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### Minimal Hepatic Encephalopathy: A Covert Operation?

#### Announcer:

Welcome to CE on ReachMD. This activity is provided by TotalCME and is part of our MinuteCE curriculum.

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#### Dr. Reau

This is CE on ReachMD, and I'm Dr. Nancy Reau. When is the diagnostic workup indicated for suspicion of hepatic encephalopathy? And what does it include?

Patients with compensated cirrhosis—so asymptomatic cirrhosis—are at risk for becoming symptomatic, and it's really important to find that early. So one of the most impactful—especially when you look at quality of life—symptoms of liver disease, is encephalopathy. And finding it at an earlier time point is going to allow an intervention when a person can hopefully avoid hospitalization and then have a warning that they are at risk for other symptoms of decompensation and how that changes their management.

But how do you find it? That's really important. So in a person who doesn't have that many symptoms but maybe is finding some behavioral changes, or the family says that they might be a little bit slower, or just the patient seems to feel a little bit off—we talk about brain fog or just not quite feeling themselves—that's a huge clue that this person might have covert hepatic encephalopathy or minimal hepatic encephalopathy.

So in this bucket, there is truly encephalopathy that only is found when you do sophisticated neuropsychomotor testing. That means you have to go and have formal testing to be able to demonstrate that there are changes that are consistent with minimal encephalopathy.

And then there is covert hepatic encephalopathy, which means that some of the tools that you have in front of you, not formal psychometric testing, but actually just things that you can do in the office or have family members do, can show a person who's struggling with some of their mentation.

And what do I mean by that? Well, these are things that require a little bit of brain power. So one of the most common tests that we use is something that we call the animal naming test. And I'll often kind of do something besides just animals, like colors, things you can find in the kitchen, your favorite restaurant, like how many things can you come up with in a certain period of time? And if I ask you to name animals, and you're up to the entire zoo within 30 seconds, well, probably you're okay. If I'm still worried, now we have to do more formal testing. But if you're struggling after cat and dog, this is a suggestion that we really need to do something or that you might be at risk for encephalopathy.

But there are other things. There's a Stroop test, which is a nice app that you can do, where you are matching squares or shapes and

colors, and the test will grade you.

Now, it's important that anytime you do something the first time, you're not going to be perfect at it, so you're allowed to have a little bit of practice. But if you do the same thing over and over and over again, sometimes you're so well practiced that you're going to do better than you might have, so vary your test a little bit.

Paper-and-pencil tests, like asking a person to draw a clock or, more importantly, just watching their signature. People will get shaky or a little bit off. Now, you can't compare your signature from when you were 25 if you're 82, but if you're writing something every single day, and it takes you longer to write it, or you're noticing that your accuracy or your scribbling is a little bit different, that's again a suggestion that we might have something.

And then don't forget that if there's really significant concern but these simple tests are not finding that, there are neurocognitive testing that can be done; it just has to be arranged in a more formal setting.

It's also important to confirm the diagnosis of cirrhosis and to assess the severity. So you're not going to label someone as having minimal or hepatic encephalopathy if they don't have underlying liver disease or they don't have portal hypertension. There are medications that can make people feel off—even diuretics like Lasix can cause some confusion, and so don't miss an alternative explanation.

And then ammonia testing—we really do not like ammonia testing when we're managing something, when we're labeling something, but if you have someone who has maybe competing reasons to have confusion, checking the serum ammonia can be a subtle clue; especially if it's normal, it helps you move on away from encephalopathy into something else.

So if you take one thing away, make a timely diagnosis as a critical step in preventing a first episode of overt hepatic encephalopathy.

I hope you found this information as useful as it was brief. Thanks for listening.

**Announcer:**

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