

## MWSP Ep 003 – Dr. Bert Mandelbaum

**Announcer:** From Curtco Media.

**Bill Curtis:** Welcome to Medicine, We're Still Practicing. I'm Bill Curtis. And of course, my co-host, the triple board certified doctor of Internal Medicine, Pulmonary Disease and Critical Care, my very good friend, Dr. Steven Taback.

**Dr. Steven Taback:** Thank you, Bill. I'm honored to be here always. Tonight, we have the rarefied thrill of interviewing truly a giant in the field of knee surgery. This gentleman is world renowned in the field of orthopedics and has received a multitude of academic and societal accolades.

**Bill Curtis:** Co-chair of Cedars Sinai Kerlan Jobe Institute and a co-director of Orthopedic Surgery.

**Dr. Steven Taback:** He is a consultant for Major League Baseball and the United States Olympic team.

**Bill Curtis:** He is Associate Medical Officer of Major League Soccer and the chief medical officer of the L.A. Galaxy.

**Dr. Steven Taback:** Not only is he an icon in his chosen specialty, but he's a veritable renaissance man in the field of medicine, being able to speak knowledgeably about topics as far reaching as longevity and mountain climbing.

**Bill Curtis:** And frankly, I'm a skier and he performed surgery on my right knee six weeks ago and I walked up three flights of stairs today.

**Dr. Steven Taback:** It is my esteemed pleasure to introduce to you Dr. Bert Mandelbaum. Welcome.

**Dr. Bert Mandelbaum:** Steve. Bill, it's a pleasure to be here with you and have some fun discussions about some real issues in medicine.

**Bill Curtis:** Well, before we begin, Doc, what are you doing swimming with all these sharks?

**Dr. Bert Mandelbaum:** You know, people ask me that question all the time. You know, what is my interest in sharks? Is it a sort of.

**Bill Curtis:** Death wish or.

**Dr. Bert Mandelbaum:** Death wish or is it some type of. It's like jumping out of airplanes. And the answer is that I developed an interest when I was a young teenage boy growing up on Long Island. We happened to be around beaches and oceans. And there they were the fish and the whole eco system. And I was fascinated with sharks, everything. And in fact, Peter Benchley wrote a book that we all know is Jaws, was intriguing me at the time of 12 years old. Sharks were really on my mind.

**Bill Curtis:** And so you're the only one in the country that actually watched that or read that and chose to then go in the water.

**Dr. Bert Mandelbaum:** Exactly. I found interest in it and found that the appeal to these sharks was as really apex predators of the ecosystem are really organisms that are really important to our environment on every level, at least at this moment.

**Dr. Steven Taback:** You feel that your training in swimming with the sharks has prepared you for the economic and political milieu of health care.

**Dr. Bert Mandelbaum:** Well, I think a lot of the sharks, the milieu of health care is a little different type of environment, of course. But I think learning to respect the environment and the eco system of our world is very important on every level in health being for us humans, a very important part of our lives, is the segue.

**Bill Curtis:** And before we really dive into the..

**Dr. Bert Mandelbaum:** no pun intended.

**Bill Curtis:** Exactly. I'd like to ask the two of you to address the responsibility that parents have regarding our children's team sport journey through school years. One of your published pieces, Dr. Mandelbaum, is focusing on parents and student athletes exhibiting balance and control. Can you be a little more specific?

**Dr. Bert Mandelbaum:** It's where the life of sport intersects the sport of life. And there's no other greater place than with our children, because we ask everybody, what is it about sports that's important for them to do? What are the benefits? Why do we want to see them become young volleyball players as young girls? What is it that young soccer player, football player sees in sport? What are the benefits and what are the great things for their lives? And I think that starts that discussion about that balance.

**Bill Curtis:** Well, sometimes I think we're trying to help them achieve what we weren't able to achieve as young children ourselves,

**Dr. Bert Mandelbaum:** and also to teach them lessons that are important for them to learn and live in the sport of life. And that's where sports comes in. You know, people ask the question, what do we human beings have an interest in sports? Where does this come from? Where is this intersection? It turns out that as we went from Homo erectus two million years ago to Homo sapiens 100000 years ago in the Paleolithic period coming to an end and we became predators, not prey. The answer really was in our hunting capabilities, the athleticism of the hunt were the athletes in us. And that's what we're trying to see go forward in our children. So it starts with that, as survivors of the fittest. That's where this interests us as parents in seeing our kids do well in sports comes,.

