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ASAM Practice Pearls Transcript

Advanced Management of Alcohol Withdrawal

Dr. Stephen Taylor: Welcome. This is *ASAM Practice Pearls*, a podcast series from the American Society of Addiction Medicine, where we turn clinical expertise into everyday addiction care, one conversation at a time. I'm your host, Dr. Stephen Taylor. Today's episode is part of a special three-part series featuring a popular session from ASAM's 57th Annual Conference.

We are recording on-site at the annual conference in San Diego, and you can feel the energy in this place. So, for this episode, we are going to explore the session: *Advanced Management of Alcohol Withdrawal: Case-Based, Evidence-Informed Solutions*. This session explored how to manage severe and resistant alcohol withdrawal syndrome using validated tools and current treatment guidelines, sharing insights on pharmacologic strategies, escalation protocols, and approaches for special populations.

You might imagine that we need really smart people to discuss this topic, and boy, do we have them. I am so excited to welcome back two experts from this popular session, doctors Tessa Steel and Melissa Weimer. Please say hello, Docs.

Dr. Melissa Weimer: Hello. Excited to be here.

Dr. Tessa Steel: Thanks so much for having us.

Dr. Stephen Taylor: Awesome. So, let's jump right in. I want to pick your brains immediately and as fully as possible. Why don't we start with my first question, which is about the prevalence. How common is severe or resistant alcohol withdrawal, and who is at the greatest risk for it?

Dr. Melissa Weimer: It has been increasing over time, unfortunately, as people have been using more alcohol. So, despite what you might have heard in the popular literature, some age groups are reducing their alcohol use, but in our older population, alcohol use could be increasing, and we see that with 178,000 people dying related to alcohol related conditions in our country.

So, we know that it's highly prevalent in our country, alcohol use, and unfortunately, related to that, one of the complications of alcohol use, if you are using to any extent, that about 50% of people are going to be at risk for alcohol withdrawal. And then of that population, we see maybe 5 to 20% of people at risk for severe alcohol withdrawal. And what we mean by that is people who are having complications of alcohol withdrawal,

such as seizure or delirium tremens, or other complications where it's just taking them a very long time to get through their alcohol withdrawal. And if you look at that over time, we're seeing that increase over the last 20 years.

Dr. Stephen Taylor: Wow. Interesting. So, it's actually getting worse, and we are focusing so much on other issues, but we need to be aware of this and focus on this. So, thank you for that.

In your practice, how do you decide which assessment tools are most useful for a specific patient or a setting? What are some of the common pitfalls clinicians should avoid?

Dr. Tessa Steel: That's a great question. I think a really important one because we've seen in the literature that using a protocolized approach to treating alcohol withdrawal syndrome leads to better outcomes for patients.

A lot of the session that we did yesterday and that we talked about was tailoring withdrawal treatment to the specific scenario of this specific individual. That's an important concept and consideration as well, but the idea of having the backbone of a protocolized care plan in your hospital is important.

And a key part of that is having a systematic way of monitoring withdrawal symptoms and figuring out how severe are these symptoms, and what processes of care line up best with the risk profile of the person and the severity of their symptoms. So, we discussed yesterday, though, that there are a lot of options.

There's actually several tools for managing the severity of someone's withdrawal. The most common is the CIWA, and actually the revised version of it, the CIWA-Ar. But there are now several available tools, and one that we highlighted in particular is the mMINDS, and that tends to use more objective data. The CIWA was developed in specialized detox settings. It has been used in hospitalized settings, but there's a whole literature showing that many groups of patients in hospitals are not able to participate in a CIWA, which really relies on the patient being able to provide an accurate history, having a normal mental status.

So, as we get into the realm of people having more severe acute illness with altered mental status, now you know, we're not able to use the CIWA. And so, it's important to have an option of a scoring system that people know how to use, that they're comfortable and that they do in a similar way each time with each patient. That might vary based off of whether you're in an emergency department on the regular, you know, wards in a hospital, or in an ICU.

But then, I think an important point is that when things start going wrong or we're dealing with a more outlier situation, that that's just one piece of information. You know, falling back on the score is just one piece. You really have to go assess the patient and take all the nuances into account.

