



Medicine for the Mind

Living in the 21st century means less time, more stress; less standing more sitting; less walking more driving; less slow food, more fast food and less face time more Facebook. All this adds up to a very poor state of mind, body and health. Leading to a slew of health problems from depression, aches and pains, heart diseases and the list goes on. Finding a solution in a pill or a surgery could seem smart but not always wise.

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As one explores holistic / complementary approaches to issues of the mind and body and health, very naturally we are confused with what works and what doesn't, who to believe and what to believe? This dilemma holds us back from taking our first step towards trying out holistic approaches even though they have been scientifically proven to help heal us.

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Today, on the show we are discussing Tai Chi, Yoga and meditation with experts who will answer a lot of our burning questions and hopefully bring clarity to this very important issue of our time.

Full Transcript:

Priya Menon : Good evening, everyone. Hello and welcome to Cure Talk. I am Priya Menon, Scientific Media Editor, at Cure Talk, joining you from India and I welcome all of you this evening to a discussion on "Medicine for the Mind." This is our seventh episode in our talk series on mindfulness. In the past, we have had a number of experts discuss scientifically proven holistic remedies for a range of health issues. In today's show, we have a very distinguished panel joining us to talk about Tai Chi, yoga, and meditation. Our expert for the day is Dr. Peter Wayne. Dr. Peter Wayne is Assistant Professor of Medicine at Harvard Medical School. He is the Director of Research for the Osher Center for Integrative Medicine. Peter has more than 35 years of experience in Tai Chi and Qigong and is author of the recently published book, "Harvard Medical School Guide To Tai Chi." On the panel is Morgan Dix. Morgan has been an intensive student of meditation and yoga for the past 19 years. Morgan is Co-Founder of the media platform about meditation, which provides beginning meditators the tools for understanding how to meditate. We also have Dr. Carol Horton joining us again. Carol is the author of Yoga Ph.D.: Integrating the Life of the Mind and the Wisdom of the Body and Co-Editor of 21st Century Yoga: Culture, Politics, and Practice. A popular writer and speaker, Carol offers lectures in yoga teacher training units on modern yoga, history, ethics, and culture. She served as a teacher with Yoga For Recovery, a Chicago nonprofit, offering yoga to women in Cook County Jail. My co-host of the evening is Cure Talk's Creative Director, Aziz Rawat; and today's topic of discussion is mindfulness being medicine for the mind. For the listeners, towards the end of the discussion, we will be answering questions sent in via email if our panel has not already addressed them in the course of the discussion. If you want to ask a question live, please press 1 on your keypads and let us know and we will bring you on air to ask them. With that, it's over to Aziz. Aziz, you are on air.



Aziz Rawat : – Thank you, Priya, for all the introductions. Thank you, all, for your time. We have an excellent panel here; and we have a rich topic today, which is relevant and urgent. Our times are packed with so much of stress and fast food and so little time and physical activity that its taking a toll on our minds, bodies, and overall health and we know pills and surgeries are not the solution and we need a tectonic shift in our thinking and approach to health. There are many scientifically proven holistic approaches that can help us, but its a pity that these approaches..., most people don't know about these approaches and, you know, they are not backed by big advertising dollars, so nobody hears of them and those who hear about it, they don't know how to go...., don't have a clue as to what to do. So, having said that, I would like to kick off the discussion by asking some questions from Dr. Wayne. Dr. Wayne, when people think of martial arts, they think of self-defense, combat, Bruce Lee, and things like that. Can you talk to us a bit about Tai Chi being a medicine for good health and how did this form of combat reform itself to become a healing art?

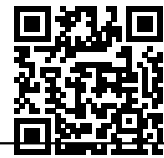
Dr. Peter Wayne : – Well, thank you for the question and before I start I want to say thank you so much for including me in this very rich discussion and a timely one as well. I think your question is a really good one and it would be difficult to talk at length about the history of Tai Chi, but Tai Chi is meditation in motion. As a martial art, its called..., it emphasizes what's called intelligent strength as opposed to just pure physical, muscular, and skeletal strength and in that sense, not only is it a physical exercise which we know has health benefits, but its focus on heightened body awareness, focused attention of the mind, balance, and softness in terms of borrowing strength from the partner have attributes that are really important to health and many of these attributes of focused attention, relaxation, body awareness are very common and parallel to the modalities that our other guests are going to speak about, including yoga and meditation. So, it was natural for people who were practicing martial art, Tai Chi, to experience the health benefits and then as it became more popular and not only used for self-defense in military settings historically, the general population started using it as a health benefit and that has really evolved quite a bit as it migrated to the west and other cultures.

Aziz Rawat : – I see. So, its more of... Its so much of inward-looking thing that you have to experience yourself so much that it kind of leads to a self-awareness sort of thing.

Dr. Peter Wayne : – Yes and even in the martial arts or even, they say, know yourselves better than your partner knows you. So, there is a lot of self-exploration and discovery involved in eastern martial arts.

Aziz Rawat : Aha. Okay, I see. Okay. So... And like in today's fast-paced life, how can Tai-Chi fit in my schedule? So, what... And what is the minimum hours of practice one would need to obtain the benefits of Tai Chi and if there is a time of day that's best, what would that be?

Dr. Peter Wayne : – So, its a logical question, but I think I am going to answer it a little bit with a common sense answer. One of my teachers would say, you know, if you were asked how much you have to practice piano to play, the answer would be contingent on whether you wanted to play Carnegie Hall or whether you wanted to play after dinner for your guests. So, even after efforts that you put into it, it depends on what your goals are. People who practice a little bit, you know, three times a week for a few minutes at a time, can gain quite a few benefits. This is the same as meditation, there are some simple breathing techniques and focusing, that if you add it to your daily routine can enhance your overall quality of life and you can even integrate it with the other exercises or activities you do, but if you are really looking at finding the tools that can help with a serious health issue, that's a chronic issue, then the investment that's needed is much greater and that's obvious. So, there really isn't one real number, but the short answer would be a little bit everyday is better than none and better than a lot at one point in time. And the question as to what time of day is better – For most of my students, any time of day is better than not doing it at all. However, there are some discussions about the value of doing your practice when you wake up in the morning, much like medication, because in Chinese medicine, they believe the body has gone through a process of balancing during the sleep cycle and its a good time to take advantage of that and also you set the tone for the day. So, you come out of the gate with some practice and medication and centering, you feel good and its much easier to carry that through the rest of the day than maybe just doing it in the evening after you have accumulated a lot of stress for the day and you are just trying to shake that off.



