



Achieve your peak performance!

Hector L Torres

USAT Coach Lv 3
USAC Coach Lv 2
USAS Coach
USATF Coach
MS Sports and Science

Goals

- Understand the basic components of nutrition
- Understand the requirements of an athletes' nutrition during the race
- Understand the process and caloric intake
- Understand Carbo-loading

Sounds Familiar

- Entry Fee = \$200
- Training Plan = \$300 / month
- New Bike = \$2,500
- Race Wheels = \$1,500
- Travel Expenses = \$2,000
- Having the race of your life = **Priceless**

Body Composition

- Realizing your ideal body composition
 - Understand food choices
 - Know what you eat
 - Embrace Long Term Change

BMI

BMI	Classification
Below 18.5	Underweight
18.5 - 24.9	Normal
25 - 29.9	Overweight
Above 30	Obese

BMI =
(lbs/inches²)

$$\frac{(\text{weight in pounds} * 703)}{\text{height in inches}^2}$$

Quick Tips

- Make small and gradual changes
- Reduce saturated and partially hydrogenated fats - cheese crackers, snack foods, etc.
- Ensure that you get enough protein
- Don't watch your calories, but do watch your 'bad' fats.

Periodization Nutrition

- Base
 - Volume is relatively high and intensity low
 - Eating a diet rich in good fats is beneficial to improving your ability to burn fat for fuel while conserving glycogen stores.

Periodization Cont'd

- Build Period
 - When the intensity of training increases as you prepare for the first A-priority race of the season, the fat - carbohydrate balance should shift toward carbohydrate.
 - This doesn't mean you should pig out on starch and sugar.

Carbohydrates - Important!

- Official dietary guidelines for athletes are agreed in their recommendation of high carbohydrate.
- Carbohydrate intake ranges of 5 to 7 g/kg/day for the general training needs and 7 to 10 g/kg/day for the increased needs of endurance athletes.
- Carbohydrates are one of the most important nutrient needed in an athletes diet.
- Carbohydrates are vital to help reach peak performance during physical activity because they provide:
 - Energy
 - Muscle Gain

Muscle Gain

- Without an adequate amount of stored glucose in the body, other nutrients, such as fat or muscle protein, are utilized to make energy.
- With the correct amount of carbohydrates available to muscle, protein can be free to do its main job of repairing and rebuilding muscle tissue, which maximizes muscle gain.

Protein

- The recommended Dietary Allowance (RDA) for protein, 0.8 g/kg of body weight per day, is design to maintain nitrogen balance in the body for the average adult; a negative nitrogen balance indicates that muscle is being broken down and used for energy.
- While maintaining nitrogen balance is critical for health, studies now suggest the the RDA may not be the amount of protein needed to promote optimal health.
- Therefore, to achieve that, more protein is needed, and studies now suggest that athletes, active people, and older individuals require even more.

Peak Phase

- Peak Phase
 - Decrease volume / intensity is high
 - High Protein, high-fat - low carbohydrate for the next few days.
 - Three days before the race, athletes will feed muscle a high carbohydrate diet.

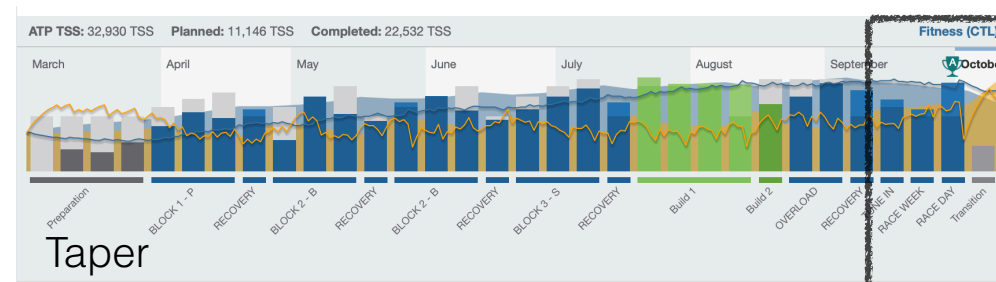
Before the Race

- Carbo Loading
 - Myths: “Night before race day, eat a pasta dinner. “
 - False, it takes 48 - 72 hours for food to leave our bodies after we place it in our mouth.
 - Truth, you will gain weight during this loading phase. 2 - 3 lbs