**Bill Curtis:** I'd like to discuss the young people who in fact are athletic and are on team sports and exhibit some balance and control along with their parents. And Bert, a couple of years ago, you published a piece discussing at the beginning of the school year, you get a parade of students through your office that have overused muscles that are out of condition. But you also mentioned a concern that there are a lot of kids you don't see and you're worried about them as well. What did you mean by that?

**Dr. Bert Mandelbaum:** Well, what happened is that, again, this time of year, preparation for school and club sports in the fall really requires the preparation of

mentality, the preparation of physicality and doing the type of exercises that your son's coach gave them before the summer started so they would be prepared when they entered school.

**Bill Curtis:** They forgot about most of that, though.

**Dr. Bert Mandelbaum:** They forgot about most of that. And so all the center thrown into a practice and they end up with some type of injury because they were ill prepared. So what I was really talking about were the things that they were being noncompliant about. That those lessons would have to be learned the hard way and instead of learning and following that spiral book with all the exercises and progressions, they forgot that. And then they get injured. They end up in the orthopedic surgeons office.

**Bill Curtis:** Oh, what about the kids that they are injured, but they don't admit it?

**Dr. Bert Mandelbaum:** Well, that's a different situation. You know, again. That's part of that bipolarity where you have the kids who win at all costs. No pain, no gain, doesn't really work very well for a young adolescent population because we have to learn that there are boundaries and these boundaries are set by the physicality. And if they don't follow those, they fall into the overuse injury spectrum and they again end up in the orthopedic surgeons office.

**Bill Curtis:** And as does the the child that enters team sports early in their life and perhaps runs eight years of football through their high school and college career. Do they end up paying the price when they get older or do they end up seeing you for more significant surgeries and treatments?

**Dr. Bert Mandelbaum:** Bill, there is a great study from Johns Hopkins that looked at medical students and found that if you happen to play high school football and got injured, you had a three times greater likelihood of having osteoarthritis later in life. So the answer is yes. And that's on the good side that you learn those great lessons. The benefits of the sport, you become physically better, physiologically better, your lipids, your cholesterol is better. Your blood pressure is better. On the downside is you're at a greater risk for osteoarthritis in your 40s or 50s and 60s.

**Bill Curtis:** How do we manage the parents that are perhaps more excited about their kid's athletic prowess than they should be and end up with their children later in life paying the price.

**Dr. Bert Mandelbaum:** As leaders within our respective communities, we have to approach these from an academic perspective and understand the science, but also have to understand how to be leaders and motivate and inspire our parents and our kids to understand how to do this well. And that's one of the issues that I really focus on, is how to motivate and inspire kids and parents how to understand these concepts so they could really embellish these topics with respect to their life.

**Dr. Steven Taback:** When we're talking about children, we're talking about these very difficult issues. I want to take us to kind of a dangerous area. I'm very pleased to see you are very philosophical individual with very high moral standards. What is your take on American football amongst especially our youth and the risk of post concussive injury, both acutely and, more importantly, chronically, with both concussive dementia? Do you subject your child to that risk so that they can enjoy the fruits of the labor of high school football? And beyond.

**Dr. Bert Mandelbaum:** This, Steve and Bill is a tough issue. And you're speaking to someone who played high school and two years of college football.

**Dr. Steven Taback:** And your cognitive skills are still quite good.

**Dr. Bert Mandelbaum:** So we're almost there. I think, I really think that we have a responsibility to our kids on every level, on the football fields, on the soccer fields and the classrooms, especially with respect to gun control, that the health of our children should be number one. It should be tantamount to everything we do as professionals. But with respect to football players, we have to understand the game. There is a way to do it. The coach at Dartmouth University has taken a whole new protocol and policy within the Ivy League to tackling and minimize the number of head injuries, at least in the Ivy League Football League. And this is an important step. We don't need to abolish the game or forbid our kids from playing the game. We just need to make it safer. There's so many ways we can do that.

**Bill Curtis:** You know, there have been people who have suggested that we lose the helmets and the padding because the existence of those is giving people too much energy toward their hits. And as a result, they actually damage themselves and each other when they don't expect that they are. And I guess my question to you is, how do you feel about that? The idea that we get back to kind of the rugby way and have people when they hit somebody, it hurts.

**Dr. Bert Mandelbaum:** You know, when I play football. The game was about, it was played between the hash marks. It was played in such a way that when you hit someone, it was hit him in the numbers. It wasn't about using your head on every contact. And the helmets at that time were anything but good at dealing with stress impact as they are now.

