



MY LIFE OF BICYCLE RACING, AND HOW AERBOIC EXERCISE CAN IMPROVE ONE'S QUALITY OF LIFE

Early in 2013 one of my college roommates and his family visited my wife and I in Tucson for several days. During his visit he glanced at my website and mentioned he thought I had failed to include an important part of my life; my competitive bicycle racing. He said that I may not think it to be “germane” on a website describing the services I offer as a psychologist specializing in neurobiological disorders such as specific learning disorder, AD/HD and autism spectrum disorder but he thought people might find it interesting and even useful.

For some time I have believed exercise can improve emotional as well as physical functioning and in the last few years research literature has described how exercise not only improves emotional and physical functioning but

cognitive functions such as attention, concentration and memory as well. This link between exercise and cognitive functions is at the heart of story; my life on the bike.

Sports and exercise have been a part of life in my family for several generations. My paternal grandfather, James Frances Blake, played semipro baseball in the late 1800s early 1900s. He later became an excellent golfer. My father, Marion Joseph Blake, won 16 letters in high school in football, basketball, baseball and golf. As a junior in high school he was offered a full athletic scholarship to Villanova to play football. Unfortunately, the following year he suffered a severe knee injury while playing football and had to forfeit his scholarship.

My grandparents took my father to doctors far and wide to see if there was any way to repair the damaged knee. It was 1928 and the best medical science could advise at the time involved was placing his leg in a cast and instructing him to avoid walking on the leg and playing sports for a year. As an aside, today the same injury can be repaired with a simple outpatient procedure. Shortly thereafter, my grandfather asked my father if he could go to any college where would he want to go. "Notre Dame", my father replied. With that my grandfather told my father they had saved up the money for my father to go to college and he could go to Notre Dame if he promised to wear the recommended cast, not play sports and stay off his bum knee for one year. My father agreed. As luck would have it, his grades were sufficient and he was admitted to Notre Dame the following fall. Toward the end of the spring 1929 semester my grandfather contacted my father and the school athletic trainer to see if my father had fulfilled his promise. He had and with that, my grandfather gave his blessing for my father to play football.

Immediately, my father started working with the team trainer, "Scrap Iron Young", to rehabilitate his leg and regain his prior level of fitness. Mr. Young devised a "state of the art" metal brace for my father's weak leg. The following fall he tried out for the team. The team was coached by a man who had immigrated with his parents from Voss, Norway, when he was five years old and who later worked in a Chicago post office to earn the money for college. While attending Notre Dame he majored in chemistry as well as ran track and played football. While playing football he and a young quarterback, Gus Dorais, perfected the first forward pass used in the game. As a result, Notre Dame defeated the powerful Army team that year and the forward pass became a standard play in football that continues to thrill fans today. He went on to graduate magna cum laude and worked as a graduate assistant under Fr. Julius Nieuwland who invented synthetic rubber. Simultaneously, he taught undergraduate student chemistry and served as an assistant football coach. Eventually he became head football coach. His name was Knute Rockne.

In 1929 and 1930 Notre Dame's football team finished their season undefeated, untied and as national champions. My father told me Rockne gave him every opportunity to make the traveling squad. Rockne had him line up at fullback behind the national championship line and with the national championship backfield, but he could not produce. He was allowed to play on scout teams and to scrimmage. Although he was not allowed to play in front of huge crowds, Rockne gave him a priceless gift. He taught my father how to coach football. The great master coach told all his players they were expected to be potential quarterbacks and each player was required to know the fundamentals of every position. Also, they were expected to know play calling and defensive strategies so they could be a coach on the field. After my father graduated in 1933 he coached high school football as a way of earning money while he attended law school. Eventually, he became head football coach of Holy Family High School in Tulsa, Oklahoma. As a child, I remember my father often running into his former players on the street and receiving heartfelt hugs from them and being regaled with inspiring stories.



The Notre Dame 1930 National Championship Football Team:

Knut Rockne is the man on the right with the coat and tie. My father is the young man on the left inside the middle circle.

