

The President's Message



In times of stress, humans have always turned to running for relief. Even our pre-human, hominin ancestors did so. Paleoanthropologists tell us that Lucy, one of our earliest forebears, was bi-pedal like us. When no food was available, Lucy's

Australopithecus descendants and the later Homo Habilis that followed likely ran across the African savannah in what is called "persistence hunting." Nothing like the stress of hunger to get you off and running.

Some 3 million years later, when the Athenians and their allies from Plataea saw the overwhelming forces of Darius, the Persian King of Kings, spread along the Bay of Marathon northeast of Athens, their stress level surely spiked. What to do? As I've written before, the Athenians decided to run. They ran directly towards

the lines of the Persians and their subjects from across the empire, who, baffled, thought the Greeks had eaten some mind-altering plants.

And so it is with us today. I was on South Beach in Miami when I heard the sad news about the shootings in Boulder, I had just finished a sunrise yoga class. Shocked, I grabbed my shoes and walked along the ocean's edge. How disquieting it can be to walk alone amidst the crashing foam-specked breakers. Waves rise and fall, seabirds scratch for food, stones and shells tumble in the water. A sense of the unceasing ebb and flow of the universe permeates the salty air.

Suddenly, I began to run, not jogging like I typically do now, but fast, striding out, then faster and faster until I was sprinting all out, going until the oxygen debt and lactic acid became too much. Slowing to a jog, I dropped my shoes on the sand and plunged into the sea. Swimming madly

continued on next page



Boulder Olympian and World Championship silver medalist Kara Goucher has helped promote the sale of this Altra shoe to raise funds for families of victims of the Boulder shootings.

Contents

President's message	Look left
From da' Coach:	
Water, Water Everywhere	3
World Records Getting Faster	4
Being Tired Or In A Rut	6
Member Profile: Doug Bell	9

Your 2021 Board Members

Mike Sandrock, President
Don Janicki, Vice President
Don Tubbs, Treasurer
Todd Straka, Secretary
John Bridges, Membership Chair
Lorraine Green, At-Large

Virtual First Monday,
April 5 @ 5:30
JOIN US ON ZOOM!



President's Message, *continued*

into the waves until I was spent, I let the waves carry me back onto the sand, where I rolled and tumbled like the stones and shells.

We all send our condolences for the families of the 10 victims. Those of us who have experienced the loss of a loved one know that the pain never goes away. It changes as we change and as the calendar turns, but the emptiness is always there, the one constant in the human condition. Sometimes we run away from it; other times, towards it.

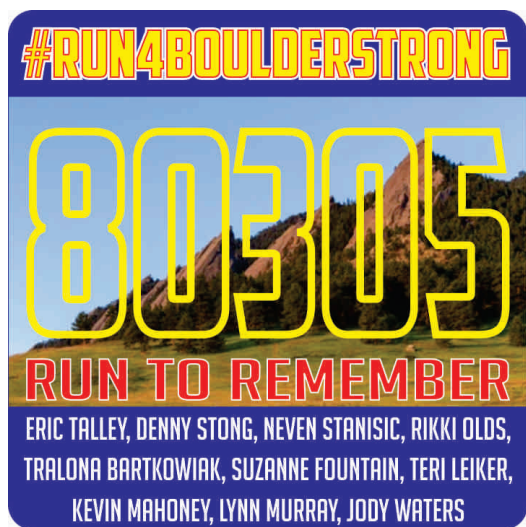
This past week, Boulder runners have come together to show support for the families of the victims, and to honor their memories. The Boulder Running Company, which had Altra make special Boulder shoes, decided to sell these Colorado Escalante Racers, with 100 percent of the \$140 price going to support the families. The shoes were expected to sell out by the time of the April 1 group run, at 6 p.m. at the store.

