[MUSIC PLAYING]

ERIC SCOTT: So you get a twofer today. So it's both Beth and I are going to be talking to you today about treatment of chronic pain.

So I want you, while we're getting the slides up, I want you to imagine perhaps oh, 4 o'clock you're looking at your schedule. And Michaela appears on your schedule for the third time for the week. It's late in the afternoon. You're hoping to get home, but you know, oh, every other visit that she's come in with abdominal pain tends to be longer than your 15-minute allotment continuity clinic.

And you know that there're probably going to be lots of questions about what do we do from here? She's missing school. She's got all kinds of things going on. And the nightmare scenario grows. And you're beginning to think, I'm going to miss dinner. This is going to be a challenge. What do I do? I haven't been able to get them out of my office quickly the last three times they've shown up. And now, they're here again. What do I do?

We don't have an immediate solution, but we've got the beginnings of what we begin to do as a group and a treatment team to provide an outlet for families and individuals that have chronic painful conditions that may not be able to be easily solved in a very quick consultation in a pediatric office. So what we want to do is tell you a little bit about the program that we're doing here at Mott. And then also what you can begin to do as individuals to help individuals with a chronic pain.

Show of hands, quick show of hands-- how many people have dealt with somebody that has had a chronic painful condition of any stripe? Just about everybody, right? So crosscutting issue, and so we're happy to be here to talk about this.

We know in popular press, there's been a lot of talk about pain-- everything from the decade of pain initiated by Congress to opiate epidemics. We're hearing a lot about overprescription of opiates. And we know that that's not the panacea or the solution for widespread chronic pain.

The Institute of Medicine has also had a report that came out in 2010 about relieving pain in America, so how we should be treating chronic painful conditions. Not a lot there about pediatric patients, but pretty good stuff as it relates to adults. And then, of course, the controversial statement about should we be considering pain as the fifth vital sign? And all of the consequences that have arisen from mistakenly looking at pain or just the 0-to-10 scale as the fifth vital sign. So lots of talk about pain recently.

We know from epidemiologic studies that there is a good deal of pain. People used to think, oh, kids don't have chronic pain. Think again. We know that abdominal pain and headaches tend to be the most common forms of chronic pain. But we also know that there's this increasing crescendo of kind of widespread body pain.

And maybe you've kind of toyed with the f-word before-- fibromyalgia. And how do you label that? Do you call it fibromyalgia or do you call it AMPS? So we're beginning to understand what does widespread pain look like in the pediatric world?

Other common chronic painful conditions that we encounter and that we see in our pain clinic that you've probably also dealt with, a lot of low back pain. Last one we're going to talk about in further slides, but this idea of a centralized pain syndrome. Think about fibromyalgia or AMPS-- Amplified Musculoskeletal Pain Syndrome. And we'll talk about what that means in a minute.

So is it increasing? Colleagues of mine in Indiana University where I was before coming here had begun to look using the PHIS data set. So this is a coalition of 43 children's hospitals that coalesce data and outcomes. And perhaps you've seen this, an 830% increase in hospitalizations for individuals with a chronic painful condition. So perhaps there's long-term consequences of keeping children alive as Ken alluded to, that there are quality-of-life issues that accrue for individuals with chronic illness.

So we think that there's an increase. That made us think a little bit about what do we know about Mott data? So a busy slide, but the indication here is that as the number of patients increase-- so if we think about the blue bars there just represent unique patients that we're seeing in the ambulatory care setting and the red is the number that had the same diagnoses as the Coffelt data. There's clearly a rise here in the number of incidents of individuals seen in our health system with chronic pain.

These are the hospitalizations-- again the same crescendo. So there is probably something real to the reality that we are seeing more chronic pain among kids. And we're probably forced to treat that more often.

So what I want to do is kind of turn this over for Beth to give us a little bit of a history of what's been happening. And you'll hear more about some of this element from Dr. [INAUDIBLE] this afternoon when he talks about the somatic symptom disorder protocol. So here, I'm going to turn it over to Beth. And she's going to talk about some of the historic pieces.

BETH RISKE: Thanks, Eric. So at Michigan Medicine as Eric alluded to, we saw a significant increase in the amount of pediatric referrals with chronic pain as a component or the major reason for referral to our therapy services. So we started to investigate this. We started to look at the incidents. We started to look at the literature and available programs that were out there nationally, not really finding much available to us in the state of Michigan to reflect on.

And we started to build what we could from that literature and start working on a best-practice intervention for this patient population. The hospital was concurrently recruiting Dr. Scott. And so we then collaborated together over the last year to build what we've come to call the MiPAIN Program.

