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(Video plays)

SPEAKER:

What do you think of when you think of yoga? Poses on a mat? Perfect alignment? Reaching far beyond your toes? The beauty of yoga is that it is much more than a sequence. Yoga is asana and also activism. Yoga is about a quiet, internal journey and a growing powerful outward voice. Yoga is action, curiosity, empathy. Join us as we celebrate yoga. The diversity of the millions who practice it and the power it gives us all. Because we are all for yoga and yoga is all for us.

(Video ends) Good morning family and friends, I am Felix and welcome to the workshop today with Hayley Winter's. If you are just joining us, you probably see a poll. Feel free to share where you join from, and helps us with the general demographic of today's audience. I will go ahead and introduce myself, I am Felix and I am a member support representative with Yoga Alliance. I am also an RYT 200 and I join you virtually also from (Unknown term) County in Virginia, the northern part of Virginia.

Today's workshop will be eligible for the anatomy and physiology CE credit and once more, this is the CE workshop for the anatomy of yoga sequencing by Hayley Winter's. As you continue throughout the survey, I will give you some general information for today's course. Hayley presents the 75 minute workshop during which she shares the anatomical and biomechanical approaches to use as when teaching yoga to athletes. Explores how to switch to you muscles on and off to improve muscle sequencing and activation, and help developing the (Unknown term) to add a whole new dimension to teach yoga postures.

Just to give you a bit more info about Hayley â€“ Hayley Winter is the founder of the Institute of Yoga Sports Science she is British and lives in Brooklyn, New York. For the past 30 years, she has been a yoga educator, worked as a scientist, worked internationally as a specialist in her field, served as an early pioneer of online yoga education and worked as a member of the Yoga Alliance online working group.

20 years ago, she started making connections between yoga and the benefits to athletes and identified how yoga was a missing link in conditioning training. As a result, she spent the next 10 years working with athletes and their coaches, from the English and across different sports with ages and different abilities. During this time, she developed Yoga Sports Science and the yoga sports coaching courses.

For the past decade, Hayley and her team have been teaching yoga online and working with

yoga teachers who want to specialize in delivering the benefits of yoga to athletes. Before we proceed, as you know, there will be a chat box in today's workshop so if by chance you have questions, feel free to put those in the chat box. And if you happen to see another question by chance that commented what you think, there is a thumbs up icon and feel free to select that. I will make sure that I address the frequently asked questions with Hayley in today's workshop. Without further ado, here is Willie winter.

HAYLEY WINTER:

Hello Felix, very nice to be with you today and to Patricia as well who is doing great work in the background. And hello to all of you and thank you to Yoga Alliance for inviting me back to do one of your wonderful digital events that you have been doing over the past few months. I am really excited to be here and to be introducing the anatomy of yoga sequencing.

So I will start sharing my screen and we will get started. I would love to invite all of you in session today to post comments and we will take your questions. This is a big topic that we are covering today, so I am kind of anticipating that there may be more questions than answers but I would love for you to be able to take something very tangible away from this session. Exploring how to switch on and off key muscles to improve muscle sequencing in order to experience a whole dimension to how you teach yoga postures. As mentioned, I am Hayley Winter and I am very pleased to be here today delivering this 75 minute workshop with the intention of dresser you can see what is coming in our time together, the intention is to briefly explore the definition of sequencing as it relates to both yoga and anatomy.

Three reasons why this topic and it matters in yoga to be looking at anatomical sequencing in this particular way. We will also be looking at muscle composition and looking at the nature and behaviour of muscles, which is really important component when we think about sequencing in general.

We will also explore muscle recruitment, so basically how we start to switch those muscles on, how the muscles are to fire and also engage with the nervous system, with the brain, and movement patterns that we develop and how we can start to change those patterns. And then we will do something a little bit practical. We will look at how to start switching both muscles on and switching on your postural power.

Towards the end of the session, I will be showing a few top tips on how to yoga sequence your anatomy and then take questions, of course. I will be stopping throughout the session today at key points just to take any questions that come through. I am looking forward to hearing from you.

For those of you who are not in last month's session on how to successfully teach yoga to athletes, just a little bit of background on me. I have been teaching yoga for 30 years, working as a Yoga Sports Scientist for 20, and the methodologies and approaches that I will be sharing with you today have come out of my experience of working directly with athletes in the field.

And also developing a Yoga Sports Science curriculum and the Institute of Yoga Sports Science which has been actively researching the efficacy of yoga and sport for the last decade. I have also been teaching yoga online for a decade as well. So this is just a little insight into some of the approaches that we have been using successfully at the Institute of Yoga Sports Science.

