

Triathlon Manual

Team in Training, MA Chapter

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Hello Triathletes,

Welcome to the Team in Training Triathlon TEAM! The Triathlon Team has participants from Massachusetts, Maine, and New Hampshire who are all working towards a common goal of raising funds to help patients and their families as well as someday find a cure for blood related cancers. As we kick off this season, we would like to thank you in advance for the time and effort you will put forth to further this cause as well as offer you some important information to get started in the right direction with your training.

This Triathlon Manual includes information on topics including training basics, equipment needs, injury prevention, and strength training. There are other triathlon related articles that will help prepare you and educate you throughout your training. Please take some time to review this information and let us know if you have any questions or concerns.

We look forward to meeting each of you in person at our group training sessions. The group training sessions are a chance to meet and train with your Coaches, Mentors, and Teammates. We encourage you to actively participate in as many of these sessions as possible so that you can get the most out of your Team in Training experience.

We hope that the next several months will be a wonderful experience for you, and we look forward to helping you achieve whatever goals and dreams you have in conjunction with your Team in Training experience.

Congratulations for being a part of Team in Training!

Thanks!

Your Team in Training Triathlon Coaches

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TEAM webpage (articles, training schedules, directions, etc) - www.bigdreamsfitness.com/tnt

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EVENT DETAILS

Hyannis Sprint Triathlon

Hyannis, MA

June 2007

7 am – start time

Event website: <http://www.timeoutproductions.com/index.htm>

Distances:

Sprint distance

Swim – 1/4 mile (ocean)

Bike – 10 miles

Run – 3.5 miles

Course Description:

Start the season *fast* at Cape Cod's longest-established, 24th annual triathlon at beautiful Craigville Beach! The *ideal* season-opener for athletes of every ability...First-Year to Elite-Pro! A 1/4-mile (18 quick pool lengths) ocean swim. A scenic, rolling 10-mile bike loop through historic Centerville and Osterville. A flat 3.5-mile run through the quiet neighborhoods of Centerville village. Only a 90-minute drive from Boston. **Field Limit at Swim Start: 850.**

Mooseman Triathlon Festival

Bristol, NH

Saturday and Sunday, June 2-3, 2006

8 am – start time for International Distance (June 3)

7:30 am – start time for 1/2 Iron Distance and Aquabike (June 4)

Event website: <http://www.timbermantri.com/moosemanindex.html>

Distances:

International distance

Swim – 0.6 miles

Bike – 27.25 miles

Run – 6.2 miles

Half Ironman

Swim – 1.2 miles

Bike – 56 miles

Run – 13.1 miles

Aquabike

Swim – 1.2 miles

Bike – 56 miles

Course Description:

Start with a fresh water lake swim in pristine Newfound Lake, one of the cleanest lakes in the world. This will be a wave start with approximately 100 participants per wave. There will be lifeguard and boat support. Average water temperature is 62 degrees F (yeah, it's chilly, but it's clean and clear). The bike course is mostly on classic New England back roads with rolling hills and limited traffic. Start out hugging the Newfound Lake Shore line, then head off to the green pastures and winding back roads of Alexandria, passing beautiful farm houses, quaint village greens, and rolling farmland. There are several challenging hills ranging from 4% to 6% grade. Course is not closed to traffic. There will be professional lead and sag vehicles provided. The run is a scenic course along the shores of Newfound Lake with rolling hills, passing by the majestic Granite Ledges. There will be aid stations every mile.

TRAINING BASICS

SWIMMING

For most TNT triathletes, the swim is the most daunting aspect of the event. If you are a bit nervous about the swim portion, rest assured that you are in good company. Unless you have a strong swimming background, you should first develop a sense of relaxation and comfort in the water. It is important to be able to place your face in the water and exhale smoothly (try to hum your favorite song to get a smooth exhalation from your nose). Though this may sound elementary, without being able to be relaxed with your face submerged, swimming is much more difficult.