Aziz Rawat : – So, is it something that you could do, for example, you can't give like a full stretch of say one hour to it. So, could you just do it in bits and pieces all throughout the day like that? Is that possible?

Dr. Peter Wayne : – Again, I would make the analogy to some of the other practices that our other speakers are going to address, which is if you have a strong meditation practice that you have cultivated for a long time and you do have the skill to focus your attention and your breath, then it becomes easier to intermittently add a few minutes here and there and do short spells, but in the training where you are developing those skills, it could take longer periods of time. So, in our studies at the Harvard Medical School, we typically ask patients and many of them come with serious illnesses to practice. They come to class for one hour two times a week and then they practice at home for another 30 minutes as many of the days as they can but not everyday. So, that's our prescription within a clinical trial. Some people do it less, some people do more.

Aziz Rawat : – And actually, this is a question actually I was like going to put across to Morgan and Carol as well in their discipline, as in what..., what..., and you know I would like them to pitch in here as well in terms of meditation and yoga. So, what is their... What is your, you know, take on this? Morgan, maybe you can start first and then we can go to Carol and then we can still go back to Dr. Wayne again.

Morgan Dix : – Sure, Aziz. Thank you very much and also before I answer the question, it's a pleasure and an honor to be here again and also with Peter and Carol, so thank you very much. And in response to the question of how much, I think really as Peter alluded to, it's very similar with meditation. When I am working with new meditators, I really... I put a lot of emphasis on consistency versus duration. So, I try to help people establish a habit early on. So, I put a little less emphasis on you should do 20 minutes every morning or 10 minutes. I often just say, just pick a number and if it's 2 minutes or 5 minutes, pick a number and then commit and then build from there, but I think it's important for people to develop a habit of sitting down, focusing their awareness in meditation and then when they get accustomed to it and familiar with it and they get the swing of it, they can begin to add time and start to reap some of the deeper benefits from the practice. Otherwise, I think, especially for westerners, meditation is still..., even as popular as it's becoming, it's still relatively foreign practice and it's just new and a lot of people aren't so comfortable at first doing it. So, it takes them... I think of it as a very gradual process of becoming comfortable with it, accustomed to the practice and then over time they develop the habit, then they really start to experience some of these benefits.

Aziz Rawat : – Aha. Yeah. That's a... That's a good point of establishing the habit and that's kind of when you do that, it's basically you are gradually moving into a certain change of lifestyle, which is...

Dr. Peter Wayne : Absolutely.

Aziz Rawat : Yeah. Yeah. Good point! Okay. Carol, do you have anything to add to this?

Carol Horton : – Sure and thank you for having me on the show again, honored to be here. In terms of times of getting to practice yoga, I would say that any time except soon after you have eaten. Ideally, you should wait two or three hours after eating a meal to practice yoga since you will be moving and twisting your body a lot or right before bed. I would say any other times are fine. I find if I do yoga too close to bedtime, a more energizing practice can keep me awake, so unless you are doing something that's really geared to help you sleep, I would do it not right before bed or right after meals. In terms of the practicalities of getting started, most yoga classes that are offered at gyms or yoga studios and they tend to be an hour or an hour and a half in length. I would say the ideal would be to find a good yoga studio that offers an intra-class that's 90 minutes in length. That's not available everywhere and may not be something that people can fit into their schedule, but that to my mind would be a great way to get started if not going to an hour long class that you can fit in at your gym. There can be very good classes at gyms. You really have to find a class that works for you on a holistic level, that feels safe for your body and then it also has benefits that you can feel in terms of something that's maybe a little more than just exercise, makes you feel calmer and more centered, less stressed, whatever. If it feels good to you, then keep going with it and see if you can perhaps start



adding in something really simple at home just to start feeling comfortable with the home practice, so maybe just take a really common pose like down-facing dog and try practicing that everyday for 5 minutes and then I would say gradually build up from there so if you can add a second class during the week, that's great to have two actual classes with a teacher watching you and instructing you and add a little more time at home until ideally you build up to five, six, seven-day-a-week practice either through classes or at home.

Aziz Rawat : Uhhh... And then coming to a point where you can do a lot of it as home practice on your own and then maybe just going for some classes to the studio. Is that how you would think like the progression would be?

Carol Horton : – I feel that developing a home practice is really key to having something that becomes a part of your life and really is deeply empowering; however, I know from experience that for most people it takes a while for them to get to that point and classes are easier, so it kind of depends on what works for the individual, but ideally moving towards a home practice, to me, is what you need, but that said, I think even for someone who is a yoga teacher, very experienced, it's very good to go to a class with a teacher that you feel you can learn something from because everyone teaches in different ways, everyone has something different to offer and so many different styles of yoga, so we always want to keep learning and stay with that beginner's mind.

Aziz Rawat : – Okay. Yeah and of the three of..., of, you know, from Tai Chi to yoga to meditate, what I am..., the one common thread that I am getting is that you got to be prepared to work on the lifestyle part, you have to bring this into your lifestyle. That's what I am getting a common thread in all three, you know, answers here. And moving on. Okay, so, Dr. Wayne, back to you. If you could name three top conditions that Tai Chi could help correct, what would those be?