Concurrently, the in-patient group at Mott was working on the somatoform dysfunction protocol through our emergency department, and PM and R, and therapy services. And this has some common features with MiPAIN and some not. And so that's been working along concurrently at the same time, 2014 to present. We now have the somatoform protocol.

So then very quickly as we're building this program, we started to realize we need to come up with a model to describe intervention for this patient population. What do you do? What's the best level of care, depending on how the patient presents to you? So this is the beginnings of our model. I think this is the second time we've tested it out, so I'd love some feedback. Sorry for these smaller type.

But essentially, along the right-hand side of the square are psychological risk factors. And essentially, the more of these that you have, the more intervention or needs you may have. So that might be that you have anxiety, depression, ADHD. There may be a trauma or abuse history, so on, and so forth.

Along the bottom corner, heading towards the bottom right-hand side of the square are your medical history. So you may have a significant number of co-morbidities, poor sleep hygiene, a surgical history, a mechanical trauma, or some sort of a congenital abnormality.

And then along the top of the square, we're demonstrating that what type of intervention or what level of intervention this patient may need. So no intervention whatsoever, they seem to be having just a couple of risk factors. Maybe an intervention isn't necessary. And then plugging along, so maybe a single intervention is indicated. That might be PT, or psychology, OT. Multiple interventions, moving into a day hospital model, all the way to an inpatient admission.

And then finally, your right-hand side of the square, the likely duration of total intervention. So with our MiPAIN program, we aren't inpatient hospitalization. We're more of a multidisciplinary program. And we're working towards more of a day hospital model.

So what do these kids look like when they come into your office? So functionally speaking, we see a bit of a spiral for some of these. And hopefully, we intervene so that spiral doesn't continue downward.

So you may start to hear from this family or this patient that they've pulled back from an extracurricular. You know, it just-- I can't tolerate. I can't go to swim practice I can't do everything that my coach is doing. So I'm just going to take a break. Or hey, could you talk to my coach or write a note that says I don't have to do x, y, and z?

The next thing we might see for this patient population is that they have a harder time tolerating a full day of school. So they may be leaving school early frequently. They may not be going all together every day of the week. And we see that that just kind of crescendos without intervention.

We then may see a social withdrawal. So they're not as active or engaged with their friends or their family. We then sometimes see that the family starts to report, they just aren't really able to help out around the house. They're kind of turning into that bump on a log. And it's because they hurt all the time.

We then start to see a regression in their ability to tolerate community ambulation. So this may be where they walk into your office and say, I need a wheelchair. I need a parking pass. I need something. So I just can't make it that full distance.

And then we have a small handful of patients that were regressing all the way down to needing assistance with ADLs. So these are the kiddos that are having a poor time with [INAUDIBLE] posture-- so sitting, standing, lying. Everything hurts. I just hurt all the time. I can't tolerate it.

They're having a real difficulty identifying positions or movements that impact their pain. So as a orthopedic physical therapist, you know, I look for what provocates, what alleviates. These kids, everything hurts. There is no difference in my changing of a position.

There's reports of frequent injuries or falls with little to no obvious sign of injury or trauma. So like Eric alluded to you in the beginning, you know, they show up in your office a lot. And you're kind of scratching your head looking for the evidence of the pain that they're reporting.

And so then we sometimes see that these patients have a reliance or dependence on assistive devices that they may have been prescribed. You know, maybe that foot needs a walking boot. OK, let's try it. But then we have a real hard time weaning them out of the boot. They become dependent upon it or other assistive devices.

So this is just a slide that kind of explains some of the things that you may hear from the family. So in regards to sleep, I go to bed at 11, but I don't fall asleep until 3:00. I keep waking up. Family, my mom worries about me. She's had to give up work. We hear that a lot.

Or I've had a big change in my schedule because of these things. Education, I used to love school but I've missed about 80% of school days this year. So the consequences of chronic pain are they affect their entire life. And they affect the family as well.

So then what do we do about these patients? And just to kind of give you an idea of the continuum of services that are available right now, some of our patients that are referred to our MiPAIN evaluation clinic, you know, they're doing quite well. They've got a good support system. They might need a little guidance, maybe some literature for the family to review or references for the families to use. And they may try to do some independent management via exercise. We'll talk about that and some references.

Then there are the next level of kids. If we're looking, thinking back to that square, you know, maybe they're in the top corner of the square. Maybe they just need one intervention. So this might be a CRPS case that, you know, overall good family support, not too many psychological variables. Maybe they would do OK with just getting into PT a few times a week and getting going. Or maybe it's an abdominal pain kiddo that would do OK with just one intervention, maybe psychology.