My father's stories of his experience on the 1929 and 1930 national champion football teams at Notre Dame and of the famed coach, Knute Rockne mesmerized me as a child. In fact as a young child, I wanted to grow up to be a 6 foot 5 inch, 250 pound All-American defensive end at Notre Dame. However, there were no 6 foot, 140 pound players in major college football at the time. So although I attended and graduated from Notre Dame, I was not on any team.

The stories my father told me were wonderful. They taught me teamwork, effort, overcoming seemingly insurmountable odds, honesty, hard work and other laudable traits. For this, I will be eternally grateful to him.

Since first grade I have always loved to be active and involved in sports. As a first grader it was soccer at recess that captured my attention. For my birthday that year the only thing I wanted was a soccer ball. My parents bought the soccer ball and subsequently had to endure hours of hearing me kick the ball against a stone wall of our house as I perfected my skills. Soon I was able to kick a ball farther and higher than anyone else in my grade. This skill gave me a social niche through sixth grade. Although not the best player in the class, I could play goalie and boom the ball down field.

About the same time my parents decided I would benefit from ice skating lessons. At first, it was figure skating, but I soon learned about ice hockey and for the next four years it seems I spent more time on ice than I did on

land. Although I was an average player, I loved the sport and learned a great deal about teamwork, hard work and good sportsmanship.

In the fall semester of seventh grade I went out for tackle football. The previous spring my father and I had attended a meeting for potential new players where I was given a packet of exercises to do over the summer which included weight training and running. As a twelve year old, I thought I was prepared when practice began in the fall and I went out for the defensive line. During the next two weeks, for four hours a day in 90 degree heat and 98 percent humidity I found myself mauled by kids who weighed fifty pounds more than me. The end of each practice session found me vomiting for thirty minutes. Needless to say, I quit in two weeks. My dream of being an All-American Notre Dame football player died then and there. Surprisingly, my father supported my decision and said I should not make quitting a habit, but perhaps I would find a sport that would be a better fit. I did and it was basketball.

At 13, I was tall for my age so I had a built in advantage for playing basketball. Even though my skills were lacking, I made the seventh grade team, advanced quickly and by eighth grade, I made the starting lineup. In ninth grade I played often but did not make the starting team.

In tenth grade I stopped playing organized basketball and went out for the varsity as a center; all 6 feet, 135 pounds of me. The varsity had two seniors who were 6 feet 5 and 6 feet 6 respectively and both outweighed me by 100 pounds. After a few practices I stopped playing to become the team manager, a position that allowed me to be an integral part of the team and to scout teams for the coach. Around this time I started playing street ball in earnest. Also around this time, I joined the golf team. I had been playing golf since I was ten, but never accomplished much. I did learn patience and stick-to-itiveness from the game and lettered my junior and senior years in the sport.

Every year at the end of spring semester, the seniors who were not on the basketball team played the faculty in a basketball game. The seniors had never won a game before. My class put together a team with a 6 foot five center and several other athletes of which I was one. After the first half the seniors were behind by over 20 points. We came back and won by one point and I scored the winning basket. Afterward the basketball coach told me I played a good game and let me know I was “good enough” (A few weeks after the game I learned the faculty added 10 points to our score at halftime to make it interesting).

Shortly thereafter the coach offered me a college scholarship for managers to any school where I was accepted. During college I would work as a football, basketball and baseball manager. Upon graduation from college I would have a degree in business and be qualified to work as a sports trainer. After discussing this with my parents it was decided I would turn it down. My parents had the resources to send me to college and they were of the opinion scholarships should be reserved for those in need. Besides, they advised college would be difficult enough without all the extra work of being a sports manager. As it turns out they were correct, as my disabilities made college very difficult for me and most likely I would not have graduated if I had accepted the scholarship and the responsibilities that went with it.

While attending Norte Dame, the dormitory I lived in was approximately 100 yards from the Knute Rockne Memorial Gymnasium on campus. Several times a week I would play full court basketball there in the evening. I must admit my first semester freshman year grades suffered due to all the hours of basketball I played there. There was always a good game to be had and plenty of people to play.

After graduation from Norte Dame, I found myself a graduate student in Stillwater, Oklahoma living alone in an apartment on the edge of town five miles from campus. For six months I tried to find someone to play basketball with to no avail. Unfortunately, I also found I had little time to play due to my heavy graduate school schedule. I found I was getting grouchy, anxious and somewhat depressed. My fitness level also decreased significantly.



