

From Delphi to Didactics & Beyond Essential Pediatric Rheumatology Knowledge for Trainees - Pediatric Grand Rounds-10-24-25-Meeting Recording

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● **Calderon, Delia** started transcription

GC **Gillispie-Taylor, Miriah Catherine** 0:09
OK.

Ranch, Daniel 0:29
All right. Good morning, everybody. It's 7:30, so we'll get started. Thank you for attending University of Texas Health, San Antonio Pieta Grand Rounds. As a reminder, if you're remote, please mute your devices as you log on. Also, the grand rounds attendance code will be placed in the chat box periodically, so you can just scroll through there to get it. Or if you're in the the auditorium, it should be written on the board I I'm I'm guessing. So otherwise it's my great pleasure to introduce Doctor Mariah Taylor, our speaker for today. Doctor Taylor is an assistant professor of Pediatrics and of Education, Innovation and Technology at Baylor College of Medicine and a pediatric rheumatologist at Texas Children's. She completed her pediatric residency at the University of South Florida and fellowship training in pediatric rheumatology at Baylor. Nationally recognized for her innovative approaches to medical education, Doctor Taylor integrates gamification, social media, and digital learning platforms to teach complex symptologic concepts in engaging and accessible ways. She has received multiple awards for educational innovation, including the SGEA Innovation in Medical Education Award.

PW **Pediatric Workroom** 1:25
Yeah.

Ranch, Daniel 1:37
And top honors at the BCM Showcase of Educational Scholarship. Her scholarship

focuses on bridging knowledge gaps in rheumatology through creative curriculum design, technology enhanced learning and community building across disciplines and training levels. Taylor also serves on the Executive Committee of the AAP section on Rheumatology and the Workforce and Education.

 **Gillispie-Taylor, Miriah Catherine** 1:43
OK.

 **Ranch, Daniel** 1:57
committee with the American College of Rheumatology. Everybody, please give a warm welcome to Dr. Taylor.

 **Gillispie-Taylor, Miriah Catherine** 2:03
Good morning and thank you for this invitation to speak to you guys. Like he said, I'm Mariah Taylor, I'm a pediatric rheumatologist and this is obviously an area that I'm quite passionate about. So what I'm going to talk to you about today is a paper that was a labor of love.
But the process and the reasons behind the work that was done so that the title of my talk obviously you can see is from Delphi to Didactics and Beyond Essential Pediatric Rheumatology Knowledge for Trainees and this is a a body of work that was supported by the Childhood Arthritis and Rheumatology Research Foundation and it was, it was like I said, labor of love that took about three years and a lot of people. So I have no relevant financial relationships, so nothing to disclose. And hopefully at the end of the talk today you are going to be able to identify key pediatric rheumatology.
Topics that trainees should learn prior to graduation. List common pediatric rheumatic conditions, which I know sounds really silly, but if you talk to a general pediatrician and you talk to a hospitalist and you talk to a pediatric rheumatologist, I don't think those lists always match up.
And and then to the other goals or the other objective is to know how to find and apply classification criteria to help guide work up an initial treatment. So hopefully you walk away with some really concrete things and some tangibles that you can apply in your clinical setting, whether that be inpatient or outpatient.
Here are some key references. The paper that this talk is based on is the third reference, but this work is ongoing amongst many subspecialists and many spaces.

There is a pretty big push for subspecialists to really think hard about what we want trainees to know.

So we are not the only group doing this, but I'm going to talk to you about what the rheumatologists think and how to apply this.

PM PRIMROSE MEIER 4:05

And how to apply this?

GC Gillispie-Taylor, Miriah Catherine 4:08

OK, so why now? Like, why are we doing this now? What? What has happened? You know, what's what prompted this activity? So what you're looking at right now is a map that is not actually entirely accurate, but this is the number of pediatric.

PM PRIMROSE MEIER 4:09

So.

GC Gillispie-Taylor, Miriah Catherine 4:28

Rheumatologists per 100,000 children separated by state. Now the red arrows do depict states where there are some pediatric rheumatologists. So Montana has one. That is a very big state for one person. Oklahoma now also has one.

And Louisiana has one and a nurse practitioner. But you know, that being said, that is a lot of territory for one or two people to cover. And so this is sort of the impetus to try to figure out.

How to tackle some of the workforce issues and the supply and demand issues that pediatric rheumatologists are facing.

And so here's another map just to look at this in a bit different, a different way. But this is all from the American, I'm sorry, the ADP. So you can look this stuff up on your own. But this is the state of Texas. And so within the the state of Texas it says pediatrician count, but this is really pediatric rheumatologist count.

The total number of children under the age of 18 within the state. What you're what you're looking at is specifically for Harris County, where Houston is, and then Bexar County, where San Antonio is.

And the map that you're looking at is representative of Houston, but the numbers underneath show the ratios of providers to patients. And as you can imagine and if you have seen a pediatric rheumatology patient, some of them are are relatively

straightforward and.

A little easier to take care of. You know, your straightforward oligoarticular JIA patients don't require a ton of work, generally speaking, but and so you know, a 30 minute visit four times a year.

Is is not super arduous, but you have to think. Oftentimes we are seeing patients more often than their pediatrician and so the numbers of children per provider may not seem.

You know, are really burdensome. But when you think about how many times these patients see their providers, it it really it packs the schedule very quickly. And San Antonio is the biggest city in the country that until recently had no.

