Fueling the High School Athlete

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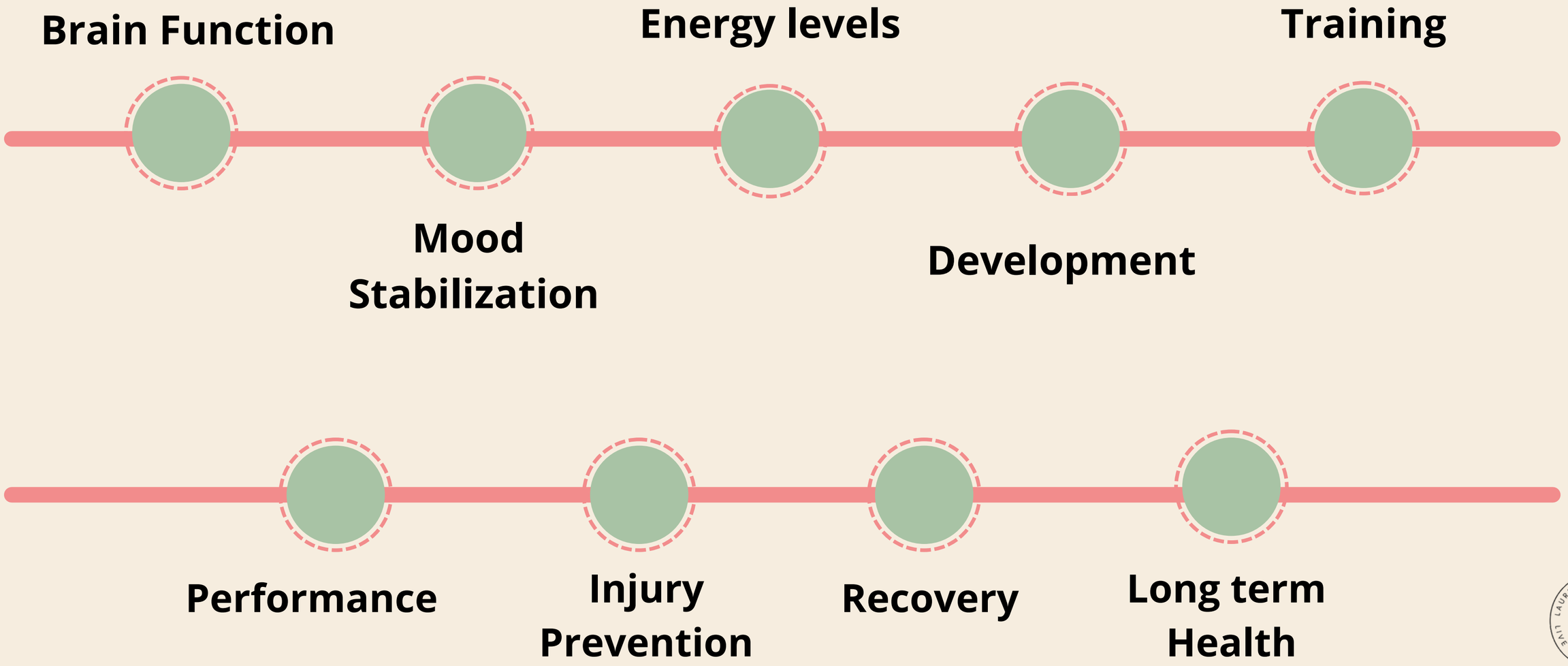
Background

- Registered Dietitian 2009
- Sports Nutrition 2023
- Certified Intuitive Eating Counselor 2023
- Private Practice 2024
- Head Coach at West Park High School 2025
- Long Distance Runner

Outline

- Why nutrition matters
- Dangers of undereating
- Understanding the teen athlete diet
- Obstacles to proper nutrition
- The coach’s role
- Event group nutrition needs
- Fueling ideas
- Hydration and recovery needs