And Brendan Reilly, local sports agent to many elites, and coach Lee Troop have organized #Run4BoulderStrong, set for Saturday, April 3. In a press release, Troop

and Reilly explained that people are asked to run or walk 10K, or 10 minutes, and if possible to come to Runners Roost at 5 p.m. for a Covid-safe run to NCAR and back: <https://www.mapmyrun.com/routes/view/4262744773>

"Depending on numbers, people will go in waves on 20 and at the top of NCAR, individuals can take a moment for themselves and on they can write a personal message that we will place in a box, and bring it down to the memorial." Anyone wanting to do the run virtually, around the world, can print a bib: [HERE](#)

A Facebook page has been set up: <https://www.facebook.com/run4boulderstrong> "We are asking people to take pictures and photos and put them on that page, or hashtag their own social media pages with #Run4BoulderStrong," continued Reilly and Troop. "I know everyone is handling this tragedy differently, and this event is purely about uniting and bringing runners and walkers in Boulder and around the world together, at a time that our community needs our support to help it heal."



Boulder Road Runners, Inc.
Officers and Contact Information
2021

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APPOINTED POSITIONS

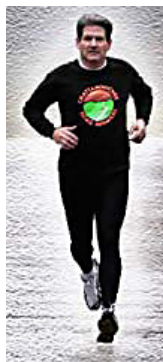
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Water, Water Everywhere --- But How Much to Drink?

from Coach Will Dillard



Now that warmer weather is coming and racing season is upon us hydration becomes even more critical than during cooler weather. Since we live in a drier environment with less humidity, during these warm days an individual can lose up to 10 liters of fluid a day!!!

An athlete working in a warm environment can lose 1.5 liters (abt. 2 quarts) of water per hour.

- 60% of body weight is water
- 5% of body weight is in the blood plasma
- Bones are 32% water
- Muscle is 70% water
- Fat is 10% water
- Blood is 93% water

Since water is such an integral part of our make-up you would think that we would be focused about making sure we drink enough, but more often than not we don't. A loss of only 2% of body weight due to fluid loss during exercise can result in a decrease in performance of 8-10%.

With increasing dehydration and higher body temperature associated with high intensity activity, the rate of gastric emptying slows, which can lead to dehydration, even though you are drinking water. During heavy exercise blood flow is diverted from the gastrointestinal tract to the skeletal muscles and ingested water is held in the gut. When exercise ceases, blood flow will return to the GI tract and can cause an abrupt absorption of water into the bloodstream, resulting in possible hyponatremia (water intoxication) which can be fatal. Diffuse loss of water and



sodium, potassium and magnesium stimulates the release of an anti-diuretic hormone which can add to the problem.

In longer events it is physiologically impossible to drink as much fluid as you will lose so it is important to try and slow the depletion of water and electrolytes from your body.

So what are you supposed to do? It is important to know your sweat rate. One solution is to be sure you are properly hydrated before you begin your exercise. About 1 to 1 ½ hours before you exercise in the heat, consume a large volume of water and an electrolyte drink, up to ½ liter. Then, before you leave weigh yourself and again after you return to determine how much fluid you have lost (1# = 16oz). Add to this the amount of fluid you drank during the run, this is the total amount of fluid loss. Divide this by the total number of minutes you ran then multiply this by 60 to determine your hourly sweat rate. You will need to replace 120% of what you lost to become fully hydrated again. Your replacement fluid should contain sodium, potassium and magnesium to replace the

electrolytes you lost through your sweat.

During exercise the higher the intensity the higher the fluid and electrolyte loss. You will need to consume 8-16 oz. every 20-30 minutes, and cooler fluids are absorbed more quickly than warmer fluids. A fluid with an 6%-8% carbohydrate value and with electrolytes sodium, potassium and magnesium would be the best choice. The mindset that slowing during a race to grab a cup of water will cost you in time is adverse to the amount of time you lose by decreased performance. Decreasing electrolyte balance causing the slowing of electrical impulses to the muscles has more affect on your overall time than skipping a cup of water or electrolyte fluid.

See you at the races....

Coach Will

Why World Records in Endurance Sports Events Keep Getting Faster

from Dr. Gabe Mirkin's Fitness and Health e-Zine, March, 2021

On May 6, 1954, Roger Bannister ran the first sub-four-minute mile. In the 66 years since that world record was set, more than 1600 men have run sub-four-minute miles (Track & Field News, May 2019). The current world record is 3:43.13.

The incredible improvement in world records in endurance events in all sports is mostly due to changes in training techniques, with workouts that are now so intense that they cause a lot of muscle fiber damage and the athletes have to spend more days doing slower recovery workouts. For example, 50 years ago, endurance runners would run fast interval workouts twice a week and also race or run long distances fast. That meant that they usually ran intervals on Tuesday and Thursday and a long run or race on weekends. They would allow only one day to recover from an interval workout. Today the interval workouts are so brutal that the athletes usually allow at least two days for slow recovery workouts after each intense day, so they are doing more intense workouts less often.