Dr. Peter Wayne : Oh, I think there is some very good research, so I wear two hats here. One is as a scientist who studies the medical benefits of Tai Chi and the other is a practitioner and I have had my own experiences with health and my students, but I will wear my scientist's hat for now and just say that many people would be surprised at how much research has gone on in terms of the health benefits of Tai Chi. We monitored the medical literature and in the English language alone, there are probably well over a hundred, I am sorry, a thousand peer-reviewed scientific medical articles. So, within that large pool of information, there are a number of conditions that sort of emerge to the top that the evidence is quite strong and unequivocal, the first one has to do with postural balance and prevention of falls. There is quite a bit of strong research to support that as an upright, moving sort of meditative art, Tai Chi improves your balance, improves your stability, your resilience to unsteady environments, and particularly in older people where falls are serious health issues and can cause a lot of suffering if not death, it's remarkable what the studies show and some of the better ones in older people suggest that Tai Chi can reduce the risk of falling by 40% or sometimes more percent. So, that's one of the areas where there is very strong data that I feel quite confident about. The second condition which is a little surprising has to do with cardiovascular health. We have a notion of exercise being something that you really got to give it a 110% and sweat on the treadmill and really push it and that's not accessible to many people with heart failure, chronic obstructive pulmonary disease, critical conditions and so we have explored the heart health benefits of this slow-moving exercise and we have seen some very nice improvements in people with chronic heart failure, in pulmonary disease, and in other conditions where your exercise capacity in a number of other risk factors for cardiovascular health events aren't that good, and I would say the last area which is one of the areas that we are studying as well, has to do with cognitive function or mental health and thinking about cognitive function, in particular memory and executive function, that part of thinking that regulates multiple..., multi-tasking and helps moderate all the other aspects of cognitive functions. There is some very nice data that's emerging to support that. Particularly as we age, we all know that we begin to lose some of our mental faculties and Tai Chi may retard the rate of cognitive function loss and even in people with mild cognitive impairment, some moderate dementia, Tai Chi seems to improve some of those cognitive abilities. So, those would be the first three that come to mind, but there, obviously pretty much any condition there is some research, so those are my top three.



Aziz Rawat : Aha. Okay. So, from a condition standpoint to cardiovascular, cognitive, and postural balance and prevention of falls, so that's really interesting as in cardiovascular, I wouldn't really think about Tai Chi as so much because, see..., you know, in my head I think cardiovascular as, okay, running and, you know, doing a lot of sweating it out, but that's a really good piece of information there. Okay, the next question is about... The philosophy of integrative medicine is to treat the entire person and not just the disease, and integrative medicine and Tai Chi and holistic healing is still a niche approach, at least it is in the west. Do you see a conflict with the current mainstream antibiotics and disease-focused approach? Do you see the two approaches..., how do you see those two approaches co-existing in the mind of the patient because that's, you know, that's something that a patient who knows this part of medicine but, you know, you have got the mainstream, how does the patient deal with that?

Dr. Peter Wayne : That's a really interesting question and I would say I think historically and maybe in many conservative environments, there is a great emphasis on thinking of health and human body as pieces of machine that are quite separated, so we go to the foot doctor for our foot and the hip doctor for our hip and the head doctor for headaches and very few traditionally trained physicians think of the whole system and how these pieces are interconnected, but I think more and more, even in the environments that I work in at the Harvard Medical School, is a great appreciation of things like the mind-body connection and how mental thoughts and beliefs and stress can affect the immune system and how the immune system can affect information and how those can affect the joints. So, I think increasingly western or conventional medicine is starting to see the body as a complex system where the parts are all highly interdependent. In fact, at the Harvard Medical School, there are whole new programs training physicians and doing research called systems biology and many of the fundamental thoughts in systems biology are very similar to the thoughts of traditional Chinese medicine or the philosophies that really believe the strong interdependence of mind and body and breath and spirit to some degree as well and is showing up in our medical school curricula as well. So, I do think historically there was much more of a difference than there is now and I think in many ways patients are looking for remedies that see them as a whole person and help them re-integrate their parts and their doctors are learning as well as they are that this is an important new framework and I think things are evolving and I think that practices like meditation, like yoga, like Tai Chi are catalyzing medical thinking and research in this area is actually really starting to penetrate the medical literature and fundamentally changing how we think about the biology of the human condition. So, its very exciting time and I think there is a lot of cross hop learning from one another going on and the Osher Center for Integrative Medicine is one of a number of centers in the country that really specialize in that bridging of ideas.

Aziz Rawat : Yeah, sure. Yeah. Yeah. Yeah. And so you did touch upon this point earlier about, you know, Tai Chi helping with the cognitive aspect of, you know, our body and mind. Do you... You wrote one article that I was reading which talks about Tai Chi making your brain bigger, as in literally bigger. Is that literally possible and the other second part to it is Alzheimer's is a big thing in the US. Do you see any success for people with Alzheimer's practicing Tai Chi?

Dr. Peter Wayne : Those are great questions and I would love to hear what some of these other panelists have to say, Carol and Morgan, because there's quite a bit of research from multiple mind-body practices, Tai Chi, meditation, and yoga, that look at the impact on the brain. In terms of the brain getting bigger, there are a couple studies that suggest that the gray matter volume of the brain increases. Similarly, in very nice meditation studies conducted at the Harvard Medical School, there has been demonstrative changes in what's called cortical thickness, that part of the brain that's involved in higher-order thinking. So, there are also some nice studies for meditation, not so much on Tai Chi, that shows that the part of the brain that's involved in memory, the hippocampus, can get preserved if people practice these mind-body exercises and as I mentioned before, some of the studies of Tai Chi are done specifically in people with mild levels of what we might call Alzheimer's, what's called mild cognitive impairment or MCI and may benefit it in terms of their mental function and their overall quality of life. So, I think that there is very compelling evidence to suggest this is something that will proceed further. A big part of the research we are currently pursuing right now is to look at preservation of mental function in Parkinson's disease, where the focus typically is on tremors and movement, but we also see that there are big changes going on in cognitive



function and I think one of the key exciting areas is we now know that how you think, your cognitive function, has a huge impact on your balance and movement and how well you move and exercise in your mobility and agility seems to directly impact your cognitive function. So, again, back to that systems biology, mind and body are really interdependent and now the psychologists and psychiatrists have to collaborate with all the movement disorder people because they are not separate issues.

Aziz Rawat : Yeah. Wow! Yeah. Yeah. We are living in a pretty interesting time where all these things are becoming bigger and everyday you hear something or the other about, you know, how new things are being discovered about the brain and how, you know, like the whole neuroscience and things like that, so, yeah, this is... We are definitely living in very interesting times, as you said. Okay, moving on to meditation. Morgan, so I have a few questions for you. Okay? If you were to give me a quick to-do 1-2-3 list to get started on meditation, what would that be?