Dedicated full-time pediatric rheumatologist. I know there was Doctor Cole at Chosa who has been trying to retire for a long time now and he has been replaced by Doctor Pino, one of our graduating fellows. But San Antonio is a very large city and and for one person to cover that very large city.

That's a lot. So what does that mean? That probably means there's going to be delays in here. And so this is not a Texas problem. This is not a Houston problem. It's not a San Antonio problem. It's a national problem.

So sorry for all the maps. I promise there's only one more, but this is just another way to sort of break down this problem. And so the map that you're looking at right now is a body of work that myself and the other authors for this paper did, and we looked at where pediatric rheumatologists are, where pediatric training.

Programs are and where the deficiencies lie. So you are looking at the breakdown of where pediatric residency training programs exist and then how many of those are affiliated with a pediatric rheumatologist now.

You have to think that in places that have one single provider for a state, we can use Oklahoma, for example. There are four pediatric residency programs in Oklahoma. There's one pediatric rheumatologist. That person probably doesn't have the bandwidth.

To cover. They may not even have the bandwidth to cover a ton of lectures for their own program being a solo provider, but they're definitely not going to have the bandwidth to try to do any outreach teaching for other training programs and so.

You're looking at another just another way to look at this at this gap in training. So this means that many training or trainees both from medical school and residency either never have any sort of formal exposure to pediatric rheumatology or have very limited exposure based on maybe.

One or two patients that they see along the way. And so I'm a person that likes to be prepared. And if I was a trainee and I had someone to point out the sufficiency to me, I think I would be a little anxious about that, right? Because when you go out and practice up to 30%.

Of acute care visits are for MSK related issues. That's just MSK related issues, right? So that doesn't count your rashes, your visits for fatigue, none of that stuff. And so we're going to talk about how.

There is little incentive currently to really go out of your way to learn pediatric rheumatology if you're not exposed to it and and why we think this is a problem. OK, last map, I swear. So this is a graphic. It was the cover of arthritis and rheumatology and it came out several years ago.

But we are about to find out in real time if this prediction is accurate. I think it may be worse. I'm not really sure, but what what you're looking at here is the predicted strain on an already strained system.

And I think your other subspecialists probably feel this too. Maybe not quite in the same way because we are a relatively small subspecialty, but the strain on subspecialists exists nationwide. This is not an isolated problem, but again, how do we, how do we fix it? How do we help it?

It's complicated, but this is one way to try to tackle that. OK, so all of this to say is that what happens usually is delayed patient care, and that's not necessarily the fault of any single provider. It is the IT is a problem within the system and so.

Fixing the system is a big problem. So how do we go about tackling that? And so these are the numbers you're looking at. Currently in the United States, there are 479 board-certified rheumatologists. Does this mean that they all practice full-time? No. Does this even mean all of them are practicing anymore? Period. No. Some of these people.

People are retired. These are just the people who still have a board certification.

So 50% of children live within 50 miles of a pediatric rheumatologist. That means half the children in the country live more than 50 miles away from a pediatric rheumatologist. And again, like if you were in a state like Montana.

That drive is probably much, much longer. Even within a state that has a pediatric rheumatologist, sometimes that drive is is arduous, right? So like, I take care of a patient from El Paso and for a while she had to come here monthly.

So you have to think that is a 10 to 12 hour drive one way once a month and she's not alone. She's just the the only one that I had that had to come that frequently. So

this can become, you know, it's a big burden on families and it makes me feel terrible for them.

But there's there's really no other way to take care of these people, so that they just have to come. And then the other thing to know is that there is some evidence that the ideal time frame for a patient to be seen after subspecialty referral is 4 weeks. But again, when you consider all of these factors together, the number of us, the distance a family has to drive, and sometimes we lack the necessary information to figure out if a referral is.

Urgent or not, this can really delay care. And so how again, how are we solving this? What are we doing about it? OK, so my friend and I did a modified Delphi study. And so I think the thing that I will very openly admit that I try to do with every interaction for every learner is make you want to be a pediatric rheumatologist. Obviously I can't do that, right? Like not everybody is made to be a pediatric rheumatologist.

But if I cannot convince you that this is the coolest job in the world and that you should do it, I at least try to convince people that no matter what they do, including NICU, you are going to encounter patients with rheumatic conditions.

And so there again, there's not always a ton of incentive to learn these things, but I do my best to make people understand that whether or not you learn it, you will see it. So you might as well, you know, figure out how to come prepared.

And so I think that we have sort of identified the the gaps in care problem, but let's talk about what the ABP wants you to know and what you what the ABP thinks you should do right now and then talk about what Arimtol just thinks about that.

OK, so I'm sure that anybody in program leadership has looked at this a million times. Trainees who are probably starting to think about taking boards are also looking at this. But as far as board certification goes, what you're looking at is the current breakdown of the test and rheumatology.

Way down at the bottom, we get 2% of the test. So this is not a carrot, right? Like you can just take rheumatology as a loss, never study it, still pass boards and still become a board-certified pediatrician.

And so again, for the test purposes, like, that's fine. But in real life, that may mean that you end up with a pretty big deficiency in knowledge if you totally ignore this stuff. And so, oops, my office thinks that I'm gone, OK.

So when you further look at the breakdown of how the ABP has broken up, what rheumatology should be learned, this is the list that you get. Now my colleagues and

I that wrote this paper, we we have some issues with this.