**Bill Curtis:** And, you don't go back to the leather helmets then do you?.

**Dr. Bert Mandelbaum:** Oh, absolutely not. But at those times, certainly in the 70s, these were ones where the helmets were not of the great stress absorbing capability, but the game was different. Tackles were different. If you look at football from 2000 on the use of the head as a weapon is really where it comes down to in the chronic repetitive head injuries, even the sub,.

**Bill Curtis:** Let alone what that does to your neck,.

**Dr. Bert Mandelbaum:** Let alone what it does to your neck going forward.

**Dr. Steven Taback:** And I think probably that ship has sailed anyway. Right. You're not going to dial back the viciousness of the tackle now that you don't have a helmet. From my perspective, looking at it, the safest is going to be if you wind up having flag football. But somehow I don't think that's going to have the same draw in the NFL if everybody switches to flag football.

**Dr. Steven Taback:** What I have learned is that we need to respect the football athlete. And I'm not sure that in the NCAA, for example, that we really respect the football athlete, in that if that were the most important thing, we think about how imperative it is that they graduate.

**Dr. Bert Mandelbaum:** What about the philosophy that, well, now they're multimillionaires. So what's the importance of college?

**Dr. Bert Mandelbaum:** We're talking about football here. Rarely are there no cut contracts like we see in baseball, in basketball. So football is a different thing with respect to contracts. So if you get injured one year to the next and you lose a half a step and you go from 4 6 to 4 7, then the next player comes in next year and then you're relegated back to your hometown without a college degree, with pain and other issues to deal with, let alone the possibility of CTE, chronic traumatic encephalopathy.

**Bill Curtis:** What causes that? And actually biologically, is that a synapse issue? Is that the electricity in your brain isn't following the right track?

**Dr. Bert Mandelbaum:** It's basically the formation of these bodies that are part of scar formation that go on and replace the gray and the white matter in such a way that the brain can't function cognitively. The brain is about intellect, cognitive, emotional orientation, judgment, attention span. And what happens when these bodies collect in the brain? They affect all those functions. And when that happens, that's when we call it encephalopathy.

**Bill Curtis:** Oh boy. Well, we're gonna take a quick break. We'll be back in about 15 seconds.

**Promo - Ricci:** I was introduced to Stefano Ricci decades ago and I was enamored of his creations then and just as impressed now. Stefano Ricci is about style that matters because it lasts. The design, the craftsmanship, Everything about everything he does is made to endure.

**Bill Curtis:** Thank you for being with us. And welcome back.

**Dr. Steven Taback:** This is Medicine We're Still Practicing,.

**Dr. Bert Mandelbaum:** Bert, back in January of '16, you published a piece talking about grafts, ACL repairs. What's unique about the way you handle ACL reconstruction for

professional athletes compared to maybe a 50 year old weekend warrior? Tell us about that.

**Dr. Bert Mandelbaum:** Well, injury to the anterior cruciate ligament or the ACL is becoming a chronic problem in our society. About 200,000 ACL injuries in the U.S. in a given year. And they occur lots in our young children, four times more commonly in young female athletes than young boys.

**Bill Curtis:** No kidding.

**Dr. Bert Mandelbaum:** No kidding. And they occur in these young girls because of a variety of variables.

**Dr. Steven Taback:** Is it a matter of preparation and training and strengthening before they engage? And why would women, the girls, be more vulnerable than the boys?

**Dr. Bert Mandelbaum:** So first, we have to understand how this injury occurs. And the way we have done that is we studied hundreds of videotapes and we found that these young girls land and jump in such a way that they land with their femurs, their leg bone internally rotated. And it's what we call dynamic valgus. As the knee turns in the ACL gets decapitated in this non-contact ACL mechanism.

**Dr. Steven Taback:** Is this a dynamic's because of the pelvic difference between men and women?

**Dr. Bert Mandelbaum:** Not necessarily. It's not a pelvic issue. It's a hip controlled neuro muscular control issue by putting the femur in the appropriate position in relationship to the pelvis that is really critical to why the ACL becomes injured.

**Bill Curtis:** So that means that a girl being successful in a sport actually has to work harder than a boy.

**Dr. Bert Mandelbaum:** Yes. And as a consequence, in 1999, we developed the program that is called a PEP program Prevent Injury, Enhance Performance, which was to bring to the attention of people in the sporting world how these injuries occur. So



we videotaped and show this dynamic valgus and then we developed this program, five exercises, how to prevent this. And we found that we could reduce ACL injuries by in two studies between 72 percent and 88 percent.

