February 22, 2010   2:30pm
Ultra talk with Dana Roueche and a little bit of Caballo Blanco – Mick Grant

Dana Roueche Ultra-Marathoning

http://www.dclundell.net/running/info/train100.html
http://www.run100s.com/Pb/index.htm

Hi Mick, wow it's been 35 yrs since graduating Wilmington High. Thanks for the email, I hope all is well with you. If I'm remembering right, you where a junior when I was a senior in high school, right? In any case, here I am 35 yrs later, I never stopped running after graduating high school in 1975 and have never really had any running injuries to speak of.

RUNNING AND STAYING HEALTHY
running injury free: easy, light and smooooth....have fun with it....do not take it or ourselves too seriously...Change motion and stride--more trail less road----WHATEVER foot wear works for ya...light and basic is better, but, WHATEVER.....
Do not buy into commercializations of products--or of NOTHING for that matter...alternate and see what is best for you
-Caballo Blanco

Here is a short history of my running; hopefully I can answer your questions. After leaving high school as a sprinter, 1/4 mile, 300 in winter, I took to the roads. I ran cross county in high school but I was pretty pathetic at it. Ironically, it was the longer distance trail running that I loved. I simply ran 3 or 4 days/week through undergraduate and halfway through graduate school. While in grad school, getting my MBA, I decided to try a marathon. I started increasing my mileage and ran my first marathon in 1982. At that point in time, I started keeping a running log which I still keep today. I will be passing 70,000 logged miles since 1982 next month. A few yrs ago I decided that 100,000 logged running miles would be a great lifetime goal, 30,000 miles to go! From 1982 to 1992 I ran 2 or 3 marathons/yr running about 50 miles/week on the average. During that time I ran the Pikes Peak marathon 6 or 7 times which had become my favorite race. It starts at 6,000 feet elevation, climbs the mountain on trail, tops out at 14,000 feet in 13 miles, you then turn around and come back down. I loved that race because it was slower that the road marathons and on dirt trails. I met up with a co-worker who used to volunteer at the Western States 100 mile trail run in California. He showed me some videos of Western States and after seeing them, I knew I wanted to try a 100 mile trail run. On the spot, I decided to run the Leadville Trail 100 (which is fairly close to where I live) and started training for it. Leadville has an average elevation of over 10,000 feet that is run through the Rocky Mountains. I first ran Leadville in 1993 and was so impressed with how difficult it was. I went on to run and finish Leadville 7 yrs in a row. After the 3rd year I wrote a strategy on how to run Leadville for some friends and posted it out on the internet. If you are curious about what it takes to run 100 miles in the mountains and what the experience is like, you can read it at http://www.run100s.com/Pb/index.htm Little did I know when I was writing it, that it would become a must read for anyone attempting to run Leadville. I still get a pile of emails every year from people asking for advice and also thanking me after the run for helping them with the strategy I wrote. In the meantime, I ran several other 100 mile mountain trail runs. One of note which is a monster and of course my favorite, the Hardrock Hundred run out of the Silverton, Telluride area in Colorado. It has over 30,000 feet of climb and 30,000 feet of descent over the course with an average elevation of over 11,000 feet. Here is the website, if you have time, take a look at some of the photos. http://www.run100s.com/HR/

I ran in Hardrock 3 times, successfully completing the run the first two times. On the 3rd time, I got to 90 miles in great time but was just not having fun. It takes an enormous amount of mental power to run these things. I decided at 90 miles I had enough and just quit, a decision I still regret. I still had 10 hours left before the final cutoff to complete, I could have taken a 5 hour nap and walked it in with plenty of time left over but I decided, no I had enough, I'm going to get a ride out of the mountains and go to bed. The reason I regret the decision is that I then went on to run Leadville for the 8th time, I got to 60 miles and again decided I'm not having fun and mental drive it takes to complete these things. I guess I no longer had anything to prove to myself or to anyone else and was not willing to do what it takes to train for and run these things, That was in 2001 or 2002. After that, I continued to run every day but limited my running to 7 or 8 miles per day with an occasional 14 mile run

and didn't enter in any organized races. I think I was simply burned out from all of the training and competing in the races themselves. When I was in the height of ultrarunning, I was doing a 14 mile run every day 7 days/week during the off season. Six months before an upcoming race I would add a long run once a week of 30 to 36 miles and actually do 25 or 26 runs that long one per week for 6 months. After several yrs of that, I needed a break.

In 2008, one of my daughters decided she wanted to run a marathon so I volunteered to train with her and teach her how to run her first marathon. I ran the race with her, the Denver Marathon and had a blast. It was a relaxed pace for me, I just helped her accomplish her goal. I realized how much I missed running marathons and decided that I would just casually run a fall marathon each yr. I ran the 2009 Denver marathon and plan on running it every yr or possibly some other marathon not with time goals but just to run them and enjoy the experience.

Right now, my training is simply to run 7 or 8 miles per day taking days off whenever I feel like it. In May I'll start ramping up one of my weekly runs to 20 miles and do a handful of them in prep for an upcoming marathon.

To answer your question how to enjoy running high mileage and staying healthy, I guess it depends on how high mileage is defined. When ultra running, I was putting in endless 100 mile weeks reaching as high as 150 or even 160 miles per week. For me, I think the enjoyment factor goes away after about 80 miles/week. After that point, recovery every day gets difficult and it wears on you. When I was pushing up over 100 mile weeks, it was more of a self discovery thing. I was really curious and fascinated by how far I could run so I kept pushing on my limit. I knew the more I ran in training over the course of the year, the better I would do on race day in the 100 mile run. I was able to build up to 14 mile days and recover enough to run it again the next day and continue day after day. After having a huge base, ramping up to 36 mile weekly long runs really wasn't that hard. I also found that the more I ran, the more I could run, I just got stronger and stronger. The problem I discovered was that after doing this for 7 or 8 yrs, I simply burned out from it and didn't want to continue

spending all of the time I was spending running. A commitment like that comes with a price of not doing much else in your life other than work. Running itself turns into work. For the past 3 yrs I have been averaging 70 miles per week but the runs are slow and relaxed. Typically I'll run 7 or 8 miles in the morning, then another 2 or 3 on the treadmill at night after weight lifting. This yr I'm going to skip the night run and do around 50 miles per week. That is about an hour/day done in the morning before work. Because of the level I used to be at, running 50 miles/week is pure joy. It is easy for me, I run 100% on trails that lead out of my back yard with great views and most importantly at a relaxed, comfortable pace. I also think that a lot has to do with how you are wired mentally. Some people simply like to run while others hate it with a passion. I have always liked to run, it is something that comes easy to me and feels good physically and mentally. Since I enjoy running a few miles, running more miles just added enjoyment.