So first of all, I don't know that I think a post-infectious or reactive arthritis picture is 100% appropriate for a pediatric rheumatologist, but it does, it does fall within rheumatology, right? So like if it doesn't get better, then it is important to know. When to send to a pediatric rheumatologist. But OK, so I I'm all right, we crossed that one off the list cause I'm not sure that this is where this belongs. Maybe it belongs in ID, but this is also of course my personal opinion. So oh, the other thing that that lives within pediatric rheumatology category.

Is amplified pain syndromes. While a rheumatologist will see them often, especially because of the volume issues that we have, we often continue to treat them. And so I think this is sort of misinformation. There may be one or two of us out there that will take care of these things, but in the grand scheme of all things, most pediatric rheumatologists don't follow these patients in clinics.

Clinic. And so when they get sent to rheumatology clinic, sometimes it can be a disappointment to find out that really what we're doing is trying to exclude other diagnosis before we, you know, send you to physical therapy or to pain management.

OK, so I don't know about that one either. JIA. What are you supposed to know about JIA? Like all of it, some of it. What is important about this? And then connective tissue diseases, which ones?

There are a bunch. There's some inflammatory, non-inflammatory. Like what falls within this? And then what about lupus? Like, are you supposed to know as a general pediatrician about shrinking lung syndrome? No, you definitely aren't. But without guidance, like, what are you supposed to know?

And then dermatomyositis, all right, that one is actually pretty reasonable, but there are a bunch of inflammatory myopathies that don't make the list that are also quite important to know. And so like, where do those lie? And then, you know, rheumatic fever.

I don't understand why it's not lumped with post-infectious or reactive arthritis, right? Cause that's a post-infectious sequela. Cyclic fever that really belongs more in heme-onc periodic fever syndromes. Yes, we totally do that, but I think the problem lies in.

This grouping that is confusing. In my mind it's inconsistent. And you know, I just think like if a trainee looks at this and tries to figure out what they're supposed to know is they're not probably not going to come away with all the things that I would

want them to know.

And so I understand that the intention was to be vague with some of these guidelines, but I don't think that that does a trainee any favors.

So we have identified the problem, but let's move from why now to what now?

So like, how do we solve this? So what we did again was a modified Delphi.

Because honestly, I'm not the best person to decide what a trainee should know either, right? Like that shouldn't be left up to one person. But I do think that there should be some more guidance than what you get from the AVP. And this is not a knock at the AVP. It's just, you know, they have a big job and we are here to try to help fill in the blanks.

And so a little a moment for the people who helped figure this stuff out. We had some some different pediatric subspecialties participate in this modified Delphi study. So we had hospitalist, emergency medicine, obviously rheumatology and general pediatricians. There were 21 people on this voting committee.

Here is your geographic breakdown of where these people came from. We did our best to try to separate people out of the regions out equally, but it was a little bit dependent on who actually answered our emails. But this is the the geographic breakdown of where the providers that participated are.

And then what kind of training programs are they in, if any? So we again, we tried our best to get people in from all sizes, sort of in an equal distribution, but it it depended on who, who we asked and if they answered the e-mail.

But we thought it was important to get representation from from all all parties. And then we try to get people with both a role in residency leadership and without and then with and without a pediatric rheumatologist on staff to do our best to to represent.

As many different types of of trainees and graduates as possible. And so I will sort of move quickly through the next part because the next part is is a little bit boring.

PM **PRIMROSE MEIER** 20:13
It.

20:14
Yes.

GC **Gillispie-Taylor, Miriah Catherine** 20:14

We had a separate panel from the the voting panel who developed questionnaires to see what what they thought was important for a pediatric for a trainee to learn. The this separate panel met in person curated this list.

And then this list was sent anonymously to all the voting panel members. Normally within a modified Delphi, you generally get 3 rounds of voting. Our folks were quite agreeable, which was nice, so they only had to do 2 rounds of voting, which is less painful for everyone.

We got some feedback. We had to amend, addend, add, edit and then send things back out. And then really this is just a distillation of what that looks like. So we had our initial responses survey. We had consensus items removed so people didn't have to vote on stuff.

Twice, the new items were reviewed, a second survey was sent back out, the final consensus was reached and then we we got to this final competency list. And like I said, two rounds of voting because everybody, everybody was pretty agreeable, which was nice.

And so the the last step in this process is to summarize the findings. And before before I do that, I want to revisit. So I've I've visited why I think this is important from my perspective, what I'd like to do for a second.

Is visit this from the trainee perspective. It's been a minute since I was a trainee. I still work with them a ton. I had to put myself back in in, you know, residency and fellowship mindset and think about.

Think about things from that perspective again. But things have changed a lot as far as training goes. I'm honestly not all that old. I finished fellowship in 2018, but I was trained in a very, very traditional training program, right? So like in medical school, you showed up for didactics. There were no recordings.

I still had a bunch of books. It was a sage on the stage and you know, everything was in the text. A I didn't exist yet. Up to date was brand new. When I was a medical student, I was not allowed to use it as a resident because it was so new my attendings didn't trust it.

YouTube was starting to have some educational content, but basically you really had to trust your teacher. And so getting trainee attention and knowing as a trainee, knowing where to focus your attention was a very different ball game then.