Yours truly dunking a flat soccer ball

All of this weighed on my mind and then one day I was thinking about a former college roommate who had been bicycle racing champion of his home state for two years prior to college and who competed in college. I remembered the beautiful, one of kind, custom bike he had built specifically to fit him. Then I thought, "I can get exercise by riding a bike everywhere I need to go". The next day I asked one of my professors who was an avid bike rider what would be a good beginner bike for me. Soon I found myself riding a blue Schwinn Le Tour everywhere I went; in rain or snow; day or night. On the weekends I found myself taking long tours on country roads. Once I asked a young woman whom I had been working with at the same practicum site for over a year for a date. I told her I would pick her up in my car. She didn't believe I had a car because I had never drove it to work or school. In case you are wondering she had just gotten engaged, so she said no to the date.



Me completing 20K Time Trial in January 2013

I found when I exercised I was more alert, happy and less anxious. I slept better and I always hated going a day without exercise. This was true when I was playing basketball in high school. I always felt better after playing ball.

When I would go home to Tulsa to visit my folks I would always have my bike on the back of my car. One day my father said that Rockne said his favorite sport was cross country bicycle racing and he would often travel to see them in his spare time. I always thought that was an interesting coincidence.

I continued to ride my bike everywhere possible until one day in 1991 while buying a new car the service manager of the dealership and said, "Dr. Blake (I had graduated by then) I saw your trade-in and you had a bike

rack on it. Would you like to go for a ride sometime?" Soon I was riding with him and several other people all of who were competitive mountain bike racers. I bought a mountain bike and found when the trail was flat and smooth I could stay up with them, but when it was technical I was always left behind. I just didn't have the bike handling skills of the others. Some of them had been professional motocross racers and they had unmatched skills. I tried my had for a few years at mountain bike racing, but stopped competing due to getting tired of rehabbing from injuries.



Me training on my mountain bike



Me Completing 20K Time trial in 2008

A shortly after starting mountain bike racing I started road bike racing and really excelled at it as well as enjoyed it immensely. The first road bike race I competed in was the 1993 El Tour de Tucson 50 mile race. All my mountain bike racing buddies were shocked how strong I was. I cracked in the last 8 miles of the race due to a lack of knowing how much to eat and drink in such racing as well as how to pace myself. However, I ended up 16th in the race and from then on I was hooked.

In 1996 I started racing road tandem bikes with my friend Thom. He owned the bike and was the captain, which means he rode the front of the bike. I was the stoker, which means I rode the back of the bike. We rode together for three years and finished many races with the lead pack. Thom then decided to scale back his training so I bought his tandem.

Shortly thereafter my friend Richard offered to captain the tandem for me in the El Tour de Tucson 50 mile race. We ended up third overall and first tandem in the race.

Eventually found a new “permanent” captain, Frank. He and I raced together for about three years, again often finishing with the lead pack. We also did some Mountain Tandem racing and considering not many people even attempt this I can say we were surprisingly successful.



Frank (in front) and me (in back) of tandem getting ready to race the Tour de Casa Grande in Casa Grande, AZ. This is the bike he and I did mountain tandem racing on.

In the fall of 1999 Lee Gardner became the bike captain. We rode his tandem to 6th place overall I the El Tour de Tucson and first tandem. The next year (2000) was a magical year for us. We trained like crazy; when it was below freezing and over 110 degrees; in rain, wind, etc. Lee and I ended up second overall 45 mile Butterfield Challenge Championship and first tandem. About a month later he and I won overall in the El Tour de Tucson 50 mile race by some 25 seconds. Close to 1000 people started this race. We were celebrities for some time after this. It was a thrill of a lifetime.

For 2001 Lee and I knew we were marked men. Every time we lined up at races people would point and say something to the effect of, “watch those guys and stay on their wheel they are strong”. We trained even more intensely; starting some 6 months in advance. We bought a new lighter tandem by some 7 pounds and played with different gear arrangements. The appointed day arrived and I could not produce. I felt weak. We ended up 6th overall and second tandem. It turns out I had bronchitis.



