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Grappling with Staph Infection

Grappling sports—e.g., jiu jitsu, judo, submission wrestling, mixed martial arts—are a popular training activity for millions of people. They deliver an incredible, full-body workout, have a long and rich tradition across many cultures worldwide, and can be as rewarding as they are challenging, as fun as they are competitive.

Because these sports tend to focus on ground fighting and complex body holds, including joint locks, chokes and throws, skin-to-skin contact is nearly constant for the duration of a workout. Add to this the often high-temperature environment of a gymnasium and you get a very effective recipe for breeding and transferring staph infection.

Staphylococcus aureus, or staph infection, is a bacterium that many healthy people carry around on their skin without being infected by it at all. But when staph gets into the body through a cut or other opening, it can cause an infection. Sometimes this is only a mild annoyance, but it can be quite serious: staph infections can range from minor skin problems all the way to endocarditis, a life-threatening infection of the inner lining of your heart that is precisely as disturbing as it sounds.

Skin infections caused by staph bacteria include boils, contagious rash and cellulitis (an infection commonly seen on the lower legs and feet).

If staph infection from a wound moves into the bloodstream, a very serious condition known as bacteremia results. Another type of blood poisoning sometimes caused by staph is sepsis, which, like bacteremia, affects the entire body. Staph can also invade the muscles, lungs, bones and joints. Toxic shock syndrome and septic arthritis can also be caused by staph.

Still, staph is one of the most common causes of skin infections in the U.S. Usually these infections are minor and don't need special treatment. Many others are easily handled with a course of antibiotics. However, there are now strains of staph that have emerged completely resistant to antibiotics. All such strains, the first of which was discovered all the way back in the 1960s, are referred to generally as MRSA. The acronym stands for methicillin-resistant Staphylococcus aureus, a group of strains that resist methicillin, amoxicillin, penicillin, oxacillin and many other common antibiotics.

Like most staph infections, MRSA infections aren't usually serious, though some can be life-threatening. Of course, many public health experts are alarmed by the spread of MRSA strains because they are so hard to treat. For this reason MRSA is sometimes called a superbug.

Because staph can be abundant in areas where there are many humans in close quarters—e.g., prisons, the military, health clubs, daycare centers, and, of course, the grappling mat at your local gym—there is even a name for when antibiotic-resistant strains of staph appear in healthy people who have not been hospitalized: community-associated MRSA (CA-MRSA).

Compounding the trouble is the fact that staph, whether antibiotic-resistant or not, is very hardy. Staph bacteria are able to survive drying, extremes of temperature and even high levels of salt.

PREVENTING STAPH INFECTION

Be sure to take the following steps regularly to prevent staph from spreading at your local grappling club or other group workout place:

Disinfect surfaces. Since staph lives on inanimate objects, including gym towels and equipment, to minimize the risk of all types of staph infection generally, it's very important to regularly swab not only workout surfaces but also adjoining locker rooms with antibacterial spray. The label on the can should tell you whether it kills *Staphylococcus aureus* (often listed as "S. aureus").

Wash hands. Careful hand-washing is your best defense against all germs, from flu virus to staph infection. Wash your hands briskly for at least 15 to 30 seconds, then dry them with a disposable towel and use another towel to turn off the faucet. If your hands aren't visibly dirty, you can instead use a hand sanitizer containing at least 62% alcohol.

Cover wounds. Keep cuts and abrasions clean and covered with sterile, dry bandages until they heal. The pus from infected sores often contains staph bacteria, and keeping wounds covered will help keep the bacteria from spreading.

Don't share. Avoid sharing personal items such as towels, sheets, razors, clothing and athletic equipment. Remember, staph infections can spread on objects, as well as from person to person.

Wash clothing and bedding. Staph bacteria can survive on towels, clothing and bedding that isn't properly washed. To get bacteria off clothing and sheets, wash them in hot water whenever possible. Also, use bleach on any bleach-safe materials. Drying in the dryer is better than air-drying, but staph bacteria may survive the clothes dryer.

TREATING STAPH INFECTION

See a doctor if you develop an area of red, irritated or painful skin, pus-filled blisters or fever. Take yourself out of training immediately until you get a checkup. If skin infections are being passed between two or more members of, say, your jiu jitsu squad, you should probably go to the doctor yourself, even if you are symptomless.

Treatment usually involves antibiotics and drainage of the infected area. Your doctor may perform tests to identify what type of staph bacteria is behind your infection, and to help choose

the antibiotic that will work best. The Mayo Clinic lists the following as commonly prescribed antibiotics to treat staph infection: certain cephalosporins, nafcillin or related antibiotics, sulfa drugs or vancomycin.

The clinic points out that vancomycin is increasingly required to treat serious staph infections because so many strains of staph bacteria have become resistant to other traditional medicines. But vancomycin has to be given intravenously, and it has more side effects associated with it.

Remember too that if you're given an oral antibiotic, you need to finish all of the medication as prescribed by your doctor. Ask your doctor what signs and symptoms you should watch for that might indicate your infection is worsening.

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Less Pokémon, More Go?

Pokémon Go is a phone-based gaming app of the type known as “augmented reality.” Augmented reality is a direct or indirect view of a real-world environment whose physical elements are overlaid with or altered by computer-generated images, usually in real time, to enhance your current perception of reality. Virtual reality, on the other hand, replaces the real world with a simulated one.

An early example of augmented reality is the digitally painted-in line of scrimmage (or first down markers) used during televised football games. Now, the technology has made the inevitable migration to smartphones, on which millions of people can spot digitally painted-in *pokémon* (literally, “pocket monsters” in Japanese) in their real-world surroundings, and attempt to “capture” them.

The task of hunting down and capturing these colorfully rendered creatures first appeared on Game Boy in the 1990s. The modern version of the game uses GPS and Google Maps to place pokémon in the world wherever you are. Your device screen displays a map of your local area and as you walk around, the game tracks your position and different species of pokémon appear for you to capture.

The intergenerational feuding around whether Pokémon Go is a good or a bad thing stems largely from an argument made within the backlash community that, heaven help us, kids already disappear into their screens for far too many hours in the day, and now we have found a way to screen-poison outside time as well. This criticism is problematic for two main reasons.

First, the only way to catch pokémon—that is, to win or be good at the game—is to get out in the real world and explore. Rather than see the game as compromising kids’ outdoor time, we should embrace it as a clever new carrot at the end of a stick that can encourage and even improve play outdoors. What’s more, different types of pokémon hide in specific areas, including water, grassland, or heights—some even only come out at night. These features present an enormous opportunity for creative, active play with your whole family. Indeed, Pokémon Go “leagues” have sprung up all around the U.S., instigating exertional gameplay in parks, pools, playgrounds and myriad other public spaces. How can this be a bad thing? (That will be addressed shortly.)

Second, it’s important to understand that, even if Pokémon Go itself is a fad on its way out (not likely), the *technology* that has given it to us is not going away. There will be countless such games of every imaginable stripe any minute now—the opportunities to survive a zombie apocalypse alone are sure to be legion. Who wouldn’t want to try Silent Hill Go, Resident Evil Go, Walking Dead Go, and on and on?

The key is to figure out ways to make Pokémon Go as active as possible. For example, teach your kids to avoid relying on the app’s “Nearby” tracking feature, which will “find” the creatures that are specifically near your current position. Encourage team play, delineate broad (but safe) geographic areas, and be sure your field of play is topographically interesting, even challenging. It is not hard to envision a hardcore, genuinely strenuous version of the game—call it Pokémon Go *Extreme*—that feels less like burying your head in your phone and a lot more like paintball.

