



# THE FINISH LINE



**Happy Mad Dogs After a Great Escape From Ft. DeSoto Race.**  
(from Pam Hollenhorst)



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**Established on November 6, 1993, the St Pete Mad Dogs Triathlon Club is a not for profit organization designed to promote the sport of triathlon. The club is comprised of fun loving triathletes who train, race and howl together, with members of all levels of experience and expertise.**

**The Finish Line is a medium for communicating the latest club news, as well as an informal source for what's happening in the sport of triathlon as it affects us. Articles published in The Finish Line may contain opinions of the author, not necessarily the club.**

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**Items should be sent by the 15th of the month preceding the issue.**

**Advertising requests should be submitted to Chuck Lohman @**

**[advertising@stpetemaddogs.com](mailto:advertising@stpetemaddogs.com). For questions, please e-mail him.**

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**Editor's Column**

To begin this column, I would like to highlight the contributions of President John Hollenhorst and his lovely wife, Pam. During our pandemic year of 2020, with all its challenges, John has devoted countless hours and incredible energy to promoting the Mad Dog Triathlon Club, organizing events and training sessions and coming up with innovative plans. All this while beginning a new career in Real Estate! Pam has also been at all these events inspiring attendees and welcoming new Mad Dogs. She has also acted as our unofficial photographer, furnishing

(continued on page 6)

# TRAINING CALENDAR

	SWIM	BIKE	RUN
<b>MONDAY</b>	5:30 - 7:00 AM St. Pete Beach Aquatics Club coached by Leo Briceno	8 am. From USFSP 6th Ave & 2nd St. South. 16 miles 20-21 mph.	6 pm. From Northshore Pool Parking Lot (16 miles) St Pete Road Runners
<b>TUESDAY</b>	6:30-8 pm. Northshore Pool. Coach Joe Biondi \$9.00 fee	6 am. Base miles 22-25 mph ride from SPB&F 4th St. store.  8 am. From USFSP 16 miles 17-19 mph.	5 pm. Track workout coached by Joe Burgasser. SPC Track 5th Ave and 70 St N.
<b>WEDNESDAY</b>	6:00 pm. Mad Dog OWS Meet at Hurley Park.	8 am. From USFSP 16 miles 20-21 mph.	7:30 am. Bayway Bridge Repeats. Meet at Sun Blvd & Pinellas Bayway.
<b>THURSDAY</b>	5:30 - 7:00 AM St. Pete Beach Aquatics Club coached by Leo Briceno -fee 6:30-8 pm. Northshore Pool Coach Joe Biondi \$9.00 fee	8 am. From USFSP 16 miles 20-21 mph.	5:15 AM. Bayway Bridge Repeats. Meet at Sun Blvd & Pinellas Bayway. ( Burgasser Group).
<b>FRIDAY</b>	8 am. Group swim @ Pass-a-Grill. Meet at Hurricaneman restaurant	8 am. From USFSP 16 miles 17-19 mph.	6:30 AM From Fit4Life 75th Ave. St. Pete Beach SPRR
<b>SATURDAY</b>		8:30 am. From Northshore Pool. Rides staged by speed: 16-18MPH, 20MPH, 22 MPH, 24 MPH +	

# TRAINING CALENDAR

SUNDAY	SWIM	BIKE	RUN		
		8:30 am. Advanced ride. From St. Pete Library 9th Ave N & 37 St.  8 am. Intermediate no drop ride. From SPB&F 4th St store  10:30 am. Beginner no drop ride. From SPB&F 4th St store.	6:30 AM Long run alternating from Hurley Park PAG and Northshore Pool. SPRR		
		Ft De Soto 8:00, all paces, 20 miles	Following the bike ride a 4-mile run		



# MAY BIRTHDAYS



Gregory Glasscock	7th
Frank Adornato	14th
David Burg	17th
Joan Duggar	17th
Jay Cooke	18th
Jessica Bibza	23rd
Tony Handler	23rd
Peter Paulin	23rd
Steve Swift	28th
Bryant Davies	29th

## **WELCOME NEW MAD DOGS!**

**# 3925 - Rafael Nieves - St. Pete**

**# 3926 - Catherine Jadot - St. Pete**

Editor's Comments continued:

well over 50% of all photographs posted in these newsletters. We are lucky to have these two Wisconsin emigres as leaders of the Mad Dogs!

