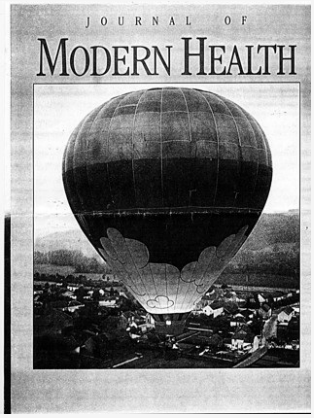
Improving Golfing Performance

Want to improve your golf game? Biomechanics can show you how



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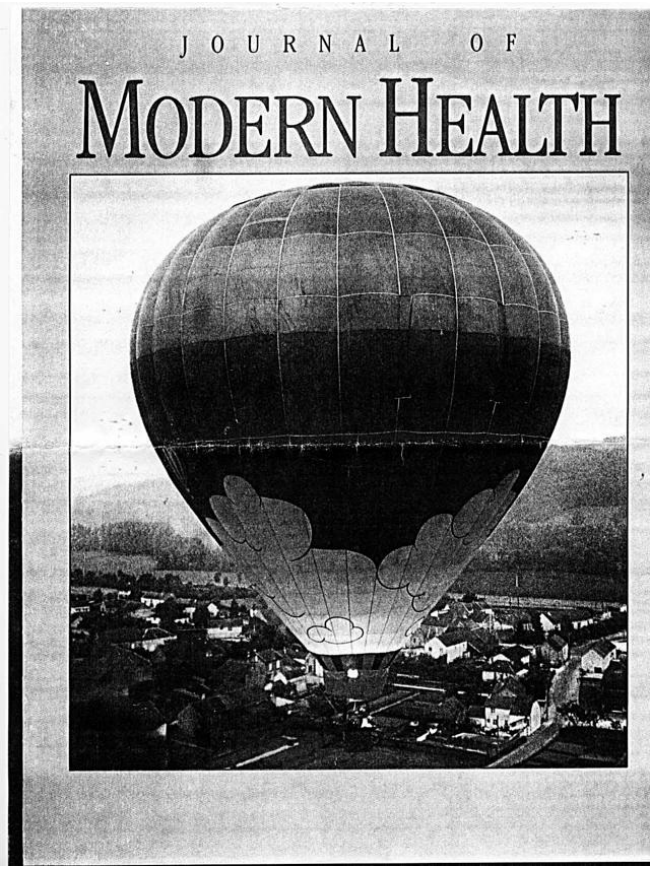
This article by E. James Greenwald, M.D., Anthony P. Feroah, M.A., and David E. Edwards, M.A., A.T.,C. discusses how the science of biomechanics can be used to improve golfing performance. Biomechanics studies human movements to enhance physical performance and is applied in various fields including sports. In golf, biomechanics research focuses on variables such as the body's center of gravity during the swing and the flexion and extension of the hip and trunk area.

A computer system captures these movements and transfers them into a program for data evaluation. The analysis of a golfer's strengths, weaknesses, and limitations can then be used to improve swing mechanics. The article also highlights that most back problems in golfers are due to lack of flexibility and strength required for proper rotation and transfer velocity in the hip and trunk.

The Ariel Motion Analysis System, used at the Reno Orthopaedic Clinic, has demonstrated significant differences in factors such as plane and release point. The authors suggest an effective exercise program for golfers, which includes upper body exercises, lower body exercises, golf conditioning exercises, and aerobic activity. The article concludes with a brief profile of the authors and their credentials.

Below find a reprint of the 2 relevant pages of the article "Improving Golfing Performance" in "Modern Health Journal":



Improving Golfing Performance

by E. James Greenwald, M.D., Anthony P. Feroah, M.A., and David E. Edwards, M.A., A.T.,C.

Want to improve your golf game? Biomechanics can show you how.

The science of biomechanics studies various human movements with the purpose of improving a person's physical performance. Biomechanical research is applied to athletic performance, orthopedic medicine, therapeutics, physical training, injury rehabilitation and equipment and product testing and development.

Sport biomechanics is particularly popular with golf because it is a highly technical sport. Golfing variables researched include the location of the body's center of gravity throughout the swing and flexion and extension of the hip and trunk area through the rotation.

A computer system captures selected movements of a person from regular or high speed film and video, then transfers the selected movements into a computer program for data evaluation. A golfer's limitations, strengths and weaknesses are analyzed, and the results are compared to previous research completed on recreational and professional golfers. The resulting analysis indicates the relative strengths and weaknesses of the golfer's swing. Given that information, the golfer can efficiently utilize practice and game time to enhance swing mechanics and improve golfing performance.

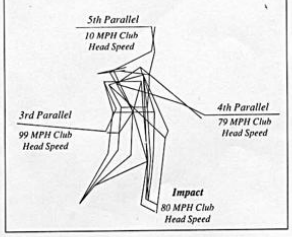
Golfers commonly complain of persistent back problems brought on by many hours of practice and playing. Biomechanical research has found that most of these back problems are traceable to the lack of flexibility and strength required for proper rotation and transfer velocity in the hip and trunk.

The Ariel Motion Analysis System, now used at the Reno Orthopaedic Clinic, has demonstrated tremendous differences in factors such as plane and release point. The motion analysis system has given us a unique method for studying these factors. (Homer Kelley's concepts of force and motion, geometry and physics, available to the public in the very complex *The Golfing Machine*, have, in our minds, been reconfirmed.) Clearly, even if you aren't strong, you can still effectively hit the ball by harnessing centrifugal force. This involves using your "pivot" or body basically as a rotor to drive the arms and the club.

An effective exercise program needs to consist of only two or three sets of ten to fifteen repetitions two to three times per week. Upper body exercises should consist of bench presses for the chest, pull-downs, back extensions, and upright rows for the back, shoulder presses for the shoulders and triceps extensions and curls for the upper arm. Leg squats, leg presses, lunges and leg curls and extensions for thigh and hamstring muscles complete the lower body exercises.

Golf conditioning exercises should include practice golf swings with a light dumbbell weight, trunk rotation exercises with a lightly held dumbbell weight, bent over dumbbell row with trunk rotation and wrist flutters with curls and extensions. Twenty to thirty minutes of aerobic activity, such as walking or riding a stationary bike, before or after the training session is also recommended. Finally, the training session should end with a warm-down session of muscle stretching.

Computer Generated Multiple Stick Figure of Down Swing and Follow Through



Doctor E. James Greenwald is board certified by the American Board of Orthopaedic Surgeons. He has been in practice at the Reno Orthopaedic Clinic since 1976. Dr. Greenwald is a graduate of the Northwestern University School of Medicine. He is a member of numerous professional associations including the American Academy of Orthopaedic Surgeons.

Anthony Feroah is a Reno native. Mr. Feroah has a master of arts degree in biomechanics, coaching and teaching from California State University, Chico. He is active in sports-related biomechanical research and has done research for the U. S. Olympic Training Center. He is currently on the staff of the Reno Orthopaedic Clinic in a research capacity.

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