I can think of a few reasons for my staying healthy. The most important one has to do with genetics. I have been given a gift of good bio-mechanics and also I seem to be bullet proof, I just don't get injured. With all of the running I have done in the past 35 yrs, I have never been down with an injury. I'm sure some of it has to do with the fact that I have spent my whole life running and I'm sure whatever needed to be strengthened and become more resilient happened long ago. I'm convinced another big reason for staying healthy is the fact that for the last 20 yrs, almost all of my running has been done or trails or dirt roads. It is rare that I run on pavement or concrete, I don't need to and I prefer the softer surfaces. I guess the magic formula is good genetics, good bio-mechanics and soft surfaces.

I'm sure this is far more than you bargained for, sorry I got carried away. I hope it helps.

DOWNHILL RUNNING

When asking about downhill running, I'm assuming you are referring to downhill on trails. Pavement is a different animal all together, because of its smooth even surface and grip, you can run much faster and introduce much greater impact from gravity certainly inviting damage. From what I understand, the force on your body goes up geometrically when running downhill on pavement. It's a good recipe for injury, for sure. On trails, they can vary from rocky and uneven to level and fairly soft. In the Rocky Mountains, you can run downhill stretches as long as 13 or 14 miles at a crack, Pikes Peak is a great example. Near the summits of most of the peaks in Colorado, the trails are very rocky and uneven. It takes a lot of concentration picking your way through the rocks to avoid twisting your ankle or tripping and doing a header. You really need to be very light and nimble on your feet and your stride length tends to be a bit shorter. You kind of dance through the rocks choosing a varying stride length and whether you land on your heels or toes. The net of it is that there is minimal impact and you don't have repetitive pounding which is really what would cause injury. As you descend the mountains down to lower elevations, the rocks tend to diminish and are replaced with sand and dirt and the surface becomes much more even. As this happens, your speed increases but there is a lot of forgiveness in the surface. Not only is it softer than pavement but has less traction so your foot has a tendency to slide

slightly. Both the softness and less traction help absorb a considerable amount of energy that your bones and joints don't need to bear.

WHERE DO YOU TRAIN

I run on trails all winter. If I'm going to run in the mountains, I'll go to popular trails at lower elevations that are fairly snow packed from people before me. If it has snowed recently, I'll use a pair of ultra light racing snowshoes. Snowshoe running is yet again a totally different experience. Instead of running at what might be 9 minute pace in the summer, turns into 14 minute pace on snowshoes. It is an amazing workout and excellent training for running. I live in a town next to Boulder which is essentially on the plains at the base of the mountains. There is a 30 mile trail system that runs adjacent to my backyard that I can access. The trails stay on the plains, are generally rolling hills and get far less snow than the mountains. The climate in Boulder/Denver is very mild with an average high for Dec, Jan, Feb in the 40's. Any snow we get really doesn't last more than a few weeks. Usually during or after a storm, I'll gladly break out my snowshoes and run shorter distances but take as long as a normal run. Within a few days after a storm, since the trail is well used by people in the area, the snow becomes packed and fairly easy to run on. In a week or two, the packed snow generally melts and I'm back to dirt.

Growing up running on trails and at ski areas in New Hampshire, I know the snow sticks around longer and since it has more water content, tends to turn to ice and certainly is not very practical to run on.

LONG TERM RUNNING—KIDS RUNNING
We can not force kids to do anything, let alone be life-long runners...only provide actions and example that they might CHOOSE to follow. Inspiration is great fuel...
-Caballo Blanco

We are probably a rare breed to hang with running as a part of life for our entire life. As others have said, running is not something I do, it is who I am. Without question, running has been something that defines me. Who would have known in the early 70's under the mentorship of Frank Kelley that running would become a passion and integral part of my life. By the way, I spent several hours with Mr. Kelley 5 yrs ago, almost to the day. My mother died from Alzheimer's and Mr. Kelley attended the funeral and came to my parents house afterwards. It was wonderful to catch up with him. I have to say, he was one of the most important and influential people in my life. I was really grateful to be able to tell him how much of an influential person he was and what it meant to my life.

Track team State Champ

Anyone who has visited Wilmington High School, during the past several months after school is over (and a similar condition has existed during the past several years) sometimes becomes suddenly aware of forms, hurling down the corridors and jumping over hurdles.

It is Coach Frankie Kelly's method of keeping his track team in top condition. There is no where else to practice, so he waits until school is over.

Last Saturday those hurdlers, and their fellow team mates won the Class C championship for Massachusetts. It was quite a tribute to the team, and to Coach Kelly.

Wilmington moved up to Class C last fall, when it turned out the local high school had more than 490 male students. The exact number was 491.

If a school has 490 or fewer males, it is in Class D. If the number is 491 or more, again males, the Class becomes C.

Wilmington is the smallest school in Massachusetts, in Class C.

Of course all that business about males makes the rules sound chauvinistic. Maybe they are, but Wilmington has a couple of young ladies on its track team, if that is anything to comment about.

Chauvinist or not, Wilmington, with its limited facilities, went on to a perfect track record (9-0-0-) for the year. Last Saturday it became Class C Champion for Massachusetts.