Pokémon Go is new right now; this is both a good and a bad thing. Parents, this is your moment to help shape what this phenomenon becomes—what its cultural values are, in a sense. And it’s easy to see how infusing those values with a physical fitness priority can be achieved without scolding, cajoling or “bartering.” There is no need for Professor Eat-Your-Peas here: the game warrants, if not quite necessitates, lots of running around outside.

How do you win at Pokémon Go? This aspect of the game perhaps best highlights its adaptability. Folks largely set their own goals. You can simply commit to collecting the most pokémon for any given group outing. Or you can set longer, more complex goals like reaching Level 30 to become a Master Trainer.

Better still, you can try to “catch ‘em all,” as the slogan goes—meaning hunting down all 150 species of pokémon available in Go (there are far more across all pokémon assets spanning two decades). Think of it as birdwatching on steroids.

The not-so positive results of the game's newness are the growing pains that come with any novel venture: people are still testing the boundaries and pushing what's possible to the outer limits. There is a group that meets in Venice, CA, to play Pokémon Go in their underwear (no one's judging). Far less ambiguously, recall the two men who walked off a steep ocean bluff in San Diego, apparently having become so consumed by collecting pocket monsters that they failed to check their surroundings—to *realize* their surroundings, in the truest sense of that verb.

To be sure, incidents of car accidents, fisticuffs and even a few shootings have garnered plenty of media attention. Clearly, we are going to have to set up a few ground rules. But this is true of any game or sport played ad hoc out in the world. In the 1970s and 80s, yelling "car!" and shuffling out of the street and over to the curb in the middle of pickup baseball was a common occurrence in the suburbs, an aspect of unsupervised child play that sounds plenty dangerous in 2016. Today, you may be hard pressed to find a child who has ever designated a manhole cover as home plate.

And finally, even the lesser active versions of Pokémon Go can substitute for even less healthy habits. *The New York Times* recently did a story on the ascension of augmented reality or "slow-game" apps as "the new smoke break." That's a societal development worth applauding.

Will it all be around in a month? Not only yes, but more games of this kind are certainly coming. So embrace it, encourage it, enshrine within it fitness principles. Let's create iterations of this exciting trend that better incentivize action. In short, not less Pokémon, but definitely more Go.

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Another Nail in The Coffin for Meniscal Tear Surgery

Arthroscopic partial meniscectomy is the most common orthopedic procedure performed in the U.S., according to the CDC's National Health Statistics Reports. There are approximately 700,000 of these surgeries performed annually. Aimed at eliminating pain from degenerative meniscal tear, in recent years these surgeries, specifically those performed on patients with no knee osteoarthritis, are seeing their efficacy increasingly called into question.

A torn meniscus does not have to be the result of a traumatic sports injury. Degenerative tears are somewhat common in older adults, occurring through regular wear and tear of the thin strip of cartilage that absorbs shock in the knee. These degenerative tears, it turns out, often do not improve with surgery.

The latest study, published in July in *BMJ* along with an editorial condemning these surgeries, found that among 140 middle-aged patients with medial degenerative meniscal tears but no

accompanying osteoarthritis, no significant difference in patient-reported pain, symptoms, knee function or other knee-related quality of life was found during two years' follow-up after arthroscopic partial meniscectomy as opposed to a sub-group receiving neuromuscular and strength training over 12 weeks.

The exercise group, unsurprisingly, had greater improvements in muscle strength. About 80% of the patients in both groups did see a clinically meaningful improvement—but if the improvement from an exercise and physical therapy regimen matched surgical outcomes, why resort to meniscal tear arthroscopy?

MRI scanning, in fact, often reveals meniscal tears in people who have no symptoms or pain. This clouds the issue of what is the underlying cause of the pain, and whether surgery helps at all to treat it. Patients with pain often also have knee osteoarthritis, pointing the finger to the possible real cause, since asymptomatic patients often only learn of a meniscal tear after an MRI discovers it. A meta-analysis published last year of nine clinical trials testing the surgery concluded that it did little for most patients, who reported less pain, but that was a finding regardless of the treatment, even fake surgery. The act of undergoing surgery seems to offer a placebo effect.

Before both the July study and last year's meta-analysis, in December 2013, the results of a parallel group study of five orthopedic clinics in Finland called the surgical practice into question in the *NEJM*, where the study was published:

“[T]he results of this randomized, sham-controlled trial show that arthroscopic partial medial meniscectomy provides no significant benefit over sham surgery in patients with a degenerative meniscal tear and no knee osteoarthritis. These results argue against the current practice of performing arthroscopic partial meniscectomy in patients with a degenerative meniscal tear.”

The evidence against the procedure for those without OA, which has been mounting for some time, makes one wonder why these surgeries continue to get scheduled. As Dr. David Kallmes of the Mayo Clinic told *The New York Times* in an article published in *The Upshot*, he believes there may be a kind of doctor confirmation bias at play in which surgeons tend to remember only their success stories: the patients who seemed better afterward.

“The successful patient is burned into their memories and the not-so-successful patient is not,” Dr. Kallmes said. “Doctors can have a selective memory that leads them to conclude that, ‘Damn it, it works pretty well.’”

It is time to take a hard look at this surgery, and whether an inadvertent bias in favor of it does exist and has kept us from seeing it for what it is: little better than a sham.

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(Don't Just) Stand In The Place Where You Work

There are clear benefits to simply standing more at work. The dangers of entirely sedentary days, whether at the office or on the couch, were recently illuminated in several studies that examined the relationship between sedentarism and all-cause mortality. In the *Lancet's* recently published meta-analysis on sedentarism and physical activity, for example, the authors report that people engaging in only five minutes of moderate activity daily who sit for more than eight hours had a 27% increased mortality risk, compared with sitting fewer than four hours daily.

Standing more at work also may lower blood sugar levels, helping to stave off prediabetes and metabolic syndrome, and can also relieve neck and shoulder pain associated with hunching over a keyboard all day long. But the MET value of standing versus sitting does not rise to a difference in caloric expenditure that would seem to lead to weight loss, if that is your goal. Sitting typing at your desk has a metabolic equivalent value of 1.3; at 1.8 METs, standing and texting or talking on the phone does not create a significant increase.

And sure enough, a new study from the University of Pittsburgh suggests that for weight loss, standing more at work is not enough.

While some standing-at-work MET values are higher than the 1.8 referenced above—including the 3.0 value [discussed in this publication](#) last year—these values correspond to more active versions of standing: to reach the 3.0 MET value, the ACSM's *Compendium of Physical Activities Tracking Guide* specifically lists "standing tasks, light effort (e.g., bartending, store clerk, assembling, filing, duplicating, librarian, putting up a Christmas tree, standing and talking at work, changing clothes when teaching physical education)." That is more activity than just standing while using your phone or PC at the office.

The new study randomized 74 participants into four activity groups as follows:

- sitting using a laptop computer followed by standing
- sitting watching television followed by walking
- standing watching television followed by sitting using a laptop computer
- walking followed by sitting watching television

Walking pace was self-selected but less than 3 mph (or 20:00 mile pace). Each activity lasted 15 minutes with a three-minute transition period between activities. Participants were mostly in their mid-20s and of normal weight.

The researchers found that substituting periods of sitting or standing with walking significantly increases energy expenditure, but substituting periods of sitting with standing appears not to appreciably affect energy expenditure at all. They write, "the potential benefits of standing as opposed to sitting need further investigation beyond the role of energy expenditure," alluding to the fact that standing more at work does most likely deliver health benefits that sitting does not, but weight loss is not among them.

The volunteers generally burned about 20 calories during their 15 minutes of sitting. Standing, however, was insignificantly more demanding, only burning about two more calories per 15 minutes than sitting. (The order of sitting/standing didn't impact the results.)

By contrast, the walkers burned three times as many calories as the sitters and standers. This is at a level that, if sustained for one hour each day, could offset yearly weight gain. And the *Lancet* meta-analysis did find that this was enough to offset the increased mortality risk incurred by prolonged sitting.