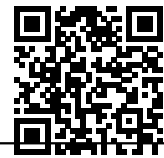
Morgan Dix : Okay. So, I feel you are asking me a really pragmatic response to this and again its really designed to help someone create a terrible habit. So, its a kind of a... Its a quick five-point list. I would say the first thing is to take a time each day that you want to meditate. So, if its in the morning, say, I have to meditate at 7 a.m. every morning. Then, as we are speaking about, before you should really decide an event, how long are you going to sit in meditation and you want to start with something attainable, that's not going to put you off, so its really important not to over reach. If you are new to meditation, I wouldn't start with 30 minutes. I would start with something simple like just a few minutes, 5 to 10 minutes, and because I feel consistency is more important than duration and then I would say as the third point, give yourself a month, make a commitment to meditate everyday for one month. You need, so this is the fourth point. You just need a... You need a quiet place to do it, and like when you are...., when you are creating a habit, repetition and choose and having a place to do it, these are all really important factors. So, pick the same place, pick the same time, commit, and lastly, I would just start with a very simple focused awareness technique like counting your breath. So, when you, Yeah. And I think that's one of the simplest but yet the most powerful focused awareness practice that you can do. You just focus on your breath and you count and anyone who has done a little bit of meditation knows your mind is going to wander, that's not a problem at all. You just keep bringing your attention back to counting your breath and you count to 10, start over again and that would be it, then you are meditating.

Aziz Rawat : – So, when you count..., the counting is inhaling and exhaling as one or does that matter?

Morgan Dix : – Yeah. You do like a whole cycle in inhalation and exhalation and that would be one count exactly.

Aziz Rawat : – Aha. Okay. Okay. So, you know, meditation for stress reduction has been widely talked about. So, one of our people with condition such as depression, you know, including depression such as, you know, caused by chemical imbalances like bipolar or manic depression and schizophrenia. Can meditation help that?

Morgan Dix : – Well, firstly, I have to admit, this is really not my area of expertise. I don't have a lot of experience with that. I know there was a study, researchers from Toronto and Exeter in the UK, they recently found that learning mindfulness while tapering off the anti-depressants wasn't effective as remaining on meditation and this is for people who suffer from recurring depression. So, it looks like there is some research out there that supports that. Maybe Peter and Carol will be able to speak on that better than I would, but I would recommend a brilliant author, Ruby Wax, who is a stand-up comedian, but a cultural critic, I would say, from the UK. She just wrote a great book called "Sane New World" and she has...., she has struggled with depression for a long time. She wrote this book about her struggle with depression and how she really manages it with mindfulness and in response to her condition, she went and she got a degree, a Master's degree at Oxford in mindfulness-based cognitive therapy and she just started to learn about the science behind it and she really takes you through the science in her book, but she does it through the lenses of a comedian. So, she brings a very light touch to it, but she doesn't shy away from a lot of the real issues, some of the prejudice she experienced as being someone who suffered from depression, but



she also helps you understand. Mindfulness was really and has been one of the main ways that she manages it and this book, its a great resource, has a lot of the science in it, and I recommend. Its called "Sane New World" and her name is Ruby Wax.

Aziz Rawat : – Did you say change New World?

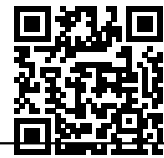
Morgan Dix : – Sane as in sanity.

Aziz Rawat : – Oh, sane. Sane. Okay. Sane. Sane New World. Uhhh... Okay, then the next question is about, you know, meditation from the outside it looks, a meditating body, you feel like nothing is happening, like you see somebody sitting cross legged, closed eyes, doing nothing, but of course, that's not true. Can you expand on that a little bit and the various aspects of meditating in a way that what's the body going through and what's going on? What's it experiencing, things that, you know, we don't see or experience as, you know, watching from the outside?

Morgan Dix : – Sure. So, you... Are you... Just to focus the question on what you said. Your question, what..., in a certain way, what's actually the..., what is the process of meditation? What's happening?

Aziz Rawat : – Yeah. What's happening to the body, to the mind while, you know, in a meditating body?

Morgan Dix : – Okay. So, just a little bit like... So, let's imagine, I like to use like a fitness center metaphor. So, one way to think about meditation is that you are training your awareness or your attention when you meditate. So, just like when we go to the gym to exercise our body, develop our muscles, meditation is really..., its one powerful way that we can train and refine the quality of our attention. So, if you sit down to meditate, you usually have an object with your meditation, let's say like we are talking about before, I said its your breath. You are focusing on counting your breath. So, when you are sitting there and you are quietly counting your breath, that's the equivalent of doing for your attention or your awareness what, say, squats would do for your legs. So, because your mind is conditioned to wander, it doesn't actually stay on that single object of focus. So, when you sit there quietly and you are making the effort to relax and to be very still and bring your attention back to the object of your meditation, you are working that muscle of attention. So, if you sit there, say, for an hour, you may end up bringing your attention back to that object of your attention a hundred times or five hundred times. Its the same thing. You are terming that muscle as attention and in the process you are slowly..., you are exercising it. So, that's one thing that's happening, but something else is happening which is, the more you relax and focus and you keep bringing your mind back, you begin to experience a sense of singularity. So, distractions fall away and you begin to find yourself calmly abiding in a different part of yourself where you are not touched by the distractions. Your attention becomes very focused and focused not in a tense way and it's here you start to see that, you start to make an important distinction that your mind and thoughts are different from your attention so that they are... They are two very different, although intimately related phenomena and so mostly what the reason that's important is because mostly we think, we assume that we are what we think, but meditation helps you create it in between you and your mind. Its between you and your thought stream. So, that's beneficial on all levels because most of us, we have a reactive relationship to everything that happens in our head. So, meditation enables you to build, you change that relationship to your mind. So, instead of reactivity, there's space, there's focus, there's perspective, there's relaxation and you get that through building that muscle. So, that takes a lot of..., that takes a lot of practice, but that's some of what's happening when you sit there and then so you basically find out that there is much more to you, to who you are than what you think and then if you look at it from you are saying, the neuroscience, I think there are a lot of studies now. I mean, if they are proliferating that shows that when you are doing what we just talked about, it lights up different parts of your brain like Peter referred to the hippocampus which is associated with self-awareness, compassion, introspection. And I know in terms of... I am aware of some studies there was in 2011, a study at Harvard, that showed eight weeks of MBSR, mindfulness-based stress reduction. That, I think was a pretty landmark study and it showed significant increases in the gray matter in that region of the brain, in the hippocampus, and I think that's just the beginning. Another study showed the anterior cingulate cortex which is associated with self-regulation, that's another region of the brain profoundly enhanced by meditation. So, there is a lot going on



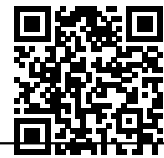
with the neuroscience, but then its also the training of your attention.