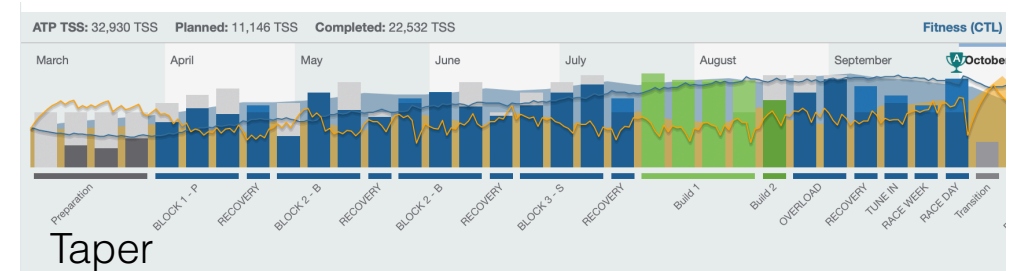
During the Race or Training

- Sport
- Distance
- Pace
- Weight
- Fuel

Training Plan



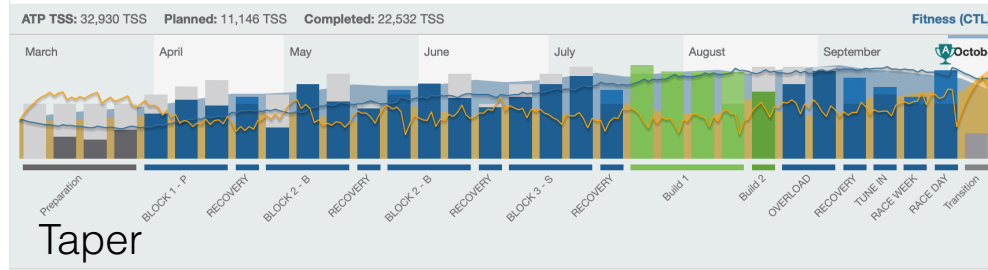
3 Week Prior to Event



Taper time you do not need to eat extra calories since your body will not be using as many as it needed during training. Instead, you should continue to eat 3-5 grams of carbohydrate per pound of body weight and reduce your fat intake to make up for your body's reduced demand for energy. Your muscles will use these extra carbohydrate calories to build up a glycogen store that will remain, since you won't be using it for training any longer. Normally your body can store glycogen at the capacity of 80-120 mmol/kg.

When practiced perfectly, this method of carbohydrate loading should allow you to almost double that storage capacity to approximately 200 mmol/kg.

3 Week Prior to Event



Carb loading is meant to store extra glycogen that your muscles can tap into once the normal stores are used up.

But:

Carbohydrate loading is not useful for events like a 5k or 10k since the running effort will not be long enough to completely deplete muscle glycogen stores.

Any extra glycogen in the muscles during those events may actually be detrimental to performance due to the potential of muscle stiffness and heaviness that can be associated with carbohydrate loading.

Carb Depletion and Loading

Carb Depletion and Training

During carb depletion and loading, your training does not change. The volume may, but the workouts themselves will not. You will be running some tough workouts in a glycogen depleted state, which often times makes the workout feel harder than it would be under normal circumstances. You may feel sluggish, your legs and feet like lead, and overall very lethargic. If this is the case, you're doing it right.

Carb Loading Phase

When you're in the loading phase, you don't want to pile on the carb calories. This is a pitfall many runners have fallen into with sometimes less-than-ideal effects come race day. If you overload your body with extra calories and too many carbs, you'll end up feeling bloated, uncomfortable, and could end up with GI troubles.

Fat-Adapted State

The fat-adapted state is a fantastic option. Our fat stores are almost unlimited. Unfortunately glycogen is a much easier source of energy for our bodies but it's finite and runs out after some time. The dreaded "wall" or "bonk" occurs when your body burns through all the stored glycogen and begins burning fat. Fat takes too long to burn adequately — hence the slow down. Avoiding the bonk is one reason we often hear "fuel early, fuel often" — you don't want to get to the dreaded moment when you run out of glycogen and have to rely on fat only.