2011 Mount Lemmon, AZ Time Trial (10 miles at 5% average gradient)



Lee Gardner (in green jersey) and me (in blue and black skin suit) with new tandem after winning the 2002 El Tour de Tucson 65 mile overall race

We redoubled our efforts in 2002. Both of us were averaging around 200 miles of training per week. Both of us took up weight training and stretching in addition. In the spring we were the first tandem in the 57 mile Tour of the Tucson Mountains. We beat the reigning 7 year champions and an eventual par-Olympian tandem among others. Later in the year we won our second overall El Tour de Tucson in the 65 mile event. This time we won by over 30 seconds. While lining up at the start line someone on another bike leaned over to me and said, "There are some big guys on a tandem that everyone needs to watch out for. They can win". He didn't know it but it was Lee and I he was talking about.

The 2003 El Tour de Tucson 65 mile race was ever so close to a win. Lee and I came in second overall by 0.4 of a second to a young man on a single bike. We again were marked men. Everyone watch us and whenever we made a move we drew a crowd. Both of us did a lot of soul searching about what tiny thing we could have done to have won, but we were not the best that day. Shortly thereafter Lee and I retired the tandem.

In 2004 a young man named Noah, whom Lee and I had mentored in bike racing had recently had his 18 birthday and announced he wanted to enter the 29 mile Tour of the Tucson Mountains. He and I raced as a team on single bikes. He won the race coming in first overall with an extraordinarily strong sprint at the finish and end up third overall. It was a thrill to see Noah to have done so well and to do so with such poise. I was happy with my third place.



Noah Barker (on left in yellow helmet) and I (on right of Noah in red helmet) at the start of the 2004 Tour of the Tucson Mountains 29 mile race



Noah Barker on right and me on left after he won and I came in third in the 2004 Tour of the Tucson Mountains 29 mile race

In 2005 Lee had qualified for the national senior Olympics and was using the spring races in Arizona as warm-ups. He came in second overall and I came in third overall in the 26 mile Tour of Phoenix on

single bikes. Lee beat me handily, but considering I was one month out for having phenomena I was happy with my performance.

In May of 2005 I competed in the Citizens' 30 Mile Race of The Tour of the Gila in Silver City, New Mexico. Although this race is only 30 miles there is over 3000 feet of climbing. It starts at around 5000 feet and ends at over 7000. This climb is one of the most difficult in North America, sometimes reaching 14% climbing. When we started the race it was snowing! I am proud to say I finished fourth overall in the race. I was so close to getting to stand on the podium, but lost it in the last 300 yards.

The next year, 2006, Lee finished third and I finished fourth in the same race. That was when I realized I needed to learn how to sprint. Since there was a sprint finish and I had no idea what strategy to follow.



Me attempting to sprint at the finish of the 20 mile Arizona Senior Olympics 50 to 55 year old road race. I finished 4th and did not qualify for nationals

May of 2007 I attempted the Citizens' 30 Mile Race in the tour of the Gila again. This time I finished fifth. Shortly thereafter I bought a time trial bike and started learning to ride it.

In November of 2012 I decided to race the 42 mile race of the El Tour de Tucson almost at the last moment. The first hour of the race I stayed with the race leaders and averaged 24.00 miles per hour. When we started the climb of the very steep Rattlesnake Pass I couldn't keep up the pace and fell away from the pack. For the next 57 minutes I rode the race like it was a time trial and finished up in

eighth place overall and first person to finish who was over 50 years old (I was 55 at the time). There were over 1100 people who started the race and it was nice to know I still had some speed in my old legs.



Me in 2012 El Tour de Tucson 42 mile race. I finished 8th overall and 1st rider over 50 years old to finish.

The highlights of my 2013 racing season were twofold: 1. I did my first mixed relay triathlon; and, 2. I Today I finished 8th in the El Tour de Tucson's 38 mile race. Regarding the triathlon, I did the 12 mile bicycle leg of the September 22, 2013 Tucson Tinfoilman Triathlon in 31 minutes 35 seconds (22 mile an hour average) for the TriAll-Lawyers team representing the McCarthy Law Firm. We took first place.