**Dr. Steven Taback:** What's the penetration of this protocol now in the academic world and in professional sports?

**Dr. Bert Mandelbaum:** The question you ask is what's the penetration? More importantly is what's the compliance? Because prevention is a very hard concept. I'm a surgeon and we've been able to research the science of how these injuries occur. But what I have learned within prevention and public health, it's very difficult to get a society to be compliant in these basic issues.

**Bill Curtis:** So let's dive in a little more to the professional athletes that you handle. Can you tell us? It seems like the professional athlete, you hear about them having a catastrophic injury and three weeks later, they're back on the field much faster than the rest of us would ever be able to handle. How's that go on?

**Dr. Bert Mandelbaum:** Well, first off, that's not really true. Most professional athletes these days after a catastrophic injury won't be back immediately. You know, for example, we followed what happened with Kevin Durant in the NBA finals regardless of what the issues were. I'm not commenting about the right or the wrong. But look how everybody commented about, well, he shouldn't have played. It was too early. Who told them to play?

**Bill Curtis:** But that's an example of someone who comes back so fast. It kind of makes my head spin.

**Dr. Bert Mandelbaum:** Well, on one level, it matters about the details. It wasn't really the fact that he came back too fast. It was five or six weeks after his injury. And if on face his injury was a medial gastric strain, which it was, then it's perfectly appropriate. But obviously, there was some specificity in this situation that may have been different.

**Dr. Steven Taback:** It is also this is his vocation. This is something that is his professional responsibility. If as a professional, you have a cold, to take an extreme

example, you're probably gonna still go to work that day when maybe somebody who's not actually working or maybe a student in school can take that day off. You're gonna push yourself further than you otherwise should, perhaps just because you need to show up to work each day.

**Bill Curtis:** Well, it is their livelihood and.

**Dr. Steven Taback:** It is their livelihood. But it's also a certain extent a professional responsibility to the corporation and to the team. Would you not expect them to perhaps push themselves a little further? Not hopefully to the point of permanent injury and disability, but maybe they're gonna come back out on the court, on the field a little sooner if they can get away with it, so to speak, for the benefit, the greater good of the team and the tournament.

**Bill Curtis:** But do they pay the price later, Bert?

**Dr. Bert Mandelbaum:** Well, as I said, there's no question that high school, collegiate and professional athletes have higher incidences of osteoarthritis later in life. There's no question about that. In soccer, as an example, about a third retired with the diagnosis of osteoarthritis.

**Bill Curtis:** In the professional athlete after they have a catastrophic injury. Is there anything that you can tell us about their rehab, their physical therapy, what they go through in order to comeback? Is it inhuman? Is it something we can do? Or is it something really unique to someone who, frankly, makes their livelihood in sport?

**Dr. Bert Mandelbaum:** You know, I talk a lot about this and I love the concept of mend it like Beckham. These professional athletes have an alpha approach to everything, is like none other. That they could see the path. They know who their team is. They know the complexities and specificity of their team, who they need to surround themselves with, how they need to motivate and inspire themselves, how they need to break down to every step and every progression back to they get to their championship. And that's why we call it mend it like Beckham.

**Dr. Steven Taback:** Knowing that an ounce of prevention is certainly the best. Are there certain activities that we would say that we should be really avoiding both as the professional athlete and or the weekend warrior? In other words, should we not be running? Should we not be doing higher impact? Or is there a way in which we can engage in these activities and do so safely and still prevent injury to our knees?

**Dr. Bert Mandelbaum:** Our safety and health is predicated on both what we eat, we drink, we think, and what we do. The complexities are based on basic concepts are we're only as strong as the weakest link, meaning that running is important, maintaining fitness is important. We can't just think of diet and forget about the fact that our bodily positions when we run, jump, land or when we ski with bad bindings or we ski that last run of the day, we don't understand the basic tenets of preventive concepts. So it's details, details and more details to do that right.

**Dr. Steven Taback:** So what's the consumer going to do? Because unless you can afford to have a trainer whenever you're running. How does our listener, the general public. How do I figure out what's the best ergonomics for me to carry out my activities and if I don't have a specialist watching me? Is there a general rule or a general way that I can go about my exercise regimen that would be done so in a safe way and the best way to prevent an injury.

