

INTENSITY ZONES

(HEART RATE ZONES EXPLAINED!)

RECOVERY (ZONE 1): Easiest workouts. Help the experienced athlete recover from harder workouts. Intensity is low (well below Lactate Threshold). Most often used during the recovery phase of interval training as well.

EXTENSIVE ENDURANCE (ZONE 2): Long endurance workouts are common at this intensity. "Conversational" effort- builds endurance. Builds slow twitch muscles and they become stronger and more capable of using oxygen to produce energy while learning to conserve glucose and glycogen. **MOST COMMONLY USED INTENSITY BY THE MULTISPORT ATHLETE!**

INTENSIVE ENDURANCE (ZONE 3): Slightly higher intensity, lactate production rises and more fast-twitch muscles are recruited. Training at this zone is used in the early preparation or base period. After that it is avoided in favor of the next intensity.

THRESHOLD (ZONES 4 AND 5a): Other than intensive endurance, threshold intensity is the most important training zone. This effort brings the athlete to just below or slightly above the lactate threshold. This zone is held for durations of minutes, not hours. This intensity recruits more fast-twitch muscles and stresses the anaerobic systems. Teaches the body to tolerate and remove lactate more efficiently. Zone 4 is right below Lactate and Zone 5a is just above Lactate.

ANAEROBIC ENDURANCE (ZONE 5b): Intensity now exceeds the lactate threshold. This zone is used during interval type training. Fast-twitch muscles recruited as well as body's ability to tolerate and remove lactate. Careful at this zone because it is the most likely cause of overtraining. Follow this type of zone workout with an extended recovery.

POWER (ZONE 5c): Power training has limited value for the multisport athlete. Duration at this intensity is a matter of seconds. Long recovery is required for damaged muscles to repair themselves from the high intensity.



** (From Joe Friel's "The Triathlete's Training Bible")



BUILDING FITNESS:

DEFINITIONS

THREE BASIC ABILITIES:

***THESE BASIC ABILITIES ARE THE CORNERSTONE TO YOUR FITNESS!**

1. **ENDURANCE: THE ABILITY TO RESIST FATIGUE**

- Mainly slow-twitch muscle fibers (contract slow, recover quickly).
- Trained extensively in Prep and Base periodization phases.
- Time spent mostly in Heart Rate zones 1-3.
- Improved by sport specific long-duration swim, bike and run workouts.

2. **FORCE: THE ABILITY TO USE MUSCULAR STRENGTH**

- Affects ability to overcome resistance.
- Improves economy.
- Improves effectiveness in rough water, hill climbing, winds.
- Strength Training beneficial to force.
- Trained extensively in Prep and Base periodization phases.

3. **SPEED SKILLS: THE ABILITY TO MOVE BODY PARTS QUICKLY AND EFFICIENTLY**

- Affects the ability to move effectively while swimming, biking and running.
- Improves economy (less wasted energy!)
- Drills (in all three disciplines) improve speed skills (technique!)
- Trained in every phase of your periodization.

ADVANCED ABILITIES:

***THESE ADVANCED ABILITIES BUILD UPON STRONG BASIC ABILITY DEVELOPMENT. TRAIN THESE IN THE FINAL 12 WEEKS LEADING TO YOU'RE A-PRIORITY RACE.**

1. **MUSCULAR ENDURANCE: ABILITY TO MAINTAIN MUSCULAR STRENGTH FOR A PROLONGED PERIOD OF TIME**

- Combination of force and endurance abilities.
- Critical ability to keep the pace high for the end of swim, bike and run legs of a race.
- Muscular Endurance work should begin in the Base 2 phase.
- Heart Rate zones will range from Zone 3 in Base 2 phase to Zones 4 and 5 as fitness progresses in the Build phases.

2. **ANAEROBIC ENDURANCE: ABILITY TO RESIST FATIGUE AT VERY HIGH EFFORTS WHEN ARM OR LEG TURNOVER IS RAPID.**

- Combination of Speed Skills (efficiency/technique) and Endurance.
- Develops good tolerance for lactate and enhances performance in short-distance events.
- Highest chance of overtraining, injury and burnout if used improperly.
- Used in training mainly in the final Build 2 and Peak periods.

3. **POWER: ABILITY TO APPLY MAXIMUM FORCE QUICKLY**

- Combination of high levels of the basic abilities of Force and Speed Skills.
- Very useful for short, steep hill climbing, fast swim starts and sudden pace changes.
- Work on improving power when rested and early in a training session when the nervous system and muscles are most responsive.