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Myofascial Interventions Part III:
Dry Needling and Cupping
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>> Calista: You'll get two attempts to earn a passing score on the 10-question multiple choice exam. And you must take the exam within the next seven days. And finally, if you have not downloaded today's handout, to download it, click and highlight and then click download file. And at this time, I am going to take a brief pause and when I return to the microphone, I'm going to introduce today's presenter. >> Today's course title is Myofascial Interventions Part III: Dry Needling and Cupping. It is my pleasure to welcome back to PhysicalTherapy.com Dr. Scott Cheatham. Dr. Scott Cheatham is an Associate Professor in the Division of Kinesiology at California State University Dominguez Hills in Carson, California.

He is the owner of Sports Medicine Alliance. Dr. Cheatham received his Doctor of Physical Therapy and his Doctor of Philosophy in Physical Therapy. He is a Board-Certified Orthopedic Physical Therapist and a Certified Athletic Trainer. He also holds several fitness certifications and is a certified ergonomic specialist. Dr. Cheatham is a national presenter for various organizations and has authored over 100 peer-reviewed publications, textbook chapters, and several home study courses on the topics of orthopedics, health and fitness, and sports medicine. He is the co-editor and contributing author of the textbook titled Orthopedic Management of the Hip and Pelvis. Dr. Cheatham's professional responsibilities include being an associate editor for the NSCA Strength and Conditioning Journal, Journal of the Canadian Chiropractic Association, and a manuscript reviewer for several other peer-reviewed journals. Dr. Cheatham is an education and research consultant for various health and fitness organizations. Thank you so much for presenting for us once again today, Dr. Cheatham. At this time, I'm going to turn the microphone and the classroom over to you.

>> Dr. Cheatham: Okay thank you, Calista and would like to thank everybody for attending. Good late morning for people on the west coast and good afternoon, for

people in the Midwest and east coast. I also want to thank the team at PhysicalTherapy.com for allowing me to present this three-part series. So all right. Let's get to it, everybody. So as we discussed in Part 1 and 2, we've been going through a lot of the popular myofascial interventions. Hopefully, everyone attending today has seen part 1 and 2 or hopefully, everyone can go back and watch those videos because we build upon each of those each of the myofascial interventions. Today, we're covering some more of the eastern medicine if everyone thinks about it. So today, we're going to be covering and discussing dry needling and cupping. So as far as presenting disclosures and stuff, I am on a stipend for continued.com and also as far as content and stuff like that, there is no major sponsors.

Some of the material I will be using are given with permissions from some of the companies, so we'll discuss that here in a little bit. So now, when we talk about our learning outcomes for today, we have three main learning outcomes that I would like to accomplish through this two-hour discussion. And one is, you know, I want you guys to really be able to discuss the two scientific theories behind dry needling and cupping and as you guys will see, too, from parts 1 and 2, there's a theme throughout the myofascial interventions that we'll talk about, and then the second learning outcome is really kind of discuss at least three of the kind of best practice patterns for dry needling and cupping and everything, and also, too, the third one is to be able to discuss common indications, precautions and contraindications for each.

I think that's important, especially when we get to dry needling and cupping, you know, a lot of those -- a lot of those -- a lot of the treatments are different around the world, as everybody knows. And so as we get into dry needling and cupping, we're going to see that there's a marked difference on how clinicians interpret, right, dry needling and cupping, or some people kind of make it synonymous with acupuncture, right? Eastern medicine versus Western medicine. So it's going to be an interesting topic as we dig in deeper to that. Now, as I alluded before, as far as the disclaimer, I do have

permissions to use images, media, and citations and everything from the different companies. I don't have any proprietary interests with any of the companies. I love a lot of the products that we have discussed throughout this series and stuff, but honestly, I think there's many great products you can simply get on Amazon and everything like that. So as far as major recommendations, I am -- I use a lot of different companies and stuff. So the images and stuff that you do see are from the permissions I've gotten, and it's not necessarily that I'm tied with them. Some of them yes, have like Rock tape and M. plus, they've donated products for our research, but I'm not proprietary with everything.

So I want to make that clear ahead of time, that there's a lot of great products out there, a lot of great education, and as you guys individually as practitioners choose the best one that's for you right? And I think that that's important to do that, because, you know, a lot of the stuff that's out there and stuff, it's really good, but it's really based on the individual clinician. So I just want to make sure we clear that up before we dig more deeper into the discussion. Okay. So now, as we've gone through with each of the series, right? Parts 1, 2, and 3, we always do kind of a scientific theory review for those of you who maybe missed the first or the second or who would just like a review.

And so one of the main questions that I am asked as a researcher and as a teacher, as a clinician, whatever, is what are some of the current scientific theories? Well, as you guys can see here, what we call it, if you guys are writing notes, we call it the myofascial soup bowl, myofascial intervention soup bowl. There's so many scientific theories that come through and we talk about all these theoretical constructs, we talk about all this neurophysiology, upregulation, downregulation. When it boils down to just talking as a clinician, we really kind of simplify all these theories and all these postulations and hypotheses to two basic theories that we're seeing throughout the research and this is with some of the publication I've done and some other

researchers I know around the world are postulating two things. One is whenever the myofascia is compressed, it's an elbow, you can use a tool, you can use a roller. Whenever there's a compression of the myofascia, you're sending information locally and centrally. And I think that that's so important. So if you guys are writing notes and stuff, that's one of the biggest things I've gleaned from being a clinician and a researcher is that whenever you push on that myofascia, you're stimulating the local mechanoreceptors okay? You're stimulating the nociceptors, and we could spend the whole two hours talking basic science, but the big thing to remember is that whenever the myofascia is compressed, you're sending external signals into the central nervous system, and so mechanically, of course, you're going to get local changes, I mean, it makes sense.

So, for example, you know, just like if you're -- you guys, we've all probably gotten a massage before, and as you guys know, too, first couple of minutes you might be tense but after couple of minutes you begin to relax. And then you get the blood flow changes, etc. So you have a lot of these obvious local responses that we see clinically, okay. But also, though, too, which is possibly one of the most powerfulllest scientific theories is the next one, the neuro-physiological response. And this -- several researchers, even -- everything from clinicians to kinesiologists to neurobiologists and stuff, is kind of -- they're postulating that once the -- you know, once the myofascia is compressed, you are getting signals through you know, those afferent -- you're also getting communication in these descending pathways, the gate theory of pain and we could go all into the stuff.

We'll cover a little bit of that later on, but you're getting this multilevel central nervous system communication. And so that results in some type of efferent output. So again whenever we're pushing on the myofascia, we have to think that we're the sender of information, okay. Hopefully, everyone is kind of getting that. I think that's important because, you know, most of the time, when we're in the clinic and we're working with

patients, we have a very comprehensive, multimodal treatment strategy, if you guys think about this. And so the myofascia release that we do, if it's a tool, if it's our hands, whatever, that's one piece of a multi-- or one step in a multistep process that we're going to be treating our clients with. So when we're looking at the therapeutic effects of all these myofascial interventions, we have to go back to the question of why are we doing it? Why are we sending information into the central nervous system, right? And what are we trying to gain from it? And to me, that has guided and changed my practice over the last 20 years because as you guys know, when I started doing research, I'm in the lab looking at these real numbers and seeing these changes, I'm realizing that when I was in the clinic heavily a lot.

Now, I have like a one to one business. But when I was in the busy clinic and stuff, I was so busy just working on people and then going to the next patient, I was -- I was sending in information, but I never took a posttreatment step to make sure that that information stuck. So I think it's so important for us to really -- when we talk about all the science and all these presentations, we need to simplify it into simple clinical, pretest, posttest. What are we doing when we're compressing the myofascia? I think that's the hugest point because when we introduce a comprehensive strategy, we're using multiple steps and we always have to go back and say okay if I do this soft tissue technique, right? If I do this myofascial technique, what is it going to do? Right? Is it going to relax the tissue so I can stretch it?

Is it going to open up a neuromotor window and open up some better movement efficiency so that I can get the patient moving better, right? Is it -- is it going to help decrease pain? Whatever -- whatever your goals are, there has to be a purpose to it, and I think as you guys, as professionals, once you assign purpose to your myofascial intervention, then it has more meaning for you and for the patient. And again, that's just my perception, right? You know, that's me kind of talking, me kind of talking as a clinician, but the minute I seem to gravitate in doing that, and I get the patient involved

and it's patient-centered, I find that my treatments become way more effective when I have that purpose, but it also reflects their goals, because as you guys know, patients are coming to us for a reason, right? If they didn't have to come to rehabilitation, they wouldn't and you guys know that right? So for them -- so for them to come to us with a purpose, all of our treatments should be reflecting their goals and each -- each treatment should have a purpose, and so that's kind of what I wanted to get at, because, you know, we're in part 3 of this series. I wanted to really kind of drive home the practical clinical aspect of this, versus talking about all science, because as you guys know too once you're in the clinic, it boils down to just basic therapeutic outcomes. So here's an example of this.

Here's what we talk about. If we do a myofascial compression intervention, now we're going to go clockwise on here okay? If we have a myofascial compression intervention, we know we're going to stimulate some type of afferent input. We know the central nervous system is going to process the system, and then we're going to get some efferent neuro-physiological response and most of the time we document this as what? Decreased pain, pain modulation, whatever you want to say, greater range of motion, decreased stiffness, decreased tension in the muscle, stretch tolerance, whatever you know construct people want to say as far as decreased stiffness and then also increased movement efficiency.