Very happy to be sharing that with you. What I do want to say at the top here is as it relates to anatomy, we will not be exploring the 206 bones and also going over the 600+ muscles. Obviously there is a real sense in this group, certainly from the conversations that I have had with Yoga Alliance who had a real interest on anatomy, so I am sure you are all coming to this session with the barest levels of expertise and background in anatomy. Which I'd love to hear your journeys on this.

So I'm not going to be covering the details on this in-depth but what we will be doing is looking at muscle sequencing as it relates to postures and how we can start creating a new dimension, if you like, to experiencing poses differently and how we can start switching on key muscles that essentially become a game changer in yoga and key postures.

Before we start looking at anatomy and sequencing, I just want to basically very lightly touch on the difference. It is too big subjects but I just want to touch on them lightly. The definitions between anatomy and biomechanics. They are to really important areas that work very well in unison together and appreciation of biomechanics helps to harness anatomy.

And an understanding of anatomy enhances biomechanics. So if we look at anatomy, it is the scientific study of the body and how its parts are arranged. And in biomechanics, we are looking at examining the internal and external forces that act on the body and the effect those forces have that produce poses as it relates to structure, function, and motion.

So essentially it is a study of human engineering and also applied to biology and mechanics. My background is as a biomechanics, so essentially I am bringing these two areas together obviously from a sort of sequential perspective in yoga poses. What I am sharing with you today is really an additional skill set and toolkit I hope for yoga teachers.

Let's take a look at this now. What I would like to do is just bring in sort of two very, very basic definitions of sequencing and obviously encourage questions to come in on this. But when we think about yoga, sequential yoga, we tend to think about it in terms of designing postures, designing asana, in a particular order in order to create a flow. So there is a reason why yoga asana comes before or after to create the whole sequence plan, whether it is 60 minutes or 90 minute session.

When we look at sequencing from an anatomical perspective, we are looking at a sequential muscle activation. And that sequential muscle activation is about initiating, firing, firing and coordination of muscles in order to create movement. Ideally, in order to create movement for optimal performance. So we have two things here that are completely worked beautifully together but often do not because perhaps there is not enough understanding of the anatomical muscle sequencing and firing and switching on an activation that we can really utilize when we start working into yoga postures.

So what I would like to do is get a sense, Felix perhaps we could do that now, if we could just take a poll. I would like to first of all ask how many of you are familiar with sequential muscle activation? And Felix, you are muted at the moment so I hope I am coming through OK.

FELIX RUCKER: you are coming through and the pole does show familiarity.

HAYLEY WINTER:

If you could take a moment to answer that, this is familiar to -- if this is familiar territory for you and you would like to share your insights for the session today. And if we could perhaps bring up the second one, please. So the second question is about how many of you actually apply muscle sequencing techniques when your teaching yoga postures? I will give you a few moments to respond. And can we bring up the last poll, please? How many of you would like to know more?

FELIX RUCKER:

The last poll is up for learning, would you like to use these techniques?

HAYLEY WINTER:

And maybe we can show the results when we are ready, please. I am unable to see the poll on my screen, just so you know Felix.

FELIX RUCKER:

The last question, there is 100 that show yes. 100%.

HAYLEY WINTER:

On question number one, what are the responses to question number one?

FELIX RUCKER:

the response for question number one is 29% yes, referring to activation coordination. And in 71% that says no.

HAYLEY WINTER:

What about question number two?

FELIX RUCKER:

65% say no in regards first sequencing techniques when teaching postures.

HAYLEY WINTER:

Let us take a look at three reasons why I picked out. I wanted to bring the reasons why this matters. Particularly, around cell activation according nation is that it helps to develop greater awareness and moving postures in asana. It can add a whole new dimension to posture expense. Sometimes, we can explore postures when practising. How can we deepen our knowledge? How do we go into it with a whole new understanding? This is a whole beautiful way, from structural integrity perspective in an awareness level. The physical aspect of asana helps to explore our own anatomical evolution and helps us to unlock bound muscle constraints.

We will look at the way certain muscles develop and dominate through life and circumstance and training or whatever it may be. Asana gives it a chance to relive a life story pattern in our poses. The 13 will to look at is why this matters is that it creates an essential foundation to understand the science of yoga sequencing. We will look at that as well as we go to the session.

Let us take a look at two areas of muscle composition. This is a really big topic and it is not entirely black and white. I want to bring up some key points here to get you thinking about this.

To get you thinking about the nature and behaviour of muscle physiology as it relates to anatomy. We are going to look at fast twitch muscle composition. Do feel free by the way, if you want to take a screenshot of this and mull over it please do. Fast twitch muscle fibers can be categorized as global immobilizers, they produce movement. These muscles behave physically, their action muscles and they switch on and off. They are not on constantly, but they can be if they're overdeveloped. These fibers are large and white and they are rapidly. They appear in muscles built for strength and power and rapid movements for short periods.

