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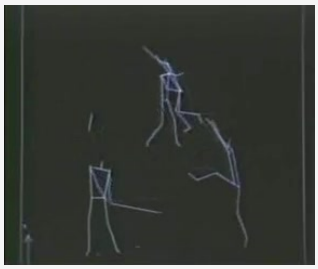
Future Sport 13



Code	**adi-vid-01155**
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Synopsis

In this special edition of Futuresport, host Vic Braden introduces a panel of experts who discuss the future of sports in relation to science. The panel includes Dr. Barry Unger, a cardiologist; Dr. Charlie Kunselman, an exercise physiologist; Dr. Mark Legome, an orthopedic surgeon; Dr. Arnold Starr, a neurologist; and Dr. Gideon Ariel, a biomechanist.

The panel discusses the surprising performance of a 45-year-old Olympic discus thrower, attributing his success to daily training, good nutrition, and possibly genetic factors. They also discuss the limitations of age on athletic performance, with some suggesting that peak performance may be possible into the 50s.

The panel also discusses the effects of exercise on the body, including the brain, heart, and muscles. They note that while exercise can improve physical health and performance, it can also lead to injuries if not done properly.

In terms of nutrition, the panel discusses the importance of balancing calorie intake with physical activity. They also discuss the potential benefits of moderate alcohol consumption on heart health.

Looking to the future, the panel predicts advancements in understanding and preventing injuries, individualized nutrition plans, improved understanding of motor skills and movements, and the use of technology to optimize athletic performance. They also hope for more interdisciplinary research and better public education about the benefits of sports and exercise.

Model Id: gpt-4-0613
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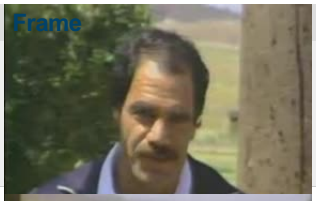
Audio transcription

Frame	#	Time	Spoken text
	0.	00:00:00	*Welcome to the World of Futuresport.*
	1.	00:00:12	*Hi, I'm Vic Braden, and this is a special edition of Futuresport.*
	2.	00:00:18	*We have a panel today, people who have spent their lives helping you improve your body*
	3.	00:00:22	*and your athletic performance.*
	4.	00:00:24	*Let's meet them.*
	5.	00:00:25	*I'm Dr. Barry Unger.*
	6.	00:00:26	*I practice internal medicine and cardiology in Los Angeles, California.*
	7.	00:00:31	*I'm Dr. Charlie Kunselman, and I have my degree in exercise physiology with a special emphasis*