Even then, you know, rheumatology, because it doesn't get taught much, if at all, it usually gets clustered in like with other subspecialties, which is fine. You know, we're not an organ specific subspecialty, so yeah, we can be taught with just about any

other organ system.

At least a little bit, but if you don't really focus on disease scripts, pattern recognition, appropriate grouping of diseases, I feel like.

Training can really come out confused. It makes it hard for mental mapping. It makes it hard to form your own algorithms for how to approach these patients who you think may have a rheumatic disease. And it I think it really just does a disservice to the trainee.

So there were problems with training, you know, even the old school way. But now what we're looking at is a different problem, right? So like, we have YouTube, we have TikTok, we have Osmosis. People make Anki Ducks. You do group work.

But you know, if again, if you don't have at least a little bit of guidance on what you're supposed to be learning and what your reasonable sources are, you have information coming from you all sides. And as a trainee, how in the world are you supposed to figure out what is what?

So our solution was to be specific, right? So like, let's move from this very vague list. To give people some more tangibles, I'm going to go through. There is at the end of this paper, there is a table of all of the things that we think trainees should cover. I'm clearly not going to cover that because I only have about 25 minutes left.

And that it's not the longest table, but it's also not super short. But what I do want to talk about are the things that I think are most high yield from this listing that we have and and give you guys some tangibles and help you when you are approaching the more common concern, cheap concerns that these.

These patients can come in with. So let's talk about arthritis. So let's compare, you know, you just saw the ABP content spec for arthritis, which was just juvenile idiopathic arthritis versus what we the the folks who helped author this paper.

Want you guys to know and so I'm only showing you the essential list. So when you go back and look at the supplement for every section and subsection, there are these essential lists and then there are recommended lists. So I'm only going to cover this. Essential list because they're essential. But this is an example of how we are hoping that the these lists get implemented and we are hoping that these are the tangibles that you take away from this. So what you're looking at here is the the essential list. There's only six things on it.

There's. So that means there are 6 recommended items as well. But yeah, here we go. So we want you to be able to identify, provide initial management and refer patients with suspected JIA.

And So what does that mean? The initial management part I think is where we see some of the most, the biggest missteps because again, with sort of vague training, especially if you don't have.

Anybody formally trained in pediatric rheumatology, it's hard to know the right thing to do, right? Because these patients come in, they're miserable. They are sometimes they're not walking. They're having a hard time with activities of daily living. You know, steroids are going to fix it, so why not give them those?

Um.

We don't want you to do that and it is, it is because JIA is a diagnosis of exclusion and if you give a patient with JIA steroids and then send them to us, it's really hard to get a good exam because oftentimes steroids will make arthritis.

Of any kind disappear quickly. That means arthritis that's associated with infection. That means arthritis that can be associated with malignancy and sometimes not always, but sometimes that even means that the arthritis mimic that can show up with some genetic conditions like.

Like mucosal polysaccharidosis, sometimes steroids will even help that. And so it does not make our job impossible. If a patient shows up on steroids, it's actually about to happen to me today.

But an afternoon consult is coming on steroids and I I'm gonna have a hard time trying to figure out how I can help. Um.

But what we do want you to know is that it's perfectly safe to start NSAIDs and call us. Like if you think you need to start steroids, we would love to hear from you, right? So pick up the phone, talk to us, because a patient like that is a patient that we need to talk over and we need to figure out if we need to get them in the clinic sooner.

OK. And so the next point, we would love for a general pediatrician to know and be able to explain the importance of a routine eye exam to screen for uveitis in patients with JIA.

Do I want you to know the schedule? No, it's crazy. I can't remember it. It depends on. I will have to look at the chart every time, so it's not something I would expect you guys to know. It depends on the type of arthritis you have, the age of diagnosis, how many years away from diagnosis you are, and your A and a status like.

Maybe by the time I retire, I'll have that chart memorized. But honestly, probably by the time I retire, that chart's going to change. So don't memorize it, know where to find it. And that is on the Google because like, what happens if we don't recognize it and don't remember that we need to follow up with the ophthalmologist? Stuff like

this happens.

So this is called band keratopathy, and this is a late finding, right? So like, if you miss, I don't know, a couple of ophthalmology appointments, this is probably not what's going to happen to you. But uveitis can be quite aggressive and so.

So I think the thing that patients especially have a hard time with is that if you have uveitis and you have arthritis, the disease activity doesn't always parallel. It actually doesn't usually parallel. Sometimes it does. I do have a patient where if her joints are flaring, her eyes are also flaring, but she's sort of the.

Exception, not the rule. And So what I want a pediatrician to know is that when you see the patient for their well check or their vaccines or their sports physical or whatever, you have a kajillion things to do. So you know, knowing when they're supposed to go back is not.

Not your job. That's my job and that's the ophthalmologist's job. But reminding them that it's very, very important helps, right? It's just similar, consistent messaging from all of the people that are taking care of them, and I think that is the most important part.

Of that, OK. And then the other thing that that we really want you to know and this really goes hand in hand with with #1 is collect a patient history to distinguish between arthritis and non-inflammatory joint pain.

This again is is really important pattern recognition and if you never learn it, it's not your fault that you that you don't know it. But knowing this can help you save referrals, right? So.

What you're looking at is now this is not hard and fast. This is confusing. There are patients that come in to see me where it is a very mixed picture and so I fault no one if they get a mixed picture for sending to rheumatology, you know, to talk it over.