Many of us are increasingly concerned about accidents involving bicyclists and cars. Some have actually given up riding on roads with motor vehicles. I found an interesting article in Slowtwitch about thoughts on the increasing number of self-driving vehicles, and included it in this issue.

Mad Dogs Rule,  
**Chuck Lohman, Editor**

# UPCOMING RACES

## Tentative Dates for Local Races



1 May - IM 70.3 St. George  
St. George, UT  
Half Ironman Distance  
[www.ironman.com](http://www.ironman.com)



16 May - Dunedin Rotary Tri  
Dunedin, FL  
Sprint Distance Tri/DU  
[www.runsignup.com](http://www.runsignup.com)



8 May - Girlz on Fire Tri  
Clermont, FL  
Sprint Distance Tri/Du  
[www.runsignup.com](http://www.runsignup.com)



23 May - IM 70.3 Chattanooga  
Chattanooga, TN  
Half Ironman Distance  
[www.ironman.com](http://www.ironman.com)



15 May - IM 70.3 Gulf Coast  
Panama City Beach, FL  
Half Ironman Distance  
[www.ironman.com](http://www.ironman.com)



13 Jun - Heartland Tri  
Sebring, FL  
Sprint/Olympic Tri/Du/AB  
[www.runsignup.com](http://www.runsignup.com)

# MAD DOG NEWS

With the St Anthony's Triathlon postponed until the first weekend in October, the race organization has a question for you. Would you be able to host a visiting professional triathlete in you home for the weekend? Athlete requests are already coming in, but we are hesitant to make any commitments until we hear from past and future homestay providers. Please contact Pro Athlete Coordinator Carolyn Kiper, Mad Dog #983 at [cskipper@gmail.com](mailto:cskipper@gmail.com). This a great chance to meet young pro triathletes and welcome them to St. Pete!

Great turnout for the choppy Wednesday night swim on 7 April. We had a special visit from journalist Mad Dog Noah Pransky visiting from the New York area. Noah, as usual, was accompanied by a bevy of beautiful women. Great to see an old friend.



Astrolabe – ancient version of today's GPS. *"We can only cross the ocean once we summon the courage to lose sight of the shore."*

# RACE RESULTS

All Mad Dogs are encouraged to submit race results. There is no automatic program to search for Mad Dogs in every race. Thanks.

## Vero Beach Triathlon - 11 Apr

### 1st Place -

Danny Hicks  
Jan Thompson

## Escape From Ft. DeSoto - 17 Apr

### 1st Place -

Celia Dubey (Overall Woman)  
Cathy DeHaan  
Jennifer Hutchison  
Roger Little  
Gail Lohman  
Jill Voorhis

### 2nd Place -

Frank Adornato  
Suzanne Brosseau  
Sue Minkoff

### 3rd Place -

John Hollenhorst  
Michael Oertle  
Mandy Zipf

### 4th Place -

Kim Case  
Mike Deacy  
Claudia Junqueira

### 5th Place -

Andy Reeder  
Art Singleton

## IM 70.3 Florida - 18 Apr

### 1st Place -

Catherine Jadot (New Mad Dog)

### 2nd Place -

Gail Norman

### 4th Place -

Jackson Laundry (Pro - Mad Dog Homestay)



# MAD DOG PICTURES



Mad Dogs at Addicted to the Bean after their Wednesday workout (thanks to Pam Hollenhorst). Steve Shelton, Gail Lohman, John Hollenhorst, coach Leo and Mad Dog groupies spotted.



# MAD DOG PICTURES



Laura Sgroi Jansik's post for dog owners!



Good advice for Mad Dogs.



Gail Lohman with a new pirate friend (actually a mailbox).