Frame	#	Time	Spoken text
	8.	**00:00:36**	*in sport nutrition.*
	9.	**00:00:37**	*I'm Dr. Mark Legome.*
	10.	**00:00:38**	*I'm an orthopedic surgeon practicing in Mission Viejo in Laguna Hills, California.*
	11.	**00:00:44**	*I'm Dr. Arnold Starr.*
	12.	**00:00:45**	*I'm a professor of neurology at the University of California at Irvine.*
	13.	**00:00:50**	*And our own resident genius, Dr. Gideon Ariel.*
	14.	**00:00:53**	*Hello, Vic.*
	15.	**00:00:54**	*We've all gathered to discuss how science is related to the future of sport.*
	16.	**00:01:02**	*Welcome back to Futuresport, and let the discussion begin.*
	17.	**00:01:05**	*Gideon recently out-ordered Olympic discus thrower through one of his best performances*
	18.	**00:01:10**	*ever, yet he's 45 years of age.*
	19.	**00:01:13**	*Is this not surprising to you?*
	20.	**00:01:15**	*Well, it's really not a surprise for me.*
	21.	**00:01:18**	*It probably will be a surprise to almost everyone that's over 45 years old.*
	22.	**00:01:23**	*But here is a person that kept himself in shape, he's training on a daily basis, he*
	23.	**00:01:27**	*has a fantastic nutritional makeup, he's well-developed, neuromuscular, he probably is a genetic freak.*
	24.	**00:01:36**	*So here is a person that can throw over 70 meters at the age of 45, and I think he will*
	25.	**00:01:42**	*be on our Olympic team in 1984, which tell us something that chronological age and biological*
	26.	**00:01:48**	*age don't follow each other exactly in the same time.*
	27.	**00:01:52**	*But Gideon, does that mean it's got to end somewhere, 85 years old, throwing the discus*
	28.	**00:01:57**	*out of the county?*
	29.	**00:01:58**	*Well, of course there is a limitation, basically a genetic limitation.*
	30.	**00:02:02**	*The question is where the genetic makeup reach an optimum.*
	31.	**00:02:06**	*Is it age 20, 30, 40?*
	32.	**00:02:08**	*I think that we used to think that after the age of 35, it's all downhill.*
	33.	**00:02:13**	*In my estimation, it's probably close to 50, because we're finding out also in the Soviet*
	34.	**00:02:17**	*Union that many Russians are now breaking world record at the age of 48, 49.*
	35.	**00:02:22**	*We have few Americans that return after long-time retirements, and they're performing the best*
	36.	**00:02:27**	*at the age of late 40s.*
	37.	**00:02:29**	*So there is a limit there, and I think the limit is some place in the 50s.*
	38.	**00:02:35**	*Dr. Stor, maybe the body can do certain things, but what happens to the brain?*
	39.	**00:02:39**	*The brain actually is controlling the body, so that what the body does, it reflects the*
	40.	**00:02:44**	*brain's function.*
	41.	**00:02:46**	*And what we know about is that for some simple kinds of behaviors, motor behaviors, like*
	42.	**00:02:51**	*reaction time, that does slow down as you get older, but the kind of movement that Al*

Frame	#	Time	Spoken text
	43.	00:02:56	*Order must undergo to throw a discus must be a very, very complex performance.*
	44.	00:03:02	*And what you're telling me is that the brain continues to learn and continues to improve*
	45.	00:03:06	*on these complex behaviors.*
	46.	00:03:08	*You're right, Arnie, it is a complex movement, but sure, more and more executives are involved*
	47.	00:03:14	*in sports at a later age, starting at a later age.*
	48.	00:03:17	*What kind of results do you get?*
	49.	00:03:18	*I know, they're getting the same kind of thing that Dan was talking about.*
	50.	00:03:21	*Ken Cooper always has a Tyler run every year in which people go out and they run a two-mile*
	51.	00:03:25	*race, and every year he asks these men, how many perform better than the year before?*
	52.	00:03:29	*And these men are in their 30s, late 30s, 40s, or even in their 50s, and inevitably*
	53.	00:03:33	*80 to 90% of those men raise their hands and say they ran a better time this year than*
	54.	00:03:37	*the previous year.*
	55.	00:03:38	*So it seems you're getting older, you might be getting better.*
	56.	00:03:42	*That may seem so on the basis of time, but there is a problem we have with physiologic*
	57.	00:03:48	*aging as well.*
	58.	00:03:51	*As we do age, joint flexibility significantly decreases, strength in the muscles decrease,*
	59.	00:04:01	*and I think we're running into a problem there where older people suddenly become imbued*
	60.	00:04:07	*with this athletic spirit and they want to hurry up and catch up with all the years that*
	61.	00:04:12	*they've been relatively inactive, and this is a problem.*
	62.	00:04:15	*Obviously, if you want to protect the anatomy for many years, you will have probably good*
	63.	00:04:19	*bones and good cartilage, and the tissue will be pretty good, but your heart is going to*
	64.	00:04:24	*die on you.*
	65.	00:04:26	*If you try to run the 20 miles at the age of 50, obviously you are putting quite a bit*
	66.	00:04:30	*of load on your anatomy.*
	67.	00:04:31	*You will have a great heart, but you might have to be in a wheelchair at the age of 55.*
	68.	00:04:36	*So I think there is a balance in life, and it depends.*
	69.	00:04:40	*You have to play it in a very smart way so you don't overemphasize one thing and forget*
	70.	00:04:46	*about the other thing like anything else.*
	71.	00:04:48	*Do everything at the right amount, at the right age, at the right time.*
	72.	00:04:51	*Well, I can help out a little bit.*
	73.	00:04:53	*With respect to any given individual at any given time, a lot of these things can be tested*
	74.	00:04:58	*through stress testing.*
	75.	00:05:00	*Basically, these are exercise testing where you not only look for the efficiency of the*
	76.	00:05:05	*heart, what the heart can do performance-wise, but you look for any type of pathological*

