage mobility with your patients and that's because if your patients are more mobile, then they're less likely to get respiratory infections, less likely to get pneumonia, less likely to get blood clots that then would increase their chance on getting a pressure injury if they have to stay in bed. Being mobile is very important.

Maintain oral care. The brushing of teeth at least twice a day. That's going to dramatically decrease the chances of pneumonia and use your pressure injury prevention measures.

To put all of this together, always suspect sepsis. Sepsis is not as overt sometimes as stroke or heart attack. So, you need to always suspect it. And can't talk enough about hand hygiene. Super important. Prioritize early care of our early [00:10:00] transfer. We talked about every hour delay of antibiotics increases the patient's risk of mortality by 7.6 percent and we talked about the rule of a hundred. So, remember a high temp, high heart rate, low blood pressure, or the resident just doesn't look right, then screen for sepsis. Use standardized order sets consistently. Administer tailored antibiotics, and so, these are broad-spectrum antibiotics that are to treat the most likely pathogen, and it needs to be after blood cultures, and within 1 hour of recognizing that the patient has sepsis. Always use sepsis bundles. Develop a sepsis checklist in your facility, and then use it consistently, along with templates for physician and staff documentation. And we talked about when we reviewed the bundles, we talked about fluid resuscitation and that it's 30 mls per kilo. [00:11:00] In the event that you are doing fluid resuscitation, a visual management technique that's very low tech and is super helpful is to hang all of the bags on the IV pole. So, if your patient needs, say, 3200 cc of fluid, that would be three 1-liter bags, one 250 cc bag. And when the first bag is in, you spike the second bag, but you leave that empty bag hanging. And the reason for this is that you'll be able to see what full fluid resuscitation looks like, but you'll also be able to see how far along in fluid resuscitation your patient is. In the event that you are transferring your patients, it's important to include and report the sepsis time zero. So, that was the time that the patient had two or more of those SIRS criteria with a known or suspected infection and what care you've provided so [00:12:00] far with the times of that care.

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