A year ago, when Wilmington had won the League title the Town Crier had a picture of Coach Kelly being tossed into the air by his team.

Perhaps it is time to have another picture of Coach Francis Kelly.

DANA ROUECHE: Oakdale Road resident, tied for fifth place in the 300, last Saturday, and the extra half point he earned gave Wilmington a slim 19½ points over the 19 of Xaverian, to win the State Championship.

HOW MUCH MILEAGE?

I agree completely with Arthur Lydiard and 100 mile weeks. I had a loop run of 14.4 miles that I ran 7 times/week for years. It magically comes out to 100.8 miles per week. When I would add in long runs, I simply added a rest day following the long run and had a shorter day prior to the long run so that in total, the magic distance was 100 miles. Over the years, I also discovered that a long run of 36 miles was a magic number that allowed me to go as far as possible yet recover enough to stay on track with 100 mile weeks. I found that if I

extended the long run to 40 or 50 miles, I couldn't recover enough to maintain 100 mile weeks. Thinking about it now, the concept of running 36, 40 or 50 miles at one time kind of blows me away. That was certainly a time in my past that I will never recapture. It is hard to describe what it feels like to be in good enough shape to go out and run 36 or 40 miles as a training run any given day of the week. I got to the point where I could essentially run indefinitely. Sleep deprivation was the limiting factor! I think I ultimately burned out, not from a physical standpoint but mentally running started to turn into work and I lost the fun factor. While spending hours running, I kept thinking life was short and I would enjoy spending more time doing other things like spending it with my family. I did all of my running early in the morning before work so that I wouldn't impact my family but in reality, it wasn't the time involved but the fact that it was using most of my energy without much left over for other things.

I used to run a 20 mile snowshoe race in Leadville every year. Running 20 miles on snowshoes takes about 4 and 1/2 hours and feels like the equivalent of running a 50K. Because the snow here is light and powdery, it is much more friendly to running in snowshoes than what you get in Massachusetts. I'm not sure running in heavy, wet snow would be nearly as much fun.

I have not read Born to Run but I know what the book is about and I agree with what Chris McDougall is saying. I guess I haven't bothered to read his book because I've already discovered what he is saying on my own. I used to be a big contributor to an ultrarunning forum and wrote many pieces on light, minimal or no running shoes. The net of it is that traditional running shoes are designed to protect you against the pounding on hard surfaces and to help correct inefficiencies in bio mechanics. By accomplishing that, the traditional running shoe takes away from your own natural mechanics. While protecting against impact with cushioning, they are inviting over pronation, etc. Repeated unnatural motion will lead to injury.

When I was running Leadville, it happened to be at the time Rick Fischer (anthropologist) was bringing groups of Tarahumara indians up from Mexico to run in the race. They were absolutely amazing runners. Each year, one of them typically won the race and the rest of them were coming in the top 10. The amazing thing was that I know they weren't training specifically for this; running is just part of their life and culture. They were able to run 100 miles in the mountains simply as something they are able to do on a given day. They only wore old tire treads cut in the shape of the bottom of their foot, strapped on with rawhide. A funny story, Rockport was the prime sponsor for Leadville for several years. One year they outfitted all of the Tarahumara with Rockport shoes as a marketing thing I'm sure. Before the race I was inside of the Leadville town hall that was next to start staying warm. I too was wearing a shiny new pair of Rockports. I looked down the hall and saw 7 or 8 Tarahumara all dressed in their cotton robes and wearing Rockport shoes. I shook my head and laughed, it look so ridiculous. Sure enough, by the first aid station, they had all dumped the shoes and went back to their sandals. I wore my Rockports which where actually goretex lined nubuck casual outdoor shoes for the entire 100 miles. I was convinced that I could wear anything as long as I ran with proper form and I just wanted to prove it to myself. With time, I eventually discovered what Chris McDougall wrote about. I wear running shoes

but I really lean towards lightweight, minimalist shoes. I find that the less invasive the shoe is, the better my form is; the better I run and the less chance I have for injury.

In the first note I wrote to you, I explained staying healthy by running on soft surfaces and having good bio mechanics. Those are two necessary factors wearing light shoes over high miles. It's just not going to work for someone running big miles on pavement or with motion control problems. Another part of my shoe story, running shoes are supposed to be designed to last for 500-600 miles. I use my shoes for 2000 to 4000 miles before dumping them. I do that simply because I can. The reason is that because of my mechanics, the wear on the bottoms is even so I don't tend to wear through any particular spot other than the outer heels eventually. The midsoles certainly compress but I need very little in the form of cushioning. For that matter, my shoes feel the best only after I've put over 1000 miles on them. At that point they have conformed to the shape of my foot and have more of a custom fit. Since they are lighter shoes, they feel like I am wearing nothing more than slippers. The whole idea is to tread lightly vs. clomping along. I also tend to have 7 or 8 pairs of shoes that I rotate. I generally don't wear the same pair more than 2 days in a row. I believe by always changing your shoes, you are adding variability into a repetitive motion which helps again with use injury.

MORE QUESTIONS ABOUT STAYING HEALTHY

I know based on your site that you are very involved with track and I must assume a lot of training happens on the track. **(Mick: It isn't!!)**   The good news is the track is softer and more forgiving. The bad news is that it is completely consistent and level. I think the inconsistency of the terrain in trail running is really healthy. Not only is it soft but it prevents you have having the same repetitive motion for thousands and thousands of strides. On the trail, your stride is constantly changing as is your foot placement. The combination prohibits repeated and ultimately irritating consistent movement. Add changing your shoes often and you are good to go. Hardrock is an absolutely incredible epic journey that is an experience like none other. It takes normal humans close to 2 days nonstop to complete. The first day is filled with overwhelming spectacular beauty. The second day presents itself with overwhelming difficulty. Not that the course becomes more difficult, it is ridiculously difficult from start to finish. It is that the first day is enough to physically and emotionally exhaust you. The second day is about being exhausted and persevering. You are dead and you still have many mountain passes to climb and descend. Thinking of the whole thing at once is just too daunting; you need to break it in small chunks. Trail ultrarunners commonly joke about running from tree to tree. It is a joke but filled with truth. The 100 mile trail run generally comes in two halves. The first half you run with your body. Your body can handle about 50 miles or so before it starts to scream that it wants to quit. The second half is run with your mind and spirit. Even though your body is screaming, it does so long before it will actually stop working. It takes your inner strength to convince your body to keep going for another 40 or 50 miles to the finish.