What are Intervals?

In intervals, you run a short distance very fast, slow down until you recover your breath, and then repeat alternating the very fast runs followed by much slower recovery runs until your muscles feel stiff and sore. For example, a top runner may run a quarter mile in 60 seconds, followed by a slow jog for an eighth of a mile and repeat it 12 or more times. That means that they are training at 4-minute-mile race pace.

Lack of Oxygen is the Limiting Factor

The limiting factor to how fast you can move over distance is the time it takes for oxygen to go from your red blood cells into your muscles. When you run fast, your muscles use large amounts of oxygen to burn carbohydrates, fat and protein

Alastair Norcross



for energy. You get most of the power to move your muscles from each of several successive chemical reactions, called the Krebs cycle. If you can get enough oxygen to meet your needs, food you have eaten is converted all the way to carbon dioxide and water that you blow off from your lungs when you breathe out. However, if you run so fast that your lungs cannot supply all the oxygen that you need, the series of chemical reactions slows down, you start to accumulate large amounts of lactic acid in your muscles, and the lactic acid spills over into your bloodstream. The lactic acid and carbon dioxide make your blood acidic and the acid burns your muscles to make them feel hot and painful. (Your non-exercising muscles do not burn because they are not accumulating large amounts of lactic acid inside their cells). You then try desperately to breathe hard enough to get rid of the acidity in your blood by taking in enough oxygen to get rid of the excess lactic acid and blow off the excess carbon dioxide that is accumulating in your blood.

Competitive Runners Must Run Up Severe Oxygen Debts in Training

Running fast enough to cause severe oxygen debts in training helps you to:

- tolerate higher blood levels of lactic acid,
- strengthen your heart and lungs so you can bring in more oxygen to your muscles, and
- help your muscles to convert lactic acid to be used as energy to fuel your muscles.

George Brooks at the University of California in Berkeley has shown that lactic acid is the chemical that requires less oxygen to power your muscles than any other source of fuel (Cell Metab, 2018 Apr 3;27(4):757-785). The marked accumulation of lactic acid in your muscles during training causes muscles to use more lactic acid as their primary source of energy in races. Lactic acid requires less oxygen than almost anything else to power your muscles, so by doing this, your muscles require less oxygen and you catch up on your

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Why World Records in Endurance Sports Events Keep Getting Faster, *continued.*

Alastair Norcross



oxygen debt. This neutralizes the acidity in your blood, so your muscles stop burning and hurting and you can pick up the pace.

Getting Your Second Wind

The muscle burning and shortness of breath caused by the accumulation of lactic acid forces you to slow down. We used to think that “second wind” meant that you slowed down to allow yourself time to recover from your oxygen debt, but research from the University of California in Berkeley gave another explanation (Fed Proc, 1986;45:2924-2929). After you slow down briefly, you feel better and could pick up the pace because the same lactic acid that caused the burning in your muscles and shortness of breath could be used as an efficient source of energy for your muscles. Since lactic acid requires less oxygen to power your muscles than most other sources of energy, you catch

up on your oxygen debt, the concentration of lactic acid in your muscles drops, the burning and gasping lessens, you feel better and you can pick up the pace. Of course, when you keep on pushing the pace, you can again accumulate large amounts of lactic acid in muscles, which will make them burn and hurt again (Am J of Physiol-Endocrin and Metab, June 2006).

Using This Information to Have Greater Speed and Endurance

Since you can move faster in races by increasing the rate of forming and removing lactic acid, you should train intensely enough to accumulate large amounts of lactic acid in your body. Exercising with high blood levels of lactic acid stimulates your body to make more enzymes that turn lactic acid into a source of energy and strengthens your heart to be able to

pump more oxygen to your exercising muscles. That is why virtually all athletes in sports that require speed over distance use some form of high intensity interval training.

You also need to eat carbohydrate-rich foods to be able to increase the meager amount of sugar that you can store in your muscles and liver. Carbohydrates are the source of the sugar, glucose, that is converted to the energy-efficient lactate during exercise. Lactate is used as a very oxygen-efficient fuel during exercise and also helps to replenish liver sugar stores during exercise.