We do get an hour with new patients. Some places only get 40 minutes, but for a general pediatrician who is doing this in like 10 or 15, you know you don't always have time to tease all these things out, but what we do want you to know.

Is that inflammatory joint pain? Sorry, sorry, inflammatory joint problems. They don't always come with pain. I've seen little teeny toddlers with terrible, terrible, like giant swollen knees, and it really doesn't bother them.

You know, like, there's plenty of space for that fluid to go, so like, it just doesn't hurt them.

Now compare this with non-inflammatory pain. A lot of times isolated pain. So like they're not going to have problems getting dressed, they're not going to have

morning stiffness, stuff like that. And then again, for the inflammatory picture, oftentimes activity makes the pain better, right? Because.

We have this phenomenon called gelling, so think about it. This is the way I describe it to trainees that I have in my clinic.

Think about the last time you made jello, which may have been a really long time ago. You mix it up, you know, you make sure that it's clear and whatever you put it in the fridge and then it solidifies when you go to sleep and you sit down and you have arthritis.

You are letting all of those inflammatory cells sort of solidify. So when you get back up, you are effectively trying to, you know, squish that gel into a liquid again. And so that's why activity often makes arthritis pain.

And arthritis stiffness better. Now compare that with non-inflammatory mechanical or musculoskeletal issues. They're often worse after activity, right? So like if you have a patient that's hypermobile or something like that, when they do a ton of activity and they're, you know, hypermobile or have some sort of, you know, muscle tightness or something.

Something you are sort of abusing that and so their symptoms get worse after activity. So arthritis again worse with rest, but this non-inflammatory stuff is usually better with rest. And then with inflammatory picture a lot of times you have some sort of loss of function.

That loss of function will depend on what joints are affected, right? So like for some people, they can't squat. For some people, they have a hard time buttoning buttons, zipping zippers, brushing their hair, and there's often swelling. And then the non-inflammatory pain. Sometimes there is a.

Loss of function, but is that loss of function because they can't or they don't want to? And that takes some time to tease out. But with non-inflammatory symptoms, lots of times there's there's no swelling or it's soft tissue swelling and not, you know, proper joint swelling.

OK. And so this next, this next point sort of goes hand in hand with the one above, but lists the clinical signs of joint inflammation. So in case you've never seen this graphic before or haven't seen it in a while, these are the cardinal features of inflammation.

So you have heat, you have redness, you have swelling, you have pain, and then you have loss of function. What we're hoping to prevent in rheumatology clinic is this permanent loss of function. Sometimes when people have arthritis, there is a

temporary loss of function until we can get the arthritis under control.

But if arthritis doesn't get recognized for a long time, damage is not fixable by us.

And it's really, it's, you know, it's unfortunate. I've met a couple girls lately who have had untreated arthritis for years in their wrists.

And I can do nothing for them. I mean, I put them on a TNF inhibitor. They're both on TNF inhibitors to try to prevent progression because there was still some disease activity, but the motion that they have lost.

Is not recoverable. And you know, they're they're both teenagers and so it's really unfortunate. The one thing that I will say about this graphic is that if you see redness in a joint, you definitely need to think about a septic joint first.

The swelling and the symptoms that go along with inflammatory arthritis don't generally present with redness. It's not impossible. Just think about other things first. OK, and so the the other reason that this fell into the essentials list.

Is because there is a definition. There's a clinical definition of JIA, and I think that people just don't learn that. And again, not your fault, but knowing this is incredibly helpful when you're seeing patients with joint pain.

And so this is taken from our textbook. We have one textbook. It's the textbook of pediatric room told you. This is it. But to define JIA, you have to have age of onset less than 16 years old. This is arbitrary. It may change in the future. You can most certainly have arthritis.

After the age of 16, we just call it rheumatoid arthritis. We still treat it, but that was an arbitrary cutoff that got made a long time ago and has persisted.

You have to have six weeks of symptoms with no other cause. So that means we have to get a good social history review of systems. Make sure we don't think it's a reactive picture. Make sure that we haven't, you know, gone to Connecticut and have somehow gotten Lyme disease. Make sure it's not a malignancy.

And sometimes time helps solve these things, right? It's like nobody's going to sit around with a septic joint for six weeks. Like we will declare ourselves if that's what we're dealing with. But some other things can be a little bit more subtle. About two years ago over. Yeah, it's almost two years ago now. Over Christmas, I was on.

Service. I got a consult for a patient with joint pain. The joint pain was way out of proportion to the amount of swelling on his exam, and when I went back and looked at his labs, it was mild, but he was pancytopenic.

And he had a positive A and a, you know, we got consoled to whatever. But on my exam, he also had really impressive cervical in that lymphadenopathy. And so he'd

had a peripheral smear that was read as, you know, it was pretty benign, but I asked for it to to.

To be repeated or to be looked at again. And he had blasts all over it. So I mean, this was a pre-b AOL. And so, you know, cases like that, I'm going to remember that kid for forever because it would have been really easy for me to be like, I'll just start.

You know, NSAID, start a TNF, whatnot. But that that exclusion is crucial. You know, if you treat with the right medicine, but you treat the wrong problem, you can cause a ton more problems later.

And so that little boy I think is doing fine now, but was a very humbling reminder that you really have to do your due diligence. But then, OK, so moving forward, the other things that you're looking for are swelling or effusions or.