One thing to note is that ANY stroke is permitted during a triathlon, so do not panic if you cannot swim freestyle (aka the front crawl) very well – sidestroke, breaststroke and backstroke are all allowed. However, since freestyle is the fastest and most efficient stroke, your instruction for the TNT program will be focused on this stroke.

If you have no idea how to swim freestyle, we recommend that you visit the Total Immersion Swimming website at www.totalimmersion.net. There are some good video clips to watch, as well as a discussion forum and books/DVDs you can order (also check at your library). Total Immersion is a method of swim instruction which emphasizes body position and balance to help people become smooth, relaxed, and efficient swimmers. Even experienced swimmers will find tips to become more powerful in the water, with less effort!

We will spend parts of each TNT swim session working exclusively on form and technique to increase your efficiency in the water. As the training progresses, we will focus more on endurance and distance, as well as covering the important open water racing skills. Our main objective is to prepare you to cover the distance at your event with enough energy to spare to enjoy the bike and the run!

CYCLING

Often, many beginning triathletes are very concerned with their bike, so let's address these questions now. 1/2 Ironman and Aquabike participants should own a road or triathlon bike, but participants in the Sprint or International distance events can use a road bike, hybrid bike, or a mountain bike. Hybrid and mountain bikes are heavier, have more rolling resistance, and require more energy to ride than a road bike. But that should not stop you from riding one if that is what you have. We do suggest that you obtain smoother tires ("slicks") for your mountain/hybrid bike, as these will improve handling and reduce rolling resistance.

If you do not already own a bike, you have several options:

- Buy a new bike
- Buy a used bike
- Borrow a bike from a friend or family member (as long as it fits and you can use it throughout your training and for the event)

Make sure your bike fits you properly, since a poor-fitting bicycle is uncomfortable to ride and potentially dangerous. While we will conduct a basic bike-fitting session in the TNT program, you may wish to look into scheduling a full fitting with a reputable bike or triathlon shop's "bike-fit expert".

If your bike is more than a year old, have it inspected at a bike or triathlon shop before riding. Often, only a tune-up is in order and can make a world of difference in your bike's operation. Throughout the training sessions you will learn about additional equipment that can increase your comfort, performance, and ultimately your enjoyment of cycling.

CYCLING, continued

If you are considering purchasing a new or used bicycle, keep these thoughts in mind as you start looking:

- **Expected Cost:** You will likely spend at least \$700.00 on an entry level new road bike. A similar used road bike will start around \$400.00. Again, be sure your prospective bike fits!
- **Bike frame materials:** You will find road bikes made of 4 primary materials – steel, aluminum, titanium, and carbon fiber – the first two tend to be more affordable than the last two. While an aluminum bike may be lighter, it will also have a bit stiffer ride compared to steel, which tends to provide a more forgiving, if sometimes heavier, ride. Both titanium and carbon fiber combine the lightweight of aluminum with the smooth handling of steel, at a much higher price tag.
- **Components:** (brakes, gears, shifters) Shimano and Campagnolo are the two most common manufacturers. Any level of components from either of these companies made in the past 3 or 4 years should work fine.

It is suggested that you test ride several bikes in your price range, so that you buy the bike that best fits you and your needs.

RUNNING

Due to the increased stress placed on joints from running (a full weight-bearing activity) compared to swimming and biking, you should gradually progress into your program. Allow your body to adapt to your present running level prior to increasing it (remember that stress can be increased either through intensity or distance). Train on a variety of surfaces, avoiding slanted roads and concrete. Avoid “running through” an injury that persists more than a few days, and never run if pain causes you to limp or favor one side. This rest from running may save you many days of pain and frustration.

A good pair of running shoes is essential; you don’t need racing flats or “triathlon shoes.” Pick a shoe for fit, comfort and motion control features (if necessary), not price or color. Visit a running shoe store to be sure you purchase the correct shoe for your feet. If, however, you have been successfully running in a certain shoe, it’s certainly an option to stick with it. The rule of thumb regarding running shoes is simply to replace them after 300 – 500 miles of running (or approximately 4-6 months of use.)