I absolutely loved running high school track. Talking to you has caused me to have a week filled with memories that I am very fond of.

I have a lot more meat on me now, compared to in high school. When I was in high school I was 6' 3" and weighed around 170. I grew an inch in college and I started lifting around 1985. I quickly bulked up to 195 which is where I am now. Carrying all of that weight doesn't help with distance running but I feel a lot more balanced.

TWO RULES FOR MY ATHLETES; 1-HAVE FUN, 2-STAY HEALTHY

I have been thinking about your two rules of being happy and healthy. Good rules for life in general, it is truly all that is important. I talked a lot about the healthy part but didn't say much about the happy part with respect to running.

When I think of my running and happiness, there is a common thread that ties all of my running together over the years. That thread is about pursuing goals. For me, it has always been about goals, the anticipation of accomplishment and how that makes me feel. It is always great to achieve goal but not what is most important. What is important is knowing that I have given my best. In high school it was all about shaving precious seconds off of my 300 or 440 times. After high school, I kind of ran sporadically and aimlessly with no goals so my running lacked focus. At the beginning of 1982, out of the blue, the marathon became my focus and my intensity towards running came back over night. I spent the next 10 yrs working towards running the magical sub 3 hr marathon. It never happened! I had a couple 3:16 efforts but that was it. I'm convinced weighing in the 190's was a big factor. I could always maintain a sub 3 hr pace for 20 or so miles but inevitably my wheels would fall off and I would struggle in.

After 10 yrs, I threw in the towel on a 3 hr marathon and just ran without a goal. My mileage dropped to around 25/week with no direction. Then Leadville became my focus and my mileage quickly shot up to 100 mile weeks. Running ultra marathons went on for 10 yrs until I lost any feelings of accomplishment for completing them. I was back to running without a goal and my mileage dropped to around 1500/year. Around 5 yrs ago, I counted my cumulative mileage since 1982 and found I was at 57,000 miles. That was when I got my next brilliant goal to hit 100,000 miles. Magically, my mileage went up to around 3600 miles/yr and has been at that for the last 3 yrs. Since I started running marathons again, the main purpose of that is to have a shorter term goal each year to focus on. By ensuring that I am in shape to run a marathon every year, hitting the 100K goal will only be a matter of time.

For me, happiness in running has to do with the pursuit of goals. I don't think it has to do as much with actually achieving the goal but rather the commitment it takes to pursue the goal. It is what gives my running purpose and is where I find my happiness.

ACTUAL TRAINING DOESN'T BEGIN UNTIL RULE 3

Thinking about your 3rd rule of increasing mileage when you achieve rules 1 and 2. For me, rule 3 or increasing mileage happens automatically when 1 and 2 are satisfied.

Over my running life I have worked extremely hard at improving my times. I am physically way too big to ever hope to have fast times at any distance so it was more about doing the best for me. Race time was almost comical in a sense, I would put in mega miles, do a ridiculous amount of mile repeats for speed and strength, show up at a marathon trained to break world records and be blown off the course by people who hardly trained. The difference always had to do with a matter of talent or lack of it in my case and pure physics.

My times in rough numbers from memory. I'd need to dig through my running logs to find the seconds.
10K 36:xx I ran in the 36's fairly often but could never break 36
Half Marathon 1:22:xx
Marathon 3:16:xx Did this time twice, I could never go under 3 hrs which was my goal for years.
50 Mile 7:32:xx Probably my best running effort. Roughly 9 min pace for 50 miles on hilly dirt roads.
100 Mile 23:42:xx This was on dirt roads as well, my best time at Leadville was 26 hrs and something. Hardrock was 46 hrs, the time I quit at 90 miles, I was headed for 42 hrs.

When I first started road racing, I used to enter a lot of races. After a few years it became obvious that in a given year I only had a few good races in me so I backed my racing down to 2 or 3 a year. For several years when doing ultra marathons, I'd run the Collegiate Peaks 50 miler in May, Hardrock 100 in July, Leadville 100 in August and Turquoise lake 20 mile snowshoe run in January.

I am truly grateful for the resiliency and longevity I have had in running. When it comes down to it, over 95% of running is done in training over racing where speed is not a factor. I enjoy the excitement of organized races but it really is the hours spent in day to day training that really better be fun or the whole thing is pointless. There is such a short window in our lives where PR's even make sense. After you reach your mid 30's, no matter what you do, running times will start to decline. I guess I've had more practice at accepting being slow before age made it inevitable.
I was thinking about age and my marathon time this morning. Between my PR of 3:16 and what I ran last fall, 4:10, I've lost 54 minutes. When I did the 4:10, I was genuinely alarmed by how slow it was. Assuming the 4:10 is the best I can do right now, I've lost an average of about 2:30 off of my marathon time between the last time I did a 3:16 and now. If that is the progression I can expect going into the future, I can live with that. It means that if I'm able to run marathon's through age 65, I can expect to do a 4:42 marathon or by age 70, it would be a 4:55 marathon. That would really be fine by me. I'm sure the rate I slow down every year will accelerate but I have always been a wishful thinker.