Aziz Rawat : – Aha. It was very nice for you to like describe in words as to what is going through the body because, you know, people who are not doing meditation, but, you know, they kind of want some sort of a picture as to what it feels like, at least in words I think and that was... I think we got a pretty nice picture of that what you told us. So, Yeah. Yeah. Thanks for that. Okay. Do you believe there are conditions that and this was the question that, you know, I asked Dr. Wayne as well. Do you believe there are conditions that people take antibiotics for that can be resolved by meditation and what would those be, you know, there were some conditions and I am guessing maybe its something similar to Tai Chi, which is also a form of meditation, I would say, but maybe you have a different take on it.

Morgan Dix : – Actually, I have no idea. Its completely out of my realm of my expertise. I think maybe Peter or Carol may be able to speak to that one.

Aziz Rawat : – Aha. Yeah. Yeah. Okay. All right, moving on to Carol. Carol, its very interesting and I am very curious, tell us a bit about teaching yoga in jail and homeless shelters. How is it different from teaching in a usual studio, like what are your, you know, your students' expectation from you and what are your expectations from your students there and is there a difference you see in them or yourself when you are conducting these classes? Talk to us a little bit about that.

Carol Horton : Sure. Umm... Its a type of yoga teaching that is very dear to my heart. I truly enjoy doing it. Some of the differences of teaching in a jail or homeless shelter versus a studio would be first, the actual base is not going to be nearly as nice. I mean a studio is very much set up to provide the physical space that enhances and supports the kind of calming and centering experience that we are practicing with yoga awareness. When you go into a jail, you have to make do with whatever is available. So, sometimes there are rooms that are okay. Sometimes you are in the corner of a noisy gym. You really have to be very adaptable. The type of students who will be there is quiet different in the sense that on the whole yoga is still primarily more like college-educated female demographic in the United States in terms of who is going to classes at studios. So, if you go into a jail or a homeless shelter, obviously it tends to be more lower income, more people of color. I have only taught women. There are classes for men as well in Chicago at Cook Country which are taught by men. Those students tend to have had little, if any, exposure to yoga before, so they really don't have expectations about what it will be, in the same way that someone who goes to a studio might come in knowing that I want x or y. These students tend not to have expectations. This is something fairly foreign to them usually. The classes I have taught are all voluntary, so the students are just there because they are given the option, they choose to go. So, they are already doing something kind of brave in terms of trying something that's foreign and I find that a big difference with the type of students I get at the jail versus studio would be that they arrive at class and they make the decision to open themselves up to participating in it. I'd say there's a sense that I have that they more quickly get into a really deeper part of the experience in terms of the mindful centering self-aware components of the practice than I would find at a studio. So, people once they arrive in class, they are nervous and they hold back and they keep themselves separate from us, but they know they are doing that and most of the people who are there and they decide to do it or you see them evolve from holding back to getting in. There is a real sense of..., some of like, I think of it as maybe providing water to plants that have been experiencing a drought for a long time. I think the people are just so starved of the opportunity to really engage in holistic self-care and have the time and space to feel safe and to touching with themselves on a deeper level and be encouraged to cultivate positive dimensions of life such as peace and equanimity and so on, so, its very rare, so I think there is a sense of people that I have of them kind of drinking it up, in a way that is profound and I think in the studio setting, you have more, people are sort of, I don't know, sort of they are there for their own reasons and they don't necessarily have that same pressing need to take care of themselves deeply that someone who knows they are in a bad situation. If they make the decision to take this class, they also wanted to make full use of that opportunity, so that makes it a very place to teach and then the way you teach is a bit different. There is actually a kind of loose set of methods that emerge of the term trauma-sensitive yoga that's well known among people who teach in these more non-traditional settings and the trauma piece of it ties into two ideas. One, if you go and teach somewhere like a jail or a homeless shelter,



you are likely to have a class of students who have collectively a much higher level of intense trauma in their lives, not to say that trauma isn't in the general population which show up at the studio but a higher concentration and so therefore when you teach the class, there are certain adjustments that you would make to try and make it as therapeutic as possible for people who have experienced trauma and there is also lot of research going on about how yoga can be healing for posttraumatic stress and its actually being used in veterans's hospitals in the US as well and adopted by the military. So, you teach little different, more mindful, more gentle, more cuing in terms of choice for the students, rather than say, asking them to close your eyes and do this, just put in little more choice, if you are comfortable closing your eyes, please do so; if not, just let your gaze be soft so that people feel a sense of having permission to connect with and work with their minds and bodies in ways that feel safe at all times. We also wouldn't touch students without a prior..., for adjustments and so on as you might have in a yoga class to help guide the body into the pose, you wouldn't do that unless you had training of the correct sort and a long relationship with this group of students. Otherwise, like at the jail, we just have a no-touch policy.

Aziz Rawat : I see. I see. Well, there was one thing and I was trying, you know, I was trying to get like the answer to one of the... While a lot of things that you said was great, one thing that I really latched on to was when you said like you gave a complete picture to me when you said like what it was..that kind of really got the entire picture in my head as to how ..., what's the difference that you see in students and that was very well said. All right. So, moving on... So, there are, you know, different forms of yoga, from hatha to vinyasa and you know the list goes on... and some of them are meditative, some are more physical. What forms of yoga would you recommend to someone who is interested in making some changes and leading a more joyful, depression-free kind of life where its not, you know, its not doing yoga for..., its more of a mental, I would say and you know, just having a joyful life and not so much about physical. What would your advice be for that?