Lastly, we strongly suggest that anyone with limited running background adopt a run/walk training program, rather than aiming to run exclusively. See page 15 for more details.

INJURY PREVENTION

Over the next few months, you will probably engage in many new activities. Whenever you begin a new training program, start slowly. The best advice for staying healthy throughout your training is to listen to your body, be smart, and be proactive. Here are a few tips to guide you along the way.

1. WELL-FITTED EQUIPMENT – As noted previously, the fit of your bike and of your running shoes is of paramount importance to both your safety and your enjoyment of the sport of triathlon. Please speak to your Coach if you have equipment related questions or concerns.

2. WARM UP AND COOL DOWN – Be sure to spend the first 5 to 10 minutes of each workout warming up (easy swimming, walking, etc) to increase your heart rate and ready your muscles for your workout. Exercising with cold muscles can increase your injury risk. After you complete your workout, cool down for 5 to 10 minutes to allow your heart rate and breathing to gradually slow down.

3. STRETCHING – Stretching can not only help reduce the risk of injury, it can also help increase your range of motion and thus help with your technique and performance. Stretching is best done when your muscles are warm (i.e. after your workout and cooldown). Never bounce or stretch to the point of pain, but simply hold a gentle stretch for 15-30 seconds. We will demonstrate and discuss particular stretches in our group training sessions.

4. STRENGTH TRAINING – Strength training is a wonderful adjunct to your aerobic training program. The goal of strength training is not just to increase muscle strength, but also to increase the strength of your tendons and ligaments. Improving the strength of your connective tissue will help your muscles do their job better, in addition to helping to prevent unwanted motion (i.e., twisting the knee, etc). in your joints. We will demonstrate and discuss particular strength training exercises in our group training sessions.

5. HYDRATION – Your body needs fluid. Exercise causes fluid loss, and it is very important to replace this fluid not only during your activity, but also on your “off time”. Keeping yourself hydrated will help your body perform efficiently, help prevent muscle cramps and dizziness, and help prevent muscle injury. A good rule of thumb is to drink at least eight 8-oz glasses of water each day, PLUS whatever fluids you drink during exercise (5 oz per 15 minutes). Electrolytes are important, so incorporating a sports drink (Gatorade, Smart Fuel, etc) during exercise is beneficial.

6. NUTRITION – The food that you eat is fuel for your body when you exercise. To get the most out of your training experience, fuel your body with quality foods. During your Team in Training program, you may find that you are hungry much more than usual. This is normal and should not be ignored. Keep healthy snacks, such as yogurt, a peanut butter sandwich, fruit, etc., handy in case you are hungry between meals. Also, it is important to eat a combination of carbohydrates and protein within an hour of ending your workout in order to refuel your body. We will further discuss nutrition and hydration during our group training sessions.

7. MODERATION & REST – The triathlon program for Team in Training is designed to help you increase your mileage and intensity in a safe and gradual way. In general, do not increase your volume (mileage or time) by more than 10% per week, and do not train hard on two consecutive days. Be sure to incorporate rest days (1 to 2 per week) into your training. NEVER train through pain or an injury! If you have missed a few days due to illness or injury, a good rule of thumb is to allow one easy day of training for each day missed before resuming your normal hard or long efforts. LISTEN TO YOUR BODY, and rest when you need to.

EQUIPMENT NEEDS

The following is a list of equipment you will need for your triathlon training and Team in Training event. If you have questions about equipment, please ask your Coach.