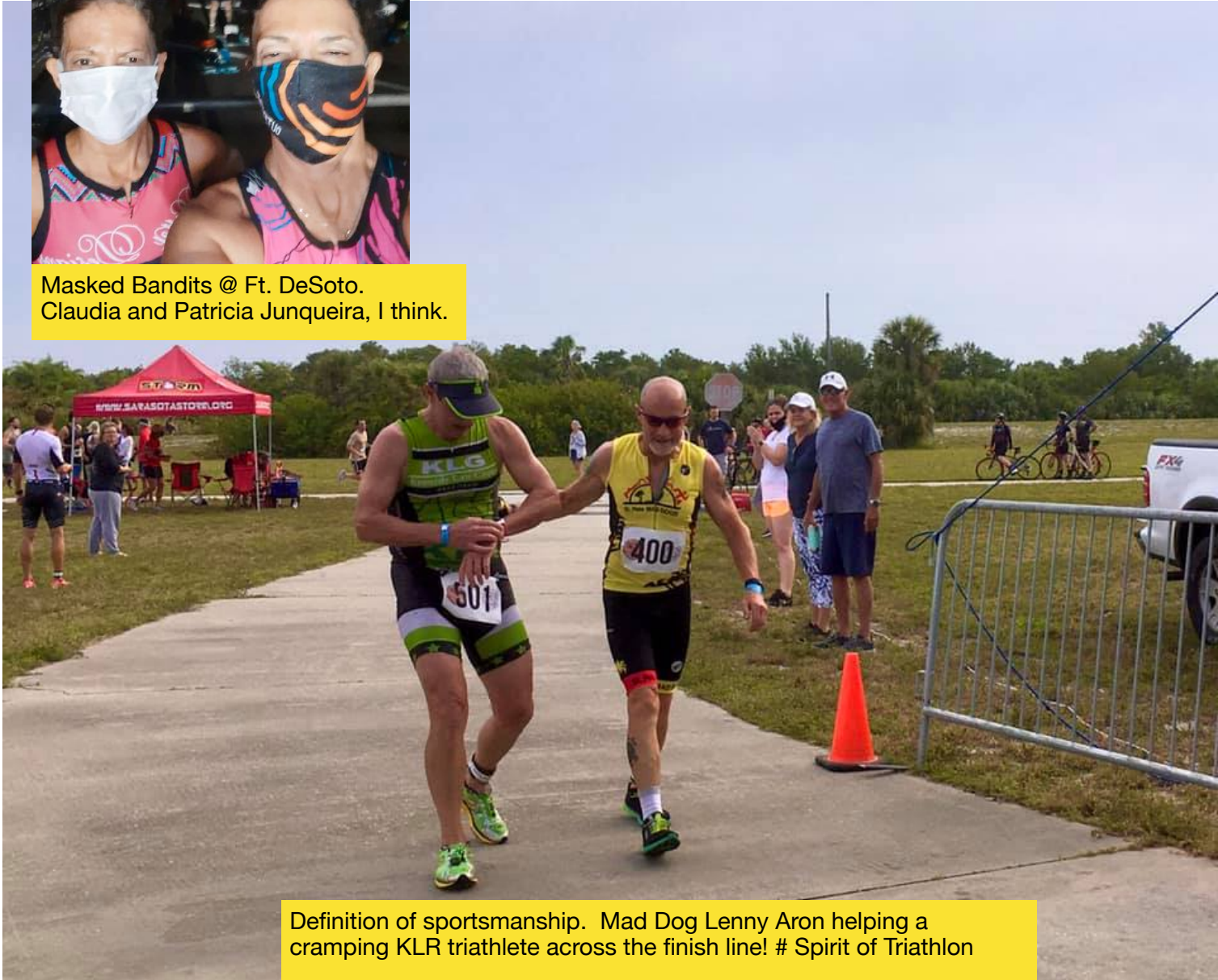
C.J. Vosburg in North Carolina.



# MAD DOG PICTURES



Masked Bandits @ Ft. DeSoto.  
Claudia and Patricia Junqueira, I think.



Definition of sportsmanship. Mad Dog Lenny Aron helping a cramping KLR triathlete across the finish line! # Spirit of Triathlon