Carol Horton : – Well, I don't think there is any one-size-fits-all answer. I think the reason so many styles of yoga have developed is because people at different personality stages of their life, levels of comfort with working with their minds and bodies, respond better to different types of techniques. So, there is kind of a process of just trying things out, that I think students need to go through to find what works for them, but I would say in terms of general guidelines, one is that I strongly believe that the more deeply effective yoga classes offer an integration of mind, movement, and breath in a more conscious and explicit way. So, some yoga classes are methods, really you are only being cued or taught to do physical movements and there's not really any instruction on how to work with your breath and I would say that kind of class is unlikely to help you access the more holistic benefits of the practices when you are also being taught how to work with your breathing and how to work with your attention and mental focus because the sort of practices that Morgan talked about in terms of focused attention or another form of meditation is open monitoring. This is the same sort of things that one can work within the context of a movement-based yoga practice and that makes it a very multidimensional and rich practice and someone suffering from depression can then start to have insight into some of the deeper causes of the depression over time. There is a lot of emotional release that often happens for people in yoga that brings insight, that also just lets go of some of the feeling. Also, certain poses are known to bring more joy and energy, so I would say back bends are often great emotional release poses and energizing poses, also inversions, but really its... I would say the key is finding something that when you do it, you feel safe but also you feel this is taking you into new territory that's kind of exciting and different and that you leave feeling like something has shifted on a more holistic level that doesn't just feel just like exercise, pure and simple, and trust your gut intuition in terms of what will work for you best as far as specific method goes.

Aziz Rawat : Aha. And you said that looking for the more holistic yoga studios where you have mind, movement, and breathing, all working together, so that's the kind of yoga that kind of feels more whole or complete.

Carol Horton : Yes, absolutely.

Aziz Rawat : Well, thanks. Recently, you know, the Indian Prime Minister proposed..., Prime Minister's



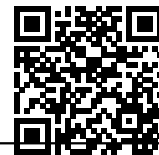
proposal was for celebrating the International Yoga Day and it got an unprecedented support in the UN and now we will be celebrating the first International Yoga Day on June 21st. Yoga definitely has a huge worldwide following, but we never hear, you know, doctors ever prescribing to patients, you know, yoga as a solution for mental, physical, you know, health. Do you think yoga can ever become a part of the mainstream medical world where they are not prescribing pills, but you are prescribing asanas for getting better, you know, and, like, to your point about diverse in a different context, but you have talked about adaptability. Is there a way to kind of teach yoga or do yoga which is adaptable? So, its not... Its like, you know, taking a pill is like you can put in your pocket and go anywhere and have it, whereas yoga, you know, teaching yoga in a way that you can be so..., it can be so adaptive that you can be anywhere and do it. You see what I am saying?

Carol Horton : Uhmm.. Ahm..

Aziz Rawat : So, there were two parts to this question basically. One was, you know,... Yeah.

Carol Horton : So, one is the adaptability of yoga for particular health conditions and the other is could that be integrated into mainstream medicine? Yeah. So, there is a long tradition dating back to the early 20th century in India with the teachings of Krishnamacharya who really was central in developing a sort of contemporary yoga that is asana or posture practice that we think of as yoga principle today and a lot of that lineage which is still carried forward with the work of people like Gary Kraftsow in the United States is really highly therapeutic and is considered to be best done on an individualized level. So, you meet as a student with the teacher by yourself and the teacher designs a specific program for your needs and that is done at some studios in Chicago like yoga where I am taking classes, is a more traditional Iyengar-based studio and they have gentle yoga classes for people with health conditions and they basically have enough teacher assistance in there, so each person gets a specialized sequence per what they need. Its written down on a card and kept in a file and its a fantastic way to really hone in on healing modalities that are going to work effectively for you as an individual. So, there is a long tradition of that. Its not what people normally think of when they think of as yoga, but it is out there [start=55:08,55:30Carol_Horton] and you can finally find it, particularly if you are in urban areas where there is more yoga. Like I said, we do have that available in Chicago. In terms of integrating it into mainstream medicine, I just happened to finish reading the book "Healing Yoga" by Dr. Loren Fishman who is in New York, who does exactly that. He is a medical doctor, has done yoga for many decades, was a BKS Iyengar student and he explains in the book a little bit about how over time he started integrating yoga into his medical practice and actually prescribing it for patients in this one-on-one individualized way of looking at what they need and trying this, try that, see what would work and then from there he he's honed some general recommendations that work. So, if you have this sort of back pain, then those sorts of postures done regularly usually work and he recently published a paper about how for the treatment of scoliosis doing a very common yoga pose called side plank on the each side of the back with the side that would be... rather its concave or convex now, but with the curve of the back, one side is weaker, so that the muscles... You hold the position, its basically like taking a position but then looking on to your side, so one arm is down and one arm is up and your body is stacked up vertically. Doing that everyday over a period of months for, you know, he has worked with, I think, almost 200 people by now and its reduced their curvature of the spine by, you know, 40%, 50%, 60%. You know, he's had incredible success with this. So, will that become more common? I mean, I think that Dr. Wayne's comments earlier were encouraging that this is becoming more acceptable at Harvard. That's going to spread. I have not involved in the medical profession, so its hard for me to say, but I do think that there is a new generation of young professionals coming into all sorts of fields and medicine, social service, psychotherapy and so on, who unlike the older generation grew up at a time when yoga was common and acceptable and they have done it since they were kids, lots of them. They may do teacher trainings even though they never plan to become a full-time yoga teacher and so then they bring that into their professional work. So, I think that because of that generational shift, there is going to be much more integration of yoga and other mind-body therapies into fields like psychotherapy and medicines than there has been in the past.

Dr. Peter Wayne : Okay. I could add to that and build on Carol's comments if I have a moment.



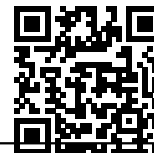
Aziz Rawat : Sure, sure.