But we have to dig deeper because this is a common process we do all the time in a busy clinical situation. Well, if we just do this, and we stop here and we say oh, great, they have better range of motion, and then we give them to the tech and we tell the therapy tech to do the exercises, and they're not being supervised well and we're off to the next person, this cycle is going to be broken because there's no follow-up. There's -- we're not maximizing the neuro-physiological changes that have occurred from the treatment. So again, just kind of on a practical standpoint and because this is our third -- our third module in this, I wanted to kind of take the science and bring it

home and say look, clinically, we need to be able to create change in the myofascia, but then we need to back it up right? We have to have some posttreatment, standardized techniques to reactivate, but also integrate, does that make sense? We have to reactivate the muscles and then integrate into function. So it's so important just to make sure that we try to get those motor patterns that we just changed, right? And those motor neurons to really stick, so just kind of keep in mind that post-treatment is going to be so important as far as trying to get those changes to stay. And I think that that's important to understand. So when we talk about here, when we talk about the three changes, we have changes in pain and this is a summary slide of once we compress the myofascia, how we get local changes and global and all the receptors and stuff, and then also, we have a local and global effect. So this is just a good summary slide for the group here, just to kind of look and say okay I get it. I understand that if I compress the myofascia, I get local and global changes, or regional changes.

But if I can go back one more and just discuss this, remember, the research we talked about in all three installments and we're going to talk about it today, in the lab, we test this whole process, but we only stop here. That's why we're only showing short-term gains okay? And that's a huge limitation to the myofascia research as a whole is that if we're lucky, we've had follow-up of four weeks of a good study, and even myself, I usually test immediate results, and now, we're starting to -- well because of COVID, we can't right now, but we have some studies that are in the works that we're going to be doing more long-term analysis, more long-term assessment to see actually how long from a temporal manner do these myofascial interventions actually last.

So again, in my opinion, if we follow up our treatments with a good activation and integration strategy, we're going to make those myofascial changes last longer. That's just kind of, in my opinion, everybody. So okay? And again, just kind of a summary slide. But now, we move on here and now, we're going to kind of get into more of the

topic. Well, today, we're going to talk about like we talked about cupping and dry needling, but I also added a small section just on manual myofascial release, and I think that's important to kind of round out this three-part series on just kind of discussing a little bit on that because obviously, we combined a lot of these interventions with our manual therapies, so I just wanted to kind of add that in for the group. But most of your quiz questions and stuff will be on -- or actually, all of them will be on dry needling and cupping and so what we'll do is we'll go through cupping first, then dry needling, and in between when we hit to about an hour, we'll take a little break and once we're done with the material, I will systematically go through the quiz with everybody, okay. I wanted to premise that before we get into the material. And then we'll answer all the quiz questions, and then we'll get into the Q&A okay?

So I just want to kind of lay that out before we actually get to the good stuff. So again, that's just kind of a review of the basic science and what we're looking at, and so here's kind of a bottom line before we get into it. The certificate research suggests two theories, mechanical and neuro-physiological. Those are just two kind of terms that incapsulate things. But again, based on the evidence and if you guys look at the last, you know -- the last parts 1 and 2 of the series. We'll see that, you know, myofascia compression may not release the myofascia.

There's no evidence for a release. Now, if you're talking about a psychological release or relaxation, sure, there could be some perception in there, breaking up adhesions, promoting tissue healing. Really, there's no concrete evidence that shows in humans right, in humans, that that can happen. Now, as you guys know from the last -- from part 2, you know, and also a little bit of part 1, there are some, you know, rat studies that show or mice studies and rat studies that show that there are some effects with I.S.T.M. and some of the other interventions, but really nothing has been done with humans that has proven all these theories that we come up with. So that's why the mechanical and neurophysiological are becoming more popular because all of the

other sciences that we discuss and we throw around like breaking up adhesions and stuff, that has not been shown in any type of evidence-based research. So when we talk about evidence-based practice, we may need to change the way we discuss things and call things more like myofascial massage versus myofascial release. So I think that's important as we talk about it. So now, we're going to get into cupping. Here's a question, and I think this is important for everybody and if you guys are writing notes, this is where a lot of the material is going to come from now because we just finished our review. So what about custody? Think about this, everybody. Suction, negative pressure, distracts or decompresses the myofascia okay? So that's something to think about right there.

So if we're -- if we're compressing the myofascia, we're postulating and we're thinking that once we compress it like with the roller or a tool, right, that we're going to get the mechanoreceptors and everything else to fire in there, but what about cupping? Cupping actually decompresses or distracts. So that is going to be a big question, because cupping is blended in, right, it's integrated into all these myofascial therapies, and it's grouped in there but the mechanical effects have not been fully studied or validated, if you really think about it. Now, there's some studies that suggest things, but there hasn't been really a lot to say okay, cupping, cupping does this and it's interchangeable with this.

Okay. Now, we know that some of the myofascial compression therapies are interchangeable, because we did a study on that. So we know that like the floss bands and scraping and rolling, those can be interchangeable possibly for the short term. That's what it's suggesting. But what about myofascial cupping? Well, that's the big mystery. And, you know, I use cupping a lot. I use more of the dry cupping and stuff. And so -- and other people use it as part almost as if it's an acupuncture kind of philosophy treatment, almost like an Eastern medicine treatment. So in the Western medicine, we know, though, that cupping is used mainly for myofascial release, but if

you look at some of the older studies from Asia, some of the Arabic and some of the Greek medicine studies way back then, they're using cupping as part of a whole medical treatment and to detoxify the body. So I think it's so important everybody as we get into these -- this lecture to realize that Western medicine and Eastern medicine and other parts of the world look at cupping completely different. And so that's -- that is going to really change the research, because if you read research from let's say some of the Asian countries, they're going to classify and study cupping differently than we do in English kind of Western medicine. And so that's a huge point because as you'll see, cupping has been around for thousands of years. And so just something to think about as we get more into the material.

Okay. So let's get into cupping, though. So one thing I wanted to impress upon you guys is there's a whole branch of NIH, national institute of health called the complementary and alternative medicine segment and they study all the alternative medicines, like acupuncture, cupping, and all that. And so when we look at the term CAM, we know that cupping in Western medicine is considered a CAM intervention, and that's complementary to standard, mainstream treatments. So, for example, if you talk about traditional physical therapy, traditional rehabilitation, a CAM would be a complement to that, or an alternative.

And so a lot of your Eastern medicine are classified under these CAMs and so if you guys are looking on Pub Med, or if you guys are trying to search out some of the acupuncture or cupping research, you're going to see that some of the journals that cover the CAM interventions will be covering that. So that's just kind of an FYI for that. Now, though let's dig into cupping. Now in the United States and kind of in Europe and stuff like that, you know, kind of some of the more mainstream countries, we typically call it cupping, myofascial cupping, a new term that's been coming out more so lately is myofascial decompression. And then some people get really specific, some clinicians and they call it dry cupping or wet cupping. Now remember, wet cupping and

we'll get into it is where they take a little razor blade or some type of, you know, object and puncture the skin and let it bleed. They call it bloodletting. Sore if we go back thousands of years or if you're in let's say one of the Asian or Arabic countries, it's also called Hijama okay, and then there's other ancient terms and stuff. So we can see, though, that in the literature, if you guys are trying to do a lit review or systematic review, you've got to search a lot of terms because cupping has been all around the world and as we look at the history, we can go all the way back to 3500 BC where the Egyptians had documented cupping, and then as we move towards current day, 1500 BC Egypt right is still noting that we got Greece from 413 BC, Middle East has started documenting it more, Asia right, 340 AD.

And then Europeans started picking up on it, and they've been including that, all the way through the 1800s, and then as we get to 2020, we can see, though, that probably the last I would say five to 10 years, and as you guys know, too, we could probably attribute this more towards the last Olympics and Michael Phelps and everyone, everyone saw those crop circles, you guys remember that? And it got really popular.

Everyone was using it, but it never really went kind of mainstream. So as you guys can see, thousands of years back, ever since 3500 BC, right, clinicians, doctors, healers, shamans, you know, faith healers, all them, have been using this treatment mainly to treat medical pathologies okay? It's not up until probably the last five or 10 years that we have modified it and said wait, let's use it for myofascia okay. And I think that's an important historical point for all clinicians, because if you're working with an acupuncturist, they're going to look at cupping completely different than you would okay? So I mean, we obviously know that if you pull on the skin, you're going to get a nervous system response sure. But again, though we have to look at how we see the treatment, because if you believe in the treatment, as a clinician, then you're going to impress your clients about that. So again, there's many interpretations of what cupping

is and so let's dig a little bit deeper into that okay? So again, what are the clinical standards? Well, when we look at your typical treatment objectives, the current rationale is what? Cupping uses suction to help promote movement of blood and other fluids throughout the tissues. That's kind of a basic thing. Now, I'm sure each of you guys who are listening can come up with your own rationale, of course. You have your own treatments and stuff. But traditionally, if you guys look at bullet point number 2, cupping is a form of detoxification or medical treatment for various conditions. So ever since 3,000 years ago, that's been the focus.

And now, as we fast forward to like the last 10 years, we're starting to see, though, that pretty much more so dry cupping right, -size you can see the picture down below, is kind of turning into this mainstream myofascial treatment, but we're using it so much, but there hasn't been a lot of studies on it. And that's what's interesting is that we go back to the traditional methods and if I go back to that one slide here, we can see that it's traditionally been used as a primary medical treatment for disease, and then all of a sudden boom, we think it's hot, and, you know, at the click of a button in the United States, we're using it for myofascia.

So I think cupping has some amazing effects. I've seen some cool stuff, even in my clinical practice, but this is an area that I'm going to try to personally study more and more because I think there's a lot to it. People have been doing it for over 3,000 years. So as you guys can imagine, I think they know what's going on. So we need to kind of bridge Eastern and Western medicine, in my opinion, and kind of figure out what's going on with cupping, you know. Just kind of a little bit of the science, but also, what are some of the effects and stuff. So if we look at some of the more current research that's out, we look at indications. Well, you know, the English literature talks about, you know, cupping is for health and wellness. That's mainly for kind of stress, you know. You go to the spa and you get it and all that. But more medically, it's been treated for myofascial dysfunction, MSK is musculoskeletal disorders. So you're

getting a crossover of eastern and western medicine right there. And also, too, there's also site specific. Believe it or not, if you guys are writing notes, the spine is the most widely treated area in the body. And as you know, too, if you're following like some of the eastern medicine stuff, we know -- and we'll get into it a little bit later, you know, too, that like cupping and dry needling and acupuncture works on the Qi, the energy of the body. Well, a lot of practitioners like to kind of approach the spine because there's so many, you know, points there, acupressure points, meridians that run through our whole trunk area. So you see a lot of that trunk, the spine, chest, abdomen, buttocks and legs, but we see the majority of the trunk as being treated most of the time and so I think that's important to realize. And then our assessments, it's funny. We go really kind of Eastern medicine, and then our assessments become very Western medicine, right? We use the pain, range of motion, pressure pain threshold, strength, field performance tests.