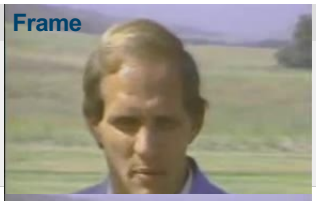
Frame	#	Time	Spoken text
	77.	00:05:09	*changes that could give quite terrible serious side effects, heart attacks, death.*
	78.	00:05:15	*Once we get a person's optimal, we can calculate what's an efficient type of exercise, at what*
	79.	00:05:21	*rate, and what level of performance.*
	80.	00:05:23	*I follow a very simple rule, I say, exercise as much as you sit near the table and eat*
	81.	00:05:29	*a day.*
	82.	00:05:30	*So if you eat one minute a day, just exercise one minute a day.*
	83.	00:05:33	*But if you eat for three hours, exercise for three hours, well, I don't try to tell*
	84.	00:05:37	*you, Vic, that you should exercise for 15 hours, but I think that if we count how much*
	85.	00:05:43	*we input and how much we output, and this is, Charlie, your area, I think we will be*
	86.	00:05:49	*in quite balance.*
	87.	00:05:51	*What do you think?*
	88.	00:05:52	*I think so, and I think all too often we just think in terms of the amount of calories we*
	89.	00:05:56	*take in instead of thinking in terms of the number of calories that we expend through*
	90.	00:05:59	*physical activity.*
	91.	00:06:00	*And, of course, over the years we've expended fewer and fewer as we become more and more*
	92.	00:06:04	*automated and dependent on these kinds of devices, so that today the average male being*
	93.	00:06:08	*you only bring off 24, 2200 calories.*
	94.	00:06:11	*An athlete will be bringing off 4000, an Olympic athlete, 5, 6000 calories, and so they can*
	95.	00:06:15	*consume large amounts.*
	96.	00:06:16	*But as we become sedentary, then we have to compromise in starting to do exactly what*
	97.	00:06:20	*you said.*
	98.	00:06:21	*You know, you've got to have this bank kind of thing, this bank account, so many calories*
	99.	00:06:25	*in, so many calories out, and you want it to be zero at the end of the day, or a deficit*
	100.	00:06:28	*so you actually lose weight and fat.*
	101.	00:06:31	*Motivation's got to play a major role in everything that we're talking about.*
	102.	00:06:34	*All the sophisticated equipment's not going to be any good if we don't have motivation.*
	103.	00:06:38	*Now, the reason I bring this up is I look at all you guys, you're all really slick.*
	104.	00:06:42	*You're all kind of on the periphery of sports maybe, but no, you're in there pretty heavily.*
	105.	00:06:46	*But getting there, spending our life in sports, and we're the only two heavy guys, bad guys*
	106.	00:06:52	*in this whole group.*
	107.	00:06:53	*Obviously you get your rewards from eating more than you get from your athletic performances*
	108.	00:07:00	*so that you gain weight.*
	109.	00:07:02	*And I think the motivation is true for all of the people that we see as physicians.*