Dr. Stephen Taylor: You mentioned the mMINDS. Is there any other tool that you would recommend for that person whose alcohol withdrawal syndrome is more severe, and they're perhaps not going to be able to use the CIWA-Ar?

Dr. Tessa Steel: One thing that we didn't discuss yesterday that is highlighted in the ASAM guidelines is thinking about the RASS score, a Richmond-Agitation Sedation Scale, which is actually simple to do kind of a Likert scale, looking at how sedated is this person versus how activated and agitated. So, it's a quick, easy scale to use. I think as someone develops altered mental status, the level of consciousness is like a key piece of information, and the RASS really highlights that. Without trying to overstep.

And I think in a way that's a more accurate representation of the way we should be thinking. When things get complex, like one piece at a time, what's the level of consciousness? Is this person sedate or are they activated? Now, you know, what else is going on? Is there evidence that they're hallucinating, even if they can't tell us that? Are they really hyperadrenergic in their vital signs? What's the trends of their labs? Then we start kind of taking piece by piece to think about a more tailored approach.

Dr. Melissa Weimer: And I would just add one thing to make sure you don't do is only anchor on alcohol withdrawal. So, if someone is highly agitated or extremely hypertensive or extremely tachycardic, or their white blood cell count is elevated, it could be related to another condition, and that's one of the pitfalls, is to anchor only on alcohol withdrawal without thinking of the broader differential.

This patient is not progressing in their alcohol withdrawal treatment in the way that I would expect or anticipate. I need to think about a broader differential here, and I think you did a great job yesterday of talking about what are some of those other differentials that we need to keep in mind, knowing that individuals who have alcohol use disorder are more at risk for certain infectious complications.

Dr. Tessa Steel: Trauma. I mean, I think that is just one of the key points that we've talked through a really complex case, but also wanted to illustrate that this isn't that atypical for people that are hospitalized with alcohol use disorder; they're vulnerable. Their immune systems don't function very well. Alcohol has the potential to impact and cause failure in virtually every organ system, and then often people are coming in after a traumatic event. Sometimes it's relatively minor, like a ground-level fall, but we don't

often have the history. Did they really hit their head or not? Maybe the initial CT scan is negative, but a subdural can blossom over the subsequent days, so there is truly a wide differential of possibilities for the things that our patients are vulnerable for that we need to be thinking about.

Dr. Stephen Taylor: That is so important. Gone are the days, if those days ever existed, when the patient that you're treating for an alcohol withdrawal only had an alcohol use disorder, didn't have any other medical conditions, wasn't using any other substances. I'm not sure if those days ever occurred that that was the typical patient, but if those days ever existed, they sure aren't here anymore.

Now, let's say a patient is deteriorating despite your initial pharmacological strategy. Can you walk us through how you think about that escalation? What are the brain receptors that you're targeting at each step along the way, and how does that shape which medications that you might reach for?

Dr. Melissa Weimer: Before I go into this, I just want to really ground us that we're talking about hospital-based withdrawal management. We are not talking about withdrawal management outside the highly monitored setting. So, keep that in mind. And I also want to say that you should do all the usual care, great things that you do. You should give these patients thiamine; you should give them a multivitamin. You should replace their electrolytes. So do all of that, make sure that's done.

But now let's focus on how do we get to this patient who is primarily having severe alcohol withdrawal? What should we do?

So, I think we need to step back, and we need to say we're in the first 24 hours of their hospitalization. We need to say, "what meds have we given to address this state that they're in right now?"

Alcohol withdrawal is a state where GABA is diminishing. Our neurotransmitters that are helping keep us sort of calm and neutral, those are diminishing. Glutamate is surging, right? So, the glutamate is the excitatory neurotransmitters. Those are surging. We need to help get that back in balance. That can be a long process for people who have been imbalanced in their GABA and glutamate due to their long-term use of alcohol.

So, we have two primary options. First option is benzodiazepines, second option phenobarbital. So, let's think about benzodiazepines first.

When I'm looking at a patient, I'm saying they're not doing well. Maybe their CIWA is rising, they're getting more agitated, they are more tremulous. Have they gotten enough benzodiazepines?