The El Tour de Tucson on November 23, 2013 was quite unique because for the entire event it was 50 degrees and there was a torrential downpour and heave winds. I finished in 1 hr, 48 min, 19.60 seconds, with a 21.2 mile per hour average. That was only 3.48 seconds out of first place! I finished 8th; not bad for an old man! I even got my picture on the front page of the Arizona Daily Star (local newspaper) the next morning.



Sprint finish of the November 23, 2013, 31 Annual El Tour de Tucson, 38 mile race. I'm on bike number 9363. Picture taken by my wife, Dr. Freda H. Blake.

So far in 2014 I have competed in two time trial and finished in third place for my age group in both (age 55 to 60) and have competed and won the Tucson Tinfoilman Triathlon with the Tri-All Lawyers team of the McCarthy Law Firm. In August I rode a person best in the 20 K (12 mile) Three Bears Time Trial # 30 of 32.00 minutes and 23.3 miles per hour. In September Lee Gardner (captain) and I (Stoker) dusted off our tandem and won the Arizona State Championship for mens' tandem time trial of teams 110 years old plus (Lee age 65 + my age 57). On an exceptionally windy day we covered the 30K (18 mile course) in 49.48 at over 22 miles per hour. This was my first state championship and Lees fifth.



Lee Gardner and I receive our State Championship Meddles in Arizona City, AZ for Winning The Mens' Tandem Time Trial for Teams Ages 110 Plus

On the 23rd of November 2014, I again finished 8th for the third year in a row in the 40 mile El Tour de Tucson. Statistically, the chances of doing this three years in a row are beyond comprehension, especially considering there were over 1000 participants in the race. This year I did something different and some would say stupid at the beginning of the race...I took off as fast as I could and dropped the pack so far they were out of sight. For about 6 miles I had a motorcycle escort and scooted along by myself drinking in the applause of the crowd along the road. After 12.2 miles and over 30 minutes the peloton finally caught me. It was fun while it lasted. For the first hour I averaged 24 miles per hour and for the entire race I averaged 23.1 miles per hour. My total time was 1 hour, 47 minutes, 7 seconds; less than 7 seconds out of first place. I had lots of fun and I will have to learn to sprint better before next year's tour.



Lee Gardener (in green jersey) and I at start of Casa Grande, AZ race several years ago.

2015 has started a bit slower than I expected. So far I have only competed in two events. The first was the twelve mile Cotton Classic #1 Time Trial. It was a particularly windy day, but I finished in first place for my age class (men 55-60 years old), however I was the only person to participate in my class. My speed was 21.92 MPH. Later, I participated in the second Time Trial of this series can and posted a 23.3 MPH average and finished second of three participants. In August I participated in the second Three Bears Time Trial and averaged 22.77 MPH over the 12 mile course. This was good enough to come in first in my age class.

On September 5th, 2015 I participated in the 33 mile "Wilcox Flyer" bike even in Wilcox, Arizona and accomplished a "technical overall win". The ride was touted as a 33 mile race with an over 800 foot climb. The halfway point was to be the top of the climb and it was also the turnaround. By the time I reached the top of this climb I was in first place and the second place rider was not to be seen. I came upon a race water station and asked a race official if I was at the turnaround point. He responded I had about a mile and a half more to go until the turnaround. I continued on my way. Apparently, the same race official told the person in second place the same. But, as the third place person approached the water station another race official placed a huge sign next to the water station that said 33 mile turnaround. The race official that spoke to the second place person and me then jumped in his truck and ran us down. He came to the second place person first so he gained a huge lead over me. Then the official came to me. I was not amused to say the least, but I channeled my frustration into effort and caught the second place person on the way down the hill. The third place person was too far ahead to catch.



Me beginning a 12 mile time trial in 2013.

I lost a field sprint to the nice young man who had topped the climb in second place. Later I learned the race length had been reduced from 33 to 29 miles and I had covered 31.2 miles with my effort. My average speed was 21.7 MPH. I was declared the winner because I reached the top of the climb first and I was given the wrong information by the race official. Oh well!

On Saturday, October 10, 2015 I competed in my first Cochise County Classic in Douglas, AZ. I raced the 27 mile race and came in 4th overall. With about 200 yards to go three other riders and myself were side by side waiting for one of us to take off in a sprint. Again my weakness in sprinting cut the legs out from under me and I finished 4th. There's always next year!