**Dr. Bert Mandelbaum:** But I think that firstly, everybody should embark on some adventure that's important to them, whether it's a ski mountain, whether it's hiking or snowshoeing or whatever that is, it should be part of our life because that's what gives humans happiness. But every one of those activities, you've got to pair with a high level of specificity. We do this all the time. Patient comes, I wanted to start skiing. I want to run marathons. We have the L.A. Lakers in this town that teaches people to start running marathons. So each one of these activities we have to approach in a very comprehensive way.

**Bill Curtis:** Bert, where is your specialty going? The great hope for technology taking us to a better place in your specialty.

**Dr. Bert Mandelbaum:** You know, this is an exciting, exciting time for innovation in all of our society. When we look at computational data in the big cloud, being able to take

apart resistors and look at the ability to take big data sets and look side-to-side using machine learning, artificial intelligence, virtual reality,.

**Bill Curtis:** How about genetic mapping?

**Dr. Bert Mandelbaum:** And genetic mapping and being able to use the data cloud to do that, to look at the genomes. And we certainly have seen the tip of the iceberg with the ancestry in 23 and me and we're doing a study now looking at the genetics of ACL injury and our findings are really interesting too.

**Bill Curtis:** Can you tell by looking at a genetic analysis and tell whether someone has a propensity toward an ACL injury or weak knees?

**Dr. Bert Mandelbaum:** We're not 100 percent sure yet because it's a work in progress. But a study out of Poland looked at a group of people and just a collagen gene, collagen 1A1 versus collagen 3A1. A different incidence of ACL injury just by one different what we call ilial, which is a section of the gene. So it's a fascinating time in genomics to be able to look at that and also to look at the field of epigenomics, of how we turn on and off various genes by things that we do. For example,.

**Bill Curtis:** What we eat or how we exercise.

**Dr. Bert Mandelbaum:** Back to what we eat, drink, think and do. You know we know now that if you're exercising every day in an intense way, you're turning on and off 200 genes. And those genes affect your blood vessels, affects your brain, reduces your risk of Alzheimer's, reduce the risk of cancer. So those are the things that we call epigenomics and simple things such as exercise are probably the most robust interventions we have.

**Dr. Steven Taback:** But is this nature or nurture relative to your ACL? Is it a genomic issue such that even if you're not an athlete, even if you're somebody who doesn't exercise regularly, you will still have the propensity for an injury? Or are ACL injuries really predominantly still within the venue of your athlete?

**Dr. Bert Mandelbaum:** I think it's a complex equation where the genetics are the labyrinth or legacy that we bring into our life. But it's certainly modifiable in terms of risk factors by managing and accordingly, preventive strategies. In other words, if you have a hypercholesterolemia and your cholesterol is over 400, doesn't mean you're going to die of heart disease. Once you find you take a large dose of Lipitor and you exercise every day. it's the same thing that the genes are the genes but we still could modify them and modify-ability is the field of what we call a epigenomics. And it's very exciting. And I think this is one of the great discoveries that we've had in the last 30 years.

**Dr. Steven Taback:** From my vantage point, from the medical side, you know, the adage is always for longevity. You have to choose your parents very carefully. Speaking on behalf of my ACL and also on my knee cartilage, is there an activity or a group of activities that would be in some way advantageous? Is there something I can do in a preventative fashion that we've identified either from an exercise perspective, from a spiritual perspective, from a nutritional perspective? Is there anything definitive out there that we can say that we should be doing to protect my poor destined ACL and knee joint cartilage?

**Dr. Bert Mandelbaum:** Well, you should probably exercise intensely at least 400 minutes a week. I think our colleagues in cardiology have really pointed that out again from the epigenomic perspective. But those same benefits on the genes, those 10,000 genes that every time our heartbeats are also important in terms of a musculoskeletal system in our joints, that if we don't exercise and again, if you do have a modicum of osteoarthritis, you've had previous ACL injury, maybe you spend less time running and more time cycling and hiking,.

**Bill Curtis:** How do you feel about running? Is that is that a good thing or a bad thing for the knee structure?

**Dr. Bert Mandelbaum:** There is a law that I always loved to use, is called Sallie's Law, which is basically that bell curve on one side of the curve too little is not good and too much is not good. Right at that top of the curve is the sweet spot. So you need to find the sweet spot with respect to running. I think for people over 50, probably the optimal way to do it is to run maybe two miles, three to four times a week. And then to

supplement it with a variety of other things yoga, pilates, swimming, biking, hiking, things like that.