So we try to get more scientific with the outcomes, okay. And so for you guys who are here attending, here's who great references I wanted to put in for this lecture. Cupping therapy, an overview from a modern medicine perspective and also cupping therapy, a prudent remedy for a plethora of medical ailments. These are two great review articles that I've used for this talk, but I consistently use and I reference them when I have patients or other clinicians who want to know just basic stuff. So I think it's great if you guys are looking for resources. These two articles are awesome. And then they just give you a really well-written summary of cupping and kind of the whole Eastern philosophy and also the stuff coming from India and all that, the whole Eastern side. So just some thoughts for everybody if you guys are looking for some references there. Now, when we talk about precautions, we kind of fall into that other soup bowl of myofascial precautions. If those of you who watched part 1 and 2, you're going to see that there's a lot of crossover with part 3, is looking at pretty much your standard precautions. As you guys -- if you look at the slide, you can see your basic list, right? You know you can see the cancer, diabetes, pregnancy, there's a lot of kind of

precautions slash relative contraindications. You have those two kind of interchangeable terms. Pacemaker, you have a lot of these obvious things that you guys could see. There's an open wound or someone who just had an acute injury. That can be a precaution. And also a contraindication. So again, I don't want to spend too much time because we have a lot to cover today, but I want you guys to see that a lot of the precautions are very standard across the board and obviously, you guys as professionals, you function within the standard of care, right? And so you always screen for things and make sure that the treatment is safe. Same thing with contraindications. As you guys know, too, sometimes precautions or, you know, relative contraindications and straight contraindications, there can be a crossover right? We know that some can be considered both, and again, I'm going to leave it up to everybody to be the professional and just kind of obviously screen your patient and make sure it's safe.

Unfortunately, a lot of the research on indications and contraindications has not been studied across the board okay. A lot of the stuff that I've gotten in our publications, you know, we've done several clinical commentaries on these topics. I've had to take from the therapeutic massage research. A lot of these are obvious, but it's nice to have it in print okay. So that's just -- those are just some obvious ones and unfortunately, you know, like I had a question from last time about someone who maybe had like a DVT right, a deep vein thrombosis and they wanted to be to know if they could do interventions around it. I said that would be considered a relative precaution, or it could be a contraindication. We don't know with the patient. So I told them to check with the medical doctor to get clearance on that. So again, when we talk about the contraindications and all these risky kind of comorbidities that people have, you guys have to be logical and safe and remember, there's a million treatments out there and think that some type of myofascial treatment will be high risk, then just move on and do something else. I'm being honest with everybody. Client safety is the most important thing. So I want to just make sure I emphasize that. So let's talk about some

of the more obvious issues. Now, one of the big things that we're going to see across the board, especially with cupping and everything is the petechia. The redness. Is it good, is it bad? Some people consider it a precaution, some people consider it a contraindication, right? So again, this slide here, slide 28, gives you kind of the most obvious ones for cupping. Okay. And again, I took this from those lit reviews, and I took it from several publications on cupping, and they all kind of say the same thing, right? They all kind of question the same thing.

So we're not going to spend too much time on that, but I want to spend a little bit of time talking about the crop circles, right? So this is one thing that's important to note is that when we see redness like that with IASTM right, we're considering that damage. Okay? We're considering that capillary damage. And there's been two or three case reports in the medical literature, okay coming out of the MD journals, stating that if you get redness like that, that petechia right, if you're getting that petechia or that redness after treatment, you're causing tissue damage, okay. Now in my humble opinion, from a legal perspective, that could be putting us at risk because now, we're getting documentation saying that we're causing damage to the tissues okay? So when we're talking about the redness that we're getting from the cupping, that seems to be overlooked.

And, you know, I do what's called flash cupping, that I'll show you guys in a second. With flash cupping, it's a lot quicker treatment, but I don't keep the dry cupping like it is to get the full redness. So that's a question I think everyone needs to ask okay, is that I think that everyone needs to ask is, you know -- these cupping adverse events, you know, is it safe for your client or not? Has your client agreed? Because according to some of the other myofascial interventions, if you cause a lot of redness, you are breaking capillaries, you are damaging some of the tissues and the vascular structure in there and so that's obviously going to bring some redness to the area. So again just something to think about as we're doing cupping because the crop circles seem to be

overlooked compared to other myofascial interventions and again, I don't have the answer, but this is just something that I always think about when I treat my patients is I get their verbal clearance and I tell them hey, look if you know you might get some redness back there, are you okay with that? And then I do document that, you know, that I notified the patient and they consented. So that's something I try to document whenever I do this because I don't want a client to feel awkward if there's -- or considered an adverse event, which, believe it or not, with cupping, this is considered almost a positive event.

Again, different parts of the world look at it differently, but when you see those dark circles, as you know, too, if you've read some of the Eastern philosophy and all of that, that's considered dry, kind of that toxic stagnant blood coming to the surface, so you're actually helping the body detoxify itself, etc., etc. So again just an important point as we talk about kind of like those crop circles. Okay. So again, we know that the bottom line is cupping is indicated upon the existing research, and we know there's limitations and we know that the precautions and contraindications are kind of general across the board. It's not really one thing.

Okay. And we know that the professional practice patterns do not always follow the research, and I think that that's important to understand. Okay? So when we look at the different types of cupping devices, we can see, though, that we have especially here the more popular ones are the silicone cups, right? Where you just push and pull right, but you also have everything from glass, plastic, you have animal horns. You can go crazy with some of the stuff. And so you have a lot of different ones but the main ones that seem to be popular, especially in the United States, Australia, and some parts of Europe are either going to be the silicone ones or the plastic ones. Sometimes, the glass ones, if you're going to use the flame and all that so that's something to think about. When we talk about cupping classifications, can you guys see this? There's five different classifications so it gets very deep because remember,

it's been around for 3,500 plus years, right? So the stuff we're growth talk about mainly today is going to be the technical types, dry cupping, flash cupping, wet cupping, and massage cupping. Mainly the dry cupping philosophy, not the wet cupping as much, but there's other suction types, light to strong cupping, to pulsating. We can also do the suction methods, the fire cupping, manual suction. You can do the pump okay, they call the kind of like the automatic. And then you have a lot of adjunct therapies and that's where I think we start getting into acupuncture and we also start kind of getting into dry needling, is a lot of times they'll combine cupping and dry needling in the same area okay? And so you get a lot of these adjunct therapies with cupping, but also, you get specific treatments, too. If you look at the research there's some for cosmetics, sports.

We'll see a lot of, you know, foot cupping, abdominal, facial. Depends on what philosophy you're using. If you're using Eastern medicine and doing more reflexology, that's going to have a whole nother treatment. If you're doing some more like kind of yoga style kind of more, you know, stuff from India, that part of the Easter versus some of the Arabic stuff, some of the Chinese medicine. You get a lot of philosophies, and this is where they're all, you know, classifying cupping differently. Okay. So next we talk about how do we -- what do we do for hygiene?

Well, just like we talked about in part 2, we talked about like cleaning the ISTM tools, we talked about cleaning the foam rollers and all of that. It's going to be the same thing with this. The thought is you're not breaking the skin, so you're not going to fall into the whole OSHA, bloodborne pathogen, sharps, etc. So we're thinking that the thought is if you use an intermediate level disinfectant, which could be like basically the isopropyl alcohol, 70% or higher right? Or some of the wipes and stuff like that. You can clean these tools and stuff that you use. And we're still recommending, at least myself and my colleagues, we're still recommending the safe treatment sequence. You need to wash your hands before your treatment. You've got to wear

PPE, whatever is needed for your client and minimum gloves if you need to, right? Clean the skin if you need to. Do your treatment, right? And then from there, doing your treatment from there, you monitor what's going on right? And then from there, you might clean the skin again, and then once the patient is done and they're moving on, then once you're ready it to clean the equipment and stuff, or clean the cups out, we recommend you wipe it down with your intermediate level disinfectant, but you leave the wet time. It's got to stay wet for the two to four minutes because you've got to let the antibacterial kill all the bugs, kill all the germs, right? And then we're recommending after you let it sit and clean, you rinse it off with soap and water to get the junk off, and then you kind of let it dry, you wash your hands and you clean up and you move on.

So there's a process of keeping things clean, but now so that the COVID-19 is out and all this stuff, we need to rethink things and we need to slow down and clean our equipment better okay? So again even when I work on my clients and stuff like that, if I'm using a combination of treatments, using the therigun, tools and all that, I always wipe my hands down with alcohol wipes first, I clean their skin, and then if I need to wear gloves, I will. So again, it's a process that I think we need to slow down and get to okay? Especially more so since we're going to have a new norm after this okay? So bottom line, try to develop some type of standard cleaning procedure. Again, this is just a good reminder for everybody. We're in a very tough time right now where we need to make sure that we're doing our best, okay. If you need to wear the mask, wear the mask okay? But I think bullet point number 4 or actually number 5, 4 bullet points here, your wet time here is going to be the most important okay? I'm reading more and more that you've got to let the antiviral, antibacterial, antigerm do its job okay? And also wear PPE as needed. So that's kind of a primer on that. Now, let's move on, though. What are the proposed physiological responses that occur from cupping? Well, when we look at the cupping research, as you guys remember from our first segment, we talked about myofascial treatments in general okay? But there

was a question, though. Now with cupping, you're distracting. You're decompressing. You're not compressing. Well, a lot of these reviews state a lot of similar things. Let's look at the diagram on the left. Okay, cellular effects. Well, a lot of the reviews of cupping again across the world talk about a mechanical effect, pain reduction, neuro-physiological, improved circulation, balances the Qi, you also get immune response and you change fluid dynamics. So again, very similar to all the other myofascial interventions. Remember, each myofascial intervention has their own body of evidence okay? We've seen that. That's why we did such a comprehensive three-part series okay? Now, let's look at the diagram on the right. Physiological effects. Well, the negative pressure pulls the skin. They're proposing that it dilates the capillaries. You get capillary research and diapedesis where you get cells and blood moving through. You get some movement through the broken capillaries and the tissues.