Do 50 quickly -- they do fatigue quickly due to reliance on glycogen reserves and they function in an anaerobic capacity, so without oxygen and lactic acid system. That is a whole another webinar to cover there. I wanted to bring those points at the stage. These muscles can build tension quickly and are often dominant and tight and overactive due to poor patterning. These are one of the key things I want to bring into the session today, is understanding your on buddy -- own body and how you can switch those muscles off in order to switch other muscles on.

We are looking at dominant type, overactive muscles, which also means they are weak, they are not doing the job they are designed to do. They are also overworked with the perception that if you work these bigger groups of muscles, you are developing structural strength. We will look at why that is not the case necessarily.

Given that we are in the Olympic season, using both was the fastest man on the planet five years ago. Fast twitch muscle competition is really where you see those rapid movements and sprinters for example. They have a high percentage of muscle twitch muscle composition in their fiber. I selected muscles that do have this high proportion of muscle twitch fiber. You have the gastroc name is and the three hamstring muscles, the gluteus Maximus, the trapezius muscle, the deltoid, they all tend to be muscles that have more explosive, fast twitch nature and fibers designed for power and speed.

Then, we have the slow twitch muscle composition. We will look at the nature and behaviour of these muscles. The slow twitch can be categorized as local stabilizers. Perhaps it is easier to take of those as postural muscles. They are the muscles that are closest to the skeleton and they are designed to control joint positions. The nature of them being close to the skeleton means that their job is to fire to support joint control and position. These stabilizing muscles behave tonic leak, and by that I mean they do not change length, they work with isometric compositions. We'll practice some isometric stuff together. Slow twitch fibers are small, dark red and that is due to hemoglobin, which is storing oxygen and increases the rate of oxygen diffusion within the muscle fiber.

That means, these muscles are built for endurance. They cannot sustain my peers at time -- long periods of time and it can fire slowly, and sometimes they do not fire at all. I want us to understand how we can start firing these really important muscles. They have resistance to fatigue, and the oxygen supply is really plentiful. These red fibers can contract persisting periods. They are able to work continually at a low load. If we think about standing in a postural, neutral supporting body against gravity would be to find -- would be defined as a low load.

Pain can be one of those things that's which of these muscles off. Even without pain, they can remain off. That is quite an interesting thing to think about. Do any of us know whether our slow

twitch muscles are on or off? That is what I want us to explore in the session today. Looking at how we can sequentially reengage the slow twitch muscles and real structural strength.

With these postural muscles functioning, the functioning is part of the neuromuscular pattern for movements. The physiology, the way that these muscles work with the nervous system and the neural pathway in order to set up movements. Often, the global mobilizes, the fast twitch ones, can be really dominant. They can dominate the small muscles and basic we have the big muscles working too hard, and the small muscles, not switched on at all. We will head for a particular injury here.

I also brought in an example of an athlete that would have a high proportion of slow twitch muscle. That would be a marathon runner. Also to show you here on the right-hand side, just an example of some of the smaller muscles that are closest to the bone. The to tibialis posterior, going up to the skeletal structure. I am just going to keep moving on and stop in a moment to take questions.

Let me just crack on this most accomplish in part for a moment. As it relates to sequencing and anatomy of yoga sequencing, is that we can start this sequencing and understanding it comes to standing, which is the hardest pose to do of all. Standing upright, is the hardest thing for humans to do. We have the highest centre of gravity with the smallest base of support. The slow twitch postural muscles close to the skeleton as mentioned, need to be switched on. They need to be working in balance. On the right-hand side here, I have actually named those muscles. Please feel free to take a snapshot of this. I have named the muscles closest to the bone and what we want them to do is to work and balance. We will come back to balance. Sometimes, what we actually mean we see balance? Anatomically, what we are really asking for my standing, neutral position, either in (unknown term), we are acquiring the body to be lined up the gravity and oscillating the muscles I symmetrically between the front and the back. These muscles need to be firing and escalating so the body stands upright.

When these muscles are not switched on, there is an imbalance in the body which we carry into other movements which we carry into yoga practice. Sometimes we can compound of interest problem -- an existing problem if we do not understand what is going on underneath.

Thinking about with breath, switching on the part from muscles simply by load and alignments, and this is where we go to biomechanics, thinking about load and directional force. That is when these muscles can really start to work with our external and internal forces. We create sequential ordination of these muscles that certifier up through the kinetic chain -- Start to fire up through the kinetic chain.

When we think about sequence and firing, we are thinking about recruiting muscles. We want to be able to say, "OK, I need to switch on X muscle group because I'm possibly tired here and I am in pain here, this always hurts, or I am trying to do this in oppose and I cannot get there." That is when you start to say, "maybe the way my recruiting muscles is not working for me. Rather than trying to push and pull and make something happen, it is like learning tote switch on those big muscles and switch the other ones on."