**Bill Curtis:** Would you advise people to exercise naturally, to run, to walk, to hike, as you as you mentioned before? How do you feel about the machines at all of these fancy gyms?

**Dr. Bert Mandelbaum:** You know, one of the things in my book, *The Win Within* that I spent a lot of time researching in Africa, I went to the Kalahari Desert. And I look for this whole issue of the origin of sport. And there I found the Khoisan Bushmen and the Khoisan Bushmen live today like their relatives from a hundred thousand years ago who lived in the southern Kalahari Desert. And what they do every day is a basically hunt. And to prepare for the hunt. There is no breakfast. They wake up in the morning, they drink. They prepare themselves.

**Bill Curtis:** I like the drink part. Oh, you mean did they just drink water?

**Dr. Bert Mandelbaum:** They're drinking water. And they prepare themselves, their bows and arrows and they're ready to go. And I joined them on this hunt and off we went. And never did we exceed probably 12 minute miles in terms of the walk and a jog. And every time I found myself going faster, they would look at me and go like this. No, no. And what I've concluded from this is that man as we know it today is set up to basically be a slow jogger, not do too much with respect to running and not be the sprinter, but to be the slow walking, walk jog situation, because that is our legacy. That's the way we've been set up to be that hunter,.

**Dr. Steven Taback:** But not the marathon runner. Moderation in terms of distance as well.

**Dr. Bert Mandelbaum:** That's what I'm saying. The moderation, because what we find when we look at this critically, if we look at the cardiac enzymes and we look at the inflammatory, the coronary vessels for marathon runners, we find that the markers are really the negative ones. They've gone over the other side in this regard. So I think the sweet spot in answer to your question is really moderation when it comes to running and balance your activities. If you're that weekend warrior, you love yoga, go for it.

Pilates, stretch, swim, tai chi, hike. Do the combination of things, find your adventure. That's where you want to be and follow a path. Navigate this path. As we all are trying to figure the optimal existence, what I call the plus 10 existence.

**Bill Curtis:** What do you mean by plus 10?

**Dr. Bert Mandelbaum:** Well, I'm very fortunate to have a dad who's almost 95 and a mom who is 93 and never been athletes, ever. Mom's got a little heart disease. And what I've noted in the last seven years is that, in fact, they are just slowed by their joint disease and just being old, being in their 90s and they're still healthy, no big diseases, but they can't do much because they haven't exercised very much. So I think that what we should think of and we plan our lives and our mission in our life, what we want to do, is we want to make plus 10. So those years between 85 and 95 are lived like they were lived between 60 and 70. That's what I call plus ten.

**Bill Curtis:** So you mean plus a good ten.

**Dr. Bert Mandelbaum:** plus 10. You get good. It's a plus. Plus ten, a good 10 years at a high quality where you could play tennis, we could ski, we golf, we could hike and do all the things we talked about. You are what you eat trading.

**Bill Curtis:** But you basically want people even at that age to exercise seriously for an hour a day.

**Dr. Bert Mandelbaum:** One hundred percent. In fact I want people who could exercise into their 80s and 90s, more than an hour. Every decade you have to add 15 minutes.

**Dr. Steven Taback:** Bill, how much exercise did you get today?

**Bill Curtis:** Remember the three sets of stairs I told you I walked up? There was about it. We're going to venture into another break here. Steve and Bert, if you'll give us just a minute. We're going to come back and we're going to talk about life, longevity and whether sports help you live longer. We'll be right back.

**Promo - HU:** Sometimes the exceptional is not the biggest budget. Sometimes the exceptional is someone's ability to actually take their soul and print it on the screen for a moment, I want to learn everything that there is to know about the filmmaking process. I think part of art is hearing from the artists who create it and the number of different visions, the number of different qualifications that have to go into making any film is insurmountable. And hearing those stories can be just as exciting and insightful as the movies themselves. Certain movies or certain scores certain actors have shaped who I am as a person. I have such appreciation for the things that people produce and the work that goes into it. Whether it's the writer who came up with this story in general, or how the filmmakers were able to take that from the page and put it onto screen and then from the actors themselves who are able to kind of bring that all to life. All of it is what I want to hear, because it makes me love my favorite movies even more. I'm Scott Tallall, if you love movies like I do, you're going to love Hollywood UNSCRIPTED. Wherever you get your podcasts.