Okay. Because that diapedesis or that leaking out of fluids, etc., you start getting ecchymosis. Those are those crop circles I joked about right? Okay. But then from there, that stimulates an immune response so the macrophages are going to have lunch right and they're going to digest the red blood cells, etc., and then you're going to have some type of catalyst like the heme oxygenase, which is a catalyst and all of that, like an enzymatic process.

And then here, you're going to get some heme breakdown from there. Okay. You get some heme breakdown from there. And then also, too, you get more of a carbon monoxide. You get more of some type of like carbon monoxide type of a response from that. And so I think it's so important just to realize that physiologically, we have a lot of the same occurrences that happen with the other myofascial interventions. So I think it's important to see that, that when we talk about the cupping research, there's a lot of crossover from all the other myofascial interventions. So now, this slide kind of gives us -- and Bedal et al did a really good job in this journal, the journal of traditional

complementary medicine, they did a great job of summarizing what we talked about. Here's what cupping therapy affects. Rain reduction and they're suggesting a more Western philosophy of gate reduction in pain, diffuse noxious inhibition theory, that's where you get talking up and down the nervous system, reflex zone theory. Antiflammatory effects and hematological adjustment, blood detoxifying. So a lot of these theories in here pretty much grow hand in hand to some of the other myofascial interventions we discussed in the last two segments. So again when we talk about this crossover, we're seeing it across the board and that's why we boil it down to those two main theories, mechanical and neurophysiological. It's just a quick way to kind of incapsulate all of these deep thought processes.

So then we move to our next clinical question. What are the common clinical practice patterns among professionals specifically for cupping? Okay, well, here's a great one -- here's a great diagram coming from this article by Mehta and Dhapte, that cupping boils down to dry cupping and wet cupping. And I think we can see, though, too, dry cupping seems to be more Western okay? Seems to be more Western.

And we're using it for part of acupuncture or part of myofascial release and then wet cupping is done throughout the world and that's again where they take like a sharp and they penetrate the skin to make it bleed as a therapeutic intervention for many different diseases okay. So that's what we're really looking at across the board as far as practice patterns. We're seeing those two. And so when we see dry cupping though, we basically have three primary clinical patterns. Number one is when people use silicone, they push and pull, right? And we'll see that later. Glass, they can use like a suction pump or like a flame, and then plastic they do the same thing. So that's very common across the board for dry cupping, Eastern and Western medicine. And then depends on what part of the world you're in. Wet cupping has two main processes. Either way, they're marking the skin, they're sterilizing, they're puncturing, they do the cupping, they sterilize, and so one number one is more of like a Chinese

medicine, number two is more of like an Eastern kind of medicine from India okay. So again, you have these two theories, but either way, with wet cupping, as we know here in the United States, you're going to a different level of treatment because you're breaking the skin, and I think that that's very important to understand when it comes to cupping, because a lot of states won't allow wet cupping because of the legal risks or because of our licensure okay? So again, something to think about. So when we look at the different thoughts here, we can see here, too, we just have the, you know, typical glass kind of we call it decompression cups where you're using a pump, but we also still have your very, very traditional fire where they'll kind of take the oxygen out of the cup and it sucks in and creates a very strong suction to the skin and they leave it for anywhere between 30 seconds to sometimes five minutes. It just depends on what they're trying to do and what the person has.

And so all these are still done here in the United States, very popular and stuff like that, but I've seen in my practice because had a couple of acupunctures that had worked for me over the years, one was more western right, up here, one was more eastern. So it depends on who they are, how they practice and stuff. Either way, though, you're causing a decompression to the myofascia.

So again, it just depends. So practice patterns across the world, as you can see with this section are completely different right? So there's a lot of different philosophies on this. Okay. When we look at suction cup strength, though, with this slide, this is just a summary slide for you guys that came out of some of the systemic reviews, is that, you know, if you're doing -- if you're using the suction pump, if any of you guys only do one or two, you guys can see that, light is two pumps, medium is four, strong is five or more. Because remember, if you've ever used the pumps, it doesn't take much to really decompress the skin. And if you pump it up too hard, you're going to cause a lot of microscopic damage. And so again, you just want to make sure that whatever cupping strategy you're using, that you're doing it safe for each client, but also the

client has given informed consent. They want to be informed and stuff. So we have four common types of cupping. Flash cupping, dry cupping, wet cupping, which we just kind of talked about and then massage cupping. So I'm going to show you guys this video really quick from Rock Tape. I want to thank them, they allowed me to play the video. And this is one of our European friends, and he's going to give you guys just kind of a strategy on -- they're going to show you the four different types of cupping that are primarily done here in the United States. There is some audio so hopefully, you guys can hear it. I'm going to play it right now. >> There are four traditional types of cupping. Flash cupping, where the cups are applied and removed in quick succession.

Dry cupping, where the cups remain in place during the treatment. And wet cupping, where an incision is made to the skin, so that the blood is pulled into the cup. We don't teach or use this technique with the Rock cups. The fourth technique is massage cupping, which involves moving the cup over the affected area, combining cupping with a massage movement.

>> Dr. Cheatham: If we can go back to the PowerPoint, as everyone can see from the, if we look at practice patterns, we can clearly see when we look at practice patterns and stuff that we have those four primary right? So this next video is going to get a little bit deeper into some of the versions, when we look at practice patterns and how we do cupping and I know a lot of you guys wanted to see videos and stuff so I tried to embed some videos that I could and so with this one let's look a little bit deeper into some of those techniques and again, this also has audio. >> And considered the esthetics of where you're cupping. Here are three demonstrations of cupping for common conditions. >> In this first clip, rock tape U.K. medical director Paul is demonstrating some dry static cupping to the lower spine. You can see that he's using the inversion method of cupping application and this is one of the things that we go through on our course. It involves turning the cup inside out before

applying it to the skin so that it creates a firm suction. Once applied, Paul is using the cups to create some external glide to perform manual therapy over the lumbar spine. Here we see a demonstration of flash cupping starting at the lower trapezius muscles. Flash cupping is quick, easy to do and typically doesn't leave any red marks on the skin. With cupping we can also promote internal glide by performing therapeutic movements while the cups are in place. Paul has also included stick mobility to improve lumbar function in standing. Paul has applied the cups to the upper back to treat upper back and neck pain and is also instructing some internal glide by promoting therapeutic movement. The lateral neck and down over the shoulder can also be a great way of reducing neck pain and improving range of motion. On our courses we also show ways of improving neurodynamics. Here, Paul is demonstrating a method for improving the neurodynamics of the median nerve.

Paul has placed the cups over the course of the median nerve and is then performing a nerve tensioner, followed by some instructed nerve mobilization. There are loads of other clinically useful -- >> Dr. Cheatham: Okay perfect. Thank you, if we could switch back. So as everyone can see just with those three -- those are just three examples of how kind of the western philosophy has really brought in a little bit more flavor, right? A little bit more different approaches for cupping.

So remember, when we talk about cupping in more of the western medicine, it's mainly used as a neurosensory. It's also used to promote internal and external gliding theoretically of the myofascia, and so I think it's important to realize that whatever cupping courses you take, you want to be able to see which of the educators that you want to take, like if you took something from them or some of the other companies, they're going to teach more of a myofascial approach, but if you go back and you take one of the more traditional Chinese medicine, they're going to be looking at cupping differently. So again, clinical practice patterns are different across the world with cupping, and so I think it's important for us to be able to respect the different

philosophies but also realize that there's strengths and limitations to all of them around the world, and so I think that's really important to understand. Okay, here's another one if we could play the video. Here's one I did. I call it the myofascial stripping technique. I did this with my beautiful son and he had some IT band complex issues. This is a little while ago. And so as you can see, I'm doing active movement with a myofascial stripping technique and I'm going from an inferior to superior approach with movement. So as you can see with this, and we can see here close, you can see I'm promoting an interior glide as well as an exterior glide, right? Like the cup is pulling the myofascia externally, but he is also moving internally so I'm getting almost like a shearing force internally and externally, okay thank you, we can go back with just that one technique.

So I think the myofascial stripping technique that I just showed, that's one of the more common treatments that are done clinically that I see across practitioners, they get the suction, they put a lot of -- they get the suction and they go back and forth randomly and try to find that restriction and try to loosen things up. So theoretically that's what we're thinking is happening, and so that's why I think that's important to understand. So remember, the practice patterns do not always follow the research and we have to remember that. I think that's important. So now, when we look at cupping research, though, and we're going to get through this and we'll take a little standup break here in a second, is what does the research suggest?

Well, we always use our level of evidence as you guys can see. We're going to grade it from there. Well, when we look at the literature review from 2000 to 2020, we're going to see a ton of systematic reviews, okay. And just kind of in shorter, we're not going to get to it too much, a lot of these had a lot of good clinical questions but remember, systematic reviews are only as strong as their clinical questions. Each of these had similar yet different clinical questions but the consensus is mixed methods, mixed results. Just like a lot of the myofascial things that we've seen. But though we can

see that there's moderate to weak evidence for therapeutic effects of dry cupping, for the neck and chronic lower back pain, so a lot of your musculoskeletal issues. There is some decent evidence for flexibility, mobility, performance, chronic pain. Wet cupping, believe it or not, has a lot of support in the Eastern medicine journals. So again, whatever part of the world you're in, you're going to see a different interpretation of the research, thus you're going to see different clinical questions. So that's why I believe that the research to many of the things we do is moderate to weak because the methods are mixed. We cannot compare apples to apples sometimes because the researchers study it a different way okay.