We think about muscle recruitment, we are thinking about neural patterning and what can happen through life and various circumstances. We create strategies through life experience,

that set up those large twitch muscles to recruit in place of the smaller ones. This sets up a whole story of poor postural patterning. Switching off the key postural muscles which can lead to key movements and injury. It creates a limiting and detrimental effect to the aerobic capacity by restricting breathing.

If we go back, if you take a look, the diaphragm, as part of the slow twitch muscle composition, thank goodness. Thank goodness we do have to think about every breath, but the diaphragm is built for endurance. That's muscle composition is closest to the bone and when other dominant muscles take over, and we create a whole new Armour for ourselves, we are compromising our most essential performance tool, which is our breath. We need to think about that as well.

Let me just stop for a moment Felix, and at this point, to questions from anybody before I continue.

FELIX RUCKER:

We have a few questions here. First, could you address the importance between switching postures and how this relates to muscle recovery? The question is, did you address the important alternate between symmetrical and asymmetrical postures and how this relates to muscle recovery?

HAYLEY WINTER:

That is a great question. You might look at that we get to the science of yoga sequencing. I will briefly say now, that anything where we are able to explore postures that give us opportunity for different movement vocabulary and moving in different anatomical planes, is a great opportunity to activate the slow twitch muscle fibers and the fast twitch. Wherever you can intentionally explore and say to yourself, "here is a posture and what if I use' gives me a rotation." Whatever the reason is, if you're doing it intentionally, you will work really well with setting up this muscle recruitment, as long as you're working with some of the components that we will look at in a moment. I might not have thoroughly answered that, but hopefully we get to the science of sequencing, we will touch on that.

FELIX RUCKER:

We've got a lot of questions here, let me just check and see... The next one refers to (Unknown term), "can your slow switch muscles be overactive in your fast twitch muscles be underactive, or a combination of both?"

HAYLEY WINTER:

That's a great question and it is not Black and white, a lot of this is around genetics and lifestyle as well. It is highly unlikely that your slow twitch fibers will be overactive because they do not have that component that makes them such. So when you talk about, can the fast twitch be undirected, in a way, yes because if they are overdeveloped that they are not firing. So then they become directive and they are also doing the job that they are supposed to be doing.

So when you understand to agree, and again this is a huge subject, for those of you are physiologists out there – big respect because this is a very big subject, but in a way what you have is an element of both that is working between the slow twitch and the fast twitch. But generally speaking, the slow twitch muscles are the one that really need waking up in the large, faster twitch muscles are the ones where we need to take the pressure off of them, allow them

to heal and restore and start to develop more of what they are designed to do.

So I am going to continue and when we think about sequencing and movement, where does sequencing start? This is an important one to start thinking about is if we are going to learn how to sequence differently in yoga and therefore also sequence muscle timing and firing through the kinetic change, it really starts with a point of contact. And that point of contact is where anybody part that is actually loading it meets the ground.

So again, this is another big subject as it relates to biomechanics but I just wanted to throw that out there to get you thinking about sequencing starts where the generation initiation of movement begins. So we have two examples and really in reference to the kinetic chain and the kinetic chain for those of you who are not so familiar with that, is a sequence or a segmentation of points within the body, working from the ground up words, from the foot is the key part of any sequencing as it relates to any postures standing.

The foot is the interface between the body and the earth and has so many receptors in the foot that oscillate and send signals up through the kinetic chain, up through the narrow pathway. And why this matters is that it relates to your patterning or your clients patterning and movement as we all move differently and it is how we move that sets up the sequence of what happens in the body next. So thinking about that point of contact in generating that point of contact will then send up a message and switch on the reciprocal muscles coordinating various patterns up the kinetic chain.

Whenever your lifestyle patterns are, it will create an imbalance and you have compensator re-strategies, as you can see on the left-hand side, with an unstable sequencing throughout the body. As opposed to a more stable, balanced sequencing of the muscles within the kinetic chain. So it is a question of coming back to why this matters in yoga, is where we start to think about being really active and engaged with what we are doing when we stand.

Even standing, thinking about the connection to the ground, the way that we connect to the ground, the way that we generate movement and how we start to switch on and off the muscles through the kinetic chain to provide this balanced anatomical response.

When we think about our own anatomical patterning, it is the sequence of our own life story that essentially influences how we move. There are so many factors to movement and I have thrown up a few things here for consideration. If this is something that is new to you or something that you are already working on these types of areas, I would love to hear more from you. But all of these factors plus many others influence our movement, sequencing and the way that we pattern muscles in our body.