**Bill Curtis:** Well, welcome back. Bert, you send a lot of people home who have had surgical procedures. What do you do about pain management?

**Dr. Bert Mandelbaum:** Pain management is something we pay a lot of attention to. As you know, it's important for us to really reduce the amount of pain. We love the expression no pain is your gain. And we like to do that because we can block the pain fibers in a preemptive way in the operating room just by blocking the pathways back to the spinal cord, which decreases the potential of pain post-operatively.

**Bill Curtis:** Well, you did that for me. It did gives you a couple of days of not even feeling your leg, which was a positive thing for me at the time.

**Dr. Bert Mandelbaum:** WExactly. And what happens? You bypass that significant pain period and then the pain that everybody gets is really much less an amplitude. So there are many things for us as practitioners that we can do to reduce the acute pain, certainly from a surgical procedure. I think it's important as a surgeon that each of us understand that pain is something that is modulatable, that we could discuss this with a patient, that we can make a difference, that we don't have to give them 30 pills when they're only going to require six. We don't have to give them morphine or Demerol or



hydrocodone. We could reduce the type of opioid that we use that decreases the potential of addiction.

**Dr. Steven Taback:** What about the chronic pain? I know from the medical side, it wasn't too long ago where the government's edict was that pain should be the fifth vital sign. And we all were scrambling because the fear was that if we were not going to ask a patient about pain and pain management as often as we would do the respiratory rate and their temperature and their blood pressure and other vital signs, that there would be some ramifications and there would be a negative impact on our practice and possibly some punitive results due to neglecting that.

**Bill Curtis:** Was that pharmaceutical lobbyists that created that situation for you?

**Dr. Steven Taback:** I don't think so. I mean, I think that this was people feeling that probably on some level, rightly so, that physicians were more attuned to dealing with medical illness and not the psychosocial aspects that patients were enduring. And pain was one of them.

**Dr. Bert Mandelbaum:** And we were wrong. We were wrong, really wrong at that time.

**Dr. Steven Taback:** So now we find ourselves in this opiate crisis. And now the government is saying, physician, you're the problem completely not owning up to the responsibility that was imposed upon physicians to make sure that you recognize patient's pain.

**Bill Curtis:** Who that was the responsibility imposed by?

**Dr. Steven Taback:** Legislation, your Congress, your Senate, who would say that physicians need to be doing this, to put the physician into the crucible, in the crosshairs of administrative legislative bodies that say physicians must be doing this.

**Bill Curtis:** But politicians don't know beans about medicine, who put them in a position where they were putting that kind of pressure on the doctor?

**Bill Curtis:** You did. You voted them in. And for some reason they have power. And just because they don't necessarily have the education to justify their perspective, their perspectives, however, have clout and unfortunately, ramifications. So now, I'm not saying that this is the entire cause of the problem, but it brings into direct relief the situation where physicians are historically placed in a double bind. You must address the pain. OK, you've addressed the pain. Now you've overshot, Doctor. How does a physician and you, especially as an orthopedic specialist, deal with patients who have their chronic pain? And how do you mitigate the risk of opiate addiction at the same time of mitigating the patient's pain?

**Dr. Bert Mandelbaum:** Well, I think we have a responsibility in many levels. The first of which what we do on a daily basis with our patients. And I see it as a responsibility that I have to the patient to reduce their pain and the requirement. We know that anywhere between 6 and 10 percent of the people having knee replacement can get addicted from their medications associated with their knee replacement. So the first thing challenge that we have as doctors is to understand that sequence of how pain is created and how we minimize and prevent pain that needs to be treated by lots of opioids. And then they could lead into those situations. And again, that's one side of this problem. I mean, this dragon has many different heads, one of which is the physician, as Bill pointed out, the legislature and some of the lobbyists from the pharmaceutical companies at that point in time pushed on that in their advertising and marketing efforts were very much to instigate the use of opioids in a widespread basis. Today, we think differently. So we've got to think differently. We've got to cause less pain. We've got to think it through all the way through the whole algorithm, And we're not doing a good job. We see that in various states such as New Hampshire and Pennsylvania, West Virginia where opioid death rates are five to six times greater than here in California for reasons that really are complicated. Again, the different heads of the dragon on one side, the issues of access to opioids, on the other, the despair aspects in these small towns and where they have high incidence of use, abuse and death, which is something that we really need to focus upon.