# MAD DOG PICTURES

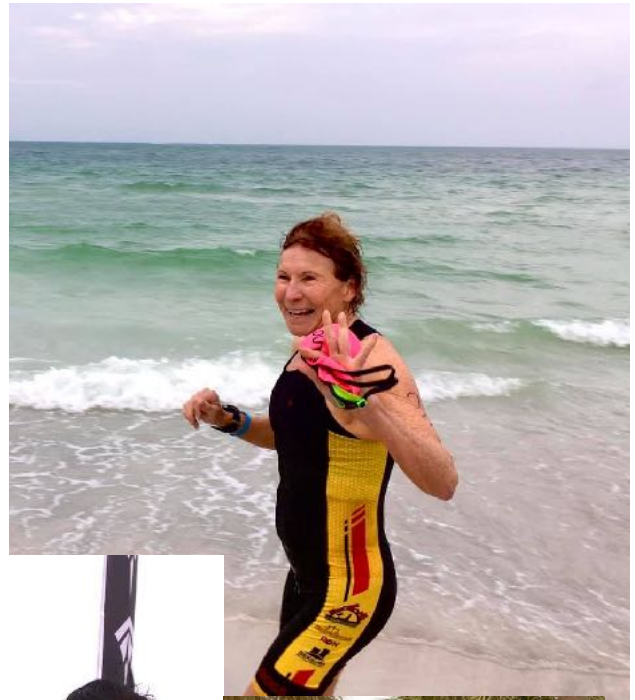
Mad Dogs at Escape From Ft. DeSoto (from Pam Hollenhorst)





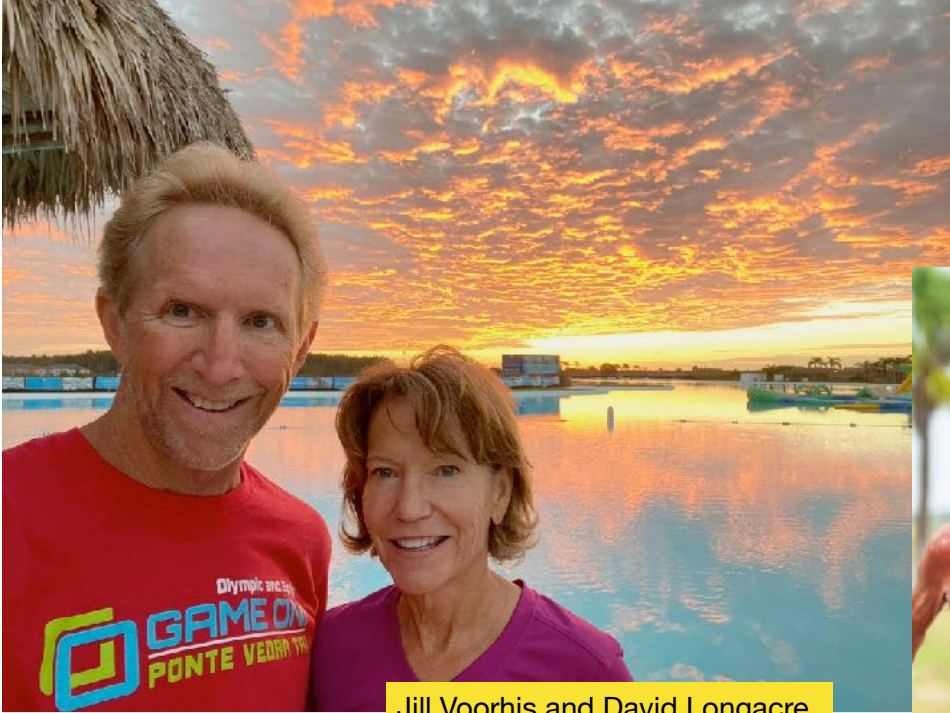
# MAD DOG PICTURES

## Mad Dogs at Escape From Ft. DeSoto (from Pam Hollenhorst)





# MAD DOG PICTURES



Jill Voorhis and David Longacre



Roger Little and Tim Robinson @ Ft. DeSoto



Young Mad Dog Sean Cornell enroute to a 5:13:16 at IM 70.3 FL. Well played, Sean.



**New yellow Mad Dog swim caps passed out at the Wednesday Pass-a-Grill swim courtesy of Stingray sports! Be there or be bare headed!**





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WEDNESDAY'S MAD DOG RUN -THE TWO BRIDGES RUN. OVER AND BACK ON THE BAYWAY BRIDGE. THEN RUN THROUGH BAHIA DEL MAR (LONG LAKE LOOP) TO THE TIERRA VERDE BRIDGE. UP, OVER AND BACK. THEN FINISH ON THE TRAIL BACK TO THE BEAN. (OPTIONAL RUN BACK THROUGH BAHIA DEL MAR TO ADD ANOTHER MILE)

THE GROUP LEAVES PROMPTLY AT 7:30 AM FROM ADDICTED TO THE BEAN. RUN AT YOUR OWN PACE. STICK AROUND AFTER THE RUN FOR COFFEE.