So let's start bringing it into yoga and also thinking about how we can take what we have just thrown at you very quickly and start kind of owning that in the body so you can come away from today and actually have something that is a little bit tangible to work with and continue to explore. So when we think about everything that I have said and we think about enhancing it in terms of our postural experience in yoga, if a yoga -- it is a yoga teacher's dilemma that you can have one pose with so many benefits and I can be often really challenging for us as teachers because we know that one pose like (Unknown term), there are many benefits to this pose but if we pick one reason, one intentional reason for doing this posture, it helps us then to initiate

movement and create that sequential muscle activation.

So it really comes down to asking yourself “why am I doing this pose? What is the objective here? Do I want to use this pose as a way within the dynamic flow? Do I want to hold this pose and use it for strength? Whatever the reasons are, what is the reason? When you ask yourself that then you can say, “Alright, where do I want to start engaging with force?” By that I mean generating movement, connecting to the ground to create a node that then has a reciprocal effect up through the rest of the pose in order to start switching muscles on and off.

We will do something a bit practical around that in a moment. Whilst we are in Olympic season, it is very hard for me as a Yoga Sports Scientist not to bring up anything to do with it. So I wanted to bring in this notion of sequential muscle activation as it relates to sport and performance. Enhancing the performance outcome in sports.

As in yoga, we have one pose with many benefits but in sport, we have one goal and many variables and you will have seen this for those of you watching the Olympics. The amazing Olympics, by the way. There are so many things that can go wrong. External forces but sometimes, a lot of the time, and the body there is something that is happening. We have seen it with athletes who have had to pull out from hamstring issues and so many different variables but I wanted to bring up here just as a point of thought, muscle activation and sequencing in sport comes down to training patterning, training drills, making sure that you have the right one, two, 3+, plus, plus in the patterning set up so that by the time you get to a high-performance environment like the Olympics, the training is in the musculature to a degree.

When you think of a sport like Javelin that is happening at the moment, in order to throw the javelin that the athletes want, the power does not come from the shoulder, the power comes from the foot. So going back to that thinking about what is the point of contact, where is the movement being generated from, what is the sequence of story that goes up to the kinetic chain in order to make the sequential activation happen to the performance outcome? I will take another question if there is something as it relates to the last few slides.

FELIX RUCKER:

Yes, ma'am. Let's see... So, when sequencing, do you find it helpful to think about (Unknown term) in terms of component parts?

HAYLEY WINTER:

Key poses? Did you say key poses?

FELIX RUCKER:

Peak poses, sorry. (Laughs)

HAYLEY WINTER:

Great question! Any single pose in the whole of the asana index can be used in so many different ways, so it would not necessarily be -- it depends on the objective. If you were to say to me that you would like to be able to achieve in a sequence to explore this, and have the objective of my students feeling this, that gives me a lot of information to be able to help you as a teacher decide where you can cherry pick poses that are actually going to help the student experience that, wake up postures -- muscles.

And you as a teacher understand more of the science behind your decisions, which also helps with your cueing. I am just going to cough so I will turn my mic off for a moment. So there is not really one pose and we could look at Downward Dog and say maybe that is a peak pose even though it is a restorative pose. Or maybe warrior one is a peak pose. Truthfully, depending on how you activate a muscle with breath, with a load, with those planes of movement changes the way that you would experience any posture. So I hope that gives you some kind of answer there.

I am going to move on now because what I would like you to do, I cannot see you, but you are more than welcome to try this and then feedback to me your experience with this. If you've got your mat out or however you are watching this session today, maybe try this " move into Warrior II and one of the things we do in the Yoga Sports Scientist courses in the 100 and 200 hour courses is essentially, I will show you the difference before and after.

If you would like to try this without much prompting from me, I am not going to do any kind of cueing, I just want you to basically adopt this shape of the pose and be mindful of any injuries and how you are feeling today. But as you do this, if you are able to hold the posture for as long as feels comfortable, if you are feeling any kind of nerve pinching then please come out. When you really want to understand what your muscle story is, in this pose, in this shape, what muscles are immediately becoming dominant and working? It's telling you a story about which muscles are firing too quickly.

So which muscles are fatiguing. So we want you to hold the post for as long as feels comfortable and keep your breath flowing freely and ask yourself -- which muscles are fatiguing first in this posture? Just checking in to see, have I literally just hiked my arms up high towards my ears? Are my quads in the front lunge leg starting to overwork? What area of the body is really working hard in order to basically act as a stabilizer to this pose?

And then also ask yourself " what's happened to her breathing, as well. I will just give you another minute or so to explore this and think about the way in which you can do this with any posture in your practice. Revisit it with a new kind of thought, where are my muscles fatiguing, what is overworking, and if something is overworking, then you know that underneath the postural muscles are not working for you so you are working too hard, essentially.

FELIX RUCKER:

Hayley, did you need me to demonstrate?