WALKING
Before ultras, I was a running snob and never would consider walking. After my first ultra, I realized how pathetic of a walker I was and started to look at it differently. My first ultra was a 50 miler, I got 30 miles into it

and was faced with a long hill that climbed for about 5 miles. I tried to run as much of it as I could but because of the altitude an the fact that I was at a distance far longer than I had ever run before, I had to walk. My walking was so slow it was ridiculous. It was frustrating, I couldn't run but I couldn't walk either. There where people passing me left and right as I struggled to walk up hill. After discovering that weakness, I used to train on the treadmill walking 5 miles with it set at 15% for 3 days/week. I did this for years at it made a huge difference. Now I walk with my wife at night as part of my training. My wife and I also go to the gym 4 nights per week for weightlifting.

In the high altitude ultras such as Leadville or Hardrock, there are long stretches of uphill climbing to the tops of mountain passes that have to be walked. Some of these are so difficult with lack of oxygen that even with walking you go anaerobic and need to actually stop and rest to get your heart rate back down. If I could walk Hope pass in Leadville for example without needing to stop, I knew my hill walking training was effective. The climb on either side of Hope starts at 10,000 feet and peaks out at 12,600 feet. Compared to Hardrock, Hope is a baby climb. There is a climb in Hardrock that starts at 8,000 feet in the mining town of Ouray and climbs straight up to over 13,000 feet. Depending which direction the race is run, it is either over Virgineous pass going counterclockwise or Engineer pass going clockwise. Either way it is brutal and absolutely necessary to be a good uphill walker. Unless, of course, you want to spend half the day doing it.

Before you get too gung ho about walking, it is probably best to experience an ultra to get feel for what is needed with respect to walking. Then when you work to improve for your next ultra, the walking part will be low hanging fruit to improve on. Right now, it would be best for you and your body to learn how to run at a slower pace. One thing at a time, right? In this case, instead of learning to walk before you can run, you need to learn to run before you can walk!

RUNNING MARATHONS AT AGE 70

Mick, running a marathon at 70 is more than wishful thinking on my part. With my current goal of running one marathon per year, it is for the purpose of ensuring I stay in good enough shape to simply cover the distance. I am convinced if I let that level of conditioning go, the probability of getting it back will shrink dramatically as I get older. I don't know how long I will be able to run marathons but this will be my way of finding out.

Right now my training pace ranges between 9 to 10 mins/mile. If I'm feeling good, I might go below 9 minute pace but that is the exception. I did a few 10 mile tempo runs on pavement last fall at 7:30 pace but that was really an exception.

Since my marathons are limited to the Denver marathon at this point, the altitude is around 5,200 feet. I live and train at that altitude, so I don't see it as a factor. The Denver marathon is a fairly flat, paved city marathon. Even though I train in solitude on trails, I do enjoy the hype and excitement of a city marathon, especially the beer and live music after the run.

When training for Ultra marathons, my resting HR used to be in the mid 30's. It's been a long time since I checked it but I'm guessing my resting HR is in the 40's at this point.

HEARTRATE/PERFORMANCE

In the 90's when I was doing ultras I used to wear a HR monitor every day. The 14 mile run I used to do on hilly dirt roads where pretty consistent at 9 min pace. For that pace, my average HR for 14 miles at 9 min pace used to be 127. After using the monitor for years, I pretty much had a feel for when I needed to back off on training or when I could ramp it up. In races, I'd wear the monitor but I couldn't discipline myself enough to pay attention to it. I'd start a 50 mile race and my HR would pop up to 165, ridiculous for running 50 miles at 10,000 feet in the mountains. Since I was ignoring it, I stopped wearing it. I know what it feels like at 160 which is about all I can stand at this point. I'm guessing when I was doing 10 mile tempo runs at 7:30 pace last fall, I was pushing 160 the whole way.

For the marathon last fall, I ran about 8:30-8.45 pace for the first 10 miles. By mile 20 my average pace was 9:00 mins and by the finish my average had slowed to 9:30. In other words, I wasn't doing much more than jogging the last 6 miles. This year, depending on how my training goes, I plan on starting at 9 min pace and hanging on to that for as long as possible. It is inevitable that I will slow down but the key will be to minimize it.

I have been wearing a Garmin Forerunner 205 for years now. I love the thing, I have my prime screen set to give me distance, average pace, elapsed time and time of day. There are a ton of data fields you can look at but I like knowing the distance, average pace and the time of day. It is great wearing it in a race to monitor your pace. I find it very accurate, within a tenth of a mile over 10 miles. I found when running marathons with it, it measures 2 to 3 tenths longer than 26.2 miles so your pace will show a little faster than you are actually running. I'm convinced the reason it measures long is because the marathon is measured precisely on the tangents which you can't always run because of the crowd and the course is usually measured a little long to make sure it is a full 26.2 miles. In ancient history, I used to drive my car on my running routes to measure the distance. On trails you can't do that so the garmin is great for knowing how far you are running.

NEGATIVE SPLITS IN MARATHON RACES

You would think after running for 37 yrs that I would have learned how to run a race with negative splits or at least even splits! Since my last marathon averaged 9:30 pace, I should start my next marathon at 9:30 pace with the expectation of running faster in the second half. Maybe this year should be about doing just that. I have an extraordinary amount of discipline when it comes to training but always on race day, I throw all of that discipline out the window and bolt out at the start only to crash and burn later in the race.

At the start of Leadville, it is a total laugh. I would start in the last 1/3rd or 1/4th of the field at a pace that felt like a jog. At the first mile split I was always shocked at my time which would be around 9:00 min pace. That

meant that 3/4ths of the people were under 9 min pace. Out of the roughly 500 starters, only 30 to 40 people break 25 hours which is 15 min pace! Usually less than half of the field are able to even finish so the bulk of the people who run that race make a fatal mistake in the 1st mile of a 100 mile run.