Frame	#	Time	Spoken text
	110.	**00:07:06**	*If they're not motivated in the direction that we'd like them to go, they're not going*
	111.	**00:07:09**	*to perform that way.*
	112.	**00:07:12**	*Thank you, Dr. Starwell.*
	113.	**00:07:13**	*Future Sport continues right after this.*
	114.	**00:07:23**	*Welcome back to Future Sport.*
	115.	**00:07:34**	*Our next question comes from Dr. Mark Legome.*
	116.	**00:07:36**	*Gideon, speaking of nutrition and noting that you may be slightly heavier than the rest*
	117.	**00:07:41**	*of us, don't you feel that there's some body type specificity where certain types of individuals*
	118.	**00:07:49**	*are more, let's say, efficient at performing certain types of sporting activities than*
	119.	**00:07:54**	*others?*
	120.	**00:07:55**	*There's a tremendous controversy about fiber types.*
	121.	**00:07:58**	*Some people said, well, this person was born with a fast twitch fibers, another way to*
	122.	**00:08:03**	*say it, with fast muscles, and other people with slow muscles.*
	123.	**00:08:07**	*And today even, some physiologists claim that they can take a piece of muscle at the side*
	124.	**00:08:14**	*of the leg here and analyze it and say, well, this kid can be a sprinter, and another kid*
	125.	**00:08:18**	*will be a long distance runner.*
	126.	**00:08:21**	*I think it's oversimplification.*
	127.	**00:08:23**	*These studies came from Sweden.*
	128.	**00:08:24**	*I call it the Swedish connection.*
	129.	**00:08:26**	*And I think that the brain on the top, this big computer that Dr. Starwell is so familiar*
	130.	**00:08:32**	*with, will show us that it's not such a simple answer to complicated questions.*
	131.	**00:08:37**	*What do you think?*
	132.	**00:08:38**	*Well, you know, the two types of fibers, the fast and the slow fibers, they can change*
	133.	**00:08:43**	*their proportion depending upon how the muscle is used.*
	134.	**00:08:46**	*It's been shown, and since the kinds of athletic activities we're engaged in are really determined*
	135.	**00:08:54**	*by us, by our selection and our choice, and then how we use our brains, I think we can*
	136.	**00:08:59**	*She's playing with other little kids who are five, and the other little kids are saying,*
	137.	**00:09:02**	*look, Mommy, I could hit the ball.*
	138.	**00:09:04**	*She's saying, I think I can handle your case.*
	139.	**00:09:07**	*She's all ready to go on the tour.*
	140.	**00:09:08**	*Now, other little kids are just waving to Mommy because they hit one.*

Frame	#	Time	Spoken text
	141.	00:09:12	*Now, maybe what we're finding is that some kids at a very early age have developed whatever*
	142.	00:09:18	*needs to be developed in the brain to promote this, but other kids became world champions*
	143.	00:09:22	*who didn't even start until they were 11 or 12 or who fell down on the ground.*
	144.	00:09:27	*I had a couple of youngsters who really would just walk and fall when they were 10 and 11*
	145.	00:09:31	*years old and who became professional tennis players.*
	146.	00:09:34	*So I think the growth and development schedules are very different.*
	147.	00:09:37	*But what's of great interest to me is maybe what would happen, just theoretically, if*
	148.	00:09:41	*we took youngsters who fell, forced them into a different kind of mode, and had them do*
	149.	00:09:46	*very intricate things, could they then send messages to the brain so the brain would formulate*
	150.	00:09:51	*something and then send some messages back to the body?*
	151.	00:09:54	*Maybe the body mechanisms training the brain rather than brain training the mechanism.*
	152.	00:09:58	*I'd like to now jump from children to adults, if I can, and ask Barry Unger a question.*
	153.	00:10:04	*You talked about the heart and about how you could tell whether there were diseases and*
	154.	00:10:10	*whether people should do exercises or not.*
	155.	00:10:14	*Can these kinds of exercises actually improve cardiac function?*
	156.	00:10:16	*By exercising, you'll increase the efficiency of the heart, which indirectly will increase*
	157.	00:10:22	*the quality of your life.*
	158.	00:10:24	*You'll be able to do much more with less symptoms, less symptoms of chest pain, shortness of*
	159.	00:10:28	*breath, or the other classical symptoms associated with heart disease, but also indirectly you*
	160.	00:10:34	*also reduce other risk factors.*
	161.	00:10:35	*Charlie could probably tell us more about this, but these are things like lowering total*
	162.	00:10:40	*cholesterol levels, elevating what's called high-density lipoprotein cholesterol, which*
	163.	00:10:46	*seems to reduce heart attacks, lowering triglyceride levels, and lowering blood sugar levels, all*
	164.	00:10:51	*this by exercising.*
	165.	00:10:53	*Barry, when you talk about cholesterol and triglycerides, which are blood lipids, our*
	166.	00:10:57	*body responds in a different way to the exercise.*
	167.	00:11:01	*For example, if you're involved in a walking or a running or a swimming or a bicycling*
	168.	00:11:05	*program, you do this for 30, 40 minutes, your triglyceride level will drop immediately,*
	169.	00:11:10	*but the cholesterol doesn't change that fast, and in fact, most of the research which has*
	170.	00:11:14	*been done, people will say, well, exercise has no influence on cholesterol, because the*
	171.	00:11:18	*study over a 2 to 6 month period of time shows no change, but when you look at the change*
	172.	00:11:24	*over a lifetime or 15 or 20 years, then you find that while the cholesterol of a fit person*