HAYLEY WINTER:

No, thank you. I'm not going to demonstrate, I am just going to sip some tea (Laughs) Because I think everybody in the session will be very familiar with this pose and it is really just a self inquiry at this point but thank you anyway, I appreciate it.

FELIX RUCKER:

Your welcome!

HAYLEY WINTER:

So if you are in a post, come out of it and feel free to pop any thoughts you have in the chat box

and we can revisit those as we go on. But essentially it is just about what is the musculature Armour that is holding the posture? And as practitioners and teachers, it is about the level of awareness coming to the posture and you. It's like how can we come to something that we are familiar with and how can we come to it again with a sense of newness? "That's what's happening in my body at that point."

Now let's think about what we need to switch on and using our time on the mat to enhance our postural experience. I am going to bring up some software that basically shows this pose and shows you the postural muscles and then we will come back and I will show you a couple of techniques that you can do to start switching on these muscles. I will stop showing my screen in a moment and bring up something else to share with you all. Bear with me. Can you all see? Felix, can you give me a thumbs up if you can see this? This is a's collegial version -- skeletal version.

FELIX RUCKER:
Thumbs up.

HAYLEY WINTER:
Let us just take a look at the pose. This is obviously just a skeleton. This software is fantastic, it is called Primal 3D human anatomy for yoga. It is wonderful for teaching. You have also experienced this to, but what we want to think about is how we can switch on those muscles closest to the bone. How can we connect to those muscles and start to engage in this posture in a different way? Let me go up a little bit you can see a little bit more. Alright, we are going to lay out... The muscles closest to the bone here, you can see. We have the (unknown term) which connects from the sacrum all the way up the spinal column. If we wanted to focus on the abdominals, how do we engage this muscle. If we wanted to focus on the quadratics (unknown term), how do we engage this muscle? These muscles closest to the bone are very hard to palpate. If I asked you not to switch on your (unknown term). Trying to add those from the muscle fibers is hard itself. What we want to do is use isometric force to be able to work sequentially up through the posture to switch those muscles on.

I will take us around the body so you can see. Let us say our focus for this pose is that we have to -- want to work with the anatomical plane of orientation. Look from the coronal plane. We are essentially working on stability and creating links -- length through the upper body and engagement through breath. That will be a focus, and to do that, I will keep highlighting these muscles for you so that you can see. The rectus abdominis is not the closest, so this is not exactly accurate. It is the (unknown term). I hope you are enjoying looking at this post in this way. It gives you the chance to build up the muscles and see what are the muscles are also layering up?

If we take it back down again, we have our slow twitch muscle fibers close to the bone. Closest to the bone are the postural stability. Then, we build up and end up with a commonly known muscles of the pec's, hamstring muscles, muscles of the back of the body trapezius. These larger groups are more dominant ones.

Let us see how you can take this pose and explore how to sequence your anatomy to switch on those muscles to support your postural expense here. One of the things that I suggest you do is to place a block underneath this front foot. The reason for that is you want to start changing the

relationship to the ground. We are sending a signal to the brain in which we are going to approach this house differently and place our foot on a block facing forwards. In doing that, you will work with a biomechanical principle called ground reaction force. In teaching our 200 hour courses, the more down we go the more up we get. The more down we go, we are intentionally initiating that point of contact to the ground, the more we are actually going up. We are firing up the muscles in sequence.

A block goes underneath the foot, you are shifting the load from the ground and you are actually setting the load back up towards the back of the post which is what you want to do. You're changing the pattern or behaviour and how you're doing the front part of this post and how you are explain with breath. As you inhale, and exhale, you are applying external force down into the block. Then you breathe in and as you exhale, you keep easing up through the whole posture. You're not shifting and moving, but with an inhale and exhale you are going to look at the relationship force with the ground.

If you put your hands down and held your hands to hit and focused on the lower part of the pose, you will express the subtlety of muscle activation. It might take a little bit of time. We are repatterning, and this takes time. Let us do something together to help you think about that force, but also think about the isometric force that I mentioned earlier on. The force that enables the posture muscles to start switching on. We can do this in a simple way together. Let us come back. Let me share my screen again. We can work together on a simple way to expense an isometric force. When we intentionally lend oppose with the correct alignment to the plaintiff movement, with intentional focus to the ground, understanding the relationship between the ground, connection, and how the rest of the muscle activation happens subtly to begin with up to the kinetic chain, and get this isometric force working. Let us do this together.

I would like you to sit comfortably. You might want to shake a bit. Bring your hands into a prayer position. I am going to stop sharing. Can you bring your hands into a prayer position please? Let your breath flow freely. Maybe close your eyes. For those of you closing your eyes, get a sense of the quality your experiencing in your body right now. The areas around the shoulders, neck, jaw, muscle tension, muscle dominance. Breathe freely. Bring your awareness to the quality between your hands. Your hands are in prayer position, what is the energetic quality you're feeling? Maybe this is the first time today you cut a breath. Maybe just quietly. When you are ready to open your eyes, what I would like to do is show you an isometric connect, technique. It is a really tangible way to express this balance between the postural muscles. Try to keep your shoulders low, but lift up your elbows so that your elbows are parallel to the floor and keep your shoulders to the floor. What we are doing with isometric force, we are going to press the right hand.

