

CROSS COUNTRY

The sport of cross-country is mainly run on golf courses and Parks. The typical HS meet consist of teams lining up on the starting line and running a course that is 5000m long or 3.1 miles. The MS run 1.5 miles.

How is Cross Country Scored?

In a cross country race the 1st – 5th runners score for the team. A runner scores his place in that race. For example, the first runner scores one point, the eighth runner scores eight points. The low score wins. For example, a race with a score of 26 - 29 would look like this:

Scoring a Meet	Meet (Tiebreaker)							
	Runner #1	Runner#2	Runner#3	Runner#4	Runner#5	Score	Runner#6	Runner#7
Owensville	1 st	2 nd	7 th	15 th	18 th	43	19 th	
St. Clair	3 rd	5 th	6 th	12 th	17 th	43	20 th	

In this case there is a tie through 5 runners. The 6th runner of each team breaks the tie. **Owensville wins!**

A team's 6th and 7th runner can also figure in the scoring if they place ahead of the other team's 5th runner. When that is the case, they become "pushers" by pushing up their opponent's scores. Only a team's 6th and 7th runners can be "pushers" regardless of how many of its runners may finish ahead of opposing teams top 5 runners.

Level of Competition

Owensville is a member of the **Four Rivers Conference**. Other members are: Union, St. Clair, Pacific, St. James, New Haven, Hermann.

Our conference has a middle school boys and girls race (10 medalist each), a Junior Varsity Boys (10 medalist), and Varsity Boys races (Top10 All Conference medalist) and a Varsity Girls Race (Top 15 All Conference medalist)

District Competition

We currently are a 3A school and our district currently is consists of the following teams. The top 15 individuals and the top 2 teams at our district meet will qualify for the state meet in Jefferson City.

Affton High School
Bishop DuBourg High School
Lutheran South High School
Pacific High School
St. Francis Borgia High School
Sullivan High School

Bayless High School
Cuba High School
Owensville High School
St. Clair High School
St. James High School
Union High School

Cross Country Lingo

Meet Day

- Course..... The marked and measured route of the race
- Warm-up**..... A running and stretching routine designed to warm the body temperature
- Starting Box..... A designated area to which a team is assigned on the start line
- False Start..... Leaving the starting line before the gun sounds
- Finish Chute..... A roped area just past the finish line that places runners in order
- Top 7..... The scoring members of a varsity team.
- Pack..... A group of several runners, running together during a race
- Pace..... Running speed over a measured distance
- Surge..... A tactical increase in pace during the race
- Kick..... A burst of speed at the finish of the race

Cool-down..... A jogging and stretching routine designed to purge the muscles of lactate and gradually lower the body temp

Personal Record.... Best ever performance (PR) Newer runners PR often.

Equipment

- Racing Flats..... A special light weight shoe used during races but not training runs
- Training Flats..... Running shoes designed for daily training
- Spikes..... A special light weight racing shoe with spikes.

Workout Day

- Workout.....A daily training sessions
- Cool-down..... A jogging and stretching routine designed to purge the muscles of lactates and gradually lower the body temp.
- Lactate..... A by-product of fast running that accumulates in muscles
- Aerobic..... Exercising without going into oxygen debt
- Anaerobic..... Exercising at a rate that puts the body into oxygen debt

Reference: Coach Jager, Grand Rapids Christian, Grand Rapids Michigan
LA84 Foundation Cross Country Coaching Manual, LA84 Foundation

FOUR KEYS TO RECOVERY SUCCESS

“If given 8 hours to cut down an oak tree, I would spend the first 6 hours sharpening my axe.”
Abe Lincoln (Christenson, *The Science Behind the Endurance Plan*, 2009)

If you can recover and train equally well, you will have laid the foundation to succeed!