Pacing is even more critical on these runs and far more complicated because your pace is constantly changing. For both Leadville and Hardrock, they keep a history of all of the runners split times at each of the aid stations. Aid stations average about 10 miles apart. Depending on my goal finish time, I would look at all of the runners that finished in prior years around the time I wanted to do and looked at their split times at each aid station. That would become the foundation for my race strategy. I always had a target time to reach each aid station, if I was running ahead or behind, I would adjust my pace to the next aid station. That plan usually worked for the first 50 miles, in the second 50 miles you really need to run according to how you feel. If you feel good, take advantage of it and run faster. If you feel like crap you have no choice but to slow down. Typically there is a mountain or mountain pass to climb between aid stations. Because of my size, I was always slower lugging all of my weight up on the ascents. I generally got passed by the smaller people around me. On the descent, because of my height, 6-4, I have a long stride and I'm a very good downhill runner so I would tend to catch up and pass people on the downhill. Your pace certainly varies depending on whether you are climbing or descending so you need to get more of a feel for level of exertion and try to keep that constant. That is easier said than done because covering steep climbs at 13,000 feet are brutal and you have no choice but to over exert yourself on the climbs. Your hope is to recover on the downhill. There is no such concept of flat in the mountains, you are either climbing or descending. The key though is to run the course aid station to aid station and understand how long it should take between them. The planned time between aid stations dictates the overall level of effort for that part of the course even though it will be a combination of varying pace. That of course all goes out the window when it is a big snow yr and you have miles of mush to cover instead of firm ground. It's all part of the adventure.

RUNNING ALONE OR WITH OTHERS
There are a lot of positives to running with people but I don't know of too many people who run consistently day after day, year after year, decade after decade to team up with. Since leaving high school, I have probably run better than 98% of my miles alone. Not that I am a loner but I find it so much easier to maintain a routine over the long haul when going alone and having complete control over my schedule. Things come up all of the time, whether it is an early meeting at work, an injury, vacation, whatever. There are a ton of things that can prevent you from getting together consistently to run and you really don't have much control over it.
I have learned over the years that if I run first thing in the morning before my day gets in the way, I can control a consistent routine of running every day. As long as I get up before everyone else, no one can impact my daily training. My days off happen primarily when I decide I need a day off. If I have an early meeting at work, I'll just get up earlier to still get my run in. Since all of my running starts from my front door step, I simply start

whenever I'm ready, no waiting or meeting with someone. I know I am the extreme with this but it has proven to work. When I was doing endless long training runs for ultras, rather than waste a Saturday or Sunday doing them, I'd get up at 1:00 AM, run 36 miles, take a shower and go into work for the day. I just don't know anyone willing to do that on a weekly basis.

RUNNING & RACING AT NIGHT

Mick, flashlights are certainly a key piece of equipment. The 100's I did where all during to summer months so it wouldn't get completely dark until around 9 PM. Daylight would come around 6 AM so you had to count on 9 hours of darkness. Leadville has a 4 AM start so you actually need to run the 2 hrs in the dark as well. Leadville and Western States really didn't have any "dangerous" parts where you could fall off a cliff or slide down the side of a mountain. The biggest danger with those runs is a sprained ankle from landing on a rock the wrong way. On the rocky sections you really had to focus to make sure you didn't trip or plant your feet wrong. At Hardrock, there absolutely was the danger of walking off a cliff or sliding off the side of a mountain. As long as you made sure to stay away from the edge near cliffs and make sure your feet where secure up high in the snow/ice. you where OK. As long as you used care, you would stay safe and generally these sections weren't long so you didn't have to focus that long.

Flashlights really changed over the time I was doing ultras. Before LED flashlights existed, I used to carry a light that held 4 AA batteries and had a pretty powerful bulb. I used Lithium batteries, normally used for camera flashes. Those batteries are very light and would last for about 8 hours so I would carry a second set in my fanny pack. I also used to carry a mini mag light with 2 AA lithium batteries as a backup and had spare bulbs for both. Every race I would start with fresh bulbs in my lights and for spares. I would use the used bulbs in training where a burned out bulb was not that critical. I learned early on that if a bulb died while running, to use your backup and replace the burned out bulb immediately. The same went for changing batteries. The first year at Leadville, I was on a mountain pass in a driving sleet storm and my bulb died. I had to decide whether I wanted to take the time in the nasty weather to replace the bulb or wait until I got to the next aid station which was 5 miles away. I decided to be safe and replace the bulb. No sooner did I do that, the bulb died in my backup light. If I had waited, I would have been screwed. Well, at least until another runner came along with a light which might have been 20 or 30 minutes later. LED lights changed all of that. I went with a 4 LED light that holds 3 AA batteries. It provides plenty of light and the batteries last 60 - 70 hours with no need to worry about bulbs burning out. I still use that same light when running at night. I like it because it is small, lightweight and throws plenty of light. I also carried back up lights that had a single LED. Not as bright, but you could get by if you needed it. Once going to LED, I never had to change batteries during a race or worry about bulbs.

When I wrote the Leadville strategy, it was intended for people who where not having success at finishing Leadville. If you look at it closely, I developed a strategy where you can walk about 60 miles of the thing and still finish the run on time. People generally slow way down at night in a 100. Running with limited light from a flashlight causes you to be more careful and slow down. You also slow down because you've already covered

60-70 miles before it gets dark and you are unavoidably tired. I personally used to run as hard as I could during the day and cover as much distance as possible before it got dark because I knew I would slow down. It was kind of self fulfilling because I would have over extended myself during the day. In some of my slower years at Leadville, I walked most of the night section simply because I didn't need to run.

ULTRA RUNNING AND "BORN TO RUN"

Ultra running is a small community, when you are active it is hard not to get to know many of the people in the community. The ultra running forum brought many of us together from an initial contact standpoint, then when running in races, you tend meet face to face. Unlike shorter races that are far more intense, the 100 mile trail runs are very laid back. You almost always hook up with other runners going your pace and run many, many miles together. Micah True comes from Nederland, a mountain town adjacent to Boulder. He was a very good ultra runner on the local scene, became fascinated with the Tarahumara at Leadville and left to live with them.

The Tarahumara did in fact run in robes or skirts every year at Leadville and they did wear sandals or huaraches as they were called. Another story about them, they where thrilled when they visited the Leadville dump because the discarded tires had a lot of tread left on them. They cut the tread to form the sole of their sandals. In Mexico by the time tires hit the dump, they are generally bald. One of the Leadville videos I have shows them in the dump cutting new soles from tires with a swiss army knife.

