

# Professor Pat O'Shea— Strength Science Pioneer

**Terry Todd and Jan Todd**

“What was hard to do is sweet to remember.” Pat O'Shea chose these words from the first century AD Roman stoic Seneca to open his most recent book—*Quantum Strength Fitness II* (13). They are an apt choice, as they poetically capture the earned pleasure of hard training. They are also a good fit coming from a man of three score and ten whose fiercely diligent life in the weight room, in the lab, on his bicycle, at his typewriter/computer, or in full stride across the wild spaces of his beloved Oregon deserves sweet remembrance.

John Patrick O'Shea was living in Ann Arbor, Michigan and training as a competitive swimmer when serendipity touched his young life and changed it forever. To get to the pool in the YMCA where he swam, Pat had to pass through the weight room and usually he would hurry through, remembering the words of his high school baseball coach, who told him, “If I ever hear of you lifting weights, you'll be off the team.” One day, however, Pat was drawn to the obvious physical power and speed of a young man who was in the weight room, lifting a barbell over his head. Heedless of the words of that high school baseball coach, young Pat stopped to watch. Finally, he summoned the courage to introduce himself to the lifter, Al Kornke, an accomplished strength athlete who had won the United States Junior National Championships in weightlifting. Soon, Pat cut back on his poolwork and began to train under Kornke's guidance, learning the intricate simplicities of the press, the snatch, and the clean and jerk—the “Olympic lifts.”

As luck would have it, through Kornke Pat met U.S. Olympic team members Stan Stanczyk and Norbert Schemansky, both of whom lived and trained in Detroit. Both Stanczyk and Schemansky had by then established world records in their respective bodyweight classes and both were exceptionally quick in their split-style snatches and cleans and jerks. (Stanczyk, in fact, was tested at the 1948 Olympic Games along with hundreds of other athletes in a variety of sports and found to have the fastest reflexes of any athlete tested there.) Encouraged and inspired by such men, Pat was bitten by the barbell bug and the infection was to influence the rest of his life.

Pat had grown up working alongside his father

on the family dairy farm, milking twice a day, every day of the year, and developing a capacity for the sort of sustained effort and attention to detail that stood him in good stead in both weightlifting and strength research. Pat attended Michigan State University, but left in 1953 to join the Army. He was stationed for a time in Germany, where he continued his lifting. Following his discharge Pat returned to Michigan State, where he earned both his BS and MS in Physical Education. During those years he competed in local and national weightlifting events. His best lift was the snatch, in which he made 275 pounds when the world record was less than 300.

In 1962 Pat and his wife, Susie, both accepted teaching positions at Oregon State University in Corvallis. They taught “activities” classes in such areas as weight training, crew, track and field, and adult fitness. Pat also enrolled in several graduate classes and, after five years, he took a sabbatical leave and studied fulltime for a year at the University of Utah where he earned his doctorate, specializing in exercise physiology. They wanted him back at Oregon State, and he was glad they did as he and Susie had fallen in love with that beautiful area; they hoped to raise their three children there. As sometimes happens to good people, this is just how it worked out, and Pat rose quickly in rank to full professor. He was a fixture at Oregon State until 1991, when he finally retired. Retired from teaching, that is, not from research, publishing, lecturing, and continuing his arduous schedule of physical training in the weight room and on his bicycle. Nor from the work at his small vineyard and winery beside his home, which produces some of the finest pinot noir in Oregon, a state known for that particular wine.