So, what I generally see in my practice is that we are not doing one of the evidence-based strategies, which is front-loading of benzodiazepines. So, we're not giving enough of those highly effective meds upfront. There are lots of options. I typically choose diazepam as my benzodiazepine of choice. One of the reasons is that it has active metabolites, which we're actually trying to utilize in the treatment. So, it's going to have a longer action, and those metabolites are going to stay in the system and help kind of get their neurotransmitters recalibrated. Certainly, if they had severe decompensated liver disease, you might think of Lorazepam as an alternative. But let's just focus for this talk about; we're using diazepam. So, we're going to make sure they got enough diazepam.

If they haven't gotten any diazepam, we'll at least start with that. Say they got 10 milligrams of diazepam, and their CIWA is now rising. Well, guess what? Give them double the diazepam. So that's part of a front-loading protocol. And you don't just give them the diazepam and walk away, and four hours later, see how they're doing. Because I bet you, they're really not doing well. Their CIWA is going to keep rising. So, I think that's the other pitfall I see is that people are not monitoring these patients closely enough initially. And so, they're really getting behind. Once you get behind for these patients, it is hard to catch up. You give the 20 of diazepam, probably going to give it IV because you want it to rapidly act, and you're going to monitor them in 30 minutes to an hour.

Say they did not improve; you're going to give another 20 milligrams of diazepam. And then you're going to think about is this person in the right place? Am I giving so many benzodiazepines that I think they might be at risk for not protecting their airway, or they need closer monitoring that can be provided on the floor?

So that would be one option. Say that person, you know, you want to make sure they calm down now; you would probably then consider putting them on a taper of diazepam. So, a scheduled taper over time with ongoing as-needed diazepam based on CIWA. That's assuming they're going to the floor. That's assuming they're improving.

Your other option is phenobarbital loading, which we are increasingly using in our hospital setting. And one of the reasons is because we have a lot of patients who have a lot of experience with benzos. They're coming in quite frequently. They may be going through this process 12 times a year. It's a lot. Their brains are not as experienced with phenobarbital. And so, the nice thing about phenobarbital is, it's not only acting on GABA as benzodiazepines are, but it's also helping reduce that glutamate surge through NMDA receptors. So, phenobarbital loading, you've got different options.

We are typically doing 12 to 15 milligrams per kilogram ideal body weight. That's important. You're doing ideal body weight, not actual body weight. And then we have a protocol in our handouts, so we can put that in the show notes as well. And then we do that load, people are usually getting three doses of a load. So, it's not just a slamming them with 12 milligrams per kilogram, one dose. We're giving that IV over three doses, monitoring the patient, expecting them to improve there. And then we put them on a taper. But I'll just say phenobarbital protocols are generally very institution dependent. And I'll say that ours has evolved over time, and we've worked very closely with our clinical pharmacists. So, if you are interested in starting that in your hospital setting, it would be good to work with your clinical pharmacist, but do not do this at home. Absolutely not.

Dr. Tessa Steel: Yeah, I think it's a really great point, and I think this topic in general just brings up a lot of questions and I think there are so many questions because the evidence remains lacking. And here's my scientist's pitch that we need more scientists studying and researching the comparative effectiveness and, importantly, the comparative safety of these medications, because I think in concept, almost any sedative at high enough doses could be used to control alcohol withdrawal, right?

We could control a generalized state of brain hyperexcitation, which is what this is, with a variety of sedatives. The issue becomes at what cost. The goal eventually should be to really understand as completely as we can the pathophysiology of this condition. And the interesting thing about it is it's all caused by just one substance.

You know, as an ICU doctor, where I'm dealing with all these syndromes like sepsis, acute kidney injury, and acute respiratory distress syndrome, these are all syndromes that have so many different root causes that it's actually hard to study them and pair a treatment to the root cause. You know, in this case we have this opportunity to do that.

And so, I think it's a really exciting subject to study and improve because we could probably figure out in different scenarios what is the precise pharmacology that matches, but I want to say questions are normal because we're dealing in a relatively evidence-free zone. Even when we think about CIWA protocols, that are so widespread in hospitals, they were really extrapolated from a single-center study that was published in JAMA in the 1990s in a detox unit where we sort of reactively gave benzos based off of the patient's CIWA scores and symptoms. And that works for not severe syndrome, mild withdrawal syndrome, which is the patients who are studied.