In that study, prolonged sitting was associated with increased mortality even among more active individuals than those mentioned above who engaged in only five minutes of moderate activity daily. However, among the most active individuals, those who walked or performed comparable activity for 60 to 75 minutes daily, prolonged sitting was no longer associated with increased mortality at all.

Perhaps it's time to revisit the utility of the treadmill-desk: see "[Work-desk Treadmilling has a Long Way to Go,](#)" in the Jan/Feb 2015 issue.

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Obesity, Diet and Mortality Trends: There's Work To Be Done

The current data on youth obesity in the U.S. illustrate that, while gains have been made in the fight for healthy children and adolescents, America's weight problem endures and challenges remain. After all, it is not easy to reduce our national waistline while American restaurants continue to routinely and proudly offer more than a whole day's calories and *six days'* worth of sodium in one sitting, as was recently highlighted in the [Center for Science in the Public Interest's 2016 Xtreme Eating "Awards."](#) But let's start by looking at the present data.

Youth obesity facts

Previous analyses of obesity trends among children and adolescents showed an upward climb for roughly the decade between 1988 and 2000, but no change between 2011 and 2012, except for a significant decline among children aged two to five years.

But a detailed new analysis published in *JAMA* shows that:

- From 2011 to 2014, 17% of children and adolescents (aged two to 19 years) were obese and 6% were extremely obese
- Among children aged two to five years, obesity rates increased from 7% in 1988-1994 to 14% in 2003-2004, and then decreased to 9% in 2013-2014
- Among children aged six to 11 years, obesity rates increased from 11% in 1988-1994 to 20% in 2007-2008 and generally remained stable thereafter
- Among adolescents aged 12 to 19 years, obesity rates continued to increase from 10% in 1988-1994 to 21% in 2013-2014

This data, culled from the National Health and Nutrition Examination Surveys, illustrates that obesity continues to haunt children and adolescents despite the many attempts to intervene. Among children and adolescents aged two to 19 years, the prevalence of obesity in 2011-2014 was approaching one-fifth of that entire population.

Death by saturated fat is real

Much has been made recently of various findings that illuminate the complicated role of fat in the diet. Unfortunately, too much of that nuanced data has been exploited for clickbait in the media that tells people that bacon is just fine and the more cheese the better.

It is true that while previous studies have shown distinct associations between specific dietary fat and cardiovascular disease, evidence on specific dietary fat and mortality remains limited and inconsistent.

To clarify the matter, a recent study published in *JAMA Internal Medicine* examined the associations of specific dietary fats with total and cause-specific mortality in two large ongoing cohort studies.

After looking at diet and mortality for 30 years among 125,000 male and female health professionals free of cardiovascular disease, cancer and diabetes at baseline, the clear-cut findings were:

- High intake of saturated fat replacing carbohydrates was associated with an 8% increase in total mortality. High trans fat intake led to a 13% mortality increase

- High intake of polyunsaturated and monounsaturated fat was associated with 19% and 11% reductions in mortality, respectively
- Replacing 5% of calories from saturated fat with calories from polyunsaturated and monounsaturated fat was associated with mortality reductions of 27% and 13%, respectively

As is therefore obvious, the authors write that replacement of saturated fats with unsaturated fats “should continue to be a key message in dietary recommendations. These findings also support the elimination of partially hydrogenated vegetable oils, the primary source of trans-fatty acids.”

Adult dietary patterns: Eat by example

When researchers examined dietary trends, collected for over a decade among roughly 34,000 U.S. adults, they found that diets consisted generally of more whole grains, nuts and fruit, and fewer sugar-sweetened beverages. This is a promising development, though when analyzed in detail it’s safe to say the gains were modest and the scope limited to too few among the population at large.

The study aimed to characterize trends in overall diet quality as well as specific dietary components, as they are related to major diseases among U.S. adults, broken down by various demographics, including age, sex, race, education and income.

The general findings:

- During the study period, there were significant increases in mean daily consumption of whole grains (by 0.43 servings)
- Consumption of nuts, seeds and legumes increased slightly (by 0.26 servings)
- Whole fruit consumption barely increased (by 0.15 servings), but at least did not decrease
- Mean daily consumption of 100% fruit juice and sugar-sweetened beverages decreased significantly (by 0.11 servings and 0.49 servings)
- The proportion of diets rated as poor declined from 56% to 46%
- Diet scores improved for all subgroups stratified by education and income, but the disparities present in earlier scores widened over time in favor of those with higher education and income levels

The authors write, “These findings may inform discussions on emerging successes, areas for greater attention, and corresponding opportunities to improve the diets of individuals living in the United States.” The take-home message is, the average U.S. diet has improved somewhat in recent years, but nearly half of adults still consume poor-quality diets.

Recall the new guidelines

To help keep you and your family on track, it’s worth reviewing the U.S. Departments of Agriculture and Health and Human Services *2015-2020 Dietary Guidelines for Americans*. The recommendations include:

- Choose a healthy eating pattern that you can stick to over the long term. Consider personal taste preferences, culture, and budget
- Consume a wide range of nutrient-dense foods from all food groups in recommended amounts
- Focus on vegetables (including dark green, red, orange), whole fruits, whole grains, fat-free or low-fat dairy products, seafood, lean meats, poultry, legumes, eggs, nuts, and oils
- Limit added sugars to less than 10% of calories
- Limit sodium to less than 2,300 mg/day
- Limit saturated fats to less than 10% of daily calories and avoid trans fats altogether
- Replace less-healthy foods and beverages with nutrient-rich ones across all food groups. Start with small changes, such as switching from refined-grain to whole-grain bread

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For Healthy Kids, Consider Bedtime and Bottle Size

Two new studies offer a few seldom-considered strategies for parents trying to raise healthy, physiotypical children.

A study from 2012 found that formula-fed infants were significantly more prone to weight gain than breast-fed babies, an outcome considered undesirable. Now, a 2016 study looking at the size of the bottles has concluded there is additional weight-gain risk, the larger the bottle used.

The phenomenon contributing to weight gain in the older study appears to be that babies who are bottle-fed do not learn, or can unlearn, self-regulatory eating behaviors that monitor satiety and cause the infant to stop when they are full. The outcome was the same—increased weight gain—regardless of milk type, and in fact babies consuming mother's milk still gain more weight when the milk, although the exact same as milk from the breast, was given through a baby bottle.

The researchers followed nearly 1,900 mother-infant pairs over the course of one year. Compared with infants who were breast-fed, those who were bottle-fed gained 2.5 oz more per month when given nonhuman milk and over 3 oz more when given breast milk. Babies who received breast milk who were fed frequently by bottle gained more weight than those fed frequently at the breast.

In the new study, researchers looked at how the size of baby bottles may increase weight in just under 400 formula-fed infants.

Bottle size was determined at baby's two-month visit, and weight and length were measured at the two- and six-month visits. Infants fed from 6-oz or larger bottles had significantly greater weight increases between the two visits than infants using smaller bottles—the weight difference between the two groups was 7.4 oz. Larger bottle size was also associated with significant increases in weight-for-age and weight-for-length z scores.

Guiding parents toward smaller bottles in early infancy is a simple step that could benefit babies by helping avoid overfeeding and rapid weight gain. The researchers conclude, “[B]ottle size may be a modifiable risk factor for rapid infant weight gain and later obesity among exclusively formula-fed infants.”

In yet another study published this year, early bedtime for preschool-aged children seemed to help prevent obesity in adolescence. Nearly a thousand U.S. children were enrolled at birth in this prospective cohort study during which bedtime was reported by mothers when children were of preschool age, and BMI was assessed later at age 15.