Thanks to efforts of Mad Dog Mike Kelly, the Mad Dogs have a new sponsor - VO<sub>2</sub> Max Cycles in San Antonio, FL. The owner, Pierre Beaulieu, is offering Club Members a 15% discount on purchases (there may be a few exceptions, like items already on sale). VO<sub>2</sub> Max cycles is located at 32755 Pennsylvania Ave. San Antonio, FL 33575. Phone is (352) 534-0888. Web site is [www.vo2maxcycles.com](http://www.vo2maxcycles.com). The shop is closed Sunday and Monday. Next time you are riding "them thar hills" up I75, drop by and check them out.



## Are All Triathletes Crazy?

At the awards dinner for Gail's race in Kona I ran into a guy with his arm in a sling. I asked him, "What happened?" He replied that he crashed on a training ride on the Queen K a few days before the race and separated his shoulder. I said, "What a shame. You train hard, qualify for Kona, fly here and then can't do the race." He responded, "Oh, I did the race. I just swam left handed, rode the bike and ran with my arm in a sling (with 50 MPH cross winds)." **Are all triathletes crazy?**

A friend of ours, Mad Dog Laura Segrera, broke her back in a bike accident last year. On the comeback trail, she competed in the Rev3 half iron distance in Venice on 28 October. The swim was cancelled due to gale force winds. At mile 40 on the bike she was forced into the curb by a passing cyclist, crashed, broke her left wrist, her right ring finger and tore a ligament in her thumb. Since her bar end shifter was broken, she finished the bike in one gear, spent 40 minutes in the medical tent getting splinted and bandaged, and then finished the race with a 1:52 half marathon placing third in her age group. **Are all triathletes crazy?**

Recently I called Mad Dog Lewis Bennett to check on his condition after a recent health issue. As we were chatting he reminisced about an Augusta 70.3 race a few years ago. He managed to scratch his cornea during the swim and rode the bike half blind. After a short medical treatment in T2, while donning his sunglasses for the run, he stuck the end of his glasses in the same eye. Naturally, he finished the half marathon running like a Cyclops. **Are all triathletes crazy?**

You probably are asking yourself why I am relating this list of melancholy, masochistic misadventures. As you may recall, in last month's Kona report, I described sailing over my handlebars in a bike accident and tearing a rotator cuff. I lamely and prematurely

said that this accident had ended my triathlon season. It must have been jet lag. What was I thinking? How could I miss MiamiMan in November with only one bad shoulder? Well, of course I am going to do the race. How could I face Laura and Lewis otherwise?

The real point of all this blather is that I think there exists a real business opportunity for a Tri-shrink right here in St. Petersburg. They could work in the same office with the orthopedic doctors and rehabilitation specialists. I am sure they would be busy, if not overwhelmed.

Now, I would like to use the above article as a segue to introduce you to one of triathlon's real characters, 75 year old Brad Kirley. We met Brad at the Kona Airport about 10 years ago. He recently sent us a copy of his racing schedule for 2021.



Brad with Mark Allen and Dave Scott.



Brad at Kona.

## Brad Kurley's Racing Schedule for 2021

4/10 Smithfield Sprint, VA

4/18 Fla 70.3

4/24 Rumpass in Bumpass Olympic, VA

5/8 or 9 Kinetic half, Olympic or sprint, one or two of these, VA

5/23 Tulsa full Ironman, OK

6/13 Eagleman 70.3, MD

7/11 NY City Olympic , NY

7/25 Ohio 70.3, OH

8/7 Nationals Olympic Milwaukee, WI

8/8 Nationals Sprint Milwaukee, WI

8/21 World's Olympic Edmonton, Canada

9/18 MD full Ironman, MD

9/25 Giant Acorn Sprint (maybe), VA

10/16 World's draft legal sprint, Bermuda, maybe, am Qualified, but dunno

10/23 NC 70.3 (maybe), NC

Good luck, Brad! Mad Dogs rule.

## Training Tip - Stretching Before and After Your Run

If you want to get the most out of every run, warm up before the run with dynamic stretches or movements. And to help with recovery after a workout, do a cool down and stretch before considering the workout complete.