Carb Depletion and Loading

Things to consider:

1. If you're not willing to suffer through some grueling workouts, mood swings, and hanger (hungry anger) in general, true carb depletion and loading are not for you.
2. If you're planning on using gels, sports drinks, etc (and you should!) on race day, depletion/loading are likely not necessary for you.
3. Carb loading does not mean to pile on the carbs. It means to switch the ratio of carbs to proteins and fats so that the percentage of carbohydrates is higher — not that you're adding more calories overall.
4. Most of all, don't try anything new on race day. Marathon training is your dress rehearsal for race day. If you've been eating a certain way or fueling a certain way, continue to do so for your race.
5. Fat adapted training is a great option for those interested in using fat as fuel

Carbo Loading

- Weight: _____ / 2.2 = _____ (A)
- Consume at least 5 gram of carbohydrate per kilogram of body weight per day for the 4 - 7 days before the race
 - (A) X 5 = _____
- Consume 10 grams of carbohydrate per kilogram of body weight per day for the 1 - 3 days before the race.
 - (A) x 10 = _____
- Large carbohydrate meal two nights before the race and go light the night before the race.

What is out there!

- Sports Drinks
- Recovery Drinks
- Sports Bars
- Gels
- Chewable Gels

Calories on the Bike

- **One:** Determine your goal cycling speed
 - Speed: _____
- **Two:** Multiply cycling speed coefficient (see table 1) by your total body weight;
 - Speed: _____ x Weight: _____ = _____
- **Three:** Multiply **Step #2** by 60 minutes to determine hourly calorie expenditure
 - Step #2 _____ x 60 = _____
- **Four:** Add 22 calories to Step #3 for every 100 feet climbed during cycling event.
 - Map: 300 ft. / 100 = 3
 - 3 x 22 = 66
 - Step # 3 + Incline Calories = _____

Table 1. Calculating Calorie Expenditure during Cycle Workouts

A v e r a g e Speed (mph)	Coefficient (cal./ lb./min.)*
15	0.0561
16	0.0615
17	0.0675
18	0.0740
19	0.0811
20	0.0891
21	0.0975
23	0.1173
25	0.1411

Calories on the Bike Cont'd

- **Five:** Multiply Step #4 by 0.3 to determine minimum hourly calorie replacement demands; finally step
 - Step #4 _____ x .30 = _____
- **Six:** Multiply Step #4 by 0.5 to determine maximum hourly calorie replacement demands. (Brown, 2007)
 - Step #4 _____ x .50 = _____
- Ranges: _____ - _____

Calories on the Run

- **One:** Determine running calorie expenditure per mile by $0.63 \times \text{body weight (pounds)}$;
 - $.63 \times \text{_____} = \text{_____}$
- **Two:** Determine goal race pace or how many miles/hour will you cover, example: An 8-minute miler will cover 7.5 miles/hour;
 - Pace: _____
- **Three:** Calculate hourly expenditure based on goal race pace, example: An 8-minute miler would multiply 7.5 by the figure from step one; finally step
 - **Step 1** _____ x **Step 2** _____ = _____
- **Four:** Determine hourly calorie replacement needs: $*0.3 \times C$ (Research shows runners can physically absorb about 30% of what they expend.) (Gibala, 2008)
 - Step 3 _____ X .30 = _____

MPH	Pace
5	12:00
5.5	10:43
6	10:00
6.5	9:14
7	8:34
7.5	8:00
8	7:30
8.5	7:04
9	6:40
9.5	6:19
10	6:00

Calculation

Bike Calories		
MPH	Weight	
0.074	215	15.910
Time	Ratio	
60	954.60	
Minimum Calories	Maximum Calories	
190.920	477.30	

RUN		
Weight	Mile	
215.0	0.63	135.450
Mi x Weight Ration	MPH	
135.450	5.0	677.25
Caloric Intake		
135.45		

Transportation

- From Cancun to Playa Del Carmen
 - Taxi & Shuttle Service
 - <https://www.cancunairport.com/transportation.html>
 - Book Roundtrip
- From Playa Carmen to Cancun
 - Ferry
 - Do not buy a roundtrip ticket!