“Early bedtime” was considered bedtime before 8 p.m. At a mean age of 4.7 years, 25% of the children in the study had bedtimes at or before 8 p.m., 50% went to bed between 8 and 9 p.m., and another 25% were tucked in after 9 p.m.

Risk for adolescent obesity was reduced by half in children going to bed at or before 8 p.m., as compared to those with the later bedtimes of 9 p.m. or after. That is, Preschool-aged children with early weekday bedtimes were one-half as likely as children with late bedtimes to be obese as adolescents. The prevalence of adolescent obesity was 10% for the earliest bedtimes, 16% for the half of subjects in the 8 to 9 p.m. range, and 23% for those with the latest bedtimes.

Bedtimes are yet another modifiable routine that may help to prevent obesity, and pediatricians should not only encourage early ones, but, as the study authors put it, “support parents in their efforts to overcome the barriers they face in implementing this routine.”

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Why and How Acupuncture Works

Acupuncture has been studied for a variety of conditions and has been found to be effective for some. It is one of the oldest techniques to treat pain, though until now there has not been a lot of evidence to support its application for pain management in acute medical settings. It has been mainly used in the U.S. and other Western countries to ease low back pain, nerve pain, headaches, fibromyalgia, menstrual cramps and more.

Traditional acupuncture is understood to work by causing the release of endorphins, the body's natural pain placating chemicals, when fine needles are inserted at specific locations in the skin, known as acupoints. It is also thought that acupuncture affects the part of the brain that governs serotonin, one of the key brain chemicals involved with mood.

In Chinese acupuncture, the acupuncturist may turn or twirl the needles slightly or apply heat or electrical stimulation to enhance the effects. A Japanese form of acupuncture involves more shallow needle insertion, and the needles aren't usually manipulated. Korean acupuncture focuses on applying needles to points in just the hands and feet.

According to a recent review of modern acupuncture procedure published in *Harvard Healthbeat*, the acupuncturist typically inserts four to 10 needles and leaves them in place for 10 to 30 minutes while you rest. A usual course of treatment includes six to 12 sessions over a three-month period. Acupressure, a similar technique, does not use needles. The acupressurist uses their hands to apply deep pressure at acupressure points.

Complication rates for acupuncture appear to be quite low. An analysis of acupuncture-related complications that had been reported in medical journals found that the most serious problem was accidental insertion of a needle into the fluid-filled space between the lungs and chest wall, known as the pleural cavity, but this is rare.

So how well might acupuncture work to fight acute pain? A new large randomized trial finds acupuncture, perhaps to the great surprise of many, to be *superior to morphine* in emergency department patients with pain.

The prospective, randomized trial of acupuncture vs. morphine to treat acute-onset moderate to severe pain was conducted in Tunisia in 300 emergency department patients. All had moderate to severe pain from a variety of causes.

Morphine was administered at an initial dose of 0.1 mg/kg, followed by half of that every five minutes until reaching a maximum dose of 15 mg, or a 50% or greater reduction in pain score. Acupuncture was performed according to a semi-standardized protocol.

A reduction in pain score of greater than 50% was achieved more often in the acupuncture group compared to the morphine group—specifically 92% vs. 78%. The acupuncture group also experienced this pain reduction faster, with a mean time of 16 vs. 28 minutes. Minor adverse events were far more common in the morphine group (57%) than in the acupuncture group (3%).

So how is it that this ancient, drug-free pain management technique outperformed one of the most powerful painkilling drugs in modern use?

While prior studies confirm that acupuncture relieves pain, others show that it works no better than sham acupuncture, meaning procedures designed to mimic it but to have no real effect. One of the problems with deciphering results is that most acupuncture studies have been small. The design of sham acupuncture techniques has also varied widely, complicating any comparison. It is also possible that acupuncture works for some people and not others.

In addition to its role in endorphin release and serotonin regulation, acupuncture may work through a combination of placebo effect and *social desirability bias*, the term used in the social sciences to describe the tendency of survey respondents to answer questions in a manner that will be viewed favorably. But to dismiss acupuncture solely on those grounds is to, forgive the pun, miss the point.

In the midst of an opioid epidemic, it's wise to consider non-pharmacological alternatives to manage pain in patients. It also seems that acupuncture is worth considering to treat pain in the growing population of polymedicated patients we know exist today, to avoid adverse drug reactions. And perhaps how it works is not as important as whether it works, given that it very seldom causes harm.

People who wish to try acupuncture should certainly seek out only an experienced acupuncturist. Licensing requirements vary from state to state. In states with no licensing requirements, find an acupuncturist with certification from the National Certification Commission for Acupuncture and Oriental Medicine, online at www.nccaom.org.

Harvard Healthbeat, Jul. 16, 2016

Am J Emerg Med, published online July 2016, [http://www.ajemjournal.com/article/S0735-6757\(16\)30422-3/abstract](http://www.ajemjournal.com/article/S0735-6757(16)30422-3/abstract)

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Heart Failure: An Avoidable Endgame

Misconceptions about what heart failure truly is abound. Heart failure is closely related to, often confused with, and sometimes overlapping with a series of confusing acronyms and terms that delineate related conditions, including CVD, CHD, CAD, atherosclerosis, atrial fibrillation or “ischemic” anything; but heart failure can even be mistaken for an acute medical crisis more resembling MI, or “heart attack.” Understanding exactly what heart failure is and being able to spot the symptoms is important both for your own health as you age and for the health of those close to you. You may find yourself currently or one day having to manage care for a loved one who may not be taking care of themselves as well as typical readers of *Running & FitNews* strive to do.

What is heart failure?

Heart failure is the name for a *chronic* health condition in which the heart isn't pumping efficiently enough to meet the body's need for blood.

When the body first detects that it's not getting an adequate blood supply, it tries to compensate. Stress hormones rise, pushing the heart to beat faster and harder. Blood vessels narrow in an effort to keep blood pressure stable. To keep blood flowing to the heart and brain, the body diverts blood away from less important tissues. The body also retains sodium and fluid in an attempt to supplement the volume of circulating blood.

Heart failure causes two major problems for the body:

- Insufficient oxygen is delivered to tissues and organs
- Excess fluid accumulates in the tissues and lungs

Lack of oxygen can lead to fatigue and mental confusion, while fluid buildup can cause weight gain and swelling in the feet and ankles. If you're unfamiliar with heart failure, you could easily interpret these as isolated symptoms. People often mistakenly attribute the early signs of heart failure to being out of shape, being overweight or just getting old. Adding to the confusion is the fact that the symptoms can wax and wane over the course of the illness.

When heart failure mainly affects the left side of the heart, blood backs up into the lungs, causing shortness of breath and coughing. When mainly the right side is affected, blood backs up into the veins and builds up in body tissues, often leading to swelling in the legs.

Dangerous, but chronic

Perhaps due to the immediate and urgent-sounding nature of its name, many people confuse heart failure with myocardial infarction or cardiac arrest.

In contrast to the above symptoms and physical effects, myocardial infarction is an acute or sudden drop in blood flow to the heart, within a wide range of severity. With MI the heart can *fail*, per se, or become extremely erratic. MI is usually caused by coronary artery disease (CAD), which is not diagnostically distinct from coronary heart disease (CHD), adding to the confusion.

Note that an MI, caused by CHD, may *cause* heart failure: the chronic condition is helped along by the acute circumstance of lack of blood flow, leading to permanently damaged heart tissue that fails in the chronic, compromised or underperforming sense.

More immediately, an MI can also lead to cardiac arrest—that is, when the heart fails to contract and blood stops circulating in the body—but it doesn't always.