(* = essential equipment)

SWIM

- * **Bathing suit** – a “Speedo” type suit is the best (men – look for Speedo jammers or tri shorts)
- * **Goggles** - try several types to see which fits best (should “suction” to your face)
- * **Swim cap** – will be provided at event but bring your own for practices
- * **Towel** – for practice and at event
- * **Wetsuit**
- * **Body Glide** – helps prevent chafing – available at run, bike, or triathlon stores

BIKE

- * **Bike** – a road or tri bike is the most efficient, but nearly any bike will suffice. If you are planning on using a mountain bike, slick tires are suggested.
- * **Helmet** – a Snell or ANSI approved helmet is REQUIRED for all TNT practices and events
- * **Padded bike shorts** – make life much more comfortable!
- * **Water bottles** – two minimum (or hydration system such as Camelbak)
- * **Pump** – one that mounts onto your bike frame (must fill your tires to the recommended pressure)
(or CO2 system)
- * **Floor pump** – to be used at home to keep your tires properly inflated
- * **Tube** – a spare that is the correct size for your bike (they do come in different sizes)
- * **Tire levers** – tools to help remove the tire from the rim in case of a flat
- * **Patch kit** – instant type is the easiest
- * **Cycling gloves** – for comfort and safety (in case of a fall)
- * **Cycling socks** – ones that wick away sweat are the best
- * **Cycling shoes** – have stiff soles mostly used with “clipless pedals”
- * **Glasses** – protect your eyes from sun, dirt, bugs, etc

RUN

- * **Shoes** – a good new pair that fits your foot and running style – using an old worn down pair can lead to injury!
- * **Singlet** – provided by TNT for the event
- * **Socks**
- * **Shorts** – running shorts (or leggings in cold weather) for training
- * **Hat**
- * **Glasses**
- * **Fuel belt** – used for carrying your own fluid on a run (mainly for longer distances)

OTHER

- * **Padlock** – for locking your belongings at some of the group practices (primarily swim practice)
- * **Sunscreen**
- * **Medications** – inhalers, Epi pens, etc.
- * **Food** (gel, bars, etc) – for during and after training sessions, and for the event
- * **Fluid** – preferably a sports drink with carbohydrates and electrolytes
- * **Towels**
- * **Extra clothes**
- * **Race belt** – used to hold your race number so you don’t have to pin it on your singlet

STRENGTH TRAINING

This section is designed to give you a basic understanding of the benefits strength training offers as well as the guidelines for a safe and effective strength training program. This is one area of training where it is IMPERATIVE to receive proper instruction in technique from a certified and knowledgeable fitness trainer, in order to avoid potentially serious injuries. We will demonstrate and discuss strength training in more detail at group practice sessions. If you have questions, please contact your Coach.

GUIDELINES

- Incorporate 2-3 days/week of strength training during the Base Building Phases of training
Reduce strength training to 1 day/week in Speed Building and Race Preparation Phases
- Aim for 1 set of 8-12 repetitions to build strength and muscle
- Choose a weight that allows you to maintain proper form throughout the reps, but leaves you tired at your last rep
- Be sure to work all major muscle groups
- Allow 48 hours between strength training sessions (your gains don't happen when you are working-out, they happen on the recovery days)
- Always pay attention to the imbalances you may have and work to correct them
- Stretch after your strength training sessions. Without having or retaining the ability of your muscles to lengthen through a full range of motion, your performance will be limited

EXERCISES – for more info speak with your Coach or a certified personal trainer

- CHEST – chest press, bench press, incline press, dumbbell fly
- BACK – lat pull down, rows
- SHOULDERS – military press, overhead press, lateral raises, front raises
- BICEPS – biceps curl, hammer curl
- TRICEPS – triceps extension, dips, pushdowns
- LEGS – leg extension, leg curls, squats, lunges (front, side, walking, stationary), step-ups
- CALVES and TIBIALIS ANTERIOR – calf raises, toe press, toe raises, ankle alphabets

TRIATHLON RULES

This section is designed to help you understand the basic rules and regulations of the sport of triathlon in order to aid in your safety and enjoyment of your event. A complete list of rules and regulations can be found at www.usatriathlon.org. Another great site is www.lin-mark.com/help.htm – it has many additional points that are important to know before you attend your event! Please also check out the official website of your event for additional pertinent information. As always, feel free to ask your Coach if you have questions or concerns.