So if we don't have swelling or effusions that are obvious, right? Because there are some joints, you're just not going to see that TMJs, you don't really see swelling in the TMJs. Hips are huge. It's really hard to see hip swelling. Shoulders are the same.

And then feet sometimes are a little bit tricky too, but if you have limited motion.

Tenderness or pain with motion or warmth of the joint, you have to have at least two of those. That is enough to make the diagnosis, right? It's just that doing the due diligence of excluding other diagnosis is where we really, really glean on the general pediatrician before that that referral comes in.

OK. And then, oh yes, this is the also very important one because we get a ton of of consults for this, but describe the signs and symptoms that suggest an inflammatory etiology in a patient with low back pain.

Kids have back pain too. I think I was quite surprised about this when I started fellowship cause I don't know. I just didn't think about kids having back pain cause they're kids like that was an adult problem. But plenty of kids do have back pain for various reasons. It can be body habits, it could be lifestyle if we're a gamer and we do nothing but sit all day well.

That hurts your back. Humans weren't made to sit all day, but knowing the questions to ask about, you know, where this pain is, what it feels like, and all of that can help tease out. Like, does this person need a rheumatologist? Do they need a physical therapist? You know, what's what?

And So what you're looking at is a skeletal depiction of the sacroiliac joints, because the first question that I ask a patient when we finally get to the chief concern part of the visit is, can you point with one finger to where your back hurts?

And if they point to like the middle in between their shoulder blades, or really in the

middle of their back at all, we're probably not dealing with an inflammatory back pain. And so location is crucial. Are we stiff in the morning? Do we have a hard time getting up, getting out of bed?

Don't forget that your Patrick's or your Faber test can tell you a ton about whether or not their their back is stiff. And then there's this thing called a modified Chobra. I don't really expect you guys to know how to do that, but if you did, I would be so impressed and so happy.

But basically what you do is you you measure the distance, the change in distance when a patient forward bends and you want that change to be at least 5 centimeters. It is a very hard test to describe with words, so I would recommend to YouTube it. But asking a couple simple questions can help figure out like because honestly most most people need a little a little PT before we try to send to a rheumatologist. But knowing these things is really important. And then finally on your list of JIA things. Recognize that normal plain films don't reliably rule out joint inflammation. Lots of times I get consults and the parents say this. So you know, whether or not the pediatrician actually said this is a whole different conversation, right? Cause parents here.

You know, they they hear what you say sometimes. They don't hear what you say sometimes. So um.

You the most common X-ray finding in a new onset active arthritis patient is normal or nothing. The films are going to be normal because what you're looking at really is bones, and arthritis is not a problem of the bone, it's a problem of the joint space. You can see sometimes joint space widening or narrowing. So widening if there's a big effusion, narrowing if maybe the arthritis has been present or is a little bit longer than we think or is a little bit more aggressive. You can see some period, yeah, periarticular osteopenia, but honestly, probably what you're going to see is a big bunch of nothing.

So don't let that falsely reassure you. If you get a normal X-ray and you still think the patient has arthritis, we still want to see them. You know, if they have all the other clinical features, it's, you know, trust, trust yourself.

OK, so that rounds it out for the essentials for arthritis knowledge. And so the other thing that I wanted to talk about were connective tissue diseases because, oh boy, what does that even mean?

Um so.

What I did now, this is not an exhaustive list. Let me be clear about that. But the

inflammatory connective tissue diseases that we included some guidance on in this paper are the ones that you see here. So systemic lupus, Sjogren's syndrome, which is a cousin of lupus, dermatomyositis, antiphospholitis.

Lipid antibody syndrome and scleroderma. OK, I think that if there were more of us, we probably could handle some of these other non-inflammatory issues like Marfan syndrome. We do get consults for that. It's really just to make sure we're not something else isn't happening.

Ehlers, Danlos. I don't know what to say about that other than TikTok and Momtok are wild and spread a ton of misinformation about this and hypermobility. We do see these things, but we don't continue to follow these patients.

And it is my personal rule of thumb is if I do not need to modulate your immune system, you don't need me. If your immune system is in good working order, there's no reason for you to come back. That does put a little bit of burden on the pediatrician sometimes cause you know, like I will recommend physical therapy and some things that are going to require.

A little bit of follow up, but if your immune system works, you don't need a rheumatologist. Again, that is my personal opinion. So you will get some some differing ones. If you ask other rheumatologist, you know, ask 5 rheumatologist a question. You're probably going to get like 8 opinions. So but that is my own personal practice.

And it is just because I need time and space for the people who do require some immune system manipulation. And so I lean on the the generalist to take care of these things that don't require that. OK, so let's talk about lupus first.

So just for the sake of time, because I only have about 5 minutes left, I'm going to go through this a little bit quickly, but I grouped the things that I think are important. So identify and refer patients with SLE. Well, how in the world are you supposed to do that if we don't, you know, you don't get a little bit of guidance on it?

Recognize the laboratory tests that are used to evaluate a patient in whom SLE is suspected. And then the kicker here is this last box. I think it actually helps you do the first two things. Access consensus classification criteria for lupus to guide history, physical exam, and a laboratory evaluation.

What I tell trainees that rotate in my clinic is if you only remember, if you only take away like one or two things from what I teach you, this should be one of them. So what you are looking at right now is the ULAR ACR classification criteria for lupus from 2019.