Dynamic stretches increase blood flow and warm up the muscles, tendons and ligaments. This will make the workout more productive, it will be more enjoyable, and there's less risk of injury. About five minutes is all you need to do. Some examples of dynamic warm up stretches include:

- Leg strides. "Walking in place" and raising your knees high.
- Leg swings, from the hip, front to back and side to side.
- Butt kicks (for the quads and hamstrings). Do these walking or standing in place.
- Straight leg out (for the glutes and hamstrings).
- Standing "table tops" . Grab one foot and pull it up so that foot is approximately as high as the opposite knee. With your other hand, grab the bent knee and hold the shin parallel to the ground. (This engages the periformis.)
- High knee jogging slow (overall warm up).

When the main set of your workout is over, allow time for a cool down followed by static stretching. Examples include:

- Standing hip flexor stretch. (Feet are separated wide front to back, and both heels are flat on the ground. Back leg is straight. Front knee is bent. Push your hips forward and squeeze your glutes. Hold for 10-15 seconds.)
- Achilles stretch. (Same as above except bend both knees. Important to keep your heels flat on the ground.)
- Pelvic tilt (also called a pelvic tuck). (Standing with your back to a wall or laying on the ground, tilt or tuck your lower back into the wall or the ground. Feel the entire length of your spine in contact with the wall or ground. Hold for 10-15 seconds. )
- Standing "table tops". Same as above.

And remember to do these same stretches before and after a race. Dynamic stretches before a race allow you to take off fast (which we all do) without risking a pulled muscle or tendon.

Train smart. Race fast.

Frank Adornato



### **Training Tip - Tempo Workouts and Interval Runs. The What Why and How.**

Tempo workouts and interval sets are valuable training tools for getting faster in all three sports. Some athletes confuse the two and train somewhere in the middle, compromising the optimal benefits that each offers. Here are some simple pointers on the what, why and how to do both. To make it simple, I'll discuss both in terms of running workouts, but the same logic applies to the swim and bike.

If your target race is middle to long distance such as a 15K run, 70.3 triathlon, or longer, then tempo runs should be part of your regular workout calendar. If you're planning to race shorter distances such as a 5K, 10K, sprint triathlon, then high intensity interval training is your best preparation tool. Many athletes race a variety of distances and include both types of workouts in their training calendar, which is good, but do them on different days.

Tempo runs - longer efforts at about 85% max HR - at an estimated pace that is 30 seconds per mile slower than 5K pace. This should be a sustainable pace, and it should not feel like a race effort. Run these as two or three x 20 minute steady efforts with a 10 minute easy pace run or jog between. These workouts target slow twitch muscle fibers for faster sustained longer distance racing.

Interval training - shorter efforts at 90%-95% max heart rate - at an estimated pace faster than 5K - almost all-out efforts. Run these as twenty x 30 seconds or ten x 60 seconds with an equal duration rest interval between. These efforts target fast twitch muscle fibers for faster short bursts of speed.

Including tempo and interval sets in your training routine will improve speed, and also help develop the physical and mental stamina for racing.

Train smart. Race fast.

Frank Adornato





# *Yoga for Mad Dog Triathletes*

5:30-6:00pm  
Wed April 7th  
and throughout the  
summer.

Join us for a pre-swim  
warmup and ask questions  
about how yoga can help  
you take the breaks off  
those tight muscles.

Hurley Park, Pass-a-Grille Beach



# Self-Driving Cars: A Tutorial for Cyclists and Runners

GREG KOGUT

Slowtwitch Fri Apr 09 2021

Tired of cyclists and runners being injured and killed by cars? I am. Most of us know someone who's been involved in a vehicle collision. Or have been hit ourselves. I'm donating to yet another GoFundMe page for a memorial service as I write this. The risk is affecting the nature and enjoyment of our sport. One rational response is just withdrawing from the risk - a common, understandable refrain in the Slowtwitch forums. Indoor and off-road riding and running can be rewarding alternatives. But being afraid or unwilling to ride in proximity to cars can still be limiting to the enjoyment of sport and the outdoors. And a detriment to the transportation benefits of cycling and the fundamental right to walk or run safely in public spaces. There is a glaringly obvious factor to the risk of vehicle collision: the failure of people behind the wheels of cars.

This failure can be negligence, hostile intent, health issues, or just plain incompetence. And broadly improving the behavior of people behind the wheel of cars is a complex societal issue. Physically isolating vehicles from cyclists and pedestrians through dedicated cycling and pedestrian infrastructure - is costly and unlikely to reach large areas of the world anytime soon. This article doesn't attempt to tackle those difficult solutions, but discusses a possible technical solution. The "easy" way out: get rid of the human driver altogether.