COZUMEL FERRY SCHEDULE			
WINJET		ULTRAMAR	
To Playa	To Cozumel	To Playa	To Cozumel
7:00 AM	5:45 AM	5:45 AM	7:00 AM
8:00 AM	7:00 AM	7:00 AM	8:00 AM
9:00 AM	8:00 AM	8:00 AM	9:00 AM
10:00 AM	9:00 AM	9:00 AM	10:00 AM
11:00 AM	10:00 AM	10:00 AM	11:00 AM
12:00 AM	11:00 AM	11:00 AM	12:00 PM
1:00 PM	12:00 PM	12:00 PM	1:00 PM
2:00 PM	1:00 PM	1:00 PM	2:00 PM
3:00 PM	2:00 PM	2:00 PM	3:00 PM
4:00 PM	3:00 PM	3:00 PM	4:00 PM
5:00 PM	4:00 PM	4:00 PM	5:00 PM
6:00 PM	5:00 PM	5:00 PM	6:00 PM
7:00 PM	6:00 PM	6:00 PM	7:00 PM
8:00 PM	7:00 PM	7:00 PM	8:00 PM
9:00 PM	8:00 PM	8:00 PM	9:00 PM
10:00 PM	9:00 PM	9:00 PM	10:00 PM
		10:00 PM	11:00 PM

The ride takes about 40 minutes each way on the regular ferry or 20 minutes on Ultramar's new luxury ferry. Ferries run 365 days a year, weather permitting.

IMPORTANT
Prices and Schedules are Subject to Change Without Notice. Check with the ferry company (see right) to make sure. We recommend to check the day before you'll go on the ferry.

Passive Heat Acclimation

- 14 days prior to event
- 20 - 30 min Sauna drinking water and electrolytes



Race Course and Schedule

- <https://www.ironman.com/im-cozumel-course>
- [https://cdn3.sportngin.com/attachments/document/c111-2345784/Event_Schedule_IM_Cozumel_2021_Horario_del_Este .pdf#_ga=2.236077761.1705408400.1635363966-1844398075.1634602925](https://cdn3.sportngin.com/attachments/document/c111-2345784/Event_Schedule_IM_Cozumel_2021_Horario_del_Este.pdf#_ga=2.236077761.1705408400.1635363966-1844398075.1634602925)

Ironman Bags Transition Bags



Check List	White Bag Morning Clothes	Blue Bag Bike	Orange Bag Bike Special Needs	Red Bag Run Bag	Green Bag Run Special Needs
	Anti fog	Cycling Shoes	Nutrition for mile 56 - 12	Empty Running Water Bottle	Extra Nutrition
	Goggles	Rubber bands	Chamois Butter	Nutrition	
	Light Bar	Helmet	Sunscreen	Hat or Visor	
	Electrolytes / Water	Cycling Shoes		Running Shoes	
	Speedsuit	Cycling Socks		Cooling Towel	
	Sandals	Small Towel			
	Socks	Sunscreen			
		Nutrition			
		Bike Computer			
		Chamois Butter Cream			
		Race Belt			
		Cycling Shoes			
		Socks			
		Chapstick			
		Gum			
		Compression Socks			

Calendar

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
November 1 - 7, 2021	Swim	Bike / Run	Swim / Run	Bike / Run	Swim / Bike / Run - Zone 1 - 2 One Hour Each	4 - 6 hour ride / 60 min Run	15 mile run
November 8 - 14, 2021	Swim	Bike / Run	Swim / Run	Bike / Run	Rest	2 hour 30 min bike / 30 min run	10 mi Run
November 15 - 21, 2021	Swim 2000 meter / 30 min Run	Bike Race Prep	Travel Easy Bike / Run or Swim 30 min	7 am Bike Route 11:45 am Packet Pick Up	Rest	Practice Swim	Race Day
	REST						

Team Shirts

Women:

BALEAF Womens Cycling Jersey Bike Shirts Short Sleeve with Pockets Bicycle Biking Tops Breathable Summer UPF
by Baleaf Sports
Learn more: https://www.amazon.com/dp/B091FFM66Q/ref=cm_sw_em_r_mt_dp_7N3R29VG DYGYJJN2YP90?_encoding=UTF8&psc=1

Men:

BALEAF Men's Cycling Jersey Biking Shirts 4 Rear Pockets Short Sleeve Wicking Bike Tops
More information: https://www.amazon.com/dp/B094TY17WP/ref=cm_sw_em_r_mt_dp_M05JC8SNTGENWNY2YGSS

Order and Mail it to: Hector L Torres - 3314 Pelham Rd. Orlando, FL 32803 (Place the order, no later than November 1, 2021)

Questions