I want you to have a hand placement that is really equal. Let us press the right hand against the left and have the left actively pressing against the right. What you have now is this equal force applied. Shoulders low, closing your eyes. Breath flowing freely. I want you to feel the quality of energy that is happening. Generated from the equal pressure of the hands. What you have in doing this is that you know got the smaller postural muscles are now engaged. You might be feeling your trapezius muscles and your biceps were dominant, that's OK. When we start to work in this way intentionally, we have to acknowledge the patterns that is already in the body and start switching on and knowing how to switch on and off those muscles. Let us switch off the muscles. Let us try to one more time.

Bring your hands into prayer position and you are not switching anything on here intentionally. Although, in doing this, you may find that your trapezius muscles have went up because of the mastoid and the jaw. Those muscles might be saying that they are on by simply being -- making a movement. You are not going to be dominant, and a suit you off and I symmetrically work. The plan is isometric balanced force and energy to help switch on postural muscles. Think about this with the different thoughts. Imagine this is your right foot connecting, let's say your left hand is the ground. When you work done, the ground reaction force, the more time you go the more of you get. You get this equal energy working after the body. This is very simple as a principal. The force, the ground reaction forces is working back up to the body. It will help you have activation throughout the pose. You want to have postural power throughout the body.

I symmetrically, just start with this force with your eyes closed. Keep your shoulders low. I want you to have the sense that sequentially, the muscles of the wrist and the forearm into the biceps and the triceps, and hopefully into the smaller pectoralis minor, that we are getting in and under and switching his muslin with birth -- switching those muscles on with breath. Move in whatever way feels most natural to you. Then, we will come back and finish off our time together so that I can take more of your questions.

Essentially, what we need to be thinking about is that we can do this with the musculature, but how does that change with the way that we sequence poses together? This is one of the things -- some people in here might be in the immersion course. Recover looking at the science of sequencing, and that in me, and biomechanics. Thinking about how you sequence now, what would be the breathing technique that you would use in supporting that? What would be the pose that you would need to do in order to set up the muscle physiology to be ready to really receive the information in this post? You do not want to overwork the pose prior. What would you do afterwards? I want to provide you with answers, but it is more to do with thinking. If I did this, what do I need to do before and after? What to do about the breath integrating?

As we come to close, the top tips to yoga sequencing your anatomy. One of the things I would say to you is to slow your practice down. Really think about slowing everything down. If you have a young practice -- yin practice, think about slow twitch muscles. When you slow down, you give a chance for the slow twitch muscles to activate. If you have a dynamic practice, be mindful that those slow twitch muscles are not getting a chance to engage. The more dominant and powerful ones are taking over.

Be intentional about how you initiates movement to set up the correct sequencing. Whatever your posture is, whether it is with your feet on the ground, and underground, head and shoulders, whatever your body has contact with the ground, be intentional about how you set up the correct floating sequence. This has to do with alignment, breath, White had spent -- wide hand span. The hands and the feet become an essential support to set up sequencing. Also breathing directly to the point of contact to the ground is really essential because breath works with muscle physiology and it works quickly and very effectively. Finally, less is more. If you are trying to for your own practice, deepen it, strip it back. Enjoy the subtlety and enjoyed learning about the subtlety. Also, I encourage you to look at the muscles at the slow twitch and see them. It really helps with the neural pathway to identify what the muscle looks like on the bone that you are trying to work with. If you have an injury, whatever your patterning is in your body, use this as a way to understand yourself and your own anatomy. How you might sequence your

own postures. I really hope you get in touch and let me know how you're getting on. Please get in touch. We are also doing something for the alliance during this Olympic season.

If you liked this approach, there is more of this in our 40 hour immersion course, the webinar will have 40% of the science of yoga teaching for athletes. You do not have to be really "it's about working with athletes, but they will help you learn about the functional movement for everyday athletes. This is only available until August 31. I know some of you have already joined us today. We would love to have you in and continue to have more of this explanation. I hope you enjoyed this. Over the questions now. I really rush through it,

FELIX RUCKER:

We are going to try to get to these questions and we got 14 minutes. First question "when doing a power yoga sequence where students are going through asana rather quickly, how do you create a practice for slow sweat -- twitch stabilizing muscles are recruited?"

