



Series: Training Tools Get Personal

by Sally Edwards, President, Heart Zones USA

Part 2: The Big 4 Tools

Need to take your overall tri training to the next level on a low budget? There's a tool for you.

Got lots to spend and the urge to fine-tune your individual tri performances? No problem.

As discussed in Part 1, there are at least ten major categories of training tools widely available today. But here are the four that can give you the biggest boost in your training.

Tool #1. Heart Rate Monitors

If you want a single best choice for training, a heart rate monitor's it. But even if you want to fine-tune every aspect of your physiology and performance, a heart rate monitor is still a key player in your training arsenal, just not the only one.

What happens to your heart rate if, simultaneously, the humidity increases by 10%, you eat a packet of sugar gel, you hear your dog barking, and you are halfway through a series of 5-10 minute sprint intervals? You could use a half-dozen different meters strapped inside and outside of you to answer this question. Or, you could look at your heart rate monitor.

Measure cardiac response to physical, emotional, and metabolic stress in beats per minute (bpm).	\$40-\$400	There are nearly 200 different
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models of heart rate monitors; the ones discussed here are the wrist models. Figure out your needs, then circle your chosen functions and features in the chart (note that the most essential of these are in bold).

- 1. What features and functions do I realistically need now and in the near future? (After training folks to use monitors for over 25 years, I strongly suggest you buy less, not more. Getting overwhelmed in the beginning can be a killer.)**
- 2. What is my budget?**
- 3. Are maintenance and warranty issues important?**
- 4. Do I need to download my data into a computer or just view it on the monitor?**
- 5. Do I like things simple?**
- 6. Am I going to take the time to learn how to use my monitor, read the User's Guide, and understand information such as time in zones?**

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When done, you are ready to hit the stores or go to HeartZones.com and find the monitor that meets your specs and fits your budget.

*Cycling monitors may feature positioning (latitude and longitude), speed, altitude, thermometer, cadence, riding time, and power output.

** Lap time may include: best lap time/lap and split times; current, average and peak heart rate for each lap; cycling samples saved at the preset recording intervals (5, 30, 60 sec.); and other information at the end of each lap.

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Heart Rate Monitor Buyers Chart©

Watch Function	Heart Rate Functions	Recording Functions	Types of Downloadable Monitors	Types of Transmission	Types of Monitors	Features
Time of Day	Current heart rate	Peak heart rate	Manual recall	Digital	Cycling Monitors*	Replaceable battery
Stopwatch	Zone alarm:audible or visual	Time in multiple zones	Infrared	Analog	Horse monitors	No chest strap required
Wake up alarm	Ceiling and Floor settings	Estimates fat burning	Sonic link	Coded Analog	Weight loss monitors	Selectable measurement units
Count-down timer	Time in Zone(s) memory	Time Above 1 Zone	Two-way linking	Infrared	Fitness Monitors	Multiple display options
Count-up timer	Average heart rate	Time Below 1 Zone	Direct link to download box		Swimming monitors	Easy to read digits
Backlighting	Peak heart rate	Lap(s) timing with heart rate**	Use of some type of device, e.g. a data recorder		Stress monitors	Wireless transmission
Calendar	Within zone bar	Total exercise time			Athlete's monitor	Toggle between audible/silent alarm modes
Water resistance	Calorie estimation, cumulative calories	Display workout results as bar or profile graph			Motivation monitors	Zoom which enlarges the data in the display
Single and cumulative exercise time	Heart Zone estimation	Interval settings with and without heart rate			Runner's Monitors	Backlighting
	Oxygen consumption (O2) estimation	Recording rates for heart rate samples				Fitness Tests
	Recovery Features	Memory time interval settings (5, 30, 60 sec)				User's personal Information: ID, name, logo
	Switch function mode by touch to transmitter	Recording altitudes				Help key
	Sum of training load (HZZ Points)	Dynamic memory stores and displays the last few workouts.				Upload Data and Setting
	% of maximum heart rate					Ease of programming with display pointers or text

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Tool #2. Positioning/“DASH” Tools

Convergent, GPS-based tools that can provide various functions, including distance, altitude, speed, heart rate, energy expenditure, training status, etc., in a single	\$300+
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GPS stands for a satellite-based “global positioning system.” But while GPS is the magic behind their usefulness, positioning isn’t all these tools are about. These are DASH tools, for “Distance + Altitude + Speed + Heart Rate,” and they combine the maximum number of functions and features into a single, high-precision system:

- *GPS is the multi-sport-friendly, because it doesn’t require a specific body part to move or impact to be made.*
- *Most GPS devices are altitude sensitive.*
- *GPS tools track speeds up to 450 mph or 725 kph in real time, giving current speed, average speed, and maximum speed.*
- *GPS tools also let you know pace, as in current pace, average pace, and best pace.*
- *A GPS monitor also gives you precision distance data in real time for your workout, and it functions as a continuous odometer.*

That said, because applications of GPS technology are relatively new, especially in cycling, feature/function lists right now are ever-changing. The good news is that going through the questions in the above section and prioritizing your lists of heart rate monitor features and functions will also give you a head start on sifting through your DASH options.

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Tool #3. Power Meters

Measure force multiplied by velocity.	\$1000+
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Power meters are the preferred training tool for competitive cyclists because they measure exactly what you need to know – force over time. The rider that can apply the highest force over the longest period wins the race. Power meters are great, but they require an investment of both knowledge and cash, so they aren't usually the first tools one buys.

Here's an example. You time trial and at the end of the ride your average power output was 250 watts per minute. Two weeks later you repeat the time trial under the same conditions. You now average 260 watts per minute and shave 2 minutes off of your finishing time. You produced more power, therefore you rode faster and finished faster.

Tool #4. Metabolic Meters

These tools are moving out of the laboratory and into the marketplace in a way that coaches and trainers, if not individuals, can use. The metabolic meter measures major pieces of physiological data that are essential for intermediate to advanced athletes:

Measure your energy expenditure by assessing	\$300+
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Sally Edwards is a former Master's World Record holder in the Ironman Triathlon. From the time she ran the 1984 Olympic Marathon Trials using her heart rate monitor, Sally has been at the forefront of a revolution in fitness training. A founder of the sport of triathlon (and a Triathlon Hall of Fame inductee), most of Sally's recent races have been performed in her role as the National Spokeswoman for the Danskin Triathlon Series.

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1.	Aerobic capacity/ VO2max	Excellent indicator of your current fitness level. Considered the most objective measure of endurance capacity. Useful to compare with normative data.
2.	Threshold	Used to set training zones based on the crossover point between aerobic and non-aerobic metabolism. Useful for creating individual training sessions within the training plan.
3.	Substrate Utilization	Indicates the amount and kinds of fuels burned during exercise.

With access to metabolic meters, coaches and trainers have a new way to prescribe exercise intensities, training zones, and assess fitness improvements, as well as recommend diet modifications to help improve performance. Incredibly helpful stuff, so check one out if you have the chance.

Congratulations. You've made it through Part 2 of this series, and we hope you've now got a better idea of what the best training tool(s) for you might be. Coming in Part 3, how to put your smart training tool to intelligent use – what to do with the tool once you've got it.

Sally Edwards is the creator of the Heart Zones Training system and the founder and CEO of Heart Zones, Inc. A Triathlon Hall of Fame inductee, most of Sally's recent races have been performed in her role as the National Spokeswoman for the Danskin Triathlon Series.

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