Once we start getting into a scenario where people, like you're saying, need providers at the bedside assessing, what did that dose of diazepam do? Waiting at least three minutes. That's when we're going to see diazepam kicking in, which is nice. It's pretty

fast for that drug. Then what was the outcome? And if it's not enough, what are we doing next? And that's a really evidence-free zone. A lot of what we talked about yesterday was just thinking through what do we know about the neurobiology of this condition? And so, what are the pharmacologic options? What tools do we have in our toolkit if still we're seeing that this brain excitation is not under control?

Dr. Stephen Taylor: Wow. Alright. Dr. Steel, I'm going to take advantage of the fact you are an ICU doctor, as you mentioned. So, when you get to that point where the patient is going to need intubation or may need intubation, for a lot of those folks with cirrhosis or active infection or nutritional compromise, that's not really a straightforward decision.

So, how do you weigh those risks? What changes about your pharmacological strategy once the patient's intubated?

Dr. Tessa Steel: I think it's a really important point, and it raises these issues that we've begun talking about just in terms of the vulnerability of patients, because with each layer of intervention that we add, there just becomes more risk of adverse effects and mechanical ventilation, placement of a breathing tube, and then the requirement of being connected to a machine to support your breathing. That's a very invasive intervention that has real risks associated with it.

So, in the case that we presented yesterday, we were thinking about a patient who not only had severe alcohol withdrawal, but also had an infection, a pneumonia that then spread to multiple sites. So, when we think about mechanical ventilation, we're forcing air into lungs that may already be injured. So, we call that ventilator-induced lung injury, that that's a risk that you're introducing with this therapy. But the cirrhosis, I think, is just a common comorbidity or liver dysfunction. Maybe it's not even cirrhosis at this point, but the patient has hepatitis, has inflammation of their liver, and dysfunction. We necessarily need to use more sedation when we are employing mechanical ventilation. That's part of why we might employ mechanical ventilation for use in alcohol withdrawal. But the clearance of that sedation becomes abnormal when we have liver problems. The effects can also be more pronounced in people that have liver problems because there's less protein around and more free drug available as well.

And then alcohol-related immune dysfunction. I think this is an underappreciated issue for so many patients. I mean, we talked about prevalence just earlier, but at each step of higher acuity in healthcare, by setting, the prevalence of alcohol use disorder gets higher and higher, such that when we reach an ICU setting, 30% of people have a substance use disorder, and 75% of that is alcohol use disorder.

I teach my trainees, you need to think about this person as immunocompromised. And do you want to intubate an immunocompromised person? You do not, because what happens then? You get a ventilator-associated pneumonia, you get a line infection, you get these secondary hospital-acquired infections, and then when this immunocompromised person experiences that, their likelihood of sepsis is double, their likelihood of mortality with that sepsis is double.

It is not a flippant sort of decision by any means. Right? And that's why we think about using adjuvants that don't impair respiratory function. Treatments like dexmedetomidine, which is a medication we can only give in ICU settings but activates alpha-2 receptors and tones down the sympathetic system. Or ketamine, which is a direct NMDA glutamate receptor antagonist that does not suppress respiratory drive, and is an exciting potential, I think for future research and use as an adjuvant in alcohol withdrawal. A lot of consideration has to go into that decision to place a breathing tube and support from a breathing machine.

Dr. Stephen Taylor: So, basically, when it comes to an intubated patient, it becomes exponentially more complicated, but in some ways exponentially more fascinating. I mean, this is really a ripe area for research, if I heard you correctly.

Dr. Tessa Steel: Absolutely. I think how we provide guidance for that kind of nuanced decision-making. In the end, I think it's interesting and fascinating and it really allows us to be clinicians because that's our job to, like, tailor this plan, not only even to the medicine, but to the values of the person.

How much is symptom control this person's priority, and how much is that going to matter for their engagement? We think of withdrawal as, like, the first step at engaging in their overall care pathway, which hopefully is surviving the hospital stay and then moving forward. I think that is where it's actually fun and exciting is that we get to be clinicians.