Understanding heart failure, CHD, arteriosclerosis, A-fib and ischemia

In most instances, ischemic heart disease, i.e., CAD or CHD, is a result or consequence of arteriosclerosis (a hardening of the arteries that compromises their ability to expand when a greater rate of blood flow to the organs is called for) and atherosclerosis (the buildup of fatty deposits within the arteries that narrows them). These two terms are common types of cardiovascular disease (CVD), a general term for conditions that involve narrowed or blocked blood vessels. When the coronary artery becomes affected by arteriosclerosis or atherosclerosis, it may become occluded, causing impaired blood supply to the myocardium (heart muscle). Ischemic heart disease is frequently a forerunner of atrial fibrillation (A-fib), which is an erratic heartbeat signaling that the heart muscle is stressed and working inefficiently or beyond its capability.

The terms "ischemia" and "ischemic" refer to a specific form of cardiomyopathy, or heart disease. "Heart disease" is a catchall phrase for any measurable deterioration of the heart muscle's ability to contract, leading to, by definition, the chronic compromised-performance state of the myocardium known as heart failure. Ischemia is a restriction in blood supply to tissues, causing a shortage of oxygen (and glucose) needed for cellular metabolism, which keeps tissue alive.

Ischemia can be thought of as essentially a delivery problem; the blood vessels for whatever reason are unable to supply blood to the organs that are said to suffer from ischemia. This includes the heart, which circulates oxygenated blood to itself in a loop that sends blood to the lungs and back.

SIDEBAR

A summary of heart problems: cause and effect

Ischemia is a subcategory of **cardiomyopathy**, or any disease of the heart muscle.

CVD is a general term for when **blood can't flow optimally** through arteries and veins.

CVD -> ischemic heart disease (**IHD**)

IHD = CHD = CAD

CAD -> **A-fib**

CAD -> **MI or heart failure**

MI -> **heart failure**

Heart failure -> **oxygen deficit** to tissues and **fluid buildup** in them

Pulmonary edema refers to fluid buildup in the **lungs** specifically.

Key:

-> leads to

= is the same as

END OF SIDEBAR

Whether or not CHD causes an MI along the way, CHD has a huge causal role in heart failure. What else can cause heart failure, and what can prevent it? These answers are not entirely surprising, though there is one underlooked group of suspects, and one underlooked preventive measure, to consider.

Prescription drugs

Heart failure is associated with a highly complex drug regimen, ironically increasing the risk of heart failure exacerbation either by direct myocardial toxicity, multiple drug interactions or both.

The American Heart Association recently published in *Circulation* a comprehensive list of prescription drugs that may lead to or worsen heart failure.

Some of the drugs that may exacerbate existing myocardial dysfunction include nonsteroidal anti-inflammatory drugs, COX-2 inhibitors, metformin, dronedarone, verapamil, tricyclic antidepressants and itraconazole. Some that could cause direct myocardial toxicity include appetite suppressants, clozapine, docetaxel and stimulants. You can view [the full list in pdf form here.](#)

Role of exercise

It's widely known that exercise helps prevent CHD, and therefore heart failure. A new meta-analysis in *BMJ* sorts out just how exercise helps stave off five major diseases.

The first main tier of benefits were found at a MET level of around 3,600 minutes per week, the equivalent of about 20 minutes of running or 25 to 30 minutes of bicycling seven days a week. And while health gains beyond that level of activity were subject to a kind of diminishing returns phenomenon, the paper saw gains really top out at much higher: 8,000 MET minutes per week.

The World Health Organization recommends getting in no less than 600 MET minutes per week, which translates to about 150 minutes if the intensity is moderate, or 75 minutes at a vigorous intensity. The researchers found that exceeding this significantly had a big reductive impact on disease risk. All percentages are derived by comparing the WHO's 600-MET low threshold to 8,000 MET minutes per week:

- Diabetes: 28% lower risk
- Ischemic stroke: 26% lower risk
- Ischemic heart disease: 25% lower risk
- Colon cancer: 21% lower risk
- Breast cancer: 14% lower risk

Role of whole grains

A lesser obvious weapon in the arsenal against ischemia, heart disease and heart failure comes to us through the diet. Another large meta-analysis in *BMJ* finds that the health risk reduction to be found through increased whole grain consumption is even better than previously thought.

An increase in whole grain consumption of 90 grams per day yielded significant health gains. This is the equivalent of just two slices of whole grain bread and one bowl of whole grain cereal, or one and a half pieces of pita bread made from whole grains, added to the diet daily. Reductions in risk were observed up to an intake of seven and a half servings per day for most outcomes.

An increase in whole grain intake of just three more servings per day was associated with:

- CHD: 16% lower risk
- Cancer: 15% lower risk
- CVD: 13% lower risk

The relative risks of mortality from the following were also significantly lowered: total cancer, respiratory disease, diabetes, infectious diseases, nervous system disease, and all non-cardiovascular, non-cancer causes.

Intakes of whole grain bread, whole grain breakfast cereals and added bran all lowered health risk, whereas intake of refined grains and white rice did not. One mechanism that is likely in play here is that the high fiber content of whole grain foods can lead to better glycemic control. The authors agree with current dietary recommendations that call upon us to increase intake of whole grains and as much as possible choose them over refined grains. So should we all agree.

Harvard Health Publications, *Healthbeat*, June 2016

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THE CLINIC

Calf Overload Can Come from the Back

I am a 62-year-old male who has been running for over 40 years, and over the past two years I have been experiencing calf strain, mostly on the left side. I had to cancel a half-marathon last week due to this. I'm running around 20 to 25 miles a week and I also work with a trainer three days a week; I lift weights, do Pilates, and stretch. I wear orthotics, work with a sports doctor who does Active Release, and change my shoes at 200 miles—nothing works. I'm fine for a few months and then out on a simple run, suddenly the calf starts to go. What should I try next?

Mauricio Fermange
Carlsbad, CA

I have seen your problem before. I would ask you to consider a couple of different angles given your age and perhaps your running style. I am sure you have been through the usual suggestions for calf cramping and calf strain.

Possibility #1: I agree with the notion that this may be coming from your back. You are 62 years old and in a typical age group to have a back that does not move like it once did. Do you have pain with sitting or transitions from sitting? Do you have calf cramps at night or tingling in your

toes at times? These, in addition to your frequent strains, may be the result of nerve compression occurring in your lower back. This may be present even if you have an MRI of your back that does not support this hypothesis.

Often posture that does not support extension of the spine can contribute to functional narrowing of the outlets of nerve roots from the back. These supply the muscles of your legs. If they are not putting out optimal current under high demand, the muscles may be unable to support that demand. The result is recurrent strain.

Try this exercise: lay on your stomach, feet dangling off the edge of a bed or mat. Place your hands in a position as if you were going to do a push-up. Arch your head backward (up), then your upper back, then your mid-back, and finally your lower back. Your arms should be fully extended. Ideally your pelvis would stay flat on the mat or bed, but it may lift some. Try to do most of the work with your arms and let your back passively extend. Exhale at the end of the extension and let your belly sag downward, then return in reverse sequence to the mat. You may be quite stiff at first. Try doing a set of ten of these several times per day. Also, whenever you sit, place a towel roll or pad in the small of your back, especially in the car. Even if this does not solve your calf problem, doing the press-ups two times per day is a great preventive exercise for your back. If it seems to make your back hurt or creates other symptoms, stop doing them and see a specialist to help modify the exercise.

Possibility #2: What pace do you run? If it is slower than 9 minutes per mile or if you tend to develop slumped posture, you may be overloading your calf muscles differently than you think. When you land and load your foot and leg most of the weight bearing should be up in your hip, particularly by the time your foot is flat on the ground. This posture will allow you to load your hip and proceed to hip extension as you toe off and drive forward. This is where your stride length and your power come from. If you tend to sink into your knee when you land on your foot such that you have a bent knee and your hip is sitting back behind your knee, you will not load your hip properly and most of your body weight will remain loaded in your lower leg and calf.