TRANSITION AREA

- No glass of any kind
- Be sure to rack your bike in the appropriate space (we will discuss this at group practices)
- Keep your equipment out of the aisles and away from your neighbors' equipment
- WALK or RUN your bike in the transition area. You may not ride out of or into the transition area
- No friends, family members, or Coaches are allowed in the transition area – only athletes, race staff and volunteers, and race officials
- You MUST have your bike helmet on and clipped before you take your bike off the rack during the event

DURING THE SWIM

- Any stroke is permitted – freestyle, breaststroke, sidestroke, backstroke, etc
- You are allowed to rest with the aid of the lifeguards on the surfboards as needed during the event

DURING THE BIKE

- You must have your helmet on and clipped the entire time you are on the bike (be sure it is clipped before you take your bike off the rack in transition, and leave it on and clipped until your bike is re-racked)
- Keep 3 bike lengths between you and the rider in front of you
- Stay to the right hand side of the lane at all times, unless you are passing
- If you are passing, you must pass on the left and complete the pass within 15 seconds
- Do not cross the yellow center line
- You may not accept outside aid for mechanic problems (you must have your own tools and know how to change a flat tire by yourself)
- NO headphones

DURING THE RUN

- You may not be “paced” by anyone (friends and family cannot run beside you to help you go faster)
- NO headphones
- Your race number must be on the front of your body when you cross the finish line

COMMON SENSE

- No littering on the course
- No swearing or unsportsmanlike conduct
- No nudity (you cannot completely change clothes in the transition area)

TEAM IN TRAINING SWIM DRILLS

The following swim drills are designed to help you feel more comfortable and be more efficient in the water. Saving energy during the swim is important, since you have to bike and run after you get out of the water! If you have questions on these drills, please contact Coach Katherine and/or refer to the Total Immersion website at www.totalimmersion.net

Main Concepts to Remember

- **Hide your head**

Your hips and legs will do the opposite of what your head does (like a see-saw). If you lower your head position in the water, your hips and legs will come closer to the surface. This will create less drag and make it easier to swim. Imagine that you are trying to "hide your head" while swimming.

- **Press down with your "buoy"**

Your lungs are the most buoyant part of your body. Pressing them down into the water will help raise your hips and legs so that you are creating less drag when you swim.

- **Swim in the "front quadrant"**

Longer vessels travel faster (imagine a kayak vs. a rowboat). Always be as long as possible when swimming. "Front quadrant swimming" (FQS) is the concept of having one arm in front of your head at all times while you swim.

- **Swim on your side**

When you swim flat on your stomach, you are presenting a larger surface area to the water, leading to more drag. When you roll onto your side, you reduce your surface area and will slice through the water easier.

- **Swim with your core**

Most of the power you generate to move through water should come from the rotation of the core (torso) of your body, not movement of your arms or legs.

Swim Drills – Part 1

- **Back balance**

Purpose – become balanced in a horizontal position along the surface of the water
Start with your hands at your sides, lying on your back, face up and chin tucked slightly (as if you were holding a tennis ball under your chin). Imagine a line from the top of your head through your spine to your tailbone. Begin kicking GENTLY towards the other end of the pool. Keep your head in line with your spine and press down on the water with your shoulder blade and neck area, so that your hips and tops of your thighs float up near the surface. Try not to let your knees "pop" out of the water during the kick (think of lifting up with your shins and tops of your feet, rather than kicking with your knees)

- **Side balance**

Purpose - learn to be balanced in a position that you will later use when swimming
Start in the back balance position then roll your torso so that your chest and belly button face the side wall of the pool. Continue rolling your head so that your nose is pointing down towards the bottom of the pool (feel that your chin/cheek area is connected to the lower shoulder). Press down on the water with your lower shoulder area and look straight at the bottom of the pool. Gently kick in this position (your kick will be aimed at the side of the pool). You should feel your top shoulder and hand at or near the surface of the water. When you need air, roll to the back balance position. Take several slow breaths and then return to side balance position. After doing a length of one side, try the other side.