GREAT TRAINING (WORKOUTS)

----- X GREAT ATTITUDE = 1 GREAT SEASON

PROPER REST (RECOVERY)

1. STRETCHING – Static stretching after practice. Hold 15 sec to 2:00.

Improve stride length by 1 inch can lower mile time 10-20sec. *The Elite Training Group Marshall Burt*

2. FLUID INTAKE- Water Bottles carry everywhere, especially to practice!

Drink 2 cups of fluids 2 hours before running.

Drink 5-10 ounces of fluids every 15 to 20 minutes during exercise. (Association, 2006)

“Electrolyte Replacements (Gatorade/Powerade) (8oz within 20min of workout/race then 8 more oz of water within 2 hours)

Chocolate Milk...rehydrates and provides electrolytes while also supplying the body with carbs and protein.”
(Rockwell, 2011)

3. NUTRITION- DAILY NEED

“When training hard every day, runners need 3.6 to 4.5 grams of carbohydrates per pound per day.

Runners need 0.55 to 0.64 grams of protein per pound per day.”

(Association, 2006)

WT	CARBOHYDRATES	PROTEIN
100lb	360-450 grams per day	55-64 grams per day
110lb	396-495 grams	61-70 grams
120lb	432-540 grams	66-77 grams
130lb	468-585 grams	72-83 grams
140lb	504-630 grams	77-90 grams
150lb	540-675 grams	83-96 grams

Carbohydrates -Any of a group of organic compounds that includes sugars, starches, celluloses, and gums and serves as a major energy source in the diet of animals.

(<http://www.answers.com/topic/carbohydrate>)

1. Main source of energy for the muscles and brain
2. Can be stored in the body for 1-2 days
3. Provides fiber to aid in digestion
4. Sources: Starches, Fruits, Vegetables, (some in the sugars in milk), foods from plant sources, table sugar
5. 1 gram of a carbohydrate contains 4 calories
6. Daily requirement: 55-60%
(Schools, 2006)

Protein-They are essential in the diet of animals for the growth and repair of tissue and can be obtained from foods such as meat, fish, eggs, milk, and legumes.

(<http://www.answers.com/topic/protein>)

Protein

1. Necessary for cellular growth and repair
2. Needed for hair, nails, muscle, hormones, enzymes,
3. Sources:
 - a. Complete proteins: meats & dairy (also includes fats)
 - b. Incomplete proteins: plant sources like grains, dry beans, seeds and peas
4. Calories per gram: 4
5. Daily requirement: 12-15%
(Schools, 2006)

Fat- “What is the Purpose of Fats?”

“Some types of fatty acids are essential nutrients. They must be consumed in the diet for the body to function properly. “

(<http://www.answers.com/topic/fat>)

Fats: Cholesterol and Triglycerides

1. Provide stored energy
2. Insulates body from temperature changes
3. Cushions body organs
4. Carries fat soluble vitamins A, D, E, & K
5. Found in animal foods, salad oils, chocolate
6. Cholesterol is only found in foods that come from animal sources. Cholesterol is important in the production of cell membranes, hormones and bile salts.
7. Triglycerides are from both plant and animal sources. Excessive Triglycerides are stored in adipose (fat) tissue.
8. 1 gram has 9 calories
9. Daily needs: 25-30%
(Schools, 2006)

NUTRITION- WORKOUT/RACE RECOVERY

“Athletes should consume .5 to .7 grams of carbs per pound of body weight and 10-20 grams of protein within the first 30 minutes after exercise to promote optimal recovery”

(Rockwell, 2011)

“Athletes who don’t feel hungry after workouts often do better with recovery beverages. Flavored milk, drinkable yogurts, and fruit smoothies can provide everything they need without requiring an appetite.”