When this occurs over and over again it can cause eccentric fatigue in your calf and result in recurrent strains. The solution is to make sure your gluteal muscles are strong and that they are loaded properly when your foot hits the ground. Simply said, practice running tall, as if there is a string tied to your chest pulling your upward. This assumes your gluteals are strong. If they are not, you will need to strengthen them first.

You also may want to work on the eccentric strength of your calf muscles. Stand on a low step with your heels hanging off the edge, using a handhold to remain steady. Raise up on both toes so your heels rise off the step. Next, lift one foot off the step so you are supported only on one foot. Slowly lower your heel below the edge of the step to a five count. Repeat this in a set of 15 reps once per day for each calf. You may not be able to do 15 right away, so work up to it and keep the repetitions clean and in good form. This is great therapy for your Achilles tendon as well.

John Cianca, MD
Houston, TX

It appears you are doing everything appropriately for prevention and wellness. One of the missing puzzle pieces is diagnostic testing for your spine. Often etiology of lower extremity problems can be found in our lower back or lumbar spine. So, I would recommend an MRI of the lumbar spine. If this test fails to provide reasonable cause then dynamic view x-ray (standing lateral, flexion, and extension) should be ordered to rule-out instability.

Brian Kim, MD
Germantown, MD

Foot Drop: a Gait Abnormality Not to Take Lightly

I am a 46-year-old male, 5' 11" and 170 lbs. I have been running 23 years and run one or two marathons a year for a lifetime total of 26 marathons. The most recent was two months ago. In the last month, I have developed "right foot drop" after running only two miles. As I run, I develop fatigue and soreness in the lower front leg and the have difficulty with pulling the toes toward the front of the leg. I can walk normally minutes after I complete the run.

Since the marathon, I have soreness on the top of the foot around the first two toes and on the side of the ankle. This occurs when I first get out of bed, but it dissipates after walking a few minutes. Are there any conservative strategies I can try at home prior to seeing a professional for the foot drop?

Sal Demarco
Concord, NH

I would strongly recommend you not try to manage drop foot yourself. Drop foot can be caused by peroneal nerve injury and/or nerve root compression originating in the lumbar level of the back. It is a condition that needs to be addressed by a physician before permanent nerve damage occurs. Please see a physician at your earliest convenience.

Paul Langer, DPM
Minneapolis, MN

You may be developing a foot drop caused by an abnormality in your lower back. The region of your soreness is with the "L5" disk. I would seek out a physiatrist that deals with runners and a physical therapist or chiropractor as needed. Do not run with a foot drop, as you could fall and injure other things.

Amol Saxena, DPM
Palo Alto, CA

Understanding Post-exercise Sugar Spikes

I'm diabetic, 62 years old, 4' 10", and weigh 95 lbs. For three years without medication I've been able to consistently keep my morning blood sugar readings below 110. I've noticed after high-intensity tennis or running, though, that my blood sugar count is often in the 200 range. An hour or so later, the level is back down to around 120.

My tennis games are very competitive, and I play four or five times a week. Am I harming my body? In addition to tennis, I try to speedwalk or jog 20 miles a week, and I've noticed my blood sugar level does not spike on days when I just speedwalk. By comparison, my last run was a 5K at 9:15 mile pace, and my blood sugar level was 240 ten minutes after the race. My diet consists mainly of vegetables, oil and protein.

Mary Testa
Trumbull, CT

Exercise typically lowers blood sugar level in type 2 diabetics during the event and for one to two days following, which is one reason why exercise is recommended for diabetics. Therefore, I suspect you are not as well controlled as you think you are. Check your glycohemoglobin with your doctor. This is a measure of long-term blood glucose control. It is reflective of the last three months of blood sugar levels, and more meaningful than individual blood sugars. I think you may need some type of once-a-day medicine that will make you more sensitive to the insulin your body makes. Another consideration is how much glucose loading you are doing in the meals before (and during) exercise. On a side note, I recommend having a stress test or heart scan, since diabetes is a major risk factor for coronary artery disease, which is often asymptomatic.

Peter Mendel, MD
Woodbridge, VA

I emphatically urge you to continue your exercise regimen—the benefits, both physical and psychological, are just too great to give up. That said, please know that it is very common for diabetics to progress over time from managing their disease with diet and exercise, then to taking one or more oral medications, and finally to insulin.

It's good that you test regularly. I would keep your doctor informed about your blood glucose response to the vigorous workouts, as he/she may one day feel the need to prescribe medication to help you manage; this is not a bad thing. You should continue your workouts. Your body's response to them is not unusual, and may be related to catecholamine release. This is a stress hormone that causes the liver to produce glucose. You seem to follow a low-carb diet. Your age at diagnosis suggests that you may have overt type 2 diabetes, which is well controlled with diet and exercise. Remember, however, that diabetes can be a progressive disease and so medications may become necessary down the line.

Kevin Foley, MS
Dayton, OH

Fighting Nausea on the Race Course

I'm a 33-year-old female weighing about 118 pound. My recent Ironman competition went well for the first two legs, but by mile six of the run my stomach began cramping and that continued for the next hour and a half. I vomited during miles 19 through 24.

I've been running for almost 20 years, but when participating in endurance events, I often have trouble with my stomach. At about the three-hour mark during a marathon, I am no longer able to ingest a gel or other food without feeling nauseated. What can I do to alleviate this problem?

Wendy Suarez
Cornwall, NY

The fact that these symptoms occur well into these extended events suggests that dehydration or electrolyte imbalance is affecting peristalsis. When peristalsis, the muscle contractions that propel food along the digestive tract, is interrupted, nausea and vomiting can result. There is a normal reduction of blood flow to the digestive tract during exercise, but this occurs early and remains so throughout the exercise, so it would not be the cause of a problem this late in the event.

You should prehydrate with sports drink containing sodium, and continue to hydrate throughout the exercise period. Peristalsis is very sensitive to salt and water imbalance in the intestinal tract. Many runners restrict their nutrient intake late in the race to fluid-only. Be sure to experiment on long training runs with various foods—your intestinal tract needs to be trained for an endurance event in the same way your other muscles and organs do.

Dennis D. Daly, MD
Camillus, NY

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THE BACK PAGE

On the Road with Dave and Dan:

Notes from the 2016 MILE DAYS Grassroots Tour

[Publisher's note: we are sharing this story written by our Editor Jeff Venables for the Summer AMAA JOURNAL. It captures some of the fun we see in NATIONAL RUN A MILE DAYS]

By Jeff Venables

American Running Association-AMAA executive director Dave Watt wants your attention. More specifically, in order to generate interest and involvement in the ARA's flagship youth-fitness program NATIONAL RUN A MILE DAYS (NRAMD), Dave believes in not just grassroots organizing but grassroots public relations tactics as well.

The now nearly month-long series of local mile runs the program helps organize annually in schools and communities across the country is now in its 10th year. That alone brands it a success. Yet the need to grow is always apparent, as P.E. programs for America's youth continue to be marginalized, in spite of many promising top-down efforts like Michelle Obama's *Let's Move!* initiative, started in 2013. Even the much-vaunted President's Challenge Youth Fitness Program advises officials to start kids running one mile only as late as the fourth grade. An overwhelming majority of lifelong runners, coaches and trainers will tell you that this is far too late; many will tell you *age four* is much more like it.

In any case, Dave Watt believes that the battle for the true political will to change the nation's trajectory away from youth sedentarism will always be an uphill one. True change happens not within vast bureaucracies but in what Dave calls "hot spots," small communities in cities and towns that from the bottom up lead the way organizing MILE DAYS events and similar programs to show kids firsthand the lifelong joys and benefits of running and physical activity. These hot spots, in his experience, are almost always the result of a tiny handful of people—or often single individuals—who deeply care enough to volunteer, organize, fundraise and cajole their communities and schools into action.