Saturday, November 21, 2015 I broke a curse. For the previous three years I finished 8th in the El Tout de Tucson 40 mile race. Mathematically this would appear almost impossible because every year there have been over 1000 participants complete the race. This year I finished 6th, only 5 seconds out of first place. I even has a fairly good sprint at the end. My average speed was 24.1 miles per hour. I am happy with my performance.

My first event of the 2016 season was the Flap Jacks Time Trial in Eloy, Arizona. I finished the 12 mile (20 kilometer) course in 33 minutes 7 second with a 22.5 mile per hour average. That was good enough to finish 8th of 15 in the 55 + age category. It is amazing to me that some in my class averaged better than 25 MPH!

On April 2, 2016 I participate in the 28.1 mile event of the Tour of Mesa and finish 7th out of 304 participants. My average speed was 22.9 miles per hour. The winner, a 16 year old lad with super human climbing spills finished 2 minutes ahead of me. I finished about 3 seconds behind the second place person, a woman who has been

national champion in criterion racing and who will attempt to set the land speed record on a bicycle this fall by riding over 160 mph! A young man aged 13 came in third!



Me competing win the Sonoita to Patagonia Time Trial

On June 26, 2016 I did the Sonoita to Patagonia Arizona Time Trial. This race in covers 11 miles and had an 800 foot drop from start to finish. The goal is to have a 30.00 MPH average or better. I finished the course in 23 minutes 49 seconds with an average of 29.48 MPH. Maybe I can do 30 MPH next year?

On August 28, 2016 I competed in the Summit Velo Three Bears 2 20 K (12.4 miles) time trialan finiched in first place in the male 55 to 60 year old class! My time was 33 minutes 21 seconds and my average speed was 23.1 MPH. I amy still shooting to break the 24 MPH barrier.

I continue to do road bike racing, Tinfolman bike legs and road time trials.

Why am I writing all this? I could say because my friend recommended I do so, but that would not be the real reason. What I have learned form a lifetime of regular exercise is that when I am active my mood is better, my thinking clearer, my sleep sounder and my health is good. In short, I'm happier! When I am not active my life is not as good and I feel subpar.

Recently researchers have found the same thing. Aerobic exercise can help to alleviate the symptoms of depression and anxiety; in fact the first line treatments for depression and anxiety in Great Britton is aerobic exercise (Ratey, 2008). Often for those with clinically significant depression and anxiety more is needed like

cognitive behavioral therapy and psychotropic medication (Ratey, 2008). However, a regular regimen of aerobic exercise can lift mood, improve cardiovascular health and fitness among other things (Ratey, 2008).



Me approaching the finish line in 6th place at the 2015 El Tour De Tucson. Picture by Freda H. Blake, Psy.D.

Twenty minutes of aerobic exercise 6 days a week can help raise dopamine levels in the brains of those with AD/HD which is thought to be the main neurotransmitter they are thought to be deficient in. This does not mean that those on medication will no longer need medication to treat their AD/HD. As Ratey (2008) wrote, “For most of my patients, I suggest exercise as a tool to help them manage their symptoms along with their medication” (p. 164). He went on to write, “Researchers haven’t quantified how long the spike in dopamine and norepinephrine lasts after exercise, but anecdotal evidence suggests an hour or maybe ninety minutes of calm and clarity. I tell people who need medication to take it at the point when the effects of exercise are wearing off, to get the most benefit from both approaches” (Ratey, 2008, pp. 166-167).

This does not mean that people need to be a fitness fanatic like me, but recent research has indicated if children with AD/HD exercise twenty minutes their behavior improves significantly. As Pontifex and colleagues (March, 2013) recently wrote,

“Following a single 20-minute bout of exercise, both children with ADHD and healthy match control children exhibited greater response accuracy and stimulus-related processing, with the

children with ADHD also exhibiting selective enhancements in regulatory processes, compared with after a similar duration of seated reading. In addition, greater performance in the areas of reading and arithmetic were observed following exercise in both groups...These findings indicate that single bouts of moderately intense aerobic exercise may have positive implications for aspects of neurocognitive function and inhibitory control in children with ADHD." (p. 543)

Additionally those with AD/HD are known to have significantly shorter life expectancy, and worse physical health than those without AD/HD. This is due to an impulsive lack of concern about diet, teeth brushing, going to the doctor when sick, taking physical risks, driving too fast, using street drugs and alcohol, etc. (Barkley, 2006). If one can encourage them to exercise regularly one can perhaps help to ward off some of this.