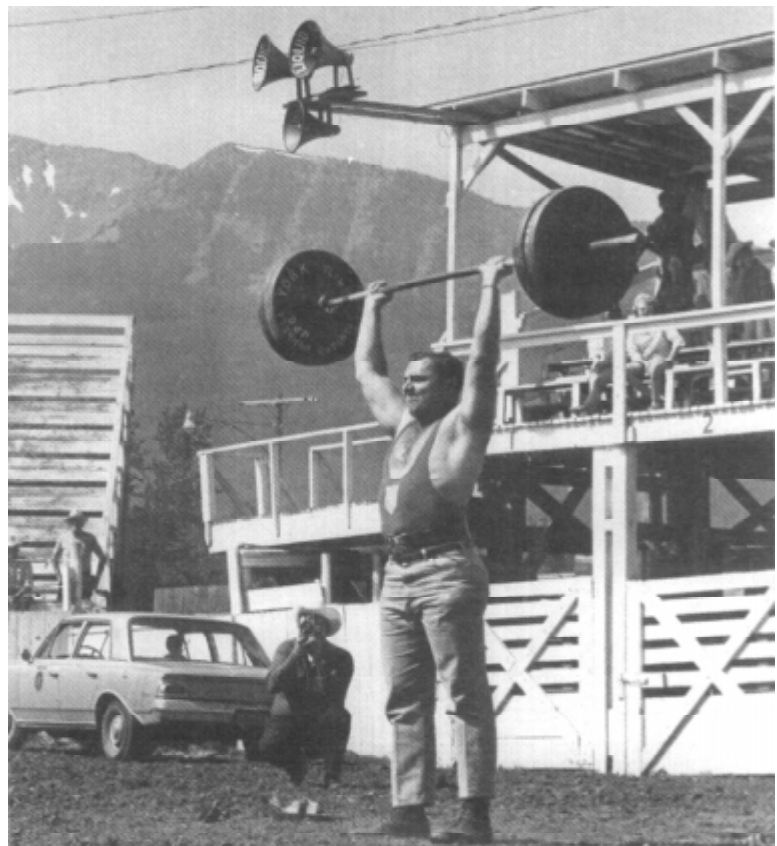
Appropriately, Pat O'Shea's first publication appeared in a popular physical culture magazine, *Strength & Health*. He contributed a Barbells on Campus piece about Michigan State that appeared in January of 1962. That was 41 years ago. Since then O'Shea has published scores of articles in trade magazines as well as academic journals such as *Men's Fitness*, *The Physician and Sports Medicine*, *Nordic World*, *Research Quarterly*, *Better Homes and Gardens*, *the National Strength and*

*Conditioning Journal, Sports Fitness, Orthopedics, Physical Power the Journal of Applied Sports Science Research, Journal of Swimming and Diving, Western Rescue Journal, Track and Field Quarterly Review, the Strength Athlete, and the Journal of the Canadian Athletic Therapists Association.* He has also published a number of books in the field of exercise science, and one of these, *Scientific Principles and Methods of Strength Fitness*, first appeared in 1969 (11). Published by Addison-Wesley, *Scientific Principles* was widely considered to be an important and influential textbook in the field of science-based strength training; it sold 75,000 copies.

O'Shea was one of the first sport scientists in the U.S. to conduct and publish human subject research on the effects of anabolic steroids on strength and athletic performance. The results of his first study were published in 1969 in the journal, *Science* (5). Over the next several years he published additional papers in *Nutrition Reports International* (15,16,17). In his original study, 12 matched pairs of subjects were trained with heavy weights and given a high protein diet for six weeks, the last three of which included ten milligrams per day of methandrostenedione (Dianabol) for the treated subjects. The subjects were all tested in such areas as strength, oxygen uptake, skinfold thickness, blood chemistry profiles, and anthropometric measurements, including bodyweight. The strength of the treated subjects increased significantly and their mean bodyweight gain was 2.48 kilograms with no attendant increase in skinfold thickness. These gains in lean mass were much greater than those made by the control group (which gained only 0.29 kilograms), and the strength gains of the control group were also less significant. The study concluded that "the combination of steroid treatment, high protein intake, and heavy muscular stress apparently accelerated protein synthesis in the muscle tissue, with this change being manifested by increased static and dynamic strength and body weight."

The article also included a statement which apparently had a surprisingly far-reaching effect. An effect O'Shea did not realize for more than 20 years. The statement was this: "It appears possible to train at or near maximum five or six times a week during the treatment." O'Shea only learned about the effect of this state-

ment in 1991, when Morris Silber's *Anabolic Androgenic Steroids in Soviet Sport, Vol 1* was published (14). In that book, Silber noted that in the sports system of the Soviet Union, their methandrostenedione program, "as it was expanded further during several closed doors and highly secret scientific sessions, was based on the original data derived from the studies of J.P. O'Shea, an American weightlifter and published in *Science*, 1969." Speaking of this recently, O'Shea said, "the news in Silber's book was a real shock to me. Now, of course, I'm familiar with the daily or even many times daily training sessions devised by some of the Soviet bloc nations, but I'm ambivalent about my own role in all this and about some of the human subject testing we did back then. I often wondered in later years if the small amount of anabolic steroids that was administered in our study had had any sort of long-term negative effect on the subjects. I



**In the late 1960s Pat O'Shea travelled the Oregon rodeo circuit giving lifting exhibitions. He would ride into the arena at a full gallop, dismount, and then clean and push-press 242 pounds for several reps. He'd then raise the bar to 400 lbs. and get several cowboys to help him lift it to his shoulders so he could do five reps in the squat. According to O'Shea, his performance was "always a big crowd pleaser."**

*Photo courtesy Pat O'Shea*

surely hope that it wasn't harmful"(3).