Then we take that next step over to a multidisciplinary team management. So that would be like a day treatment program, like our MiPAIN program that we'll talk about a little bit more here soon. And then the very end of the scale is typically an inpatient hospitalization. And that would be like the Children's Hospital of Philadelphia, Cleveland Clinic. They go there for three weeks. They're hospitalized. They're focusing on just getting going, getting those ADLs more independent and getting up our ambulatory status.

ERIC SCOTT: So prior to moving to Michigan when I would come to vacation here, everything has to start with an M. Everything has to have Mi. So kind of following that, you know, I'm not necessarily wedded to this name. I don't necessarily like including the word pain. But we're kind of in that dilemma. We are seeing patients that have pain. But we also want to kind of help them shift gears and take a different mindset, which is get active. Get your life back. Go after things instead of kind of fostering the sense of a sedentary, passive lifestyle.

And I think as we shift gears now to talk a little bit about our treatment, I think one of the big interventions that multiple people can have with these patients are to help them move from there is one passive intervention that I can do that will eliminate all of my symptoms and suddenly make me pain free. Helping them move from the mindset of this is not like taking a seven-day course of antibiotics that will alleviate all of the symptoms by the time that the course of antibiotics is over. That doesn't exist for chronic pain.

But many people think oh, we have these really powerful opiates. We have these really powerful medications. There should be something in-- and we hear this a lot-- in the 21st Century, we should not have pain. And I think as a culture sometimes I think we have to grapple a bit with what expectations do patients have, and what expectations do we have about medical treatment to alleviate 100% of any discomfort?

And so I think, in part, that's why as a psychologist, I think I'm an integral part of helping people begin to kind of turn that mindset around. Because often, they have an expectation that there is this really quick fix. And often what we have to help patients begin to grapple with is, it may not be that simple. And it may be a very large investment of your time and energy to rehabilitate, to kind of turn this ship.

So I live on water. I live on a lake. And so I often use the analogy, imagine you're trying to turn the QE2 around. The captain, when she wants to move that ship 90 degrees, probably has to think two hours ahead of time, and has to plan for moving that ship-- versus a ski natuique or a master craft that can turn on a dime. Treatment for chronic pain is that QE2. It takes some time, energy, and effort. And it's not turning on a dime. So that's one of the big interventions that I think we have to really help our patients understand.

The only other thing about the pain network is my goal is to include other providers, not just Mott, but other networks of providers around the state of Michigan. And so that's one of the long-term plans.

It's interdisciplinary. That means that there's shared decision making about treatment, about treatment philosophy, and treatment plans. So unlike in a multidisciplinary clinic where many people see them, they often go in tandem and do their own thing, coming back to report. We often do much more detailed planning iterations, huddles, among our treatment team. And being co-located can really help with that.

We think that our skills complement one another. So physicians, psychologists, and PT, occupational therapists, and art therapists all take a different lens to the patient and have different skills with which we can intervene. And so we really want to be patient centered, but bringing all of these different disciplines together to begin to modify and change their lifestyle really.

Our program philosophy is to get moving again. So we've used the analogy or the word picture here of a step to get them moving and active. So many times, the first things to go are activity goals. So when patients become more sedentary, they lose their activity. They just simply don't get active or they stay rather sedentary.

So what we want to do is help them to begin to think about and incorporate physical activity in almost everything that they do. So that's why they see both a physical therapist and a psychotherapist. We want to try to include both of those aspects of care.

Then stepping up, we want to really try to get them to improve their functioning-- talking about the quality of life and the quality of their life. And how in the pathway to developing pain, they've often narrowed their focus. Their social isolation really kicks in. Their sedentary lifestyle takes its toll. So we want to begin to help them open that back up again and understand they can actually improve.

So what we do in our evaluation clinic is fairly straightforward. The highlight on this slide is that in order for families and patients to be most successful, the diagnostic picture and puzzle needs to be solved. Patients are much more open to and receptive to the message that we have if they're not simultaneously still wondering, are we missing something? Is there some kind of explanation here? So if you're going to make a referral to us, we really would like to see a lot of those puzzles already solved so that the family is on board with saying, yes, this is the path forward.

We use a CHIRP manual. So it's the Children's Health and Illness Recovery Program. One of my colleagues, we kind of think about it as a continuum. Those really healthy kids might needed cheep. Kids in the middle might need a chirp. And some people that are really, really functionally disabled need the screaming eagle therapy, where they really need a lot of intervention. So this is a psychotherapy manual.

Quick calculations, the amount of money spent for the care that Ken was talking about, we could do about 18,000 psychotherapy sessions for the amount of money that was spent on the interventions, medical interventions. So we're providing and trying to provide a relatively low cost but highly effective type of treatment, which is called cognitive behavioral therapy. You can see the skills that are listed there. And those are common ones in many of the manualized treatments.