So I think it's important for us to appreciate that and again, that's just the diversity of the world and different parts of the world. Okay. Clinical studies more recently, we can see, though, too, that some of these had some combined interventions right? Like myofascial dysfunction, like manual therapy with trigger points. We can see that there's also single interventions. Hamstring, chronic low back pain, nonspecific low back pain and carpal tunnel. So we can see that we see a combination of more recent studies coming out, trying to combine interventions, and also some just using a single intervention, but if you guys can look at the positives and the negatives, okay, depending on the type of study, we're seeing positives with cupping, but we're also seeing negatives okay. The problem is a lot of -- a lot of these -- a lot of these studies have small sample sizes, okay.

And also their methods are different. So that's again that weakness we talk about is we don't have a lot of answers as far as the perfect thing because again, different ways of cupping, different interpretations. Okay? So again, when we talk about evidence-based practice and we talk about research and stuff, we just have to consider that your client, you're going to have to do the best for your client, try to take the research and translate it to your clinical practice, and I think that's a good take-home here, and important to understand. Okay, so cupping research and

summary. Most treatments in the research are anywhere between 5 to 30 minutes you guys. So we can see, though, when we talked about the cupping research, you know, when we referred back to it, different parts of the world, different interpretations. So really the only long-term effects that we're seeing are four weeks. So that's quite a bit of a challenge. And so when we talk about the bottom line, is that we know that there's moderate -- there's moderate results, moderate efficacy for short-term, you know, results of cupping in different areas, but again, though, it's so mainstream in other countries, it's part of a whole medical practice, right? Detoxification, working on the Qi and all that, so some of the research is not going to be documentable and when we talk about evidence-based practice, our best thing to approach it is really going to be an myofascial intervention, and I think that's important to understand. Next, when we move to our next one, since we had a little bit of a break there I was going to do a little stretch break so I think we're going to move on since we had a little technical issue and hopefully, everyone had a second. So just for sake of time we're going to move on. Now, when we talk about dry needling, though, okay, and I think this is important, is that when we talk about dry needling, it's also considered part of some of those myofascial interventions, but it's a little bit different, isn't it? Because we're actually puncturing the skin. It's a different level of liability, right? It's a different philosophy, but they still kind of mix it in, this myofascial treatment soup bowl. But we can see, though, in the literature, some people call it DN, dry needling, needling or even acupuncture and there's a big debate on stating okay, it's the same thing because you're using basically the same needles right, the same acupuncture needles, that you're using the same thing, but is it really? And it's the philosophy. I think there's a clear demarcation on dry needling and also acupuncture and we'll talk about that. So as we can see the history of dry needling, okay, it really started -- it was kind of coined way back in 1941. Now, that's not acupuncture. Acupuncture has been going on for thousands of years, we know that right? But we can see, though, that ever since 1941, that's when dry needling for myofascial trigger points and myofascial restriction first came into publication. That's when it first came to light, so dry needling

hasn't been around, too, too long compared to the 3,000 years plus of acupuncture and cupping, which are part of the same kind of treatment strategy so I think it's interesting, because ever since 1972, you know, we've had the trigger point, 1992, we had some more definitions coming from travel as far as looking at myofascial trigger points, myofascial restriction. We've had all these names, right? And then we go to 2012, where a lot of the research on dry needling started coming out, and we started looking at the benefits and that's where a lot of the clinicians, especially like physical therapists, in some states athletic trainers are trying to get the licensure to say hey, I can use dry cupping or excuse me, dry needling. And so I think it's really interesting because when we fast forward to today, we see a ton of research on the topic, and there is some good outcomes and stuff like that, you know, even a little bit better than dry cupping, but the problem is that each state that we practice in may or may not allow us to use a needle and go inside the skin, because remember the minute you break the skin and there's blood, you're at a totally different legal kind of liability. You're at a totally different thing. It's not the same as a myofascial treatment that does not break the skin.

So I think that that's important to kind of understand with dry needling because I know we've all heard about it, we've read some good research and all that, but when we look at clinical standards, we have a specific rationale, and dry needling just in short is mainly used to kind of break up trigger points or myofascial restriction points. And I think that that's important to understand, now obviously indications are for myofascial pain syndrome, trigger points, musculoskeletal conditions, but the main philosophy seems to be is that if you have a highly sensitive, active or even latent trigger point, that by sticking a tiny needle in there and kind of disrupting stuff, you're going to cause some physiological responses that are going to help break up that myofascial restricted area. And I think that that's important to understand as we look at this. And so the current thought in western medicine is dry needling is considered a myofascial treatment, for active and latent trigger points. And so I think that that's so important to

understand as we go through. Okay? Then as we kind of move forward now, when we see dry needling versus acupuncture, here's where the standards kind of go back and forth. Treatment rationale for dry needling, obviously, myofascial trigger points. Treatment rationale for acupuncture is Qi, energy meridians, etc., etc. The licensure is across the board as far as dry needling, but only acupuncturists can quote/unquote really do acupuncture and as you guys know, too, there's specific CPT codes for each of those. So I think that's important to make sure that we do that. Now, except in states, we know that dry needling is not all 50 states but for acupuncture it is. They've accepted that.

And then obviously the types of needles, precautions, contraindications are pretty similar between the two. So I think when we look at standards and kind of once we get into practice patterns, we're going to see, though, that dry needling and acupuncture have a lot of crossover, but it's the same as cupping. What is your philosophy? Are you going to go Eastern, are you going to go Western? What's your philosophy with your treatment? What are you trying to gain from it, so I think that that's interesting. Because when we look at the same like here, some of the most obvious contraindications again, we're going to see a lot of the same ones across the board.

You know, the American physical therapy association came out with a really great summary paper in 2013 discussing dry needling and all that, and so that was one of our main references to look at the contraindications because they laid it out very nicely, but that's the same thing with a lot of the other myofascial interventions as you guys can see. So a lot of your relative contraindications slash precautions or your absolutes are going to follow a lot. The only difference is when it comes to dry needling you're breaking the skin, and I think that's so important to understand because in clinical practice, we're in these super busy clinics, we have to be thinking when we're doing dry needling what's going on and make sure that there's no adverse events okay? And so when we talk about adverse events, I think it's so important to

address this during the talk. So let's talk about that. Sometimes, an adverse event during dry needling and also sometimes even cupping, I don't know it depends, but mainly dry needling is going to be what? Pain with treatment, you can get a hematoma, sometimes some people can get vagal response, fainting. You can also get a needle that's stuck. Bent needle, broken. They can also get an infection. Believe it or not, and I put this in here, because there's more and more research coming out of the acupuncture research that says that people can be at risk for a pneumothorax by doing needling in the trunk area, around the lobes of the lungs and stuff. I thought that was very interesting because I read that, when I did my lit search, I covered so many articles for this talk, but a lot of them were still kind of discussing this pneumothorax.

And I couldn't find anything in the literature, any documented cases, but this is a big precaution. So again, something to consider, and then, obviously, for us as clinicians and this has happened before is a needle stick injury, right? Handling your sharps. It's considered a sharp. I think it's so important that these adverse events are being monitored, even more so than some of those relative contraindications. Now, obviously absolutes are absolute. You can't change that. But I think those of you who are listening to our talk here can appreciate that these are reminders for us that if we're doing dry needling, we need to slow down, we need to make sure that we're doing it properly, right?

And we need to have a rationale for why we're doing it. It's a little bit higher risk than some of your other myofascial interventions. So something interesting to think about. So bottom line, we know that the dry needling indications are based upon existing research. We know that. We know that the contraindications are pretty clear, because remember, dry needling came out in the '40s, but there's been a really good job compared to some of the myofascial interventions of clinicians, practitioners, experts and researchers reporting outcomes, contraindications and stuff like that, okay, in, you

know, kind of -- in with dry needling. Now again, though, it depends on what part of the world you live or what country or whatever. There's going to be different laws in different states and different provinces, wherever you live, there's going to be a lot of different things. So I think it's important to try to function within your scope of practice, but also realize, too, that dry needling takes training and it has a different skill set. So I think it's important to understand that.

And so when we look at the different types of dry needles, kind of like the different types of tools that we've always talked about, we can see how tiny the dry needling is, if we look here compared to a match or a medical syringe or a sewing needle and a dry needle. So that's why I think it's so important to be skillful in what you do because if you bend or break, if you bend or break one of these needles, you're -- you may not be able to trace it, okay? Compared to maybe like a larger needle. So there's been -- there's been a couple of cases I've heard where a needle has broken off or whatever and they've had to do some type of fluoroscopy or some type of scoping to try to find it. So I think it's important to understand, most of the dry needles, the people who use them and the acupuncturists, some of them are pretty flexible so they can handle them being popped into the skin, but then again, though, accidents can happen.

So I think it's very important to not just do okay a weekend course and start doing it on everybody. We need to take our time with dry needling, make sure you master the art of it, and that you know what to do and you know how to keep your PPEs and your precautions etc. So again, just kind of the thought because I know there's a lot of weekend courses out there which are great, but I think it takes a little bit more training, too. You've got to be careful. So what are the current recommendations for hygiene? Well, again, though, we go to that same kind of recipe that we've used through all three sections, right? Wash your hands, use PPE, clean skin, inspect, you only use the dry needle once, right? You throw it away. It's a single use. That sounds obvious but you know what, you never know, right? You reinspect the skin, clean skin, and

then you do some type of post-treatment intervention. A lot of times with dry needling, depends on your theories and stuff, but a lot of my friends who use it regularly in their practice, they may use it to kind of break up some type of myofascial restriction, some type of trigger point, and then they'll do some type of activation, and then some type of integrated movement to take advantage of that new myofascial kind of mobility that they've created. Okay. So I think that that's important when it comes to more so when it comes to using dry needling and where in your treatment regimen should it be? Right? And I think that's the key thing with a lot of our interventions is a master clinician knows how to sequence right, the right intervention at the right time, and I think that that's key and important to realize when we do that. So again, the safe treatment sequence, steps 1 through 5, are pretty much the same that we talked about throughout but again, general recommendations and reminders for those of you who are considering or doing these interventions just to have a good procedure, just to be safe.