Frame	#	Time	Spoken text
	173.	00:11:29	*increases, it doesn't increase nearly as much as the person who's less fit, so exercise*
	174.	00:11:33	*seems to play a very positive role in reducing this particular risk factor in terms of heart*
	175.	00:11:37	*disease.*
	176.	00:11:38	*But there's another piece to this puzzle as well, and our cholesterol is transported throughout*
	177.	00:11:42	*the body by lipoprotein, which is a fat protein molecule, and people use this explanation*
	178.	00:11:49	*as an illustration.*
	179.	00:11:50	*The bad guy is really the low-density lipoprotein, and when the cholesterol is fastened to this,*
	180.	00:11:55	*it's in an unstable condition, and it's usually here, which it can be deposited on the lining*
	181.	00:11:59	*of the arteries, but the high-density lipoprotein is the good guy, and this is the kind of,*
	182.	00:12:04	*molecule which will help to pick up the cholesterol and help for excretion from the body, and*
	183.	00:12:09	*so what we're looking for is to have people have a high amount of high-density lipoproteins*
	184.	00:12:13	*and a low amount of low-density lipoproteins, and one of the most fascinating things is*
	185.	00:12:17	*that bona fide aerobic exercise, three times a week, four times a week, will increase the*
	186.	00:12:21	*HDLs within a matter of 12 weeks or so.*
	187.	00:12:24	*But you know, Charlie, when Bill Koch did a study back in Boston, and he was trying*
	188.	00:12:29	*to find out where he could get that low-density, and he found out, he said, look, I've got*
	189.	00:12:35	*to find the people who have got the cleanest vessels in the world. Now he found them in*
	190.	00:12:39	*the drunk tank in Boston, and they had, unbelievable, they had 12-year-old vessels, they had no*
	191.	00:12:47	*livers, they were all dying from liver problems, but at the same time they had very clean vessels,*
	192.	00:12:51	*so he even got onto the tact of everybody having one drink a night.*
	193.	00:12:54	*Yeah, I think there is some research to show that very definitely, that one alcoholic beverage*
	194.	00:12:59	*a day, or even two, will probably have a positive effect on increasing HDL. The problem*
	195.	00:13:04	*is if you start consuming too much alcohol, as you said, the liver becomes shot, and then*
	196.	00:13:08	*you've got another problem, which is going to be more catastrophic than the heart disease.*
	197.	00:13:12	*Are you saying then that for the average non-athlete, instead of going out and jogging a couple*
	198.	00:13:17	*of miles a day, he can gain the benefits of athletic competition or athletic participation*
	199.	00:13:23	*by having a couple of drinks at night?*
	200.	00:13:24	*No, I don't think so. I think this comes back to what Gideon said earlier in terms of these*
	201.	00:13:28	*trade-offs and options. I think the trade-off is that if you're going to consume alcohol,*
	202.	00:13:32	*you may have some problems with cirrhosis of the liver. But the exercise is such a positive*
	203.	00:13:36	*kind of thing, which Barry was talking about, in which it not only helps to reduce these*
	204.	00:13:40	*risk factors, but you start feeling good about yourself, and you improve your ego, and you*
	205.	00:13:44	*feel good about the fact that, hey, I ran three miles today, but when you start saying*
	206.	00:13:47	*I drank 12 beers, it sort of depresses you.*
	207.	00:13:50	*Right, Mark. Yeah, I think we should protect Bill Kolk on this. He was just, he was showing*

