



# Ariel Dynamics Inc. Media Library - Video

Coto



<b>Code</b>	adi-vid-01106
<b>Title</b>	Coto
<b>Subtitle</b>	Coto De Caza
<b>Description</b>	Coto Research Center
<b>Subject</b>	Performance Analysis;Science
<b>Duration</b>	00:09:39
<b>URL</b>	<a href="https://arielweb.com/videos/play/adi-vid-01106">https://arielweb.com/videos/play/adi-vid-01106</a>
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<b>Label</b>	Approved
<b>Privacy</b>	Public

## Coto Research Center: Revolutionizing Sports Analysis

The Coto Research Center, co-founded by Dr. Gideon Ariel, is a unique sports analysis facility that uses high-speed cinematography and computer bio-mechanics to analyze and improve sports performance. The center uses a sophisticated system developed by Dr. Ariel to quantify human movement, applying Newtonian physics to the human body.

The process involves filming the athlete's movements, then converting the film to computer language by tracing all the joints. This results in stick figures that allow for the analysis of all physical forces, revealing what the athlete is doing right or wrong. The software can also create three-dimensional analyses from two cameras, allowing for viewing from any angle.

















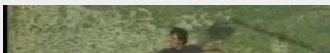



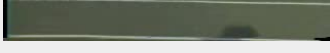
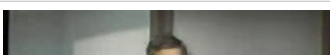




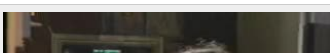






The center has worked with various athletes, including golfers, football kickers, and the United States Olympic women's volleyball team. The analysis has led to significant improvements in performance, such as a football kicker increasing his kick strength by 30% after learning how to land on his left leg to transmit energy into the right leg.

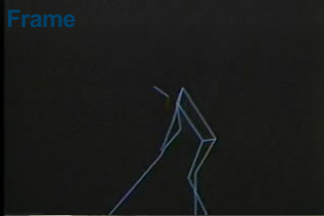






The goal of the center is to help everyone become a "gold medalist in his own body", optimizing each person to their maximum ability. The center has found that most people are not working anywhere near their maximum efficiency levels and have much more potential than they realize.

Model Id: gpt-4-0613  
Created on: 2023-09-19 01:49:31  
Processing time: 00:00:20.3060000  
Total tokens: 1910

## Audio transcription

Frame	#	Time	Spoken text
	0.	00:00:30	You
	1.	00:01:00	Welcome to the Coto Research Center a unique sports analysis facility
	2.	00:01:06	Where today's performance has changed
	3.	00:01:10	For the future
	4.	00:01:17	As a kid I was light and I was short and as you know when you're short and light you got to really fight your guts out in sports
	5.	00:01:24	And so I needed the very best information that I could get in order to make these teams
	6.	00:01:30	I
	7.	00:01:31	Got very confused in the early days because coaches were telling me certain things and I really felt like a dummy because I'm saying
	8.	00:01:39	She's you're telling me all this stuff, but I don't see that. It's funny

Frame	#	Time	Spoken text
	9.	00:01:42	<i>You're telling me the guys breaking to the left and this knee is coming up</i>
	10.	00:01:45	<i>I find the knee is staying down. He's breaking to the right and so finally after about 20 30 years later</i>
	11.	00:01:53	<i>I got very interested in high-speed cinematography and that's the thing that really was beneficial to me because I could do high-speed filming</i>
	12.	00:02:02	<i>Which then brings everything back in very slow motion, but I could finally see know what really was happening and</i>
	13.	00:02:08	<i>Son of a gun guess what the coaches weren't always right</i>
	14.	00:02:15	<i>One day I had a story printed about me in a magazine</i>
	15.	00:02:19	<i>There's a sports illustrator story and dr. Gideon Ariel a computer bio-mechanist in</i>
	16.	00:02:25	<i>Massachusetts out on the east coast saw the story and we got together and he had developed a very sophisticated</i>
	17.	00:02:33	<i>system for quantifying human movement and</i>
	18.	00:02:38	<i>I was so intrigued I could hardly believe it. I was so excited. I could hardly talk</i>
	19.	00:02:42	<i>Exercise are very little with a lot of next right away</i>
	20.	00:02:45	<i>We were already talking about what's going to happen 25 years from now 30 years from now</i>
	21.	00:02:50	<i>Even five years from now the mind-blowing things that are going to take place and the good information</i>
	22.	00:02:54	<i>That's going to be available to coaches and the real truth</i>
	23.	00:02:59	<i>And that was the beginning of the Coto research center was dr. Gideon Ariel and I co-founded at Coto de Caza</i>
	24.	00:03:06	<i>You know as a sports psychologist</i>
	25.	00:03:08	<i>I need the physical factors of human movement and no one knows the subject better than the director of the Coto research center</i>
	26.	00:03:15	<i>Dr. Gideon Ariel and how fast is you hit at the same time?</i>
	27.	00:03:19	<i>You cannot look and say it's too complicated. So we have a machine that can do it for us</i>
	28.	00:03:24	<i>Bio-mechanics is the science that involved engineering mechanics the same way that engineers design a bridge or design a road or design a lever</i>
	29.	00:03:34	<i>To the human body or to biological systems</i>
	30.	00:03:37	<i>So we're taking the same laws of physics Newtonian physics</i>
	31.	00:03:41	<i>But instead of applying it to a machine we are applying it to the human body</i>
	32.	00:03:46	<i>What we try to do is to analyze any joint in the body how fast it will work is the central gravity of the body</i>
	33.	00:03:55	<i>What are the forces that are acting upon the body and are they operated in efficient metal?</i>
	34.	00:04:02	<i>Oh</i>
	35.	00:04:07	<i>Dr. Ann Penny our exercise scientists then converts the film to computer language by tracing all the joints with a sunny pin</i>
	36.	00:04:22	<i>And the result is very interesting stick figures</i>
	37.	00:04:25	<i>Which then makes it possible to analyze all the physical forces which eventually tells us</i>
	38.	00:04:31	<i>Everything they're doing right or wrong</i>
	39.	00:04:41	<i>Gideon's work and to me, which is just a work of genius</i>
	40.	00:04:45	<i>The software he can put it into three-dimensional analysis only use two cameras turn the person upside down right side left look at him from any angle</i>
	41.	00:04:53	<i>I</i>