The difference between being tired and being in a rut

from Terry Chiplin and activacuity

For many runners, the COVID pandemic has taken them to a place where they thought they might never be. That routine that you had got into of meeting up with a running group for regular social runs, or making sure you were ready to get out and run soon after your alarm clock went off, have had to be left behind, and what is left doesn't feel good.

Check out these tell tale symptoms and see if any sound familiar:

- even though you would be happier if you made a change, it's more comforting to stay the same and complain about it
- day to day you don't look forward to much, other than getting through the day
- when you get free time you feel too tired to do something interesting with it
- you would like to add something new, however you're sure you won't have enough time or energy to do it

If any of these look familiar to you, they could be signs that you are stuck in a rut. One problem with being stuck in that rut is that your system could be tricking you into feeling tired, because you are stuck in that rut!

Brad Stulberg is a performance coach who helps athletes with the psychological aspects of endurance. Sometimes what starts out as exhaustion and really being tired, ends up as a rut that keeps feeding the feeling of exhaustion. Brad recommends: "You don't need to feel good to get going," he said. "You need to get going to give yourself a chance to feel good."

If running has been tough to get back into your lifestyle, find a way to check out if that feeling of being permanently tired is really a sign that you need to do something different, to help break you out of that rut. In a previous life back in England, I would often leave work with the plan to meet up with a coaching group for a



training session. Many times I recall feeling tired, drained, and really wondering if I had the energy to do this. I always promised internally that I would give myself 10 minutes to evaluate if this was really me being tired, or if it was something else that left me feeling this way. (My job kept me in a poorly lit office in front of a computer screen and indoors all day!)

Pretty much every time all it would take is 10 minutes of easy running to shake off that tired funk, and discover that I had reconnected with that energetic running guy that I used to know, me!

Now could be a really good time to reconnect with all the parts of you that sustained your life before COVID became a core part of your life.

If running nurtured, inspired, made you feel alive, was a time for clearing your mind and become almost meditative, and was a chance to chat for hours with like minded friends, then take whatever steps you need to reconnect with that person - you are still in there, and I am betting you have been missing your old friend. Make it happen, you'll be glad you did!

One of the services we can provide is to

help you reconnect with the runner inside you that you have lost touch with. This can make a huge difference in your life, and help you realize just how much energy you have and can give to your life! Contact us to find out more.

Visit www.activacuity.com, or contact Terry Chiplin at terry@activacuity.com.



MEMBER PROFILE

DOUG BELL

A Significant Heart Event: Doug Bell Shares His Recent Personal Experience

from Bruce Kirschner

Experienced runners tend to usually be more fit than most of the general population and are less accustomed to being affected by most kinds of health issues. But at the same time we are all aging and are increasing prone to issues that affect our physical well-being. The name Doug Bell has been a very familiar one in the USATF national championship racing circuit as well as the Colorado running and racing community for many years. A BRR club member who turned 70 years late last year, Doug recently encountered difficulties during his more challenging training runs. He took action and quickly discovered that his heart might be the root cause. Doug was kind enough to share his first-hand experience, which follows below.

You've been a serious competitive runner for 49 years finely in sync with your body. What was your first indication that something might be amiss?

I was running well, but started experiencing heartburn on my harder runs.

What was your first reaction? What most prompted you to seek medical attention?

The heartburn wasn't that bad but it took all the fun out of my running. I thought, "I've got acid reflux so I better go see my primary care physician."

What did they tell you and what interventions did they propose?

My physician told me I needed to take a treadmill test. I laughed! I had just run a 5:44 mile about 6 weeks before. He's the doctor, so I played along with him.

What course of action did you decide to do?

Three days later I was on the hospital treadmill. They put this radioactive dye in



BRR Club Members Jack Pottle, Doug Bell, Kyle Hubbard, and Adam Feerst.

my blood. I ran hard and after the test they said I had a 30 percent blockage on the left side of my heart. I thought I knew my body but my primary care physician was a lot smarter than me! I sent him a thank you note.

Two days later I saw a cardiologist. Within a few minutes he said I should have an angioplasty procedure. I said to myself, "Okay, if I'm going to run fast at age 70, I better get this tune-up." I was actually excited. How fast could I run with a full functioning heart? One week after seeing my physician I was on an operating table.

