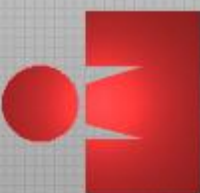


# UW Triathlon Newsletter



University of Wisconsin

## Target Heart Rate Training

For those of us interested in learning more about working out, based on heart rate, here is basic information to get you started.

Before you can determine your heart rate training zones or target heart rate zones (THR), you'll need to determine your maximum heart rate (MHR). There are a number of ways to calculate MHR. The simplest but also least accurate is the Estimated Maximum Heart Rate (EMRH) formula, which is (220-age) for men and (226-age) for women. If you don't have the time or inclination to do the other methods discussed below then use this one, it will give you an approximation. There are other variations to this basic age formula but once the final THR calculations are done the difference is small so I stick with this one when estimating a maximum heart rate.

The most accurate way to calculate MHR is to get a

treadmill exercise stress test. This method is costly and inconvenient since you have to book an appointment at a testing facility, assuming you can find one where you live.

**Resting Heart Rate**  
Before calculating target heart rate zones (THR) you need to determine your resting heart rate (RHR). To do this simply take a reading with your heart rate monitor or take your pulse first thing in the morning before getting out of bed. If you need to use the bathroom do so and lie back down for a minute, then take your HR as a full bladder can increase your heart rate. Take your HR for at least three days then average it out.

RHR is also useful information to monitor your health and training. With improvement in your fitness level you should see your RHR decrease. Likewise a RHR 10% above your normal level usually indicates you are over-

training and/or sick and some rest is required. Take a day off or just do an easy workout. Listen to your body!

### Checking your Pulse

To take a pulse check, there are 2 ways to count. The first is a 10 second count, the other a 15 second count. To figure the beat per minute, the 10 second count is multiplied by 6 and the 15 second count is multiplied the 4. (You can also count the number of beats for a full minute) The two places to take your pulse are at the carotid artery (on the neck) and the radial artery (on the wrist). Be sure to use your index finger and middle finger only, the thumb has a pulse



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**“I train for pain.  
It is how I know  
how sweet life  
really is.”**

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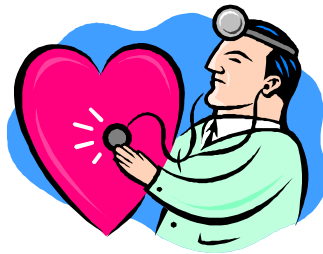
of it's own.

### Target Heart Rate Zones

My preferred method for calculating target heart rate zones or THR is the Karvonen method. It is also known as the Heart Rate Reserve (HRR) formula. Simply, the Karvonen method uses the following formula to find the appropriate HR for any intensity level. The formula is:  $HRR \times Intensity \% + RHR$  (resting heart rate).

To calculate your HRR take your Maximum Heart Rate as determined by a test or Estimated Maximum Heart Rate determined by  $(220 - age)$  or  $(226 - age)$  and subtract your Resting Heart Rate. In terms of a formula,  $HRR = MHR$  or  $EMHR - RHR$ . Now that you have your HRR we can calculate your THR or training zones.

To keep things simple use five zones or training intensities:



1. Easy/Recovery = 60 – 70%
2. Endurance/Strength = 71 – 80%
3. Strength/Long hills = 81 – 85% (just below LT)
4. Intervals/Hills/ Race pace = 86 – 90% (race pace for

races < 3 hours)

5. Speed/Racing (short) = 91 – 100% So now you have all the information to calculate the lower and upper heart rate limits for each zone. The following table summarizes the calculations.

Table 1: THR Zones Using Karvonen Method

#### ZONE Formula

Calculated HRs

- 1 Lower limit =  $HRR \times .6 + RHR$

- Upper limit =  $HRR \times .7 + RHR$
- 2 Lower limit =  $HRR \times .71 + RHR$   
Upper limit =  $HRR \times .8 + RHR$
- 3 Lower limit =  $HRR \times .81 + RHR$   
Upper limit =  $HRR \times .85 + RHR$
- 4 Lower limit =  $HRR \times .86 + RHR$   
Upper limit =  $HRR \times .9 + RHR$
- 5 Lower limit =  $HRR \times .91 + RHR$   
Upper limit =  $HRR \times 1.0 + RHR$

#### Word of Caution about Heart Rates

Many factors affect both your morning pulse and training pulse.

- Stress (work, emotional, etc.) will increase your HR.
- Nutrition, especially hydration levels, will also greatly influence your HR. Dehydration will skyrocket your HR.
- Heat will also increase HR until your body adapts to it; usually 7 to 12 days.
- Altitude will affect your HR as well. You will have a higher HR for the same level of intensity at higher elevations so give your body 3 weeks or so to adapt.

## Spring Break Reminders

The team will be leaving Friday March 10th. The drive takes about 20 hours without stopping, arriving Saturday, March 11th in the morning or afternoon.

We will be staying overnight from Saturday until the following Friday (17th) and leaving morning of Saturday the 18th.