Frame	#	Time	Spoken text
	42.	00:04:58	Was very interesting because David Hartman the host of Good Morning America show David was here not too long ago and he was working on his golf swing
	43.	00:05:07	We couldn't really tell whether the golf swing was on a perfect line
	44.	00:05:11	The computer could tell us that we want to do some things
	45.	00:05:14	Not Gideon just takes the software rotates it up at the angle we want we have David almost standing on his head
	46.	00:05:19	So that we can see how that would look on the swing and it was perfectly aligned
	47.	00:05:29	But why we were so interested is David hit the ball so far it's a very good golfer and he doesn't get a chance to play much
	48.	00:05:35	But his stroke was almost perfect
	49.	00:05:40	And so we got all these things happening around his baseball players coming here did a football kicker
	50.	00:05:45	Now to get this how do you like this from bobber chemical standpoint the football kickers here he came all away from harvard right
	51.	00:05:52	And Gideon says what foot do you kick with and he says the right foot?
	52.	00:05:56	I really work hard on that right foot. No making snap and trying to get the right muscle systems working for me
	53.	00:06:02	Gideon had that puzzle look and he looked at the kick and said it's how you land on the left leg that makes the right foot kick
	54.	00:06:09	Okay, go
	55.	00:06:11	Anyway, they go down the force plate and Gideon shows them how to land on the left to transmit that energy into the right leg
	56.	00:06:18	And the guy picks up about 30 percent in about 35 minutes in the way he landed
	57.	00:06:25	The different feeling I didn't know until he told me and he showed me the force on the plate
	58.	00:06:29	I would never imagine that that would be the way to do you always think I want to get this like as strong as I can
	59.	00:06:33	So I can really hit the ball hard and I can see no differences to this way was stronger and I can stop quicker
	60.	00:06:38	This leg would naturally go fast because the muscles doesn't make any difference how fast the dick is back for the same story
	61.	00:06:43	You cannot shoot the cannon out of a canoe another very fun area for me
	62.	00:06:48	Is I'm a lousy volleyball player, but I've always loved it and guess who we have here the United States Olympic women's volleyball team
	63.	00:06:56	Dr. Harry Salinger and his coaches
	64.	00:06:58	I
	65.	00:07:07	Harry Salinger is now heavy into biomechanics and with his background in exercise physiology
	66.	00:07:13	And the women who are on the volleyball team are so super and they're very interested in scientific analysis
	67.	00:07:19	It's unbelievable what he's got these women doing they're jumping higher
	68.	00:07:26	They're learning how to spike and he also uses the computer and they bring the volleyball players up and they show how they could be more forceful
	69.	00:07:37	Got all the cards I offer since it has three facilities
	70.	00:07:41	And I'm like out of conscious think that we see and we know everything
	71.	00:07:44	But really we don't know everything we don't see even half of the same things that's happening
	72.	00:07:50	And color the causa allows me to really study peacefully in slow motion and see really what's going on
	73.	00:07:57	And then obviously to improve the technique and improve everything else
	74.	00:08:02	Our goals in the center is to make everybody a gold medalist in his own body
	75.	00:08:08	Obviously we're working with the whole spectrum of human body on one end. We have the olympic champions
	76.	00:08:14	We're working with them so they can perform better in golemptic games
	77.	00:08:18	However, not everybody can perform in golemptic games



Frame	#	Time	Spoken text
	78.	<b>00:08:21</b>	<i>That does mean that the person cannot perform in real life better be a gold medalist in his own structure again</i>
	79.	<b>00:08:27</b>	<i>We will help people to swing the golf club better to run with a better shoes to have a better skill</i>
	80.	<b>00:08:34</b>	<i>And at any sockets in their hands. We try to optimize every person to his maximum ability</i>
	81.	<b>00:08:40</b>	<i>Well, what we find is that the majority of people in our society</i>
	82.	<b>00:08:44</b>	<i>Are not working anywhere near maximum efficiency levels</i>
	83.	<b>00:08:48</b>	<i>And they have so much more ability than they thought</i>
	84.	<b>00:08:52</b>	<i>Which is so exciting to me because now we're funny now that why intermediates haven't had as much fun and haven't had</i>
	85.	<b>00:08:59</b>	<i>As many gains in their sports skills is that they've been utilizing a system that demands that they be 10 times more talented</i>
	86.	<b>00:09:06</b>	<i>Than the best player in the world</i>
	87.	<b>00:09:08</b>	<i>And when the intermediate suddenly finds out that they can improve in a very short period of time</i>
	88.	<b>00:09:13</b>	<i>I can't tell you what happens. They go crazy. They can hardly sweep from the excitement</i>
	89.	<b>00:09:17</b>	<i>And and I must say it's the same for me to to watch somebody improve like that and it changes their whole life</i>
	90.	<b>00:09:36</b>	<i>You</i>

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