Enter the self-driving car. Self-driving vehicle technology promises to eventually remove the human from the enormous responsibility of competent, responsible driving. Is this a solution to our problem - a technological savior? What's on the roads now, and what's coming? How do they protect us, and can they be trusted? Is there anything we, as runners and cyclists, can do to better protect ourselves as more of these vehicles hit the roads? How can we work to make this all happen sooner? As someone who's worked on self-driving tech for nearly 20 years (and has been running and cycling for over 35 years), I hope to provide some insight into these questions.

## WILL SELF-DRIVING TECHNOLOGY PROTECT US?

Will self-driving cars be safer than human-driven vehicles? Almost certainly. It's not a high bar, unfortunately. Humans just aren't very reliable drivers. There is an abundance of evidence proving this. But this is also a new and extremely complex technology. A prototype Uber self-driving vehicle has already killed a

pedestrian walking a bicycle. It won't be the last injury or fatality. As with any new technology, there will be growing pains, and the first generations will have flaws. And no technology - even operating perfectly - can completely eliminate risk. But self-driving technology is guided by the central design principle of safety. Avoiding collisions with people, cyclists, or other vehicles is an essential requirement of the self-driving vehicle. Actually getting to where the occupants want to go is a secondary goal. The vehicles will not have divided attention. They will bear no social animosity or bias.. When they sense that their performance is degraded they will pull over immediately.

There are billions of dollars and thousands of the world's brightest scientists and engineers working on making self-driving technology safe. A major reason that a true self-driving car is not yet on the market is because they're not yet quite good enough at handling pedestrians and cyclists. But while the comparative safety of self-driving cars over human-driven cars can eventually be statistically proven, real trust won't be gained by reading statistics or being inundated with marketing from car manufacturers. There's only one way that deep confidence will be earned: the hard way. By regular, personal interactions that build incremental assurance - experiencing a self-driving car smoothly giving us a 3-foot buffer or successfully performing an evasive maneuver to handle an incapacitated driver. We will interact with these vehicles as passengers, pedestrians, and cyclists. The first interactions may be uncomfortable or even terrifying (though possibly you've already had interactions, but not known it). But that will lessen. And trust will develop. Eventually self-driving cars will help us in this process by giving visual or audible cues to let us know they "see" us, and are about to make a safe pass or yield to us - analogous to making meaningful eye contact with a human driver. As trust builds, we may discover a liberating feeling: we will be largely in control of these interactions. With human drivers we are at the mercy of the unknown mental state of the figure behind the wheel: competition for attention with their smartphone, etc. We take the road gambling we don't get a bad roll of the dice. With self-driving cars, the vehicle is at \*our\* mercy. We will always have its full and immediate attention. Our lives are its top priority. When one of these cars sees you cycling out on the road, it will immediately start calculating hundreds or thousands of possible trajectories to handle a wide range of conceivable future events. Another vehicle suddenly veers into the lane - the car will have a plan for that.

## What's On the Road, and What's Coming

Self-driving technology is already operating among us in several forms. There are full self-driving prototype vehicles from Waymo, Uber, Cruise, and others operating on public roads today. Though in most situations these require a human behind the wheel, at least for now. There are also partially self-driving vehicles on the market. The most famous of these might be the ambitiously-but-not-accurately named Tesla “Full Self-Driving” upgrade, which allows...partial self-driving. In addition there is Super Cruise from Cadillac, and various other partial self-driving systems. These partial self-driving systems typically allow the car to drive itself on freeways, handling most typical freeway conditions, including lane changes. They avoid obstacles, follow traffic laws, and make “decisions” about how to safely accomplish the task of successfully navigating among human drivers and other self-driving vehicles. However they also require a human to be fully attentive and ready to take over.

This partial self-driving will expand to almost all major vehicle manufacturers, and gradually expand in scope to include off-freeway driving, and more complex traffic. Eventually, advancement in technology will also remove the requirement that a human driver be attentive and ready to take over. The end-state will be complete autonomy among large numbers of vehicles, like in sci-fi movies. This end-state is likely more than a decade off, but we'll see continual progress towards that goal at an ever-quickening pace in the coming years.