Okay. So bottom line, again, you guys, dry needling is a different level. You're going to have to use OSHA standards for cleaning procedures because you're using blood and sharps. One of the -- at least what I've seen and I've read and my acupuncturists and everyone I've worked with because remember in California we're not licensed. So I can't do it, but again, I have hired acupuncturists, I've worked with them side by side for years. One of the side effects to any type of dry needling or acupuncture whatever is sometimes, you can get a little bit of bleeding. The minute you see blood coming out of that skin, it's a different standard. So you're looking at wearing gloves, you're working dealing with blood-borne pathogens, sharps, all of that. So your intermediate level disinfectant might be good for general cleaning, but you might need to use a higher sterilization process or a stronger, higher-level cleaner like Saniwipes or something stronger to clean things if you need to. And again, that's where the wet time and cleaning things is really important. So again, we're at a different level when we come to dealing with sharps and stuff. Something to remember because we get

busy and stuff. So again now the next step is what are the proposed physiological responses that occur from dry needling? Well, we kind of cover a lot of the same things, as far as the neurophysiological mechanical effects, but we have to look at and define that dry needling is mainly to treat trigger points, which are hyperirritable spots or a taut band by definition in the muscle fibers themselves right? And we know that those have been subcategorized right?

By either active or latent trigger points. And so the thought is that you get this physiological contracture right from this trigger point. You're getting local ischemia, hypoxia from the trigger point, you get some pH changes, you get local referred pain, you get altered muscle activation, you get central and peripheral nerve sensitization and this becomes a whole source of nociception or pain. You can see the responses, these are pretty much well documented in the research. And I will support that and saying scientifically I think we know more about it than we did 10 years ago. I get this now. This is what happens with the trigger point. Totally cool. Okay now, what? Well, when I do a trigger point treatment, right, okay, you can either do two ways. You can do dry needling, kind of like a trigger point dry needling treatment, you can do superficial or deep. If you do superficial, that means you're really just penetrating the skin a little bit with the dry needle and you're not going deep down into the tissues of the muscle.

And so you know, DN superficial has been reported in the research to reduce local referred pain, improve range of motion stuff, but again, the superficial is where you're hitting those superficial tissues with the mechanoreceptors and the nociceptors are. Now, if you do more of a deep dry needling, that means that the deeper the needle goes in, you're really looking for that classic twitch response, okay? And that's more -- and that could be what they call the local twitch response where if you have your trigger point, the needle is going to go into the deeper tissues and then hopefully, after you move around the needle up and down, side to side, you twist and you try to

stimulate those tissues, you're going to get that little local twitch, and for some reason, that is a big indicator among the research and the researchers and stuff of the effects of the positive effects of deeper dry needling, and I think that's important to understand because that's an important clinical pattern and so again, deep dry needling has a lot of reported effects in the literature as far as reduced pain, improved range of motion, irritability of other trigger points, normalizing pH circulation.

So again, there's a lot of physical physiological effects reported with dry needling that are more stronger than some of the other myofascial interventions that we have discussed before. I think that's important to realize. So again, when we talk about the myofascial treatment and we talk about looking at dry needling as a trigger point, but also, what it does to the myofascia in general, we can see, too, there's research that has looked at dry needling not just with trigger points, but what else does it do with the myofascia as a treatment? Well other reports have done decreased muscle tension. Some report that it activates like an immune response. Fibroblastic activation, mechanoreceptor, so we can see too when we talk about clinical practice patterns and stuff, dry needling is more of a myofascial treatment versus maybe an acupuncture treatment on some levels.

And I think that that's important of what some people think about, when it comes to this okay? So then when we talk about more so practice patterns among professionals, we can see that there's common conditions that are reported in the research, right? We can see all these pathologies that it's been treated for. So dry needling is really looking at a lot of different things in the research okay? And then when we talk about common procedures, here's your typical procedure that's been reported in the research and was taught among the different educators out there is that you typically palpate like a trigger point, okay, the needle is over the area, you tap the needle in the tissue, okay. And obviously, you find -- hopefully find that little twitch response, you're kind of finding that area, that trigger point twitch response, and then

you're moving the needle around and you're trying to kind of in my opinion it's kind of interpreted as you're trying to disrupt that area with the needle. Okay? And then you're constantly kind of twisting the needle, moving it around, you're disrupting, creating this physiological response at this trigger point, and then you withdraw the area and hopefully, that's going to stimulate a physiological response, and then you do some type of post-treatment intervention. So in general, that's kind of an encapsulation of dry needling and what I've learned from acupuncturists and everything there is really the needle kind of goes in that hot spot right, that trigger point.

You're kind of moving it up and down, twisting it, kind of moving it. You're trying to kind of disrupt that myofascial restriction, okay. And you know you're trying to slide it up and down, you're trying to move it side to side, twist it, and you're trying to disrupt that area so that's one way to do it. Now, if you follow acupuncture, it may be different. You may just leave the needle if you're there trying to work on the Qi and the meridians and stuff. There's so many interpretations just like cupping on how to use dry needling slash acupuncture, there's a lot of different ways of it being taught. Some people are doing acupuncture with movement, some people are even hooking up the electrical stim to it.

That's more of an acupuncture flow. So there's a lot of different things you can do with it, but just in short, if some of you are not familiar with the basic mechanics of it, this is just a quick summary of what I've learned from my colleagues and acupuncturists and stuff on what it does and again, though you're going to take these education courses out there, that really get more in-depth into their approach, their philosophy, yes, go for it. And again, this is just a general template. Now, when we look at the dry needling videos, I'm going to show you guys a couple of videos. If we can key up the first video, I want you guys to kind of look at this as a clinician, and I want you guys to kind of look and compare the videos. Okay, let's look at this video very quickly. Okay.

I want you guys to look at the video here. Okay. We can see the person here with the dry needling in the calf. I don't have the audio on, I just want you guys to look at the technique. Boom. They pop the needle in, they're doing movement. And then you can see how they're just kind of finding that trigger point area, trying to get that latent response, right, that local twitch response, like that latent trigger point, trying to get it to respond, and then they kind of move on to a different area okay? Okay. And again, first video we're seeing they're finding a different area, they're moving the needle up and down, twisting it, kind of creating kind of that stimulus, kind of that disruption in there, okay. All right. And then if we can -- we're going to pause this video. Let's move on to the other two videos.

Okay. Next video, if we could see that. Next video here, we're going to see -- it's going to be relatively the same thing. This is more towards the quadricep. Okay. And they're going to be doing more of the upper quad slash TFL area up in there and again, we're going to see kind of the same philosophy and let's do the last video, please. And we can see advancing down, we can see that they've created a more broader treatment, okay? They've done a more broad treatment when it comes to things.

Okay? So we can see, though, with this treatment. So if you guys looked at the two videos, though, what was the fundamental it was? The PPEs, did you guys notice that? And that was a huge thing I wanted to put out. If you looked at the first video, the gentleman didn't clean the surface, he wasn't wearing gloves and he wasn't doing any PPE okay? So the one video was donated from my colleague and that was done about six years ago. This is another one donated by my colleague, an educational video, who was -- it was done a year or so ago. So I wanted to kind of show everybody that these are kind of your standard kind of typical treatments that are taught, but using protective equipment is so important now and if you look on YouTube, they have a million videos on this type of treatment. We have to remember,

though, too, we need to protect ourselves okay? And it was interesting to see how things are really coming in, especially with the COVID-19. We have to protect ourselves. So I wanted to kind of show the group just you know, your typical kind of treatment. Unfortunately, I can't show you any specific techniques because of all the copyrights and what people teach, and also too whatever state you live in and stuff, there's a lot of limitations when it comes to this. So if we can go back to the PowerPoint now, I would like to kind of finish up this section. And so when we look at that, so again, we can see with some of the dry needling videos, especially this one here, no protective equipment okay. The other ones, they used personal protective devices.

So I think that's very important to understand when we're looking at this. So again, professional practice patterns follow the research in general when it comes to dry needling, except for maybe some of the thought processes on cleanliness and looking at sharps and stuff. I think that's important to understand. We'll quickly go through the research and stuff, I know we fell a little bit behind because of the technical issue. We'll kind of move through this and we'll try to get everyone out on time here. So what does the research say? Well, when we look at the last 20 years of kind of dry needling slash acupuncture research, okay, we see a ton as you guys can see of systematic reviews, right? A lot of them study very similar versus foam rolling or ISTM. Those are different treatments.

Dry needling is straightforward. You're going after that trigger point or you're trying to go after that myofascial dysfunction. So when we look at this, when we look at the systematic reviews, if we look at the treatment technique, there's variable techniques that are taught. It depends on where you're at in the world, but on average, when I looked at all the systematic reviews and I did my lit search, treatments are typically 10 to 30 minutes okay? Also, when we looked this, too, is when we look at outcomes measures, they're still using a lot of the similar documentable outcome measures.

Also, though, too, we're seeing a little bit longer outcomes. We're seeing that pain reduction for 12 weeks seems to be the strongest evidence when it comes to dry needling, which is a little bit more promising. We're understanding that. So again when we look at the bottom and we look at positive results. Collectively the research is really supporting dry needling for trigger points, which is obviously synonymous with pain. There's been a lot of good results with headaches, neck pain, tendinopathy and somewhat for upper extremity pain. There is also mixed results for some of those same things. So there are some studies that say okay well, it doesn't work with myofascial pain or trigger points, but that's a minority compared to the majority of the research.

So I'm going to say that there's more evidence that supports dry needling for a myofascial intervention than some of the other ones we've talked about, in parts 1 and 2 of this series so I think that's important to understand. And so when we look at current research, we're seeing a lot more controlled studies coming out, relooking at trigger points okay? Everything from piriformis syndrome, osteoarthritis, plantar fasciitis. These are pretty darn good studies. They have pretty good sample sizes, good effect size.