Swim Drills – Part 1, continued

- **Side Streamline Kick Drill**

Purpose – learn to be comfortable in the position where you will glide through the water the easiest PLUS learn to be able to breathe on either side

(you may want to practice this position lying on the floor before trying it in the water)

From the side balance position, extend your bottom arm in front of your head, palm down. Your nose will still be facing the bottom of the pool. Try to feel that your head is "hidden" just under the surface of the water. When you need air, allow your head to roll to the side so that your mouth clears the water. You may need to roll slightly off your side and towards your back in order to be relaxed and comfortable while taking your breath. Kick one pool length on the right side, and then do the next length on the left side.

Swim Drills - Part 2

- **3 Stroke Slide Drill**

Purpose – integrate your balancing skills, add power to your stroke, and breathe bilaterally

Push off the wall in a front streamline position and swim 2 strokes (right arm pull, left arm pull). Keep your nose down and head still in the water. Focus on staying balanced in the water and rolling from side to side with your torso. On the third stroke (right arm pull), move your hips with a strong snap as you roll to a left streamline kick position with a breath. Try to slide across the surface without kicking as you take your breath. (press into the water with your armpit area and keep your ear near your shoulder). As your momentum slows, start the drill again, this time to the other side.

- **Stick drill / Catch-up drill**

Purpose - exaggerate your front quadrant swimming (FQS)

As you swim, hold a short (6-8") stick of PVC (or a pencil) between your thumb and your palm (do not clench it with your fingers). Keep the stick in the hand of your leading arm until the other arm finishes its stroke, and then switch the stick to the other hand. The stick should always be in the hand of your leading arm. This drill will cause you to spend some time on your stomach, but try to spend most of your time on your side. If you do this drill without holding a stick just keep your lead arm in front of your head until the other hand touches it (this is catch-up drill).

- **Fingertip drag**

Purpose - exaggerate a relaxed, high elbow recovery arm

As you finish your swim stroke and your arm recovers from your hip towards your head, lightly drag the tips of your fingers along the surface of the water (close to your body). Your elbow should be pointed up near the ceiling, and your forearm and hand should be completely relaxed.

- **Fist drill**

Purpose - learn to anchor your lead arm in the water

Swim with your hands closed into a tight fist. With your lead arm, flex your fist and forearm slightly down so that you feel as if you are trying to hold onto the water with your forearm as you swim. Rather than trying to pull your arm, aim to keep your arm anchored in place as you try to swim your body past your fist.

Swim Drills - Part 3

- **Stroke count**

Swim a length of the pool and count your strokes. Each arm pull is a separate stroke. The count on your first length will be called "n". You can play with the following options:

- decreasing (n, n-1, n-2, n-3)

Each length you swim, try to decrease your count by 1 stroke. You will need to reach longer towards the end of the pool and glide longer on each side. A lower stroke count can be helpful for efficiency during longer swims.

- increasing (n, n+1, n+2, n+3)

Each length you swim, try to increase your count by 1 stroke. You will need to rotate the core of your body faster from side to side to achieve this. Your goal is still to be long in the water - try not to "windmill" your arms. A higher stroke count can be helpful during shorter distances at faster speeds (although you still want to be as long as possible in order to reduce drag).

- "lottery"

Before you swim each length, choose a different target stroke count and do your best to match that number. They do not have to be sequential (you could aim for 18, then 20, then 15, and so on within your range of comfortable stroke counts)

- **Swim golf**

Add your time in seconds to your stroke count to get your score. You can do this at different distances (25 yards, 50 yards, 100 yards, etc). Get a baseline score, and then try to lower it by either lowering your stroke count, going faster, or both!

GEAR SHIFTING 101

This section is designed for people who are not comfortable or are not familiar with changing the gears on their bike. The manner in which you use the shifting mechanisms themselves varies from bike to bike, so ask your Coach if you need additional instruction.