## What We Can Do Now To Help Self-driving Vehicles See and Avoid Us

For the time-crunched reader this answer is easy: do the exact same things we do now to reduce our risk around human drivers.

- 
- Dress to be visible
- Use equipment and technology that increases visibility
- Be predictable.
- Adhere to laws, norms, and etiquette

It is not our job to accommodate the technology: it should accommodate us. The safety guidelines here are common sense to most of us, but I'll expand briefly on each one to describe how each one applies to self-driving technology. Self-driving cars see and operate among us analogously to how humans do. While

technologies among manufacturers will vary considerably, the operations can be broken down into three general stages: 1) detection, 2) perception, 3) planning.

## Detection

Detection describes the detection of “stuff” in the world. This is done through the use of sensors, e.g. visible and thermal cameras, laser range finders (lidar), radar, and sonar. These sensors detect things in the world. Some sensors are better at detecting some types of material than others. Some work better in daylight, others at night. Some are hampered by environmental conditions like snow or dust, and some aren't troubled much by those conditions. Most vehicles will use a combination of these sensors to reliably detect objects in most of the conditions a vehicle can be expected to experience. And the cars, even absent the next two stages described below, should at a minimum, try to avoid hitting any significant object that is detected. This is analogous to seeing something out of the corner of your eye and slamming on the brakes. You might not know what it is yet, but you sense something significant, and you're not taking the risk. Self-driving cars should respond similarly. They should not risk striking any significant object they sense in the world. This is not yet “artificial intelligence” (that's below). It's just a lizard-brain response.

We can do our best to help all these sensors see us. We want to make ourselves “stick out” from the background. Day and night. Snowy, rainy, or clear. Urban or backcountry. For the camera-based sensors, this is our excuse to wear clothes and use equipment that's flashy. If you “pop” out of the background to the human eye, you likely will to the robot eye as well.

Those plastic-looking retroreflectors that we all immediately strip off our new bikes? Those are great for improving visibility. Particularly at night. No, I'm not going to put those back on. But kit and equipment with integrated reflective and retro reflective materials can be a good alternative. Several brands including retroreflective fabrics and materials from 3M and other companies. Examples include [Pearl Izumi BioViz™](#) products, the [Bont Helix Reflex](#) shoe, or the [Bell Stratus Ghost MIPS](#) helmet. Some companies, such as [ProViz Sports](#), specialize in visibility across their entire product line. Optionally, there are a variety of off-the-shelf retro reflective stickers and tapes which can be added to bikes, helmets, and shoes. Flashing LED lights on the rear of a bike - even in daylight - should be standard practice for all cyclists by now.

## Perception

Detecting your presence and location is a start, but not enough to navigate predictably and smoothly around us we cycle or run. That requires the ability to distinguish us from, say, a fire hydrant or telephone pole. So after a self-driving car detects your presence, it'll then try to figure out what you are. The data from all those sensors will be fed into algorithms - often with artificial intelligence (AI) techniques - trained with millions of images of runners, cyclists, and other objects. These training images are being collected today by research and prototype vehicles. The Google Maps cars with all the sensors on top? They're not just for Google Maps. All the cameras on Tesla vehicles? They're also being used as research tools by Tesla. These images of us are being used to train and test AI systems. These systems should eventually meet or exceed human performance at correctly identifying important objects in the world. With humans being the most important "object" to get right. There's really not much we can do to help with this stage. This task is the responsibility of the AI.

## Planning

Once a vehicle is able to identify you as a cyclist or runner, it can then "reason" about your likely behavior - the prediction stage. E.g. If you're a road cyclist, it'll anticipate where you might be likely to go in the immediate future, e.g. turning onto an upcoming bike path or maybe "taking the lane" if a road narrows. Once the vehicle knows what you are, and can reason about how you're likely to behave, it'll then be able to operate around you in a predictable and confidence-inspiring manner. E.g. the vehicles will "know" to give cyclists a 3-foot buffer in California, adhering to state law. While this will largely be the responsibility of the vehicle, it will still be our responsibility to adhere to the laws and norms expected of us. If we act inconsistently it may, at times, confuse the self-driving car (as it may confuse a human driver). The self-driving car should, when faced with an uncertain situation, choose the safest, most conservative course of action. But it would generally be safer to act predictably when possible.



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