So when we look at the research from a nerdy standpoint, they've done a pretty good job of doing these studies. So I think there's a lot of promise and two, when we look at some of the other research, we're starting to see more diagnostic-specific studies like shoulder impingement, neck pain, facial pain, migraines, headaches. Again, this evidence. Based practice review just kind of shows you that dry needling is very -- the research is very organized, compared to some of those other myofascial interventions we've covered in this series, and so that's why I like to discuss this last because this has in my opinion some of the strongest research because they've shown really good efficacy with so many different populations and stuff. Okay. So really the bottom line is when it comes to dry needling and the research and stuff, you guys, I'm going to give it

a B plus. I really -- I'm giving it a B plus. I think the research is not perfect, but Western medicine has kind of modernized this take on acupuncture. And I think it's important for those of you who are practicing it and those of you who haven't or really appreciate it, I think we need to appreciate dry needling specifically as a myofascial intervention okay? Now, if you want to go Eastern medicine and you're trained in that, and you do acupuncture, awesome. Please do that and go along that philosophy. But truly, though, a lot of the research on Pub Med, coming out of Western medicine really looks at it how it's really attacking the trigger points and how it helps the myofascia and many different diagnoses.

Many different pathologies. So I think it's so important to look at dry needling in that aspect, does that make sense? And so on the last note there too one thing I want everyone to remember, too, that's important is when we talked about cupping, we know that cupping is a distraction. Well, dry needling is different. You're sticking a needle and you're typically and I'm kind of using this as a very blanket term, you're kind of disrupting by sticking a sharp object in a trigger point. So there is going to be some type of microdamage because you're sticking a needle in there. So to me, it's a totally different skill set than using some of the myofascial interventions we talked about in this series.

So again, I think it's so important to appreciate the skill level and the proper training that it takes, but as well as taking the proper OSHA guidelines to protecting yourself from the blood' borne pathogens and using sharps. Just my thoughts and I wanted everyone to have that reminder because in my opinion this is a very promising intervention. Hope in California we'll be able to get licensure sometime because I know that there's been many patients I would love to have used this on after I did the proper training and stuff, but unfortunately, at this point, we're not licensed just like in many states. So just some thoughts there. Okay and then our last module, I just wanted to address, of course, we do this all the time. We do manual myofascial

release. Okay and we're just going to spend two or three minutes covering this topic, because I wanted to round this out for everybody. And then I'm going to get to the good stuff, we're going to get to the quiz question, and then I'll take some other Q&A from everybody. But when we look at common terms, we've seen everything right you guys? Myofascial release, myofascial therapy, trigger point therapy. Manual therapy, we've seen all these different titles and names. We also have seen the history, too, where in the 1940s they first called it myofascial, right. Myofascial release, Travell we talked about before who brought up trigger points, 1983 we came out with more textbook and then 2020, it's kind of morphed into myofascial therapy, myofascial trigger points, self-myofascial release.

There's all these different terms and stuff. When we look at, too, when we look at all the other clinical questions we've posed with all of these other interventions we've got to look at the therapeutic massage research for physiological responses, for recommendations and for clinical standards. We need to really go back to the therapeutic massage literature because manual myofascial release is a skilled intervention. I don't know if the research supports it being a true release, but as you know too when we talk about clinical standards, we do and even you guys understand this, too, being manual therapists, we do direct and indirect techniques and as far as I'm concerned, I can sense when there's some type of fluid change or release in the fascia. I don't know about you guys, but I know when I do my manual myofascial therapy, I usually follow that up with other types of interventions to help maximize everything, right?

Now, when I do trigger point, we know that trigger point therapy works. We've jammed our thumb and our elbow into a trigger point. We've felt it release before. So I think manual myofascial release direct and indirect techniques are legit, honestly. But there isn't really a ton of research you guys that have really covered it when we look at it so let's move forward to this. When we look at the last five years of research, we've seen

different studies, but you guys, a lot of the research combines manual myofascial therapy with other interventions, but also, though, too, it's kind of rolled into therapeutic massage. So the research is really kind of -- you have to really look deep to say okay, did they actually do a manual myofascial release technique? And the research is terrible on that, you guys. I'm being honest. And even though the evidence that we're looking at here is great, too, overall, it's hard to sometimes decipher these studies and you've got to spend time looking through the whole study to say what did they do? What's their manual myofascial release technique? So we're seeing a huge crossover between myofascial release, and manual myofascial release. One is a skilled hands-on.

Another one can be considered a foam roller, right? So I think that's something that we have to really kind of look at when we talk about manual myofascial release. Same thing with trigger points. Trigger points kind of broad in there, we talk about ISTM, we talked about dry needling. There's a lot of different things. So again, the research overall is a B when it comes to trigger points. But manual myofascial release itself is going to be like a C/D. The only reason I put the B is because trigger point has been all over because we've seen trigger point therapy and latent and active trigger points all over the research, so that's the only reason this topic gets a grade level of a B. But you guys in general, manual myofascial release, we do it all the time in our treatment, but there's not a lot of supportive research.

So again just kind of my interpretation of the evidence, when we talk about evidence-based. So final thoughts here. Scientific theories, mechanical, neuro-physiological, I'm going to leave it to the group. I'm going to leave it to the people watching this series to kind of decide if you guys agree or disagree. You know, that's kind of the hot theory going on on all these compressions, even decompression, even cupping as you can see from the research, they talk about both. And then again, all are these myofascial interventions that we've discussed, except for dry needling,

right? It's a little bit different maybe, but are they interchangeable? And I think that's something that's a take-home that I wanted to bring, especially in part 3 of this series to say wait a second, are these interchangeable? We have one study out that did show range of motion, but that's weak. We need more long-term studies, including myself and my group or other people, but I tell you when I do my typical patient treatment, I usually start off with the hypervolt and I'll do like deep -- I call it combing through the myofascia. Because it's compressing the myofascia so fast, I like to kind of upregulate the nervous system. And then from there, I might use a tool, and then I might get into my manual therapy.

And then from there, I may have them go home and follow up with the foam roll or some type of self-cupping. So again you know, this whole series was to kind of give you guys an evidence-based practice update, but also try to open you guys' minds and say okay when I do these myofascial interventions, number one, what is my purpose? Number 2, I'm the sender of information. What am I trying to get out of it? And then number 3, how does this fit into the clients' goals? And my overall treatment strategy.

And that's the whole point of this three-phase kind of three-step series is to open you guys' minds to all these cool interventions but also to impress upon you that they have to have a purpose and that they're one part of a comprehensive -- one part of a comprehensive treatment strategy. Typically, they're not in isolation, unless maybe someone's acute or you're in phase off postoperative rehabilitation, sure there's exceptions, but for the most part, we need to look at these as one tool and not look at them as an absolute. Just my thoughts and hopefully, a lot of you guys agree with me when it comes to that. So again, I want to thank everybody and again, my apologies for the technical issues that we had. I wanted to go over now the quiz. So and I know that before we do Q&A, so one of the first questions we ask on the quiz is what type of precautions should clinicians take when administering dry needling with patients?

Well, we've A, B, C, D. The correct answer is going to be B. Wear gloves and use sterile needles. Sounds kind of obvious, but we've got to go back to some of those reminders okay? Okay. Number 2, dry needling has modern evidence to support the treatment of which type of myofascial dysfunction? Correct answer is also B. Myofascial trigger points. That seems to be the big supporting issue okay? Question number 3 out of the quiz. What types of things should the professional discuss with the patient before performing dry needling? Right? How do we talk to them? Correct answer is C. Indications. Risks and your treatment rationale. Very important. You've got to communicate. Number 4. A physical therapist living in a state that doesn't allow dry needling takes a course in another state. How do they use this knowledge to treat their patients at home?

Choose the best answer. Well, I think this one is pretty obvious and I also have it as a B. B is the correct answer. The PT can take the class for knowledge, but they can't apply to their practice, unless they're licensed. Okay. And again, since you're penetrating the skin, you need to be very careful okay? Because what if you have an adverse event? Very important. You've got to be really careful. Question number 5. What is the proposed difference between cupping and other myofascial interventions, such as I-STM and roller massage? The answer is C. Cupping is considered myofascial decompression. That's kind of what's in the literature and what clinicians believe.

Okay. Question number 6. What is the difference between silicone cups and plastic cups with suction? The answer is C. The silicone cups do not produce as much negative pressure as the plastic cups. And I think that that's important to understand. That's why they're so popular because they're not causing those crop circles. Plus, they can be cleaned easily, used quickly. Question number 7. What are two precautions for dry needling noted by the APTA? That was on one of the slides. The correct answer is A, a compromised immune system and a local systemic infection.

Those are two big ones. Question number 8. What is the difference between wet and dry cupping? The correct answer is C. Wet cupping includes lacerating tissues and dry cupping does not. So that's interesting. That's a big one there. Question number 9. What is the main mechanism that occurs with cupping? Okay. Well, we're going to go with question number A. The negative pressure in the cup decompresses the skin and myofascia. That's what they're thinking with cupping. That decompression may break capillaries, it may create the detoxifying effects, etc. So that distraction creates room in between the myofascial tissues right? To have that kind of detoxifying slash bloodletting etc. etc. effect. It just depends on what we see. And then last question, question number 10.

The research on cupping has shown that treatment is effective with the following conditions. Question is A. Some musculoskeletal, some systemic conditions, if you look at the research. Okay? Those are the big ones for cupping. So correct answer for number 10 is going to be A. All right? Okay, everybody. Again, my apologies for the technical issues. You've got to love the Internet sometimes. So we are officially done with our module or part 3 of this series and I want to thank everybody for being here and sticking us through the three different parts and hopefully, everyone got the quiz questions, which is good and again, I want to thank everybody for being there and if there's any specific questions, we have a few minutes and if our hosts are okay, maybe we can even go a few minutes over. If you have specific questions, you are more than welcome to e-mail me, and if you look at the slide, scheatham@csudh.edu. Then I can answer more specific long questions.