The first year I saw the Tarahumara, the race was won by one of them who was 57 years old! I ran beside him for miles 16-18 just fascinated by how relaxed he was running at 11,000 feet. The amazing thing is he went on to finish 6 or 7 hrs ahead of me, talk about negative splits. The next year was the year Ann Trason ran. She was one of the best ultra runners of the time regardless of the fact that she was a woman. For that matter, the Tarahumara who beat her that year who I think was 19, had to set the course record to do it. Actually both Ann Trason and the Tarahumara beat the course record. That record held for about 10 yrs before Matt Carpenter obliterated it. I heard that they thought Ann Trason was a witch! They too could not believe Ann's ability for being a woman, they would not talk to her or acknowledge her and come hell or high water where not going to let her beat them.

My understanding about the Tarahumara in addition to all that has been written is that running is somewhat of a necessity of life. It is their form of travel through the mountains from one village to another. Since they don't have cars and I'm not sure they would be very practical where they live, they need to move about on foot. Our culture dictates that if we need to travel more than a few hundred yards, we jump in our car, they don't have that option so their life style dictates that they put in many miles on foot. I seriously doubt they were out training to become top Leadville runners every year they where there. Another story, the first year they ran in Leadville, a year or two before I started, it was a complete failure and none of them finished. There were a couple of reasons

for this. In their culture it is totally impolite or rude to take things without it being handed to them. At the aid stations, it is absolutely critical that you eat and drink to maintain your fluid and calorie balance. You can burn 10,000 to 15,000 calories in one of these things so it is impossible to complete without taking in big calories. At the aid stations, everything is laid out on tables, they did not understand the food and drink was for them as well and went without. In the following years, it was Micah True who used to wait at the aid stations for them and actually hand them the food they needed. Another part of it was that they couldn't deal with a flashlight which is critical because it is completely dark at the beginning and end of the race. Supposedly, they where pointing their flashlights straight up like holding a torch instead of pointing the beam at the ground in front of them. I don't know if I believe that but whatever.

At one point someone asked about the difference between trail running shoes and road shoes on the Ultra forum. I responded by explaining the differences and then went into wearing light shoes and also that I run in my shoes for at least 2,000 miles. The funny thing about the Nike debate is that Nikes are my shoes of preference. My longest lasting pair of shoes that went well over 4,000 miles was a pair of Nike's. Currently, of the 8 pairs of shoes I own, 4 of them are Nike's. The reason I like Nike's is they fit and feel the best to me. The only reason I use other brands is for the variability. Nikes also tend to be the most durable with respect to how many miles I can get out of a given pair. Out of the different technologies they offer such as Zoom Air, their original air sole technology, Air Max, shox and now the Lunar technology, I prefer the Zoom air shoes. They are the more traditional, classic Nikes that have smaller air capsules which are used in their lighter shoes. My experience is that the air provides some cushion, not much but some and the air cushion stays viable over thousands of miles unlike EVA or other midsole materials. After writing about minimalist shoes, Barefoot Ted wrote to me and we had a long exchange of notes. I think he is a bit extreme about the whole thing, probably trying to prove his point. Realistically, I think you do need some protection and cushioning for long term injury prevention. I also think that when it comes to shoes, you can have too much protection and cushion which in itself can lead to injuries. The thing that bothers me about shoe companies is they will come out with what I think is a good model but every year they need to come out with an updated version to avoid becoming stale in the market. The problem is that the updated versions tend to head in the direction of more bells and whistles that are heavier and more costly and with more injury risk. In the end, the quest for every runner is to find the perfect shoe. The shoe that has the right amount of cushioning, support, protection, stiffness and motion control that works best for them. In addition, they need to find several different "perfect" shoes so they can rotate them to avoid repetition injury.

FUELING

Mick, you have just touched on one of my favorite aspects of ultra running, that is the requirement for self sufficiency. Somewhat of a standard piece of equipment for an ultra runner is a fanny pack that holds two bottles with a pouch for extra gear and food. There are several other options to the two bottle fanny pack that I will get into later. On my 36 mile runs, I would use a two bottle pack and carry two 32 oz bottles in each of the holsters. I would also place two 26 oz bottles upright in the center pouch. This obviously would weigh a ton to carry while running. The 36 mile run was an out and back route so at miles 6, 9 and 12, I would drop one of the four bottles behind a bush to pick up on the way back and carry a 4th full bottle with me from miles 12 to 24, turning around at mile 18. Once I unloaded the first bottle, things got much lighter for the rest of the trip because I would be drinking along the way as well helping to lighten the load. I have tried other alternatives such as using a Camelback which meant I had to carry my fluids the whole way which I preferred not to do. The route I took went up into a canyon which had a creek along side from miles 9 to 27. For several years I carried a filter bottle and used the creek water along the way. At times I also purified the water using a combination of chlorine crystals and peroxide to neutralize the chlorine before drinking. I gave up on using the creek simply because I didn't want to spend the time pulling off and getting water out of the creek. When training in the higher mountains, I typically use a filter bottle since water is very accessible.

When I was doing long runs like the 36 miler, I'd assume I was burning 150 calories per mile or 5400 calories for a 36 mile run. I would take half of my fluids as energy drink, the other half as water. I would also carry food such as energy bars, a pack of fig newtons, a sandwich, whatever. I would plan on bringing 1000 calories between the drink and solid food. Assuming I had 1600 calories of glycogen between my blood and liver combined with the 1000 calories I brought with me, I'd have 2600 of the 5400 calories readily available. The remaining 2800 calories came from burning fat. A key purpose of training in ultra running is to teach your body how to burn fat early in the run to conserve precious glycogen. Running slow really helps with that process. After a few runs of depleted glycogen, your body or endocrine system learns fast about burning fat as an energy source.