(Rockwell, 2011)

GOOD CHOICES (Rockwell, 2011)

(50grams Carbohydrates)

Bagel
3 slices of White Bread
2 pancakes or French toast
Large Muffin
2 pieces of fresh fruit
1 cup of cold cereal (check labels)
1 sports bar or 2 small granola bars (check labels)
10 ounces of fruit juice
butter
16 ounces of chocolate or strawberry milk

(10grams of Protein)

1 oz of meat/poultry/fish/seafood
2 eggs or 2 egg whites
8 oz of milk (dairy or soy)
1 cup of yogurt
½ cup of beans
½ cup of hummus
1 sports bar (check label)
1/3 cup of nuts or 2 tablespoons of peanut butter

High –glycemic carb sources are better.

(“Generally those with refined flours and added sugars, such as bagels, low-fiber/high-sugar cereals, granola bars or sports bars, pretzels, and flavored milks.” (Rockwell, 2011)

<u>WT</u>	<u>CARBOHYDRATES</u>	<u>PROTEIN</u>
100lb	50-70 grams	10 grams
110lb	55-77 grams	10 grams
120lb	60-84 grams	15 grams
130lb	55-77 grams	15 grams
140lb	55-77 grams	20 grams
150lb	75-105 grams	20 grams

“If athletes eat a snack during the 30-minute window, they should plan on consuming a full meal about two hours later, complete with at least 50 grams of carbs and 15 grams of protein.”

4. SLEEP- (Christenson, The Art of Sequencing the Endurance Workloads, 2009)

Human Sleep Cycle

Stage 1- Light Sleep
Stage 2- Light Sleep
Stage 3- Deep Sleep
Stage 4- Deep Sleep
Stage 5- REM Sleep

“All humans go through all 5 stages every 90 minutes in a healthy person older than 12.

Liver stores glycogen only during stages 3 & 4.

Immune and endocrine systems are controlled by stages 3 & 4.

Humans would sleep ~8 hours with all variables controlled.

RACE DAY

PRERACE (Pucher, Nutrition Checklist for Cross Country, 2011)

Morning Races:

Eat 2-3 hours before race time. **(7am) for 10am RACE**

Toast or bagel with peanut butter or Clifbar/PowerBar

Drink 8-10oz of water

Avoid fruit with skin (plums, apples) as they may cause discomfort.

Afternoon Races:

Morning- eat a typical day's breakfast

Lunch **(12pm)** Chicken/Turkey Sandwich and a banana

Drink 8-10oz of water

(2:30-3pm) Eat ½ Clifbar/PowerBar with 8-10oz of water

Accepted Principle- Consume 100 calories for each hour before your event.

RACE

Including the race, warm-up, and cool down: energy expenditure will be about 850 calories.
(Christenson, The Art of Sequencing the Endurance Workloads, 2009)

RACING STRATEGY (Eagles, 2011)

Controlled Start- Avoiding going anaerobic at the beginning of your race. 5-7sec. hard okay—beyond that pushing sends you into the Anaerobic World. Remember 5K is 80% Aerobic/20%Anaerobic!

Even Pace- Most efficient way to run race

Concentration- Sticking with people in front of you.

Moving up to catch the person in front of you.

Letting your pace slip.

Corners- Take the corner hard and continue the speed after the corner

Hills-

At the top- keep your effort the same for 50-60 meters

Uphill- Survive the uphill

Downhill- "Charge the Downhill"-
Land on balls of feet

Pack Running- Strength of Pack is the Wolf, the strength of the Wolf is the Pack

Finishing- Starts a mile out.... A consistent, hard driving long drive to the finish is more efficient than a sprint at the end. Pass 1 person = change score by 2.

Race Hard for Yourself and Your Team!

In a Large Race (State/Memphis) Difference between 10th and 40th – talent

Difference between 80th and 120th- Keeping focus during race. (Author Unknown)

Racing Tactics Shaving Seconds & Rousting Rivals- SIMPLE TACTICS FOR SUCCESSFUL RACING (McMillian, 2009)

Run The Tangents- The shortest line between two points.

Pass with Authority- When passing a competitor in any race, pass them with a purpose. Hang back then surge & pass.)

Pass Wide- On a straight stretch swing wide and away as you pass them while accelerating so you can create a gap- so they can't latch on.)