And so it is only natural that Dave wants to get out among these communities each year to help draw attention at the local level, as well as to see how they're doing. Over the years the ARA has offered much support for local mile runs in as much as its meager budget allows—by providing t-shirts, fitness literature, information on effective organizing and other assets. Registered host schools currently receive free promotional, training and logistical support tools and "Are you a Miler?" t-shirts for every student participant. But many of the programs that have been hauling out the traffic cones, setting up the water stations, ordering the race medals and wrangling students, parents and teachers to participate each year are largely self-sustaining.

For an up-close look, on May 1, Dave Watt and Dan Kesterson, publisher of ARA-partner *Youth Runner* magazine set out in a boldly-decorated NRAMD cargo van to check in with as many of these events as they could. “It was a tight turnaround,” Dave says. “Coming from the AMAA symposium at the Boston Marathon, I had just one week in between.”

Kesterson, who is based in Portland, Oregon, flew out to meet Dave in Atlanta, where they were first tasked with finding the colorfully shrink-wrapped van in the airport parking garage where it had been left by MILE DAYS program coordinator Maria Kolanowski. “I had Maria position the van in Georgia because her daughter is a student athlete at the University of Georgia,” Dave explains. Like a scene out of the beat-the-clock adventure reality show *The Amazing Race*, they located the van in a garage “in the most obscure spot possible,” he laughs.

This first hurdle vanquished, the two-man NRAMD 2016 Tour headed south to Columbus, Georgia, where they had to set up by 3 p.m. in a park for the first event. There they met up with longtime ARA associate, podiatrist and AMAA member Ed Lopez, who, having worked as a venue manager for the 1996 Olympics in Atlanta, coordinated the tent setup and the rest of the logistics for a successful first MILE DAYS race.

Immediately following that, Dave and Dan began driving some 300 miles east, with Dan at the wheel and Dave navigating. Destination: The RUN A MILE DAYS “annual strategic planning conference,” as Dave refers to it, in Hilton Head, South Carolina, where the two would map out their plans for the next six weeks in detail.

“It was not quite ‘Bing and Bob’ but ‘Dave and Dan’ had some good times together both on the road and at schools in the U.S.,” says Watt, referring to *The Road to Morocco* and other classic Bing Crosby-Bob Hope road comedy films.

A few days later, traveling nearly 500 miles, the NRAMD 2016 Tour rolled into Midlothian, Virginia, in all its shrink-wrapped glory. It was here, about 13 miles west of Richmond, where a large middle school was hosting its first ever MILE DAYS events, held ambitiously over two days in early May, with some 1,400 kids participating.

In addition to robust participation in this year’s NRAMD, the Robious Middle School had previously created “Fitness Fridays” during the school’s first academic semester. Every Friday for 30 minutes, students and teachers participated in a physical activity appropriate to a specific fitness theme. “In October, the UCI World Championships took place in our town,” Health and Physical Education teacher Amy Canada told runamile.org writer Jennifer Pellegrini, “so the theme that month was biking.”

Such initiatives help ensure students are ready for NRAMD. And in addition to the usual course preparations, according to Pellegrini, Robious school principal Dr. Patrick Held even emailed parents to remind them about the upcoming MILE DAYS events.

Watt praised Canada and the other administrators' efforts. "I like to see a community or school embrace the concept of getting every single kid to run the mile," he says. "It's about getting out there and moving."

It is ideal for schools to keep kids active all year round, of course, and yet too often what can happen is that competitive sports lead that charge, becoming *de rigueur* and inevitably excluding many students. MILE DAYS seeks to bring an entire school together one one day—and there is great power in that all-inclusiveness. When a whole school does a physical event together, Dave points out, "Even the jaded eighth graders who are too cool for school," can feel a kind of reverse peer pressure to participate.

Over the course of the spring and into mid-June, Dave and Dan both visited NRAMD events on their respective coasts.

Dan garnered some prime MILE DAYS visibility by strategically parking the NRAMD vehicle right outside the entrance to Hayward Field in Eugene, Oregon, where running luminaries like Nike chairman emeritus Phil Knight were entering and exiting during the 2016 NCAA Track & Field Championships in June.

Kesterson also visited schools in Seattle, Salem and elsewhere. Along with AMAA members Patrick Hogan, MD, who is based in Tacoma, Washington, and [Tanie Hotan, MD], who helped organize a private school event, Dan has been hugely instrumental in bringing attention and organizational expertise to communities in the Pacific Northwest.

"Every school set up their MILE DAYS a little differently," Dan says. He recalls one Seattle school at which the "hard chargers" among the first and second graders there all ran the mile's four laps, and then went on to voluntarily complete a few extra laps—giving the lie to the idea that the mile is beyond the reach of children as young as six or seven.

At the widely successful event at [Abiqua Academy], the private school in Salem, a roughly square course in the middle of a field featured cheerleaders, students blowing bubbles, music and various other entertainments set in each corner to entertain and encourage the runners as they passed.

Dan watched as veteran MILE DAYS middle schools added their elementary-school counterparts into the festivities for the first time this year. He also witnessed veteran schools from last year attracting additional schools from the same district who were new to MILE DAYS this year. He observed what Dave has as well: There is often a single "point person" who then tells other teachers, friends and others in the community, "and it grows."

In western Pennsylvania, Watt met up with AMAA board member and longtime event organizer S. Mark Courtney in Grove City. It was here that Watt witnessed an entirely uncoerced occurrence that epitomizes the spirit of NRAMD: "The elementary school kids had come to

watch the older runners, and they spontaneously began cheering the slower finishers among the middle school kids, without the teachers having to tell the kids what to do,” he recalls.

The contrast is stark between these grassroots, earnest scenes of genuine enthusiasm and the standoffish hedging that can occur in bureaucratic circles whenever Dave tries to start MILE DAYS programs through more political channels. This year he’d arranged to meet with at least one city mayor’s office, and wound up in a drawn out meeting wrought with noncommittal doublespeak, thinking, “This isn’t going to go anywhere. This staffer is going to go talk to his boss, who might draft a memo to the mayor, and...nothing ever happened.”

Still, the boots-on-the-ground approach to searching for new schools remains hard work. In a perfect world, being an exercise enthusiast would be a prerequisite for hiring all new teachers. So what if you could go to where they gather, *en masse*?

This is precisely what Toni Aluisi, a public relations professional for NRAMD, did in April. Aluisi attended the SHAPE America National Convention & Expo, held this year in Minneapolis. SHAPE America is a national association of P.E. teachers based in nearby Reston, Virginia—just across the Potomac from the Bethesda-based ARA-AMAA headquarters.

Toni immersed herself in the scene, which attracts some 5,000 health and physical education professionals annually. She handed out fliers and, amazingly, got several new schools to join this year’s MILE DAYS, even though it was but one month away.

Next year the association meets in Boston, which is quite serendipitous for Dave Watt and the other hardworking directors of AMAA, who as it happens organize a certain gathering every April there as well. He has submitted a proposal to deliver a presentation at the 2017 expo, a perfect fit of pitch and audience if ever there was one. To learn more about SHAPE America, visit shapeamerica.org.

For information and resources on how to join the NATIONAL RUN A MILE DAYS effort, as well as to read more about the many great schools and communities now fully committed to the cause, visit runamile.org.

Fundraising continues to present challenges to MILE DAYS, but in the big picture Dave sees it as growing pains. He is currently looking for sponsorships, and doesn’t rule out crowdsourcing sites like Kickstarter. Just as there are many motivated individuals who have single-handedly transformed entire communities—Watt estimates 15,000 kids are now involved in a program Patrick Hogan started by himself in his Puget Sound community—there are just as many equally committed private citizens who understand the importance of introducing children to a lifetime of physical fitness. They are the ones who get it, not the cumbersome bureaucracies. As Dave Watt puts it, “When you stay away from politics, it works.”