When doing 100 mile runs, they will take drop bags that you have prepared before the run and deliver them to various aid stations. I would typically have a drop bag ready for me at around mile 60 which is usually before dark. I would change into dry shoes, socks and clothes before dark and the temperature dropped. The bag would also have a primary flashlight and an extra top layer for warmth through the night.

If you look at the photo of me climbing the mountain pass, the first photo you included in the word doc, you can see I have a single bottle carrier in front, for easy access. If you look closer you can see shoulder straps for a small light weight day pack that I'm carrying. You can also see that the two people behind me are also wearing packs. In spite of me just wearing shorts and a t-shirt, in my pack I had a second bottle, food, a hat, gloves, gore-tex jacket, fleece mid layer, nylon wind pants, a first aid kit, light weight instep crampons, a plastic tent stake that I used as a mini ice axe, a flashlight and extra batteries. In a minute's notice, the weather can change and you could be wearing and using everything in that pack. The pack I used was a very light, thin nylon pack. It was something a kid might get out of Target to carry school books in. I found the higher quality packs sold in outdoor stores tended to have more bells and whistles but where too heavy. I used to put all of my gear in a plastic trash bag for water proofing, then place that in the pack. You could generally count on a thunderstorm in the mountains so you needed to keep things dry. Without the water bottle, the pack with gear would only weigh 5-7 pounds. It had a thin nylon strap that synched around your waist and would keep the pack from bouncing when running. I'd unbuckle the strap when climbing as in the picture so that I could breath better. Oh yeah, one other piece of equipment that I'd carry in my pack was a wad of tissues for the eventual bathroom stop behind some rock or tree. In a 30 to 48 hour run, you have to count on the need to go.

When running in Hardrock, often it would take a good 5 hrs to go from one aid station to the next. The fortunate thing was the abundance of streams and creeks up high. Rarely you would go more than a mile before you needed to cross a stream. I would use the water direct from the streams, it was always fresh and clear usually coming from recent snow melt. There's always a risk of Gerardia but I never had a problem. I also figured that if I got sick, it would happen after the race so I took the chance in order not to waste time with filters or purification pills.

I was generally a purist when it came to aid and drop bags. I felt less was always better so I never used more than one drop bag or one year at Hardrock I went without drop bags and just carried what I needed, except for food the whole way. One year at Leadville I tried to carry all of my stuff, including all of my calories in the form of drink powder the whole way and only use the aid stations for water. I had to abandon the back pack idea at 60 miles because it was slowing me down. If I didn't drop the weight and pick up my pace, I wouldn't have made the cut offs and they would have disqualified me. When I stopped running organized ultras, in addition to the fact that I was loosing my mental strength, I was also of the opinion that organized runs with aid

stations where taking away from the total accomplishment. I was convinced that to truly run 100 miles in the mountains, it should be done with no help in the form of aid stations, pacers, crew or whatever. Truly completing 100 miles meant carrying what you needed for the entire journey.

In the photo, you can see a pink liquid in my bottle. At the time I was working with someone who owns an energy drink company for ultra runners. We were developing a recipe that ultimately became an ultra drink known as SUCCEED! CLIP. SUCCEED! is the brand, CLIP was short for carbohydrates, lipids, protein. I used to make my own drink for running these things that was a combination of maltodextrin for carbs, canola oil for fat, whey protein, a little non sweetened koolaid and a little sugar for flavor and branched chain amino acids. In ultras, your body burns everything and needs not only carbs but fat and protein as well. In addition to the drink, I would take electrolyte capsules that I would also make. I'd buy empty gel caps for a health food store and fill them with a mix of salt and Morton lite salt which was a 50/50 combination of sodium chloride and potasium chloride. Most energy drinks have electrolytes but not enough. They would taste like salt water if they had enough electrolytes in them. As a way around this, the capsules worked great. With experience, you can tell when you are running low on salt. It always amazed me how good I'd feel after taking some salt when I got low, everything worked better with the right balance.

RECOVERY

After my first 100 mile run, I was surprised at how quickly I recovered. The day after the 100, I felt much better than when I was running marathons. I believe the primary reason for the quick recovery is the fact that you are running much slower in an ultra than in a marathon or shorter races. Because of the slower pace, the impact or pounding is greatly reduced. I think it is the pounding from a fast pace that does all of the damage. You also tend to be running on soft surfaces rather than pavement which reduces the impact on your muscles and joints. The final aspect has to do with the fact that you incorporate a lot of walking in with ultra running. The walking certainly changes how you are using your muscles along with lessened impact.

In spite of your muscle and joints recovering quickly so that you can run virtually pain free in a day or two after an ultra, it still takes a lot of time for your endocrine system to recover. Until the endocrine system recovers, you are susceptible to early fatigue and potential for injury. I used to run Leadville after running Hardrock which only had 5 or 6 weeks between the two runs. What I found to be essentially predictable was that after about 25 miles into Leadville, I would really start to deteriorate quickly. The first 20 miles or so would feel fine, then I would start to quickly fatigue and feel achy. I was able to finish Leadville the first two times I did this just because of the huge running base I had and the enormous mental strength and will power I was carrying. There was a time I felt completely invincible and that once I started a 100 mile run, there would be only one outcome, that I would complete the run. I had so much confidence in my ability which came from the months and months of doing weekly 36 mile runs that there was nothing that good get in my way. After I quit at 90

miles at Hardrock, I started getting some lessons in humility. I went to Leadville and again at 25 miles the wheels started to fall off, but this time I simply no longer had the mental strength or will power, I had nothing to prove to myself or others so I bagged it at mile 60.

I have always had a concern about how frequent people ultra run, the impact it might have on their endocrine system and the long term effects that might show up years from now. Ultra running puts an enormous stress on your internal system, not necessarily your joints and muscles. I don't think a lot is known about the internal system with respect to recovery and if there is a potential for long term effects. I obviously can't prove any of this but you have to wonder if something might be going on internally from all of that stress on your system that just isn't showing up in the short term.