Regular exercise does not only help with medical, emotional and cognitive health it can help with academic performance. The Naperville, Illinois, Central High School Exercise Program provides an excellent example of this. The PE instructors had a typical high school physical education program until someone donated several sports heart rate monitors to the school. One of the PE instructors decided to have the students in his PE class wear the monitors as they did a long distance run as part of a physical fitness test. He soon learned many of the students he typically screamed at for not putting out an honest effort were running beyond 110% of their maximum heart rate when they finished their run. They were in fact putting out a tremendous effort that if they continued much longer could cause them to collapse. This revelation caused the PE instructors at the school to radically change how Physical Education classes were conducted at the school. Instead of testing the students regarding their knowledge of the rules of, let's say, volleyball, which they would not need to know at age 45, they decided to teach and test them about something that could help their physical health for their lifetime; how to calculate their maximum heart rate and different percentages of their maximum heart rate. In other words, they would teach their students how to stay physically fit for life and they would be tested on that.

Additionally, the PE teachers got people to donate old treadmills, stationary bicycles and elliptical machines to the school. Others donated time to refurbish the machines. When the students arrived to school in the morning they would put their gym clothes on and do 45 minutes of aerobic exercise every morning prior to their first class. When they finished they would take whatever each particular student found to be their most difficult class. The grades and standardized test scores at the school went from average to some of the highest in the country! The rate of overweight students dropped to almost none and when most students graduated they were physically fit. To learn more about the Naperville, Illinois, Central High School Exercise Program you can check out this reference:

Ratey, J.J. (2008). Spark: The Revolutionary New Science of Exercise and The Brain. New York, NY: Little, Brown, Chapter 1.

It must be stressed, whenever one suggests that a student/client use aerobic exercise as a treatment for physical/mental/cognitive health as well as a way to improve academic achievement one must make sure the person's physician has given their official blessing that it is safe for their patient to exercise. If they are not it is recommended the physician be asked to come up with a program, if possible, to help the individual reach a level of fitness where it will be safe to engage in regular exercise.

There are national training companies that provide coaching to help people become physically fit through internet, phone and personal contact. Three of these are as follows:

Carmichael Training Systems: www.trainright.com

Coach Troy (Jacobson): www.coachtroy.com

Tommy D's Cycling Escape (Tom Danielson is a member of the American Garmin-Sharp Tour de France Cycling Team): <http://tommydcyclingescape.com/>

In closing, I believe regular aerobic exercise has dramatically kept up my health and quality of life through the years. I believe many people can be helped by keeping to a regular aerobic exercise routine.



Lee Gardner (left) and I warm-up for individual time trials together.

References

- Barkley, R.A. (2008). *Advances in ADHD: Theory, Diagnosis and Management*. J & K Seminars, L.L.C., 1861 Withersham Lane, Lancaster, PA 17603; 800-801-5415; www.jkseminars.com; disc 7, track 11.
- Barkley, R.A. (1998). *Attention-Deficit Hyperactivity Disorder, Second Edition*. New York, NY: Guilford.
- Barkley, R.A. (2006). *Attention-Deficit Hyperactivity Disorder, Third Edition*. New York, NY: Guilford, p. 165.
- Pontifex, M.B., Saliba, B.J., Raine, L.B., Picchetti, D.L. , and Hillman, C.H. (March, 2013). Exercise Improves Behavioral, Neurocognitive, and Scholastic Performance in Children with

AttentionDeficit/Hyperactivity Disorder. Journal of Pediatrics, 162(3), 543-551. From website:
[http://www.jpeds.com/article/S0022-3476\(12\)00994-8/abstract](http://www.jpeds.com/article/S0022-3476(12)00994-8/abstract).

Ratey, J. (2008). Spark: The Revolutionary New Science of Exercise and The Brain. New York, NY: Little, Brown.