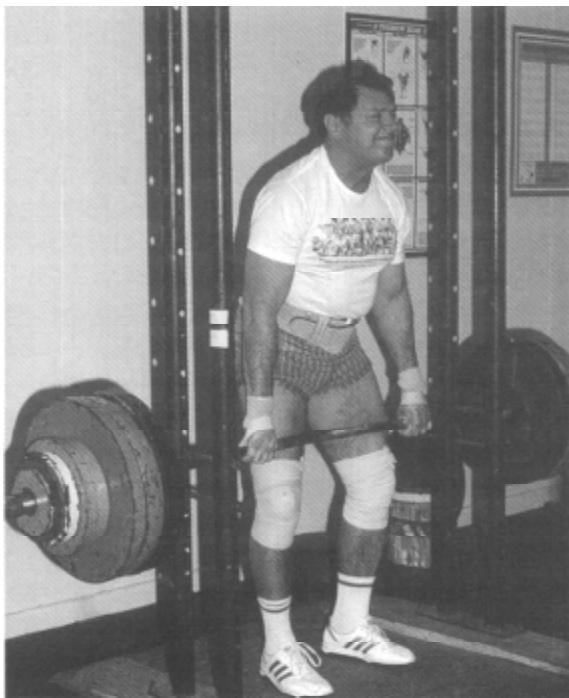
O'Shea worries about such things because he has seen, and is frightened by, the proliferation of steroid use in athletics. He is also concerned by the dramatic increase in the bodyweights of competitive lifters and football players. He is a sophisticated man in these areas and he knows that some of these gains in size are the result of the use of anabolic steroids. "I'm really worried about the early deaths I keep reading about in the ranks of lifters, bodybuilders, and football players. I know that what they're doing isn't healthy and I worry that enough isn't being done to educate these young athletes about the dangers of the high dosages and multiple drug use, or stacking, that many of them live by. I just don't want the athletes to die by them, too. I submitted an article about this to a leading powerlifting magazine recently and the editor wouldn't publish it"(3).

Another area in which O'Shea has made a signal contribution is in strength training for the female athlete. Beginning well before 1965, when he became the first "strength coach" at Oregon State, O'Shea had been especially interested in the great benefits athletes could derive from a program of progressive resistance training. He was able to implement his ideas as he began to work with some of the members of the OSU football team and a few of the throwers, too, but in those early years he worked only with male athletes. In those early, pre-Title IX years, of course, weight training was a new thing even for the male athletes, but as he put his big boys through their paces, using his own weights, he was amazed at how rapidly they gained. And as the years passed and he handed the strength coaching responsibilities over to a man who was hired to do the job full-time, O'Shea began to wonder if women could make similar gains. He conducted some informal studies and in 1981 he was the lead author of a major article on the subject in *The Physician and Sports Medicine* (10). In the article, he details the results of a study involving 13 men and 13

women, all of whom followed an intensive powerlifting program. Two conclusions were reached, the first of which was that the full squat should be considered as a "cornerstone" exercise because of its capacity to stimulate overall strength increases in both men and women. The second conclusion was that "women had the same physiological ability as men to tolerate and adapt to the demanding physical stress of powerlifting." To illustrate the power gap between female athletes from the U.S. and the Soviet Union, O'Shea noted that the differences in the shotput and discus records were 13 feet and 28 feet, respectively. "I wasn't totally naive," he explains. "I knew that some of the difference came from drugs, but I knew that a lot of it came from the fact that their women trained a lot harder than ours trained"(3).

Hard training never deterred O'Shea and it doesn't deter him now. Following his 13 year career as a weightlifter, in which he registered best lifts of 270 pounds in the press, 275 in the snatch, and 340 in the clean and jerk, all drugfree, he competed for seven years in powerlifting, with best lifts of 605 squat, 355 bench, and 630 deadlift. He then abruptly switched gears and for the next 12 years, under the influence of Dr. Kenneth Cooper, he concentrated on endurance training and did not touch a weight. During those years, he competed in triathlons, cycling, and Nordic skiing. Finally, at the age of 50 and at a considerably lighter bodyweight, he recalls that one day in the weight room he "had difficulty dead-lifting 330 pounds," a weight he was once able to lift over his head. Spurred by the loss of strength and muscle mass, he came back to home base. "I didn't care to go through the remainder of my life weak and puny-looking"(3). Since that time he has followed a typically rigorous program of periodized progressive resistance training interwoven with challenging sessions of cycling, hiking, plyometrics, and interval training on an exercise bicycle.