Dr. Peter Wayne : So, I think Carol is right on in. The statistics at Harvard are quite remarkable in the sense that of our 12 or so hospitals, just about everyone is offering yoga or mind-body. Physicians themselves are practicing increasingly, but they are also referring. Last month, Morgan and I had an opportunity to meet with the medical school students and they have yoga clubs and mind-body clubs and those are going to be our next generation and in terms of very targeted interventions, one of our research fellows who is also a high-level yoga practitioner and teacher, did for his fellowship and he is now funded by NIH to study the effect, to develop a very specific protocol, which he did with his teachers in India in the hospitals there for people who are on dialysis. So, every week they have to come three or so times to just sit for hours as their blood gets purified and what he wanted to know was... I have this captive audience, they are very sick and chronically ill. Can we develop a very specific yoga protocol that will be appropriate for that in seated position or standing position while you are attached to machine overall to address some of the specific health issues with end-stage renal disease and his first study is quite promising and in a couple of years we will have the results of that, but I think increasingly this bridge in between traditional approaches and scientific evaluations are going to grow and I hope some day someone is going to say, take three asanas and call me in the morning or something like that, same with Tai Chi. So, I think increasingly this is happening and I think there is a lot of optimism that we should have for that.

Aziz Rawat : Wow! Yeah. That's so interesting as in, you know, people on dialysis and they learned to do yoga and seeing the benefits of that, wow, that's pretty amazing. All right. I am going to open the foyer to anybody else who wants to ask any question. If, Morgan, you have any question or, Carol, if you have any question for each other or Dr. Wayne, you know, and then I have like a couple more questions for all of you actually, all the panelists and then I will hand it over to Priya and then we can take it from there.

Morgan Dix : – Great! This is Morgan. I would love to just ask..., I mean its a..., I think a simple question to Peter. Peter, I have been reading your book, "The Harvard Medical School Guide to Tai Chi" and I love it and I am learning a lot and I wonder if you could talk for us a little bit just about the idea or content of Chi itself. You mentioned in your book that its a difficult term to define and as much as its there, there's really no direct corollary term in the west for it. We have... With yoga, we have prana, which can be kind of a close approximation maybe and then in the book you used the terms to describe it, vital energy, information, breath, spirit. I was particularly struck and compelled by your usage of term "information" when describing Chi and can you say a little bit... One, can you just speak about this generally and what is Chi and can you say a little bit more about what you mean when you say that "its information?"

Dr. Peter Wayne : Well, that's a really rich and challenging question, Morgan, but thanks, I will give it a shot. I do think that there are parallels in all our traditions and I think prana and then in the Judeo-Christian tradition they talk about numa, its sighted in the Bible regularly. There is something that animates things. There's something that's not necessarily tangible, but its what makes it all work and there was a translation by the Jesuits who were intrigued by acupuncture, who lived in the late 1700s or early 1800s that translated it as energy repowered vital energy and that's something we can grasp and I think that that's one way to describe it that, you know, energy moves things. It animates things much like breath inspires things, but I think and there is a very nice book that will do much more justice to this issue called "A Brief History Of Chi" by scholar named Huan and Rose, two scholars, and they start off by stating that its a little bit like the concept of snow to Eskimos. There are probably, you know, 30 or 40 different descriptions of it that captured different aspects of it, that are all equally important, but having said that, going back to information. Information is what connects things and speaking about health and the body of the system, as we get older and I am just taking balance since we have talked about it, we know that many things regulate our balance – the strength of the muscles, the effectiveness of how the nerves conduct, our ability to feel the parts of our body and their sensitivity, what's called proprioception. Vision is important. What happens in the inner ear, its internal GPS system, all of those are really important in making this whole system coordinated and as we age, the sensitivity and level of functioning all go down. So, our vision gets a little worse, our muscles might get a little weaker, the sensation in our fingers and toes get worse, the inner ear system gets weaker, and you can think that that dampening of information that is fired from all those spaces and communicated to the



other makes us a little weaker and so in that sense, its the things that connect all the parts. Its the information, the richness of the system. Its the complexity of the system that is associated with health and the more we lose that input, the less complex our system is, the less healthy it is and you might say that Chi has an analogy to that and this comes from the book that I mentioned before. They talk about Taong Chi and colloquially that means let's stay together, let's keep..., let's stay in touch and that idea that Chi is the connector. Sometimes people say that breath is the connector because in some practices breath is used to connect the body and the mind. Its the go between, but I think more generally information is a good tool and what I like about it as a scientist but also being trained initially before doing medicine as an ecologist is that its measurable and so we now research at the Harvard Medical School, we have been studying the aging process and how things like Tai Chi and other mind-body practices influence that and we can measure the complexity of heart rate, can measure the complexity of balance dynamics and what's really nice is that these provide indices of health that are... You need to collaborate with mathematicians and physicists to calculate these things, but we can measure the dynamics of these systems and they give us a really nice sense of health and what we are finding is that people who do these practices have higher complexity than people that don't and if we take people who are quite ill and we expose them to these practices, the richness of the system, the cross talk between all the different systems in the body goes out and its really nice metaphor for wholism and for that reason I like information and I like these quantitative tools as opposed to just studying output from one system like the immune system or something like that. So, that's a long-winded way of getting to it, but its about the whole connectedness of the system and the level of connectedness as a level of information, higher information.

Morgan Dix : That was long-winded but beautiful and really illuminated the whole idea for me and, you know, I... The primary transmission or concept that comes across to me when you talk about it is really the profound intelligence of the system, I mean we talk about Chi that way.

Dr. Peter Wayne : Yes and I think if, you know, all of us who do these practices and read the rich tradition, there's this, you know, hard-to-grasp thing, the inner wisdom of the body, but that inner wisdom doesn't reside in one place. Its a wisdom that emerges out of how the pieces do or don't connect to each other. So, yeah, I think that wisdom or intelligence is a really good one and in many ways when we drop the very logical thinking mind, you know, all the traditions say, you know, meditation or Tai Chi, its not what you think, that there's another way of knowing other than the thinking process and I think that's the intelligence you want to tap into. I imagine Carol leading her groups and you are leading your meditation, you are asking people to drop in and to listen to what the whole being is saying. There's an intelligence that wants to be heard and tended to and so I think that that's getting a little closer to this idea of maybe you call Chi or information or inner wisdom.