“Gear Shifting 101” begins with the premise that it is a good idea to shift the gears on your bike...Many people are aware that their bike has (for example) 10, 21, or 24 speeds, but were never properly instructed on how and when to use those gears. Here is a basic lesson ~ for better understanding it might help to read this while looking at your bike.

First of all, you will generally have either 2 or 3 rings (chain rings) in the front section of the drive train of the bike (the area where your pedal cranks attach to the bike). You use the left hand shifter to control these. You will also have any number of smaller rings in the back (called your cassette – attached to your rear wheel) ranging from 5 to 10. Use the right hand shifter to change these (R for right and rear).

The smallest chain ring in the front is easier to pedal while the largest one is the most difficult. In the back cassette, the opposite is true – the smallest ring is the hardest to pedal, the largest is the easiest. This becomes easier to remember when you see that the rings furthest away from the frame of the bike are the hardest gears to pedal in, while the rings closest to the frame are the easiest to pedal. If you have numbers on your shifting mechanisms, the lower numbers are generally the easiest to pedal, and the higher numbers are the hardest (H for highest and hardest gear).

There are also some finer points of gear shifting. Although you may think you have (for example) 24 speeds on your bike (3 chain rings in front and an 8 speed cassette in the back) ~ in actuality you only have approximately 12 usable gear combinations. When you are in your small chain ring, you can use your 1st-4th gears in the back. In your middle chain ring, you would use your 3rd-6th gears, and in your big chain ring, you would use your 5th-8th gears. That gives you 12 gears. (For those with road bikes with a double chain ring in the front, you can usually use all but the opposite extremes of your rear cassette with either chain ring) You should never pedal with the chain on both the big rings in front and back, or the small rings in front and back (called cross chaining). This puts too much stress on the chain which could damage or break it.

The importance of choosing the correct gears as you ride is so that you can comfortably pedal at an efficient “cadence” (the rate at which your pedals are completing each revolution, measured in rotations per minute – RPM). A good cadence to aim towards would be in the 90 RPM range. This can either be measured with some cycle computers, or with your own wristwatch (15 full rotations in 10 seconds). The purpose of shifting gears is to stay near that goal of 90 RPM throughout your ride. There are some exceptions to this when climbing large hills or doing interval/sprint workouts, but aim for 90 RPM on a normal ride.

This all fits together in a practical sense as follows. When you are pedaling on a flat area, you will usually be in your middle ring up front and will shift into a gear in the rear that allows you to be around 90 RPM. When climbing a hill, you may have to drop down to your lowest (smallest) gear in the front and also to your lowest (biggest) in the rear. But remember to shift into a harder gear at the top of the hill to maintain or increase your speed. When descending, try shifting into a higher/harder gear so that you can still pedal comfortably down the hill.

Learning how to efficiently use your gears may take some time, but the benefit will be less fatigue for your legs as you go into the run!

ROAD RIDING SAFETY AND ETIQUETTE

Here are some reminders for both Team in Training bike practices and times that you ride on your own.

BASIC SAFETY TIPS

- Always wear your helmet.
- Wear bright colored clothing, especially on cloudy days.
- Use both front and rear lights (and reflective items) if riding at night.
- Always let someone know where you will be riding and what time you will return, or ride with a buddy.
- Always carry some sort of identification and some money (in case you need some food, water, or a cab home!)
- Always carry tools to change a flat tire.
- Always bring fluids to stay hydrated.
- Be aware of sand, ice, potholes, and car doors that might open in front of you.
- Come to a complete stop at stop signs and lights, and follow all traffic rules.
- Do not ride with headphones.