Frame	#	Time	Spoken text
	208.	**00:13:54**	*a bunch of the little ingredients, and his basic theme was maybe a cocktail at night's*
	209.	**00:13:58**	*not so bad. People shouldn't feel badly about it, but simultaneously, exercise and the other*
	210.	**00:14:03**	*ingredients will have to be better in order to be successful.*
	211.	**00:14:06**	*We'll be right back.*
	212.	**00:14:07**	*We know a little bit about the history of sport, but what's in the future?*
	213.	**00:14:26**	*Let's start with you, Dr. Ormger. I want to hear what's going to happen 10 years from*
	214.	**00:14:30**	*today.*
	215.	**00:14:31**	*We'll find out what points risk factors become increased, what points people are more*
	216.	**00:14:36**	*susceptible to myocardial infarctions, and what points short of this will they be able*
	217.	**00:14:42**	*to enhance their endurance.*
	218.	**00:14:44**	*Thanks, Barry. Let's go to Dr. Mark Legome, orthopedic surgeon.*
	219.	**00:14:48**	*Vic, I think one of the main emphasis in orthopedics is going to be the prevention of injuries.*
	220.	**00:14:55**	*As we get into athletic medicine more and more and analyze injuries and analyze how*
	221.	**00:15:03**	*they occur, I think orthopedics is going to be very important in the prevention of*
	222.	**00:15:08**	*these injuries and also alteration of sporting equipment to make sport much more safe than*
	223.	**00:15:15**	*it has been in the past. I think that's going to be the big arena for orthopedic surgery.*
	224.	**00:15:22**	*Obviously the human body isn't going to change physiologically, but as far as biomechanical*
	225.	**00:15:28**	*improvements, I think these are the areas that orthopedics and the biophysiologists*
	226.	**00:15:39**	*is going to help out quite a bit.*
	227.	**00:15:41**	*Well the body may not change, but what we put in the body may change an awful lot. This*
	228.	**00:15:44**	*is Dr. Charlie Kunselman, our nutritionist.*
	229.	**00:15:48**	*In the area of nutrition, I think there are several things that we're going to see. Number*
	230.	**00:15:51**	*one, I think they're going to start to look at people as individuals rather than talking*
	231.	**00:15:55**	*about a collective kind of response to food that everybody takes and recommended daily*
	232.	**00:16:00**	*allowances. I think there's going to be more of an emphasis on you as an individual. I*
	233.	**00:16:04**	*think we're going to look at, or athletes are going to have analysis of their vitamin*
	234.	**00:16:08**	*content or their mineral content to make sure that they are getting adequate nutrition.*
	235.	**00:16:12**	*I think there's going to be an emphasis which is already occurring on people being concerned*
	236.	**00:16:16**	*about their percentage of body fat and lean body tissue rather than just general body*
	237.	**00:16:21**	*weight, that type of thing. And I think there will be an improvement of diets for athletes*