HAYLEY WINTER:

That's a great question, a really great question. I think perhaps the thing to say to yourself as, "How am I defining power?" So again, intentionally -- when you work slowly in fact, it requires an awful lot of dynamic control. So if your students have what is typically known as a power yoga class, I would encourage you to do this for yourself is explore the postures that you tend to teach but slow it down.

There is a whole other area that we can explore and that we cover in this 40 hour which is not only that you need to work symmetrically but you need to work eccentrically. You are really utilizing the transitions from one post to the other in the transitional speed get slowed down and it is the slowing of everything down, intentionally where hands and feet are placed in breath is connected, that actually starts to get to the postural muscles.

It is actually a lot of fun because it means you can take what you have been doing, strip it back, and say, "What do I need to do to get to those muscles underneath?" But first of all practice or sequence and ask yourself what you are feeling in your body, what is dominant and how can you start to back off and switch off. When you do that for yourself, you're in such a good place to do that for your students and they will love you for it because you are lifting off the lid and bringing a whole new dimension to your own teaching. You are cuing changes, your cuing becomes really directional, much more accurate and it creates confidence. So you can find a whole new way of working with them.

FELIX RUCKER:

Another question, "Are there particular poses and sequences that may be more prone to causing slow twitch disengagement or leading to injury?"

HAYLEY WINTER:

Yes, power yoga. (Laughs) I mean that respectfully. Any movement when done really fast can create movement inefficiencies. So what we want to be able to do is to develop really smooth and efficient movement by engaging the slow twitch postural muscles, making sure that they are firing, so that when we do move, we are aware of that.

And as we start to build through the sequence, everything that you are doing becomes more

intentional. And you're absolutely right. The great thing about trying to slow down your posture is what it will show you as a practitioner and also help you as a teacher do is you will be aware of the structural weakness in your body. And when you are aware of this, so maybe it is also elation of the foot or the ankle, maybe you are seeing the need to deviate to the midline when you are in a lurch, maybe there is an overreach in warrior one, whatever it is if you start to see a muscle tremble. It means that that muscle is in trouble and you need to back off. When you go slowly, you are learning how to do injury prevention, teach injury prevention yoga which is all about understanding the weaknesses and reading the weaknesses and feeling them in the body before the weakness bites you back.

FELIX RUCKER:

Thank you again for that question. The next question we have here is, "We were trying to recruit the..." I will read that one more time. I always go through how to recruit (Unknown term) to ensure the smaller slow twitch muscles do not take the brunt. Can you talk about that?

HAYLEY WINTER:

I am not sure I am clear on the question. I wonder if whoever has written the question...

PATRICIA ANDERSON:

Previously they had been taught that you are meant to recruit the prime movers of (Unknown term) first so that your slow twitch muscles are not overworking or taking the brunt of whatever it is you have been doing. And they are asking for your reaction to that, I think that is what they are asking.

HAYLEY WINTER:

Thank you. I would say I think it is the other way around because if you think about what we have looked at in terms of muscle composition and the behaviour of the muscle fibers, those primary muscles that you are referring to are not designed for endurance. They are literally there to help activate fire quickly, to create the force needed and whatever the objective is, you always want to have small postural muscles switch on.

You can in extreme cases overwork the slow twitch postural muscles but very rarely. You can absolutely guarantee that if you are working those bigger muscles all the time so I would say flipping around and reinvestigate what we talked about today with a new understanding of the muscle competition and looking at the fiber of the muscle itself. In yoga, it is all about union and we talk about union in so many ways. We want to be in union with the muscle fiber.

FELIX RUCKER:

I believe we only have time for one more question. It asks, "could you give up example of a particular main post and a counter pose so that I have something to think about and compare in reflecting on other poses in the future?"

HAYLEY WINTER:

That's a big question and again, it is one to think about. So what is the objective? What is the direction of your sequence plan? What are you trying to experience? What do you want to feel? And that really dictates what comes before -- let's say we were looking at Warrior II as we have been looking at, what would be your reason or feeling or physical and emotional feeling or even a satiric feelings as well about this post? In terms of the sequencing plan, it is quite hard to say



that if you do this before you do that, it is guaranteed because it is not.

It also comes down to where it says in sequence as well so I would love to be able to spend more time actually talking about the science of sequencing. But it is a bigger topic really and it is really driven by what your objectives are to be able to accurately help you answer that question.

FELIX RUCKER:

Once more, Hayley, thank you so much for today's enriching experience. Enter today's audience, thank you for joining us today. As a reminder, this is a CE workshop with the title Anatomy of Yoga Sequencing. This is a credit for anatomy and physiology and this is speaker, Hayley Winter who is in EY or T 500 and if you wish to make contact with her you can reach out to Yoga Sports Science.

Today's director Patricia has also included that in the chat box. You will also see a link which refers to Yoga Sports Science in our chat box. Again, thank you so much for joining us and I am wishing you all the best in health. Have a great day! Namaste!

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