RIDING ETIQUETTE

- Ride single file and stay as far right as you safely can.
- Allow enough room for cars to pass safely.
- Pass other riders on the left (say “passing on your left” loud enough that the person can hear you).
- Use hand signals (see below for description).
- Call out “pothole”, “glass”, etc, to alert others to obstacles.
- Call out “car back”, “car back”, or “car left/right” to alert others to approaching cars

HAND SIGNALS

- **Stopping/Slowing Down** – left arm out to the side, 90 degree bend at elbow, fingertips pointing down towards the ground
- **Right turn (legally correct)** left arm out to the side, 90 degree bend at elbow, fingertips pointing up to the sky
- **Right turn (alternative)** as an alternative, you might use your right arm straight out to the right side with the index finger pointing right, since most motorists view the legally correct signal (above) as a sign that you see them and are saying “Go ahead”, leading to a tendency to have them pull out in front of you
- **Left turn** – left arm straight out to the side
- **Debris in the road** (scattered broken glass, sand, etc.) – left or right, whichever side has the debris, arm straight down, fingertips sweeping in a front to back motion
- **Obstacle in the road** (pothole, an ice patch, etc.) – left or right, whichever side has the obstacle, point at the obstacle and announce what it is

BENEFITS OF RUN/WALK TRAINING

Many people are unaware that walking is permitted during a triathlon – in fact many people walk at one point or another during a race. This section is designed to show how to incorporate run/walk intervals into your training, as well as show the benefits of this approach. For more information, please ask your Coach or refer the article, “The Run/Walk Plan” by Amby Burfoot on the website www.runnersworld.com

BENEFITS

- Less frustration and exhaustion for beginners
- Better speed work for advanced runners
- Ability to maintain proper form for longer duration during runs
- Ability to run farther and easier, to increase endurance
- Increased variety
- Potential for fewer injuries

RUN/WALK FOR BEGINNERS

- Walk exclusively for 5-10 minutes as your warm up
- Run/walk for the middle portion of your workout using sets of 30 seconds jogging, then 30 seconds walking
- Walk exclusively for 5 minutes as your cool down
- As you become more comfortable with running, extend to sets of 45 seconds jogging, 45 seconds walking, then up to sets of 1 minute jogging, 1 minute walking

RUN/WALK FOR INTERMEDIATES

- Walk exclusively for 5-10 minutes as your warm up
- Run/walk for the middle portion of your workout using sets of either 2 minutes jogging, 2 minutes walking OR 3 minutes jogging, 2 minutes walking
- Walk exclusively for 5 minutes as your cool down
- As you become more comfortable with running, extend to sets of 4 minutes jogging, 1 minute walking

RUN/WALK FOR ADVANCED RUNNERS

- Walk or jog easily for 5-10 minutes as your warm up
- Run/walk for the middle portion of your workout using sets of 9 minutes run, 1 minute walk
- Walk exclusively for 5 minutes as your cool down
- In a race situation, you may choose to walk only briefly through each of the water stops to get a drink, rather than following a prescribed run/walk interval

TRIATHLON RESOURCES

BOOKS

Triathlon 101, John M. Mora

Swim, Bike, Run, Glenn Town

The Complete Book of Triathlons, Sally Edwards

The Triathlete's Training Bible, Joe Friel

Triathlon Swimming Made Easy, Terry Laughlin

Bicycling Magazine's Complete Guide to Bicycle Maintenance and Repair, Jim Langley

From Hodgkin's to Ironman, Wally Hild

Fat Slow Triathlete, Jayne Williams

MAGAZINES

"Triathlete"

"Inside Triathlon"

"Bicycling"

"Runner's World"

WEBSITES

- *swim related*

<http://www.swimmersguide.com/> (a comprehensive list of pools)

www.swimnem.org (New England Master's Swimming)

www.usms.org (United States Master's Swimming)

www.cambridgemasters.com

www.ymca.net (to find a Y Master's program near you)

www.totalimmersion.net

- *bike related*

www.bicycling.com

- *run related*

www.posetech.com

www.runnersworld.com

www.coolrunning.com

www.newrunner.com

- *tri related*

www.usatriathlon.org (United States Triathlon Association)

www.insidetri.com

www.triathletemag.com

www.insidetri.com

www.triathlete.com

www.trisite.com

www.trinewbies.com

www.slowtwitch.com

www.beginnertriathlete.com

- *strength training related*

www.exrx.net