**Bill Curtis:** Bert, in some of your writings that you touch on artificial intelligence and 3D printing and robotics. Can you tell us a little about what's next?

**Dr. Bert Mandelbaum:** Well, I think I think this focus you mentioned robotics right now and our field of joint replacement is very exciting. The last decade, a variety of robots, GPS robots, finding the precision and accuracy of putting in a knee replacement in such a way that it could be accurate to the half a millimeter, something we were unable to do in the past, to be able to use specialized cobalt and other types of metallics to create prostheses that have a tremendous longevity that are perfectly inert and compatible with biological systems. The reason why orthopedic surgeons exist is to basically make the joints better that allow the heart and the cardiovascular system membrane to function. So the role that we have, the use of orthobiologics in the period of time from 50 to 100 will have a much greater role than we've ever seen before.

**Bill Curtis:** Interesting. I guess I can't help but ask how old is too old for a knee replacement or a hip replacement?

**Dr. Bert Mandelbaum:** Well, I think age is a number. And, you know, someone said today that there's someone alive today who will live to 150.

**Bill Curtis:** Boy, I hope they have a good pension.

**Dr. Steven Taback:** It's probably one of those Bushmen you're talking about.

**Dr. Bert Mandelbaum:** I don't know who it's going to be. And perhaps they're right in saying so. But we talked about plus 10 concept that I just mentioned. But imagine that we're talking about plus 50 and how we're going to get from 100 to 150. What does that look like? Is it yet to be defined again? Let's get back to the turn of the 20th century. Average longevity was 40 in 1899, longevity was 40.

**Bill Curtis:** And then at 120 or 130 years of age. What other systems of ours are going to fail that we need to figure out?

**Dr. Bert Mandelbaum:** Well, certainly our brains, you know, the World Health Organization has figured out that if we live, if our longevity marches to 90, up from 82 where it is in Monaco, that one of the biggest problems that we'll have is that our health care bill will be doubled because the custodial aspects of managing all these folks with Alzheimer's dementia will be the number one cost factor for us. So we have to figure out

that. How do we minimize that? And I think that issue is coupled to the fact that now we have a society that's going to smoke a lot less. And if you look at the longevity countries, the top 10 longevity countries are fish eating countries. Monaco, Spain, Italy, Japan, fish eating countries. And again, the Mediterranean diet wins out in terms of all these issues. People constantly ask about vegan diets and, you know, what's the optimal way to eat? And it turns out that we spent many years, 2 million years to be particular, being vegans where we were smaller, our brains were smaller, and we, in fact, were prey. We weren't predators as we are today with bigger brains, bigger bones. So I'm not sure we're set up to be vegans going forward. I don't think it's enough to sustain us in optimal health. I think some balance in the way I tell people is that you want to eat fish, eat plenty of vegetables. I tell people they have at least 10 of your 14 meals in fish and lots of vegetables. Reducing your carbohydrates is the ideal diet.

**Bill Curtis:** Well, Steve, you can be eating a lot of salmon because I think that's the only fish that you're willing to deal with.

**Dr. Steven Taback:** It's the only one I'm willing to deal without a doubt.

**Bill Curtis:** Dr. Bert Mandelbaum, I'm really appreciative of your attendance here today. I hope you'll come back and talk to us again. Of course, Dr. Taback, thanks so much for hosting today's show.

**Dr. Steven Taback:** It's been truly a pleasure. Really nice meeting you, Bert. Nice talking with you.

**Dr. Bert Mandelbaum:** It's a pleasure to be here.

**Bill Curtis:** Thanks so much. If you're looking for Dr. Bert Mandelbaum, you can find him at the Cedars Sinai Kerlin Jobe Institute in Santa Monica.

**Dr. Steven Taback:** Or at the firing range, no I guess not.

**Bill Curtis:** No, actually swimming with sharks.

**Dr. Bert Mandelbaum:** tomorrow

**Dr. Steven Taback:** Once again, this is your host, Dr. Steven Takeback. And this is medicine. We're still practicing.

**Announcer:** This episode of Medicine We're Still Practicing was hosted by Dr. Stephen Taback and Bill Curtis, produced by Chris Porter, Sound Engineering by Michael Kennedy. Theme Song by Eric Dick, recorded at Curtco's Malibu Podcast Studios. Additional Music by Chris Porter. Today's guest was Dr. Bert Mandelbaum. Be sure to subscribe, rate and leave a review wherever you get your podcasts. Thanks for listening.

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