Morgan Dix : Yeah and one last thought related to that, Peter. Its very confining when you speak about it because when I think about what, you know, what integrative medicine is pushing off against a more reductionistic atomistic model of treatment and thinking about the body and the system, its very reductionistic, but when you talk about it, I experience the opposite effect, you feel the promise of medicine and its very charismatic. You take that problem or two or something that needs attention suddenly to the scope of possibilities for how to deal with it that feel like they really open up.

Dr. Peter Wayne : Yeah and I will use that comment to go back to something Aziz was asking everybody and, you know, he says when would you, you know.... You know, is there a use for yoga or these other practices as an alternative to an antibiotic and (a), its a good question and everyone asks that and again, I have been in China and I have gotten really sick and I can't say how grateful I was to take an antibiotic. It really just was when I pray to the pharmaceutical companies, you know, with gratitude. I think its not for me an either/or and I think, you know, there may be very acute situations and people are exploring, can you use, you know, mindfulness in the trauma room at a hospital and, yes, if the doctor is calm and focused and you ask people to take a breath and to, you know, to trust what's going on, that's a really key use of the mind-body practices, but I think the primary benefit is going to be in the long run in terms of prevention, in terms of management of real chronic illnesses and in those cases it really isn't an either/or. Its a real good place for medication and maybe over time people can reduce their doses or reduce the numbers of meds and in



many cases like in chemotherapy, many of these practices really alleviate the side effects. So, I would love to start, you know, in the spirit of systems thinking an integration, even the distinction between conventional and alternative medicine, it just blurs into one larger, really integrative medicine and that I hold.

Aziz Rawat : Aha. So, Carol, do you have any questions to ask at all?

Carol Horton : Well, listening to this, I was just struck by how much this idea of vital energy or Chi or prana resonates with people who do all types of mind-body practices. When I was into Dr. Wayne or Morgan talk, even though I have never done Tai Chi, I have done more meditation, I recognize what they are talking about through my experience with yoga, so there is obviously something really common there; however, as someone who is interested in taking yoga to places like jails and also places like low-income schools, there in this context we run up against the cultural problem, that you can't use words like Chi or prana because they are seen as potentially religious or of putting the foreign and kind of threatening and we don't really have a word in the English language and in American culture that's commonly recognized, that refers to this phenomenon we are talking about and so I feel that we need something equivalent to Chi that you could take somewhere like a school and have people understand what its about without it raising a lot of red flags or questions of, you know, religion and so on, that have already come into play with some lawsuits being brought out to block yoga being taught in public schools on the grounds that its a religious practice but there is another practice that, you know, goes beyond the kind of more mechanical health and mental health and physical health benefits, so we think of and so I feel that culturally we need to make some sort of shift to give what we are talking about in our culture more of a place and I wonder if anyone has any thoughts about if you see that happening or how to do that?

Dr. Peter Wayne : I would love to respond to that if I could, Carol, because I think its such an important point. We don't use that word often in our teaching, the word Chi and that's, you know, its an interesting concept, but for the way we teach, we just don't find it necessary and its so hard to sort of measure and talk about. When we ask people to do on the first day, whether people with trauma or Parkinson's or heart diseases, it just comes with standing and can you feel your feet on the floor and can you feel how you are breathing and can you feel the connections to your heart and when you feel these parts, can you be kind and just sort of meet yourself where you are and that, in fact, just moves people to a wholeness and a certain way of feeling that they don't need a word to call it anything per se and it's ecumenical, it doesn't scare people. Sometimes we'll use a lot of imagery in our work and we will imagine, you know, ask people to imagine they are, you know, on a mountain top and they can feel the fresh air on their hands and over their head and guide that through their body and we'll make fun of it. Laughter is one of the best bridges between cultures and some of our veterans in our pulmonary studies with leather jackets and USS something and other hats on, you know, find themselves doing this and you start laughing about how unusual it is, but it makes them feel good and then they don't care and then I think this issue of the name of the practice is unfortunate right now. I think we teach Tai Chi and I have actually consciously chosen to teach Tai Chi because its unthreatening. I can do the same exact practices that I do in a class called Qigong, but like yoga and like certain types of meditation, there is a stigma associated with that and when people think of Tai Chi as they call, that's what the elderly people do in the park, its sort of like an exercise with a little mindfulness. Its unthreatening and, unfortunately, I feel like Tai Chi right now is kind of like an ambassador, opening up those doors that over time, I think, people begin to trust that these are independent, that you can be a Christian and practice yoga and you can do Tai Chi and be a Muslim, it doesn't matter, but unfortunately right now, there's a lot of learning that has to happen in our culture, but I think that's a really great point made, Carol.

Aziz Rawat : This is a great discussion and we have totally gone over our time. I would have loved to talk more and hear you guys talk, you know, there are so many other questions that, you know, coming up in my head and I would love to ask, but we have totally run out of time. So, thank you, all, once again for your time and all the information you guys provided us today. All of this was very useful and important. I am sure our listeners will take away a lot from this talk and I thank you, all, and I am going to hand it over to Priya now.



Priya Menon : – Thank you, Aziz. Dr. Wayne, Carol, Morgan, Aziz, it was such an amazing discussion, so much so that I think we lost track of time. I think we are almost 15 minutes above and I thank all of you for being with us for this extra time. There were... I think most of the questions that were sent in, we have kind of touched upon almost all of them and a couple of them which we have not, I would just email them to you and maybe you can just send in a very short answer for this for our listeners and this show has been recorded and the broadcast will be made available on the Cure Talk's website. Please visit curetalk.com for information on our upcoming shows. There is a blizzard warning in some parts of the US. Do stay warm and safe and thank you so much.

Morgan Dix : Thank you, all. Its a pleasure.

Carol Horton : Thank you.

Dr. Peter Wayne : Hope to meet you some day, Carol and Aziz and Priya.

Carol Horton : My pleasure.

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