Let's go to the chat now and maybe kind of foster a couple of things here. Okay. So Anna writes in your opinion do you think it's beneficial to provide a parental consent form for cupping if it's in a high school? Yes, I agree. I think with anything, especially the crop circles if they get it, if the parent is not educated on what it is or if they don't know it, most people do, they may think it's some type of trauma okay? So yes,

please use a waiver. In my opinion, it's important to understand. Yes. It's important to have a waiver and disclose, especially treatments of the myofascial nature and stuff like that and especially if you're doing it to the low back, and it's male working on a female, female working on a male minor, you need to be careful all around. So great question, perfect for that. Deborah also asks do you require a separate consent for cupping and dry needling? I would think so yes. In my opinion the acupuncturists that I employed, she did a lot of the needling.

We had two different waivers. We had -- we had -- well, we had one waiver, but it had two different parts. It talked about the cupping, it talked about the adverse events, but it also talked about the side effect of the redness, the petechia, the crop circle. With dry needling, the second part is we listed all the adverse events that we did on the slide that I gave you guys, and so every patient who saw the acupuncturist for either dry needling or acupuncture, whatever you want to call it, she made sure that they signed it and they knew what was going on because luckily, we didn't -- we did have a needle break one time, but she was able to pull it out of the skin.

But she had to -- we had to notify because we were -- I was in business with an orthopedic group so we had to go over and let the doctors know, they actually had ultrasound there and some imaging, so actually had the patient come over and do imaging. Accidents do happen. So yes, please use consent and cupping for both of them, include it very clearly in one waiver, and I think that's important to know because some people may think of the crop circle as actually trauma and we're starting to kind of see that among the different things and I think it's getting more recognized but you never know. So Anna also asks during the treatment, the video that I showed, did your son, did you put anything on the skin? I always use emulliant for the skin, I'm sorry because we had that tech issue, I always lube up the skin. So I like to use a glycerin based emulliant to make it slide. The whole point is to get -- really get the cup to slide up and down and really decompress the tissues all the way

through. So yeah thanks good question. Ricardo asks are you currently conducting research that looks into the effects of manual myofascial techniques? Yes, we are. Unfortunately, we were comparing cupping and the three different parts of the cupping. We were comparing flash, we were comparing standard dry cupping and also cupping with movement. And it stopped because of the COVID so yes, we're looking at different things, thank you. Hopefully, those will come out in the next couple of years, but once we get through this we'll have to get back in the lab. So thanks Ricardo. Inningred also asks, do you use a medium on the skin for dry cupping or sliding? Yes, like I just mentioned, with some of the other questions, yeah, we use a glycerin based. Some people use everything from baby oil to different mineral oils. You can use that as long as you get a good sliding glide, I think that's important. When you're doing the stripping techniques on the skin.

And then Shelley asks are there techniques good for acute injuries or chronic? I think a lot of these interventions can be used. I think cupping can be used for decompression along with swelling and stuff. If you have an acute injury like an ankle sprain, I've used it before. I used the silicone cups and also, I've seen our acupuncturist use dry needling on acute injuries, sure. I think that's good with, but again, Shelley, we go back to the standard of care and we kind of look at each client individually, right? But the whole point is if you're using it, on an acute injury, you're really trying to decongest the swollen area aren't you right? Aren't we trying to get lymph to go through and promote some healthy blood and oxygen to the area so if you're using it to kind of decongest that acute injured area, I think it's good but again, though it should be done with a full exam and proper confirmation and stuff just, in my opinion. So hopefully, that answers your question. Theresa. If a pneumothorax occurs, would this be an event that results in a lawsuit? I believe so. As I mentioned, I think in part 2 or part 1, I do some expert witness stuff myself and I have not run into this, but talking with my brother who's an attorney and other attorneys and stuff, yes, it would be considered an iantrogennic event. That's whey found out when I was

looking at this. If you look at the contraindications and some of the side effects, they have other side effects that can occur like a stuck needle and stuff like that. Those are all professional liability issues. So in a court of law you're looking at right, duty, breach and harm. You're looking at those. So yes, Theresa, I think it could be considered an adverse event, and so the point would be is the number one thing is how can you link a little needle to a pneumothorax? It depends, though, because if they're trying to go through the cartilage and it goes deep enough to puncture, sure. But it was interesting to look in all the research that all the, you know, the pneumothorax was reported in several different journals. So I'm not sure, but I haven't seen any case studies or case law that has looked at it and said oh, this occurred. So again, it's just something that I had to bring up because we're being evidence based, but I just wanted to make sure you guys understand that, that that's a precaution that people are touting.

Some medical doctors and allied health professionals so just something to think about. Okay. Aireen has a question. How do we know if the depth of the needle is safe enough to do a dry needling? Again, this would be more so out of my wheelhouse in this lecture. I think it's great, but you're going to have to probably go to a trained professional and really determine different parts of the body, different parts of the myofascia.

The acupuncturists I work with for 10 years, when I had it done on myself and all that, and all my practitioners and stuff who do the dry needling, they really go by the feel sometimes. And I think the palpable feel and all that is going to be a huge indicator, but that's something that you would need to discuss with these experts out there. You know, we have all these great experts that you can take a continuing education source with that I think can better answer that question than me. So I'm going to defer to them but, you know, or talk to an acupuncturist who's been doing it for 20 years, they'll be able to tell you, but again, as far as I'm concerned, the needle kind of is so small it

pops in quickly and I don't think you're meant to go all the way through, right? So just some thoughts on that. Okay. And then for Jamie, one of her questions is what is the main difference in how you perform cupping, stripping versus massage cupping? Well, I think the cupping stripping is more of an active movement treatment, and I think that that's a great question because think about it. You're stripping the myofascia from the outside.

If you have them move at the same time, they're moving internally so you're getting a shifting of the myofascia internally and externally okay. So I consider the myofascial stripping technique as an active treatment technique that you're scraping the myofascia on the outside. They're scraping it on the inside by the movement. If you can think about the gymnastics of that. So that's how I look at that. It's more of an active thing. Now, as you saw with like the Rock tape videos and some of the other stuff that's out there on social media, a lot of times people will use the cups for neurosensory or they'll just leave them there for a while. And again, it depends on, you know -- it depends on where you're going with treatment, but I encourage everybody to do the cupping stripping technique.

I love it you guys. I'll usually in my treatments like I told you I'll usually use one of the guns first right, the hypervolts. Then I'll do like a stripping technique. And then I'll do all these tools 21st -- first, then their tissue is nice and soft and that allows me to get in with my manual therapy and not kill my thumbs, right? So remember, use all these tools to your advantage. Get them to move and I always joke and say, especially with my grad students, get them to do some of the work for you. Make it an active treatment. So I think that's a great question, and I think everyone else who's listening, yeah, you guys, I love that stripping technique. I get a lot of good results from it. But make a move. Make them do the work for you. I think that's important, too. So what Karen is saying, yeah, Karen just commented, too. I agree, though, with what Karen is saying that, you know, and Karen appears -- I think Karen it sounds like you're really

trained in this area, which is great. We've got to think about negligence. We've got to think about a tort. We've got to think about duty breach and harm, we've got to think about all this stuff so it's important, especially with dry needling because it's so popular slash acupuncture. We have to be really careful on how we use it and a lot of times we take a weekend course, and next thing, you know, on Monday we're putting needles in people, right? I see that all the time. So sometimes, we need to practice our craft first, right? And master it. Then implement it right? So remember, learn, practice, implement, that's just kind of a slow and go approach, especially when you're working with needles you guys okay. I don't care if they're 100 gauge versus 10 gauge really important. Let's get one or two more questions, and then we'll close this up you guys.

Okay. So Stacy wrote, she didn't hear the recommended order of treatments. Okay. So Stacy, hopefully, you can hear me now. Let's talk about what I love to do okay. Step number 1 if I'm working on someone's back, okay, obviously, I avoid the kidneys and I avoid any hot areas okay. First thing is I love to do the theragun or the hypervolt first. To me, it's a cool sound, I call it combing through the myofascia. I love kind of just going through and it kind of, you know -- it hits the fascia, it upregulates the nervous system, it makes them feel good, we talk about it, they love hearing about it. It's that whole sensory thing. Then I use a tool and kind of scan the tissue just like your ISTM techniques. I'll scan the tissue, find some theoretical restricted areas, work it with the tool.

Then I might do a cup where now that I've compressed it twice, I'm decompressing, right? So again, mechanical gun, mechanical percussion, tool, cupping, then I'll get into myofascial mobility with my hands, manual therapy okay? Then once I do that I'm still using my hands on, and then immediately once I get the results that I want from whatever area I'm doing, then I will activate the local musculoskeletal system through either movement or whatever. Okay? And then from there, I'll integrate into some type

of total body movement okay? So again, I try to really post-treatment activate and integrate. I think those are two huge things because I want it to stick from there. So hopefully, that answers your question and if you have more questions Stacy please feel free to e-mail me. And last question of the day everybody, from Jake, for cupping is the amount of hair an issue? Yes, it can be. So if you got, you know -- if you got just kind of joking if you've got Big foot right and you're trying to get there, yes. Sometimes, the emulliant, that's they I like a glycerin based one, but sometimes, if you're working a specific area, sometimes, I will have them shave, if I have to yes.

So consider even with dry needling, even with any of the myofascial interventions, if you need them to shave an area to work on it, feel free to do so. But a lot of times, sometimes, the greasy emollients, they're so slick, you can get around it and sometimes, you have to go with the grain of the hair too, right? Sometimes. So sometimes, you have to go one way. That's why a lot of the ISTM tools have one side, right? They're single beveled versus double so you can go one way okay? So those are some ways to kind of get around that, but if not, Jake, you've got to have them shave sometimes. Hopefully, that answers your question and again, thank you so much and again, my apologies for the technical difficulties. I'm glad we were able to finish up and I want to thank everybody and I'll leave it to our host to close up and please e-mail me if you have any questions, everybody. Thank you.

>> Thank you so much, Scott for sharing your expertise once again for us today at PhysicalTherapy.com. And thank you everyone for attending and if you missed any of Scott's previous wonderful webinars, they are available for you to watch recorded on the site so please check those out. Have a great day, everyone, and thank you again, Scott.

>> Dr. Cheatham: Thank you.

>> And I'm going to close out the classroom. Have a great day, everyone.