Dr. Stephen Taylor: That's awesome. Alright, clinicians, I have an opportunity now to get y'all to give us your key takeaways. We don't have as much time as I'd love for us to have to talk about this topic. It'd be nice if we had six hours, but we don't have that. So, please start us with your key takeaways.

Dr. Melissa Weimer: I think a key takeaway was making sure that you are assessing appropriately. So, CIWA-Ar, a great assessment tool, but do not use it in your patient who cannot engage in the conversation with you, cannot tell you if they're having hallucinations or not, cannot tell you if they're having a headache. So, make sure that we're utilizing the appropriate assessment tool. I think mMINDS was an example of a

tool that can be used, but again, thinking about the RASS or these other assessment tools, which can help despite the patient having delirium or encephalopathy. So, I'd say that's key takeaway one.

Dr. Tessa Steel: I think a key takeaway for me is recognizing that we're not just controlling agitation in patients when we're treating alcohol withdrawal. We're really trying to limit brain injury, that when a patient escalates to a state of severe brain hyperexcitation, we know that there's a neuropathology involving glutamate. And involving kind of the cellular level energy management in the brain that can kill brain cells, that leads to brain damage. Effective withdrawal control is actually this opportunity to prevent brain injury, and that's an important takeaway.

Dr. Melissa Weimer: I think that's so important because we think about withdrawal as you know, okay, well, patients are having severe withdrawal, and we're going to get 'em through it. But I think that point of this is part of their path to recovery, and it's a really important path. And if they have a really terrible experience with withdrawal, and we don't do a good job of managing that, we're kind of setting them up for failure or having a harder time.

So, I think that's why the other key takeaway I would say is make sure you're thinking about the pathophysiology. What are the different neurotransmitters that we're trying to address? You've got two great options. You've got benzodiazepines, which are addressing GABA, helping go back to a stable state. And then you've got phenobarbital, a very old medication that has both GABA and glutamate action. So, for people who have a lot of exposure to benzodiazepines or maybe are going through both benzodiazepine and alcohol withdrawal, phenobarbital might be a great option.

So, do the good medicine. Think about what you're treating. The evidence, unfortunately, is not as good and robust as we would like it to be. But that being said, we know these medicines work, and you got to think about what is the right thing that we're using for this patient at this time.

Dr. Tessa Steel: Oh yeah. I mean, always got to get on the soapbox that we're treating withdrawal because we need to, but that's not the ultimate treatment for the patient. It is critical that we safely and hopefully comfortably usher a patient through their withdrawal experience. But then we fail if we don't engage them on their root issue, their use disorder.

And this is another space that needs tons of work. Research. Thinking about thoughtful interventions that we can do in a hospital setting that can bridge people to their longitudinal care. We're doing some initial qualitative work with patients to understand

how actually this experience of hospitalization may change the way they're thinking about their drinking.

And so, it's a unique opportunity to engage people. And so, that's what hopefully becomes automatic for people, that I'm treating alcohol withdrawal automatically. I'm thinking about how am I engaging the patient and connecting and making this hospitalization worthwhile for them overall.

Dr. Stephen Taylor: Indeed. Well, listeners, you just heard an amazing discussion. I don't think I need to sell you on how awesome these experts are. So just to remind you, the full recording of their session here at the ASAM Annual Conference will be available in ASAM's e-Learning Center. If you missed it at the conference, you now got a sample of what you missed and you know you want to access this online and get the full deal because this was an awesome conversation just in this short period of time. You know the session was amazing. I want to thank our experts, Dr. Tessa Steel, Dr. Melissa Weimer, for sharing key insights from their session, *Advanced Management of Alcohol Withdrawal: Case-Based Evidence-Informed Solutions*. And of course, do not forget to visit ASAM's e-Learning Center to claim your CE credits for this episode.

I know you learned a lot, because I know I learned a lot. Also, make sure to subscribe and share this episode with colleagues who may find this information helpful.

Thanks for listening, and we'll see you next time on *ASAM Practice Pearls*, where we turn clinical expertise into everyday addiction care, one conversation at a time.