Today, at the age of



**In his training, O'Shea has tried to maximize his strength by utilizing a variety of techniques. Here he practices isometric-isotonic deadlifts with more than 550 pounds.** Photo courtesy Pat O'Shea

72, O'Shea does multiple sets of low repetitions with up to 220 pounds in the high pull and up to 310 in the parallel squat. His main biking pleasure these days comes from the touring he does each season with Susie, and from the cycling competition he still enjoys. "One of the abstract values of masters competition is that it has enabled me to experience the same emotional and physical highs I felt 40 years ago when I was executing a heavy snatch or clean and jerk in competition," he explains. "With each passing decade of life the desire to physically excel motivates me"(3).

This is a man who has squeezed life hard. And is squeezing still. On another front, he provides seminars for the Oregon Medical Association on the role of strength training in contemporary living and geriatrics, and he is a frequent contributor to several of the state's leading newspapers. He continues to lecture widely and has recently been to various U.S. universities as well as to Ireland, South Korea, and the Republic of China. He is also widely sought as a presenter at clinics about cycling, track and field, and skiing. He has also just published an updated book called *Quantum Strength Fitness II* (13). This exceptional, well-illustrated book is a compilation of his half-century of practical experience coupled with his extensive knowledge of the science of what he calls "athletic-type strength training." One reviewer said that, "He starts from the premise that there are many ways to train, but that utilizing multi-joint Olympic-type movements is superior to others...it is written in depth yet so clearly. The energy systems of the body, the workings of the neurological and cardiovascular systems are explained as you would expect an excellent university professor to do, making this a great reference book to have in your library"(4).

In 1990, the National Strength and Conditioning Association honored Pat O'Shea—one of the founders of the Association—for his long years of yeoman-like service in the field. He was then, and is now, remembered as a true pioneer in the science of strength training—a man who has spent a half century going back and forth between the rarified groves of academe and the primal challenges of the gymnasium, spreading the good word and fighting the good fight.

As Seneca had the first word, perhaps he should also have the last:

*Think of all the blows which athletes receive...yet they put up with all this*

*pain...and they do it not because they are fighting but so that they will be able to fight; for their very training involves pain. So we too must rise above all pains...for the reward of them is not simply a crown or the trumpet of the herald calling for silence so that our name can be proclaimed, but [our reward is] virtue, a steadfast soul, and peace of mind for all time, once we have overcome the buffets of fate (2).*

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The Journal of Strength and Conditioning Research,  
Volume 15(4) 2001: 401-404.**

**Notes:**

1. Adams, K., O'Shea P, O'Shea, K.L. Aging: It's effects on strength, power, flexibility and bone density. *Strength Cond. J.* 21(2): 65-77. April 1999.
2. Harris, H.A. *Sport in Greece and Rome*. Ithaca, Cornell University Press, 1972.
3. Interview with John Patrick O'Shea, September 15, 2001.
4. Jacobs, B. Book review: *Quantum Strength Fitness II*. Located at [www.strengthfit.com](http://www.strengthfit.com). Viewed on October 1, 2001.
5. Johnson, L.C. & O'Shea, J. P. Anabolic steroid: effects on strength development. *Science*. 164: 957-959. 23 May 1969.
6. O'Shea, J. P. Anabolic steroids, their effects on muscle function, *Modern Medicine*. 12:64-70. October 1969.
7. O'Shea, J. P. Anabolic steroids in sport: a biophysiological evaluation. *Nutrition Reports International*. 17:607-627. June 1978.
8. O'Shea, J.P. Development of strength and muscle hypertrophy through selected weight programs. *Res. Q.* 37: 95-107. 1966.
10. O'Shea, J. P. Power weight training and the female athlete. *Physician and Sportsmedicine*. 9: 109-120. June 1981.
11. O'Shea, J. P. *Scientific Principles and Methods of Strength Fitness*. Addison Wesley Pub., Boston, 1969.
12. O'Shea, J. P. Super quality strength training for the elite athlete—shot put, discus, javelin and hammer throwers. *Track and Field Quarterly Review*. 79: 54-55. Winter, 1979.
13. O'Shea, J. P. *Quantum Strength & Power Training: Gaining the Winning Edge*. Patrick's Books, Corvallis, 1996.
14. Silber, M. *Anabolic Androgenic Steroids in Soviet Sport, Vol. 1: Scientific and Applied Soviet Methodology* Sports Research International, Walnut Creek, CA, 1991.
15. O'Shea, J.P. Effects of anabolic steroids on dynamic strength levels of competitive weightlifters. *Nutrition Reports International*. 4:363-370, December 1971.
16. O'Shea, J.P. Biochemical and physical effects of anabolic steroids in competitive swimmers and weightlifters. *Nutrition Reports International*. 2: 351-362, December 1970.
17. O'Shea, J.P. Biochemical evaluation of the effects of stanozolol on adrenal, liver, and muscle function in humans. *Nutrition Reports International*. 10: 385-388, December 1974.