The website of the house can be found at <http://www.countrydoorinnwimberley.com/> It includes an outdoor pool and hot tub, huge deck areas, outdoor grill, and is close to

Wimberley, a country location. It is 38 miles to the Barton Springs swimming hole and it looks like a good bike ride on country roads with a little jaunt through Austin.

Twenty-one people are staying in the house and twelve are camping.

Packing lists will be available soon. The next deposit of \$100 is due January 21st. Anyone with vehicles available to be used for the trip, contact Chelsey at [chelseyg@wisc.edu](mailto:chelseyg@wisc.edu).



## Sponsors...be sure to visit them!

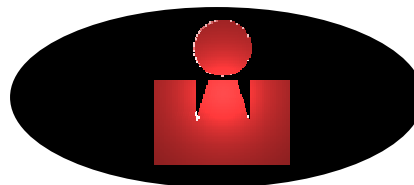


# Race Schedule

Date	Race	Distance (S/B/R)	City	Website
03/25/05	<b>USAT Collegiate Nationals</b>	Olympic 1500m/40K/10K	Lake Havasu City, AZ	<a href="http://www.tucsonracing.com/LHTinf05.htm">http://www.tucsonracing.com/LHTinf05.htm</a>
04/30/05	J-Hawk Triathlon	Sprint 500y/14.7m/3.1m	Whitewater, WI	<a href="http://www.j-hawks.org/triathlon/main.htm">http://www.j-hawks.org/triathlon/main.htm</a>
05/20/05	<b>Memphis in May</b>	Olympic 1.5K/40K/10K	Memphis, TN	<a href="http://www.mimtri.racesonline.com/">http://www.mimtri.racesonline.com/</a>
06/10/06	Elkhart Lake	International 1K/30K/8K	Elkhart Lake, WI	<a href="http://www.elkhartlakemultisports.com/2004/index.htm">http://www.elkhartlakemultisports.com/2004/index.htm</a>
06/17/06	Wisconsin Triterium	Sprint 1/3mile/11mile/3.1mile	Verona	<a href="http://www.triloop.org/">http://www.triloop.org/</a>
		Olympic 1.5K/25.5mile/10K		
06/25/06	Aurora High Cliff	Sprint 1/4mile/22mile/5K	Sherwood, WI (Appleton)	<a href="http://www.midwestsportsevents.com">www.midwestsportsevents.com</a>
		Half 1.2mile/56mile/13.1mile		
07/08/05	Lactic Edge		Stevens Point, WI	
07/08/05	<b>Timberman</b>	Sprint .3mile/11mile/3mile	Grand Rapids, MN	<a href="http://www.timberman.org/index.htm">http://www.timberman.org/index.htm</a>
		Olympic 1mile/24mile/6mile		
07/23/06	Spirit of Racine	Half 1.2mile/56mile/13.1mile	Racine, WI	<a href="http://www.spiritofracinetri.com/">http://www.spiritofracinetri.com/</a>
08/05/06	Ripon	Sprint .5K/27K/5K	Ripon, WI	
		Olympic 1K/43K/10K		
08/20/06	<b>Pigman</b>	Half 1.2mile/56mile/13.1mile	Palo, IA	<a href="http://www.pigmantri.com/">http://www.pigmantri.com/</a>
09/10/06	Ironman	Full 2.4mile/112mile/26.2mile	Madison	
09/17/06	Devil's Challenge	Sprint 1/4 mile/15mile/3 mile	Devil's Lake	<a href="http://www.witriseries.com/devils.asp">http://www.witriseries.com/devils.asp</a>
10/02/06	Boilerman	Olympic 1.5K/40K/10K	Lafayette, IN	<a href="http://triathlete.ecn.purdue.edu/BoilerMan/">http://triathlete.ecn.purdue.edu/BoilerMan/</a>

The table above is an abbreviated race schedule. Several of the races have cheaper price deadlines. Be sure to visit the websites listed to get more information on the races. Apologies for any inaccurate info on the table.

have completed three volunteer and three fundraising events.



[www.uwtriathlon.com](http://www.uwtriathlon.com)  
 Corrections, questions, concerns:  
[Lachowiec@wisc.edu](mailto:Lachowiec@wisc.edu)

Discounted racing will be available for several races for those who



**UW Triathlon Team  
 Madison, WI**

Website: [www.uwtriathlon.com](http://www.uwtriathlon.com)

### MISSION STATEMENT

As a club sport of the University of Wisconsin Madison, the Triathlon Team strives to provide competitive and social opportunities for athletes of all abilities and interests to experience and enjoy triathlons. The Triathlon Team seeks to offer knowledge, experience, motivation, and a connection to many resources. The Team engages in volunteer activities on campus and in the community and aims to provide an organization for exercising, racing, socializing, and building friendships through the sport of triathlon.

## USA Triathlon

USA Triathlon is upgrading its website and changing its logo. They are also changing membership cards to a tougher, waterproof design. Anyone who is planning to race 4 or more USAT sanctioned races should seriously consider becoming a USAT member. The membership will pay for itself at that number of races since you will not have to pay for the temporary membership for the race. Visit

<http://www.usatriathlon.com> for more information.