Overtime there have been like five sets of lupus criteria. Two of them are totally defunct. One of them is the ACR criteria from the 80s that was revamped in the early 90s. It's not bad. We don't really use it anymore. The slick criteria came out in 2012 and then this is the latest and greatest. It does require some math.

I do not care if you do the math. It doesn't matter. What I care about is that you use this list to help inform your history taking, your review of systems, and your workup if you think you have a lupus patient sitting in front of your face.

Do all of these labs. Ask all of these questions. OK, now there is a caveat with some of this. So you do not get to enter this math problem unless you have an A and a of at least 1 to 80.

Per the validation, you need at least 10 points to enter a study, right? That's what classification criteria for to enter a study. You can have evolving lupus with less than 10 points. Like I have people that have like 9 and I'm still treating them because what is their 10th thing going to be?

Raging nephritis. I don't want to let that happen. You got to exclude other diagnosis because boy, can EBV look like lupus. Parvo can also look like lupus. So don't forget to think about things like that. Remember, the symptoms don't have to occur concurrently.

And then if you want to do the math, cool, you cannot. So for example, for the neurologic domain, you can only get a maximum of five points. You can't get 10 points, so it's only the criteria with the highest score that you keep.

OK, and so list the most common presenting symptoms of lupus. That one's hard because no two lupus patients are alike, right? But what I'm giving you here are, according to our textbook, the most common things that you see in a pediatric lupus patient.

So fever. Oh, and what you're looking at the numbers in parentheses. So the number that are the number, the range that's first is at presentation. The range that's second is all time. So following them longitudinally, do they ever develop these symptoms? OK, so fever.

Is the most common. Arthritis is actually the second most common. Any sort of skin involvement. It doesn't have to be the malar rash. Nephritis makes the top five, which is terrible. And then the malar rashes is #5, right? So don't forget that a lupus rash can look like a ton of things.

If it's not malar, it doesn't mean that you're wrong. It just means like that lupus can really affect the skin in a lot of different ways.

OK. And then this unfortunately is pretty self-explanatory. And so recognize a medical emergency. These are the things that we got to talk about like right now, whether or not you have a rheumatologist on staff, you got to pick up the phone and find one to discuss this. Unfortunately in places that don't have a rheumatologist, hematology.

And I don't mean to throw anybody under the bus or or on responsibility to hematologists if they're on the on the phone or on the call. But a lot of times without in the absence of rheumatology, hematology can help deal with a lot of these things, right, because it's macrophage activation syndrome, which we're pretty good at. Stroke, which I think they often get involved in, especially if it's hemorrhagic stroke. Neurologists help with press transverse myelitis. Your pulmonologist can help with pulmonary hemorrhage, cardiac tampon on. Hopefully you're going to have a cardiologist on hand to to help recognize that and take care of it.

You can see MI in a pediatric patient with lupus. So this is a list of things that you should definitely keep in the back of your mind. And then describe the clinical findings that should raise concern for neonatal lupus. So this is in neonatology where rheumatology matters for you.

Including heart block, transaminitis and rash. Know too that the mom does not always know that she has lupus at the time of delivery. Sometimes when the baby comes out with a problem, that's when we learn. And then I am at time.

And so that one last thing I'll say is that recognize that an A and A is very sensitive. It is not specific. It is a terrible screening test. So if you're doing it for like fatigue, maybe you don't. You know, it depends on what else is going on. But if it's, you know, isolated fatigue, isolated joint pain, that test is not necessarily.

Can help you that much, and so I am going to skip a whole ton. I'm happy to provide this talk if you want it. These are a good list of resources to have as a trainee.

And tell you that there is a less traditional resource. I run an Instagram account, which is a thing that I never thought I would say because I'm not actually a social media user, but I run an Instagram account with a few other board certified pediatric rheumatologist and it was an invention of necessity.

Right. Like necessity is another of all mentioned. So that this account specifically is designed for training programs like yours that lack a pediatric rheumatologist and have trainees that want to learn more. So you can follow. We do a theme every month. Actually this month is because it's our national.

Meeting month. It's all about why you should be a rheumatologist. Again, it's the

coolest job in the world, but it is a place where we do some active teaching. So like there's little question of the week. We do some explaining of things, but it this account was created specifically for training programs that did not have an in-house rheumatologist.

With that, I'm happy to take questions and want to say thank you.



Ranch, Daniel 52:16

Doctor Taylor, thank you very, very. Thank you very much for that wonderful overview and also as a nephrologist for not allowing raging nephritis to happen. I'd like to open it up to questions from the audience. You can place them in the chat or you can unmute your microphone. There's one question that's popped up already in the chat from one of our.

Hospital medicine doctors. The question is how useful are lab tests in evaluating JIA?



Gillispie-Taylor, Miriah Catherine 52:42

Oh my gosh, such a good question. Thank you for asking that. So JIA is a clinical diagnosis. I do not need any of the test to diagnose JIA. What the testing is for. So I'm I am assuming you mean the antibody testing, so like the Ana rheumatoid factor, CCP.



Ranch, Daniel 52:43

Yeah.



Gillispie-Taylor, Miriah Catherine 53:02

An HLA B27. If I'm wrong about that assumption, please drop in and try or tell me. Those tests prognosticate how aggressive disease may be. So your ANA if it's positive.

