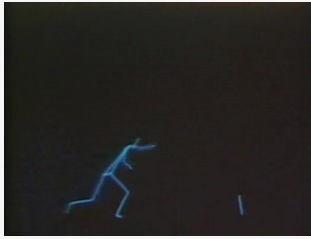




Ariel Dynamics Inc. Media Library - Video

Weekend Athlete



Code	adi-vid-01065
Title	Weekend Athlete
Subtitle	Physical Training for Health and Fitness
Description	...
Subject	Performance Analysis
Duration	00:03:14
URL	https://arielweb.com/videos/play/adi-vid-01065
Date	1979-01-01 00:00:00
Label	Approved
Privacy	Public

Synopsis

Dr. Kenneth Cooper, founder of the aerobic center in Dallas, Texas, has been working over the past two decades to legitimize the use of exercise in preventing cardiovascular disease. His research has found that a well-planned exercise program is a crucial part of preventive medicine and that fitness level is the best predictor of heart disease.


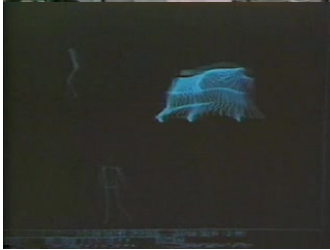


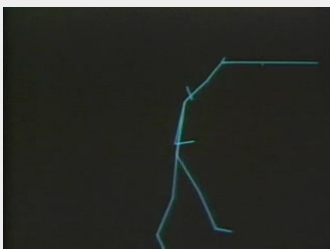

Dr. Gideon Ariel, director of research at the Kota Research Center in Los Angeles, has spent the last decade developing computerized biomechanical analysis techniques to quantify human movement. These techniques involve high-speed films of motion, which are then traced into the computer as stick figures. The resulting biomechanical principles can be applied to optimize movement and minimize injury risk in any activity.

One example of this is the analysis of a volleyball spike. The force vectors at the joints should be parallel as the arm moves toward impact. However, in a player with tennis elbow, the force vectors are not parallel, creating a sheer force on the elbow. This can generate a hundred times the force of throwing something. To treat this, the player will be prescribed a series of forearm strengthening exercises before returning to play. The goal is to create a training program tailored to the individual that will improve conditioning without overuse.

Model Id: gpt-4-0613
 Created on: 2023-09-19 01:29:01
 Processing time: 00:00:20.1280000
 Total tokens: 710

Audio transcription

Frame	#	Time	Spoken text
	0.	00:00:00	Evidence of the Buhlman Sports Activities is everywhere.
	1.	00:00:17	Bill, your heart rates about 130 to 130.
	2.	00:00:28	Dr. Kenneth Cooper is founder and director of the aerobic center in Dallas, Texas.
	3.	00:00:33	Over the past two decades, the use of exercise to help prevent cardiovascular disease has been in a state of transition
	4.	00:00:40	from unfounded fatties of the scientific legitimacy.
	5.	00:00:43	Our goal has been to help that transition, and our basic hypothesis is very simple.
	6.	00:00:49	A carefully planned and executed exercise program is an important aspect of preventive medicine.
	7.	00:00:55	We found that fitness level was the single best predictor of heart disease.
	8.	00:01:01	Let's look on the vector forces now at the race and at the elbow in the shoulder.

Frame	#	Time	Spoken text
	9.	00:01:08	<i>Dr. Gideon Ariel, director of research at the Kota Research Center near Los Angeles.</i>
	10.	00:01:14	<i>Dr. Ariel has spent the last decade developing computerized techniques called computerized biomechanical analysis</i>
	11.	00:01:22	<i>to quantify human movement.</i>
	12.	00:01:25	<i>Let's go forth, friend.</i>
	13.	00:01:27	<i>The design computer programs analyze velocities, accelerations, and other forces that coaches</i>
	14.	00:01:33	<i>and diagnosticians can neither see nor assess.</i>
	15.	00:01:37	<i>Dr. Ariel and his colleague Ann Penny take high-speed films of a Bobby in motion.</i>
	16.	00:01:49	<i>The individual images are then traced into the computer as stick figures, one frame at a time.</i>
	17.	00:01:56	<i>Biomechanical principles developed here can be applied to anyone performing any activity</i>
	18.	00:02:01	<i>to optimize movement and to minimize the risk of injury or re-injury.</i>
	19.	00:02:07	<i>Here is an ideal volleyball spike.</i>
	20.	00:02:10	<i>Notice how the force vectors at the joints are parallel as the arm moves toward impact.</i>
	21.	00:02:15	<i>Everything is in the proper direction.</i>
	22.	00:02:20	<i>Now here's a player with tennis elbow, even though she played volleyball.</i>
	23.	00:02:24	<i>The slightest pain will change the pattern of motion.</i>
	24.	00:02:28	<i>The force vectors in this person are in a non-parallel orientation.</i>
	25.	00:02:33	<i>That creates a sheer force on the elbow which is a single-plane joint and cannot pass any of the shock along.</i>
	26.	00:02:42	<i>It generates as much as a hundred times the force of throwing something.</i>
	27.	00:02:50	<i>This patient's problem will be treated medically.</i>
	28.	00:02:53	<i>Before she returns to play, she will be prescribed a graduated series of forearm strengthening exercises.</i>
	29.	00:03:00	<i>The goal is to tailor a conditioning program to the individual that will create a training effect</i>
	30.	00:03:05	<i>without the adverse consequences of overuse.</i>

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Video filename: **adi-vid-01065-weekend-athlete-256kbps.mp4**

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