Jeff Venables is the editor of Running & FitNews® and a regular contributor to the AMAA Journal.

Cacapon XC Camp 2016 – Bringing back the Past

Cabin 22. It has been home to the West Springfield Cross Country (XC) team for virtually every year since their former legendary coach Vic Kelbaugh started taking the boys' team to West Virginia in the late 70s. In the recent past, it has been the Top 12 of each gender who earns the opportunity to spend 3 and ½ days in Cabin 22. Some team members who hear of the chance to earn a spot wonder what is the big deal. For anyone who has gone on a team's XC Camp, the answer is somewhat obvious. For one you are away from home. Two, you realize that this is special. You bond with 12 other runners. It is the essence of being a member of a cross country team. Throw together 4 seniors, 3 juniors, 3 sophomores and 2 freshmen. What other high school sport has this mix of athletes in all years of high school forming a varsity team?

[The following diary of events is similar for each gender group. The only difference with the Boys is that they are on their own to make meals. No Moms come along, as there is no space for them to stay overnight. Groups had formed pre-Cacapon to come up with meal planning, shopping and packaging. One other difference in the Boys' 3+ days is the final long distance point-to-point run. They start where the girls finish and run a couple extra tenths of a mile.]

Day 1. 13 Girls arrive and settle in as the two Moms who act as Chefs and chaperones organize the kitchen. The 12 girls claim rooms, beds and floor space. There is a pecking order that determines who gets what. Senior Captains have one room. Other seniors grab a bed to share. Usually, the underclassmen end up on air mattresses in the center open room. Thirty minutes later it's time for Run #1, Tour of the Park. This run began in the early days and encompasses all areas of Cacapon State Park, roughly a 4+ mile run that has uphill climbs leading back to Cabin 22. Dinner and showers are next. The head coach gathers the girls and lays out the plan for the next morning, the famous Mountain Run. This is the first of 3 key "runs" that make up the 3 plus days at Cacapon.

Day 2. Mountain Run. Just saying those words brings fear to some and respect to others. Why would anyone want to run 4 miles up a mountain? Well, this team finds out every year. It turns out that Coach Kelbaugh had a method to his madness. He figured that testing his runners on a true uphill climb over 4 miles with a 1600 ft. elevation climb would be the toughest run his runners would see all season. Running up the Mountain would give them a sense of calm when it is race day in the season. So this team of girls does a light jog from the Cabin to the starting point on the road that leads to the top of the mountain. The coaches split the runners into groups based on ability, current health, fitness level to-date and past performances. The goal is to have as many runners finish at the top around the same time. The spread for the girls is around 11 minutes from the first group to the last. Coaches head up in cars along with the Moms who hand out water at the 2-mile mark. The weather is good with temps in the mid to upper 50s at 7am. At the top, the two coaches await who will appear first. It turns out that one runner ran better than seeding and was never caught by other runners who started later. Then our #1 or #2 depending day and course finishes and nabs a spot on the All-Time Top 20 list. Once all are finished the girls walk on a cool-down towards the Overlook. With watermelon in

hand, the girls walk as big blob down the gravel road. We are pretty happy coaches as all 13 had completed the Mountain Run, something not seen in over 10 years. The rest of the day is rest and some team activities. In mid to late afternoon, the girls go on another 4+-mile run. This time it's outside the park and is a big square; thus nicknamed the "Box Run".

Day 3. The morning begins with the 13 girls given a 25 to 30 min run of their own within the confines of the Park. They form 3 groups and head off. The two coaches, Head Coach Chris Pellegrini and myself, start preparing for the "Scavenger Hunt Run". We aim to get it started at 10:30. We assign the group of 13 into 3 groups. Speed is not the key element of the teams in winning the scavenger hunt. Success is being aware of things seen on the Park "Familiarization Runs". Each team has the use of their cell phones so using clues online can reveal the correct answer. In many cases, the online searches can lead to possible answers that are nowhere close to the correct location. The starting point for the Scavenger Run is outside Cabin 22. The Finish spot is in the main game room in the Lodge. The teams will pick up a plastic oversized pencil at each Clue location. Inside the pencil is the next location's clue plus some candy as a reward. All 3 teams order of clue locations has them running in opposite directions to start. This exercise is simply a group event with running thrown in to make it extra challenging. The goal is to have fun and create more bonding among the teammates. It certainly worked on the girls' team that finished first in just over 31 minutes. The last place team that skipped the final clue was a bit less enthusiastic at the end. Next up: Goal setting, the most important element of the Camp. After a lunch break and nap, we gathered in Cabin 22 and had each girl (boy when they had their goal-setting on the day after their Scavenger Run) write down their personal and team goals along with any general comments. For many of the runners, this is the first time they have written down or thought about personal and team goals. We prod the girls to expand upon a goal or comment. Some girls admit to their own demons when it comes to racing and being fearful at the start of races. The open forum is a big plus for each of the runners. This winds down with the coaches giving them our own reflection. In my case, I thank the girls from 2015 for thinking of me when I could not make it to Cacapon due to complications from side effects for my immunotherapy drug Trial against melanoma. This year, life has changed and I tell the girls that just being here is motivation enough for me.

Last event on a Full day: the Team Relays. This team event splits the team into 3 teams where the coaches do their best to make the teams of equal speed. The course is approximately 800m on grass that surrounds the Main Lodge and near the golf course. The race has each runner running twice. On the second lap for the team, we permitted the teams to change their order, provided someone on that team could race on shorter rest. Once the start was given, the three teams went out racing hard. Gaps were close between teams. Now it was phase 2 or the second 800m for each runner. This tested the strength and showcased those runners who are both healthy and have run for a year or more. In the end, teams were only separated by 35+ seconds 1st place to 3rd place over a 24 minute race. The day of running was over, but the evening of ice cream, bowling and scary story night followed. Two coaches had a near-death match in bowling with the young female "Coach Paige" besting the Head Coach Chris Pellegrini with the highest score of the night and a tie in another game. Chris did win two games to have the edge. The scary story event went off well for all the "newbie runners". Yours truly led the

scary event to its frightful conclusion. Off to bed as the final running event was early the next morning –

Day 4: “The Junkyard Dog”. This is the final run of the big 3 running events, the first two being the Mountain run and the Team Relays. This is a point-to-point run on back roads outside the Cacapon State Park. Much like the Mountain Run, we handicap the lineup of our Top 13 and start them off on the 7.3-mile run. The goal is to have the team finish in a tight pack. The gap from first runners off (the expected slower-paced girls) to the final pairing was roughly 10 minutes. The name of the run reflects back about 15-20 years when dogs not on leashes would come out towards the street in full barking mode. In recent years, we have seen more deer darting out across the road than the wild barking dog. The finish line is at the Fish Hatchery near the main road. This location serves as the Start Point for the Boys distance run aptly called the “Fish Hatchery Run”. The boys race 7.4 miles back along similar roads and finish in the Cacapon State Park. On this day, the girls had fairly ideal running conditions. We got them to the start area by 7:15 with a 7:30 start. At the finish, 10 of the 13 broke 60 minutes with our top finisher (Emily) running in the mid 52 minute range to add her name to the Top 20 All-Time list. *It must be noted that our Boys team who is heavy on senior talent raced in an aggressive pack on their long distance run. The result was 4 Boys making our All-Time list and all 4 being in the top 11 of All-Time.

The Camp ends for both genders after the long distance run. The life in Cabin 22 quiets down. The girls turn over a spotless cabin to the Boys and then they clean the cabin to an equally pristine state for the next cabin guests. The coaches leave with great memories and motivation for the upcoming season. Lastly, we all collapse for a long night of sleep.