All that tells you is that a patient is more likely to have uveitis. Doesn't mean they will, but they are going to require more frequent ophthalmology screenings. A rheumatoid factor. If that's positive, all it tells you is that disease may mimic more aggressive adult RA.

CCP sort of the same thing. It really just prognosticates aggressive disease. And HLAB 27 really only helps with classification. It's like all of these things help describe the arthritis, but none of them diagnose the arthritis.

That is an excellent question. It comes up all the time. We will not fault you for

getting them, but if everything is negative, that doesn't mean that there's not arthritis present. These are ***** screening if let me think about how to answer that question the right way.

They're they're not bad if the patient has arthritis. It's like for example, infection can give you a positive ANA, right? So like you can have reactive arthritis with a with a positive ANA.

And so.

That does not mean that you have Jia. You have to still fulfill the other clinical criteria. Infection can actually also give you a positive rheumatoid factor. So all a rheumatoid factor is, is an IGIGM to an IgG to the FC portion of an IgG, so it's an antibody to an antibody.

So lots of infections can give you a positive rheumatoid factor. In rheumatology practice, we actually don't count a rheumatoid factor unless it's positive twice, 12 weeks apart. So if you're using it to help diagnose arthritis, that's not the most appropriate use.

But if you know, like if you're seeing big joint, giant, swollen knee, you know it's not infection, you know it's not cancer, and you're trying to help figure out how fast to get a patient in, it's not. It's not a bad thing to do. It's just it doesn't make or break your diagnosis.

That is a good question. It comes up a lot.

PR Pediatric Grand Rounds 55:26

Sure.

 Ranch, Daniel 55:28

Additional questions from the online audience or in the auditorium.

I guess I'll throw in one question while we see in the last few minutes. So from the rheumatology side, how often are you screening for kidney disease when your patients show up with lupus? How soon do you contact your nephrology colleagues? Cause I feel like.

The response in pediatric rheumatologists or the threshold for how much they do is different from the adult adult rheumatology colleagues.

GC Gillispie-Taylor, Miriah Catherine 56:16

Oh, that is. I would agree with your statement at the end. Any patient I suspect may

have lupus. I screen them up front. Every single patient gets at least a UA and a UPC, and if it is the least bit abnormal, I do a first morning and if that is abnormal.

I often will at least speak to a nephrologist, depending on my level of suspicion, but I have been very unpleasantly surprised because a patient didn't look like they had class 3 or class 4 nephritis. You know, they weren't puffy.

They didn't give a history of, like, wildly abnormal urine. I also had a this is awful. I had a patient who came in with a terrible clot, did a consult in the hospital, worked her up for lupus. The workup came, came out negative. But I said, you know, this is a weird, this is a weird story.

I'm going to follow you in the outpatient setting. So saw her, did a workout, you know, repeated the workout because the story was so weird. It looked OK again. She came back in about 3 weeks later and had some facial swelling. No, I'm sorry, it was three months later, had some facial swelling. I worked her up for lupus again.

She had gone from a negative double-stranded DNA to a positive double-stranded DNA. Her urine didn't look good and she had developed some some more laboratory features of lupus. I got her.

An appointment with nephrology within like 2 weeks. She got direct admitted from that appointment and had class for nephritis, so I am terrified to miss it. So upfront with every single patient and often a couple times a year.

Is is how often I scream because I'm scared.



Ranch, Daniel 58:03

Thank you for that. And it looks like one more question in the chat might need some clarification. What are the challenges in managing long-term treatment in children? And sorry, I can't tell if this is a follow-up to the JIA question or just in general.



Gillispie-Taylor, Miriah Catherine 58:22

I mean, I will infer a little bit until we get some clarification. I think that some of the challenges that we face are a little different than what they used to be, but making sure patients stay on.

I don't know how in general, OK, I don't know what the landscape in San Antonio is like, but I've had a lot of patients with Medicaid and that obviously makes it very difficult to take care of them. But I think being on the same page as the pediatrician is not necessarily.

It's really per SE a challenge, but it's very important. And so like one of the things I

didn't get to was knowing the vaccine recommendations. There is an American College of Rheumatology guidance document about that that I try to remember to include when I send notes back to the pediatrician, but sometimes I forget.

You know, we're just busy and you guys don't have all the time in the world to read all this stuff either. But you know, just the the big things like don't start a sulfate antibiotic on a patient with methotrexate. Penicillins are totally fine. Don't give live virus vaccines to a patient on on a TNF inhibitor.

But inactivated are totally fine. So like just being on the same page about stuff like that, because I think especially in the age of the world that we're living, and I'll just leave it at that, there's a lot of conflicting and misinformation that gets presented and so.

Now I think, I think the biggest challenge has changed and it really is just presenting a unified front, recognizing that we're all on the same team and making sure that our messaging is consistent.



Ranch, Daniel 1:00:10

All right. Thank you for that. It looks like we're coming up on the end of time. We do have our faculty meeting coming up as well, but there are no final questions for Doctor Taylor. Thank you very much once again for joining us. I appreciate your wonderful overview and good luck with your upcoming national conference.



Gillispie-Taylor, Miriah Catherine 1:00:27

Oh, thank you. Thank you. It was my pleasure. It was so nice to to chat with you all.



Ranch, Daniel 1:00:32

Everyone, have a great day.

● **Calderon, Delia** stopped transcription