Frame	#	Time	Spoken text
	238.	00:16:25	*in general. I think there has been an improvement over the past couple years, but there's still*
	239.	00:16:29	*a lot of old ideas which still are bandied around such as the protein myth and that kind*
	240.	00:16:36	*of thing. I think there's going to be more of this direction of emphasizing the carbohydrate*
	241.	00:16:40	*loading aspect of nutrition and so forth. So there's a lot of things I think will be*
	242.	00:16:44	*going on, but I think it's going to come back to this crucial issue of the individual and*
	243.	00:16:48	*how he is handling the types of foods that he may be eating.*
	244.	00:16:52	*Well that's some idea about what's going inside the body. Let's talk a little bit about the*
	245.	00:16:55	*brain. Our neurologist, Dr. Arnie Star.*
	246.	00:16:57	*Well I hope in the next ten years we'll learn more about what goes into the actual performance*
	247.	00:17:03	*of these athletic skills. What is actually going on when someone jumps or when someone*
	248.	00:17:08	*hits a tennis ball, because with that information we'll be able to devise better training strategies.*
	249.	00:17:14	*But now our training strategies are probably half myth and half accurate. And then I think*
	250.	00:17:20	*the more important thing for me as a neurologist and a physician is if we learn more about*
	251.	00:17:25	*what goes into normal movements and what goes into actually the development of skilled movements,*
	252.	00:17:30	*we can probably help the rehabilitation of a large number of patients who have disorders*
	253.	00:17:34	*of the motor system. For instance, patients who are paralyzed following a stroke, and*
	254.	00:17:38	*you try to teach them how to use their limbs again. If we know something about what goes*
	255.	00:17:43	*into normal movements, we'll be able to train them more effectively so they can become proficient.*
	256.	00:17:50	*From the neurologist to the biomechanist, Gideon Ariel.*
	257.	00:17:52	*Well Vic, I see a tremendous advance in technology that will use the body as a model that will*
	258.	00:17:58	*consider the heart, the prevention of injury, the nutrition, and the brain into an absolute*
	259.	00:18:06	*or optimal model so the coach of the future will be able to plug in all these viable and*
	260.	00:18:12	*to know where is the deficiency. Is it a nutritional deficiency? Is it an injury deficiency? Is*
	261.	00:18:18	*it a heart deficiency? Is it a neuromuscular deficiency? By having a model and using a*
	262.	00:18:24	*modern technology, we'll be able to optimize the performance of our future athletes.*
	263.	00:18:29	*Gideon, I hear you talk so often about people being a gold medalist in their own body. Well*
	264.	00:18:34	*as a psychologist, what I'm hoping in the next ten years is that all of these people*
	265.	00:18:38	*who are doing research in their basements in the universities get together in an interdisciplinary*
	266.	00:18:42	*approach to this thing so we can gather good data. But what I like to see in the next ten*
	267.	00:18:47	*years, and I think it's going to happen, is people are going to be fed very good information.*
	268.	00:18:51	*The 200 million people in this country, 260 million people, and then we are going to find*
	269.	00:18:57	*entry points for these people so they have much more fun and they discover the value*
	270.	00:19:02	*of sports in athletics. And I think that what else could we ask for because now when we*
	271.	00:19:07	*have athletic contests, people are not going to just be spectators, they're going to be*
	272.	00:19:12	*participants and everybody's going to have a tremendous opportunity I think in sports*

Frame	#	Time	Spoken text
	273.	**00:19:18**	*because of people who are sitting here and people like these people who are doing the research.*
	274.	**00:19:38**	*Gentlemen, I hate to say it, but the time has slipped under the door far too quickly for me.*
	275.	**00:19:42**	*I could go on like this for hours and hours. We have to go. For Dr. Barry Unger, Dr. Mark Legome,*
	276.	**00:19:47**	*Dr. Charlie Kunselman, Dr. Gideon Ariel, and Dr. Arnie Starr, I'm Vic Braden for Future Sports. See you next time.*

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