Surging Early and Often- "In most races – especially on the roads and in cross country – gaps early in the race often are maintained through the race. Don't be afraid to throw in a surge early in the race to get a gap on a competitor. Then, throw in another shortly after the first one."

Sneak a Peak- Only on corners- don't turn your head much-or they will think you are tired and then be inspired.)

Steal Their Move-When you sense a competitor is going to pass or surge, steal their move, surge away and make them respond.

Surge on Corners- Most runners slow as they take on a corner. Surge to, through and out of every corner.

Surge at the Top and Bottom of Every Hill- Surge at the top and bottom of every hill. "Savvy racers, however, take advantage of this by carrying the downhill momentum onto the flat and surging at the bottom of the hill."

Side Stitches (Pucher, Curring the Runners Side Stitch)

"Assuming no medical explanation, I'll assume that it's nothing more than the dreaded Runners Side Stitch. Usually a Stitch is the result from a diaphragmatic spasm. They aren't dangerous although as you noted, they stop you in your tracks (no pun intended). Something I have used with success in some of the athletes I consult with is to:

- (1) Take in a large deep breath, hold it for 5-10 seconds, and forcefully blow it out. Repeat this 2-3 times.
- (2) Always use a an easy warm up before competition and perform step #1 several minutes before race time.

The bottom line is that the diaphragm is usually just cramping up and like any muscle needs to be stretched out. Deep breathing helps to do just that (like a balloon filling with air).

One final preventative measure is to suggest an exercise to strengthen the diaphragm: it's called the Dumbbell Pullover. This is a great exercise to again practice "deep breath, forceful exhale" just like before race time. Have him perform this exercise 3x weekly (2-3 sets of 10-12). "

POST RACE PROTOCOL (Christenson, The Art of Sequencing the Endurance Workloads, 2009)

8-10 min. Cool down Jog

16oz of Water

4-5 min Leg Stretching

Elevate legs 6-10min.

12-16oz of Sports Drink

Zinc Lozenges

Ice Therapy (Ice sore parts if any)

Post-Feeding should be immediate (1000calories)

Zinc Lozenges every 2 hours.

Sleep 8-9 hours night of race at normal time.

“HOW CAN I AVOID INJURIES?” (Eagles, 2011)

1. Stretch
2. Good shoes –
 1. Running Shoes designed for running
 2. Also – limit running in a pair of shoes to about 400 miles.
 3. Have a new pair and old pair of shoes so that you can rotate them. When your shoes reach say 300 miles – buy a new pair and use the old ones for another 100 miles by rotating which pair you wear every couple of days.
3. Muscle development. There are four simple isometric exercises that every runner should do every day:
 - A. Sitting down – stick your leg straight out and tighten your thigh muscle. This helps with Runner’s Knee by getting your thigh strong enough to absorb the shock of running.
 - B. Point your toes up toward the sky. Or walk on your heels. You will feel the front of your shin tighten up – this will develop your shins and avoid Shin Splints.
 - C. Toe raises - Stand up. Slowly rise up on the toes, then slowly lower the heels to the floor. Repeat 10 times, then rest for 1 minute. Do 2 more sets of 10. When this exercise becomes easy, do it while holding progressively heavier weights.
 - D. Outward rolls - Stand up. Slowly roll the ankle out so that the inner part of the sole is raised off the floor. Slowly lower the sole back to the floor. Do 3 sets of 10.”

RACE DAY CHECKLIST (Eagles, 2011)

- | | |
|---------------------------|------------------------------------|
| _____ Running Shoes | _____ Spikes |
| _____ Warmup Top & Bottom | _____ Uniform Top & Bottom |
| _____ Socks –for warmup | _____ Socks (short) for Race |
| _____ Rain Gear | _____ Dry Shirt for after the Race |
| _____ Water | _____ Water / Gatorade |
| _____ Pre-Race Snack | _____ Post Race Snack |

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