Then what happened? Tell us about the procedure. How did it go?

I got to the hospital at noon. About 2:00 pm they started the angioplasty procedure. They seemed to be having trouble getting started. I was getting frustrated. All of a sudden, my cardiologist said, "We are done." I was amazed. I was awake the whole time and never felt a thing. I was

home by 6:00 pm. This was so surprising: I felt perfectly normal. Did they really do the angioplasty? My takeaway is this: if you have a very strong heart, angioplasty surgery is probably going to be a piece of cake.

When did you start running again?

My cardiologist said I could get my heart rate up to 100 beats per minute (bpm) the first week. The next day I got on the treadmill and started walking. In a few minutes I was running at 100 bpm. I ran only 12 minute miles that first day, but I was thrilled. I never missed a day of running. A week after surgery I was running 10 minute miles.

How do you feel now? Has it changed your running?

My mile speed isn't back yet but I did run easy for 5 weeks. I feel awesome on longer runs now. After about 3 miles my heart rate does start to climb. I'm sure before the procedure my heart was struggling when I

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MEMBER PROFILE: DOUG BELL

ran those 5 to 6 mile runs fairly hard.

What do you recommend to others to avoid your situation?

Being a Type A personality, I'm sure I pushed myself too hard in many ways over the years. I endured way too much stress trying to be a top age group runner and operating my business at very high standards. Although looking back, it's been a wonderful journey and this fix was easy.

Is there anything else you would like to share?

Being a runner or an endurance athlete can save your life. If I wasn't running fairly hard, I wouldn't have gotten the heartburn. No heartburn, no stress test. No stress test, no surgery. No angioplasty, probable heart attack [at some point in time]. So, running hard may have saved my life?



2019 USATF Mile National Championship, Flint, MI

Wishes become dreams; but without a plan
it's just a wish.

A dream becomes a goal when a plan for
attaining it is defined.

A goal becomes a mission when
unwavering self-belief and
purposeful zeal are realized.

The difference between a goal and a mission
is attitude.

Think like a bumblebee; train like a horse.

The bumblebee doesn't know it isn't supposed to be able to fly,
so it just flies.

The horse doesn't question its training preparation or on race day
compares itself to the other horses, it just races.

Missions are evidenced by an
accompanying passionate
commitment.

Men's 60+ Team Coordinator: Bruce Kirschner, bhkirsch@comcast.net

Women's 60+ Team Coordinator: Virginia Schultz, Virginia.Schultz@Colorado.edu

Men's 70+ Team Coordinator: Jeff Dumas, jeff.dumas@comcast.net

2021 Calendar of Running and Fitness Events

Note: Events listed are only those in which the Boulder Road Runners has significant participation.

Date, Time	Event	Location	Sponsorship
Recurring Club Events			
1st Mondays, 5:30 pm	BRR Club Social	Zoom Meeting	BRR, FREE
TBD	BRR Board Meeting	Zoom Meetingr	BRR
Sundays, 9:00 am (8:00 am June-Sept.)	BRR Group Run	BolderBoulder Offices, 5500 Central at 55th, Boulder	BRR, FREE/OPEN
Club Races			
April 24 & May 8, 2021	2 x Boulder Track Series	Manhattan Middle School, Boulder	TEAM, BRR
May 22, 2021	Frank Shorter Track Classic	Fairview High School	TEAM, BRR
November 25, 2021	Boulder Thanksgiving Day 5K	Flatiron Park, Boulder	TEAM, BRR
USATFMasters LDR Schedule * (For more information, contact Bruce Kirschner, bhkirsch@comcast.net)			
September 19, 2021	USATF Masters 12 km Championships	Sandy Hook, NJ	USATF
October 17, 2021	USATF Masters 5K X-Country Championships	Boston, MAI	USATF
December 11, 2021	USATF Masters Club X-Country Championship	Tallahassee, FL	USATF

*With new COVID-19 cases dropping and the vaccine rollout gaining steam for our athletes over age 65, USATF Masters is preparing to return to competition during the course of 2021. In doing so, our official USATF Masters meets will comply with all USATF's COVID-19 Protocols in effect at the time of the meet



As Always, Thanks to Our Associates and Sponsors!