The goal is to improve function. So we take a multifaceted approach to say, there's probably no part of your life that's not grist for the mill. So that we're often trying to get them back into school again, back with their friends. We're trying to get them to be a part of a family and contributing to the family life. And then we also, again, want them to get more physically active. And so we want them to engage in physical therapy and other kind of exercises.

There's growing evidence, I've only highlighted just recent Cochrane Reviews. So hopefully, you're familiar with the Cochrane process, that they look at randomized controlled trials, high-quality methodology, are really showing the benefit and the evidence for using cognitive behavioral therapy to really try to move the needle, as we say, on treating pain. So I'm going to turn it back over to Beth to talk a little bit about some of the exercise, or the evidence for exercise.

BETH RISKE: So to treat chronic pain or that centralized pain, there is even probably less evidence. There's no Cochrane Review out there at present, but there are some good studies that are definitely showing us a trend and some things to focus on.

So first and foremost, aerobic exercise is shown to help best mediate chronic pain. There's an endogenous response from aerobic exercise that seems to have an effect long term, not just the hour or so after, as long as it's moderate to moderate-high intensity. There are some studies about really high intensity, but who are we ever going to get to stick to that long term?

So we go moderate to moderate-high intensity. And it needs to be quite frequent. So most of the studies look at activity like that about five times per week. So that's what we're targeting in our MiPain program. It doesn't necessarily mean that we have them on a treadmill or an elliptical for the entire two hours they're with us, but their heart rate is up and they're moving.

There's also a fair amount of evidence out there at this point too that shows both group and individualized exercise intervention is effective. And working with our psychology counterparts in the MiPAIN program, and we know that there's a huge impact to have this group of patients work together, to have a little peer modeling. And it helps to give them some perspective. So in our program, they have a group component exercise, as well as individualized exercise.

And then we'll get into sleep here and exercise next. So we all know that if we exercise, we get tired. And therefore, we sleep a little bit better. There's actually a bit of exercise-related literature that tells us too that if we're a consistent exerciser-- and again, we're kind of focusing on that moderate intensity to moderate-high intensity, and the frequency of around five times per week-- that it doesn't just make us sleep more, it actually improves the amount of time that we spend in that really restorative phases of our sleep cycle.

So not only makes us sleep more, but improves the amount of time that we get that quality restorative sleep. It also helps to obviously increase energy and our psychological functioning. So we're working together to tag team that sleep.

So differences between PT and maybe a physical therapist that's focusing more on chronic pain or that centralized pain, we hear it all the time in our evaluation clinic. I've already done therapy. I'm not doing it again. It was worthless. I hurt all the time.

And if we're taking a pretty traditional approach to PT, that's the case, you know. If I know that you have tendinitis, I'm going to look at your hip. I'm going to mobilize. I'm going to work on strengthening. And that's going to probably improve upon your tendinitis. But if you have a centralized pain program or a pain syndrome, we really need to take a different approach.

And that's more through the aerobic targets. And the frequency is a bit different. So a little bit of a different approach. And that's, I think, a big key to those kids that are sitting in your office saying, I'm not going to do anything else like that, because I've already done it. This is a little bit of a different approach.

We have therapeutic recreation as part of this program as well. And it's a really critical part, because they work on some of these key skills with psychology and Dr. Scott. They work on building their aerobic capacity, and their strength, and their ability to participate in more ADLs and functional activities. But how do they then translate that to real life?

And so we have the therapeutic recreation specialists available to us and working with these kids to help them make that jump from clinical to real life. So we also do this with art therapy. So again, in taking some of those skills that they are working on in PT, and OT, and psychology, but then translating that into something that's very meaningful to them.

So our kids go all over. Every other week they go to a location to work on embedding these skills into real life. So they've gone to the Arb. They've gone to the Wave Field. They go to coffee shops. They go bowling. They go to the Humane Society. They're going all over the place to reintegrate themselves back into activity.

So I know we're running a little shorter on time, so we'll just briefly talk about our treatment design. Like I said, there's individual care. So most of the kids get twice the week individual therapy. For physical therapy, they receive psychology one-on-one services once per week. And then there's a group day where they come and they spend the day with us in a group of four. Did you want to comment on that any more, Dr. Scott?

ERIC SCOTT: Yeah, I think one of the other things that is a really important treatment component is the huddles that we have. So because we're co-located in one location, I frequently talk to the physical therapists and contribute to their physical therapy by saying, these are the skills we worked on in psychotherapy.

Physical therapists are great psychotherapists. They learn a lot about patients. And then they can share that and those insights with me, and so that we can begin to create that synergism and common language across disciplines to reinforce those skills in both the physical therapy as well as the psychotherapy.

And these are just our staff. One other thing to look for is the web site. I think you've got these handouts. So I think with that, we will finish it up.