Why Nutrition Matters



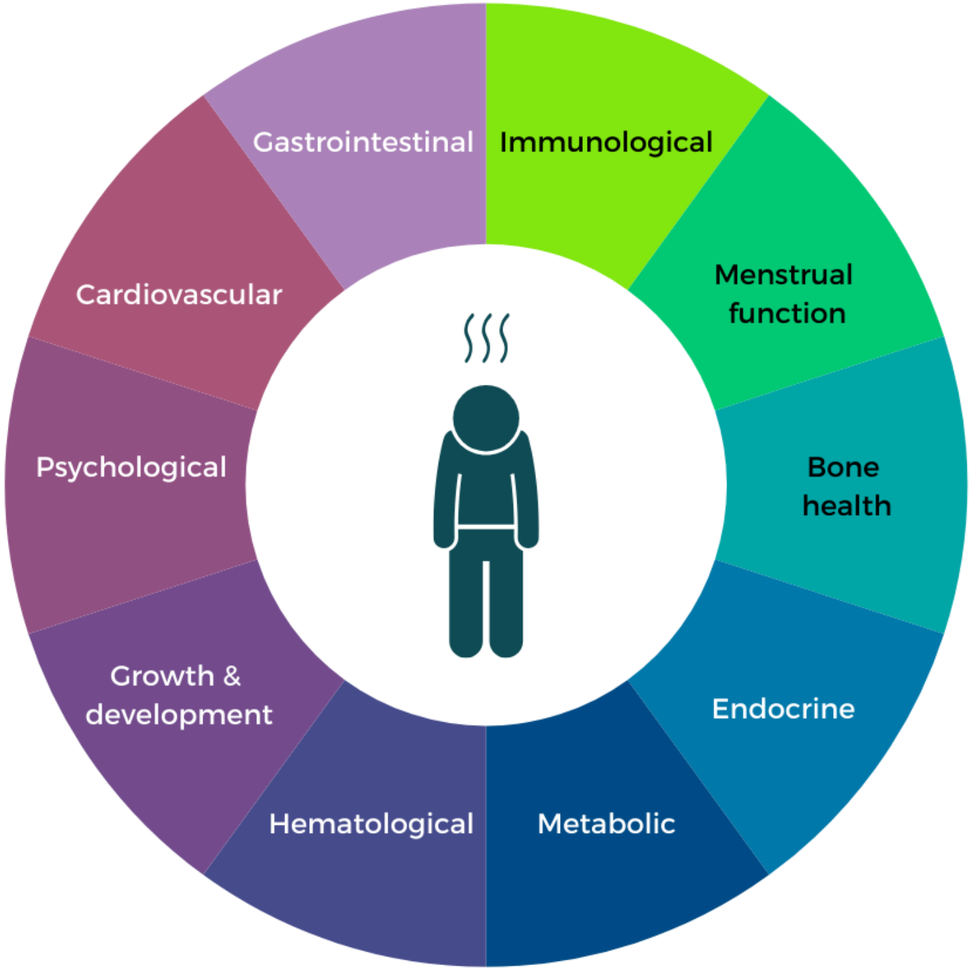
Underfueling & Low Energy Availability

Low Energy Availability:

“LEA occurs when an individual has insufficient energy to support normal physiological function after the cost of energy expended during exercise has been removed. This may occur with/without an eating disorder (ED) or disordered eating (DE) behavior and can have a negative effect on an athlete’s health [1, 2].”

Prolonged LEA can progress into RED-S and we do not want that!

CONSEQUENCES OF RELATIVE ENERGY DEFICIENCY IN SPORT (RED-S)

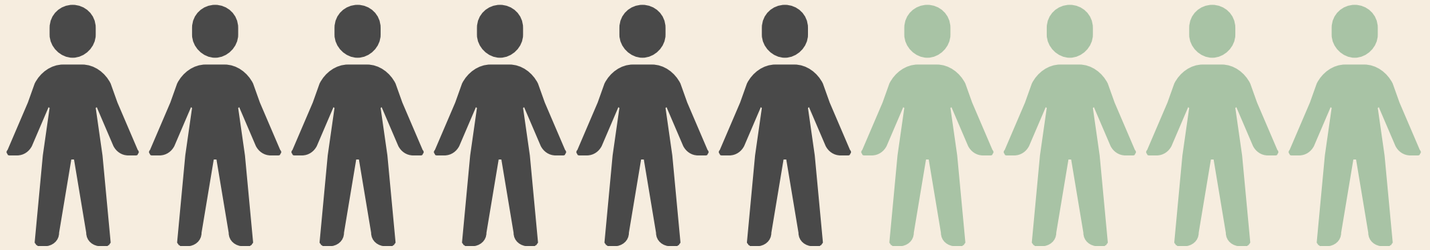


HEALTH

PERFORMANCE

Image: IntensEatFit - https://www.intenseatfit.com/blog/low-energy-availability-athletes

Understanding the Teenage Athlete Diet



Growth	Eating Patterns	Resistance
Higher energy needs	Skipped meals	Food police
Healthy development	Reliance on snacks/school meals	Value independence
Irregular hunger cues	Unbalanced nutrition	Education
Appetite	Inadequate intake and hydration during school day	Meet them where they are

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Obstacles to Proper Nutrition

1. Time Constraints
2. Access and Availability
3. Social Pressure & Misinformation
4. Limited Palate
5. Eating Disorders / Body Image

The Coach's Role

- Normalize Fueling
- Fueling is part of training
- Encourage snacks at practice/meets
- Don't compare bodies or diets
- Model healthy language
- Provide education opportunities
- Avoid weight-based comments or food shaming
- Observe athletes
- Monitor performance
- Refer if needed

Language Around Body Size

Avoid:

- “Race weight”
- “You’d be faster if…”
- “If you looked like…”
- “You look heavier/lighter than last season”
- “That’s not a runner’s body”

Replace with:

- “Are you fueling enough for this workload?”
- “How’s your energy and recovery been lately?”
- “Strong athletes come in different builds.”
- “Performance comes from training + fuel, not body size.”

Language Around Food

Avoid:

- “Earn your food”
- “Don’t eat junk”
- “You really don’t need that snack”
- “Save that for after the season”
- “You shouldn’t be eating right now”

Replace with:

- “Fueling helps you get more out of this workout.”
- “Let’s focus on eating enough and often.”
- “Snacks help maintain energy between events.”
- “Food is part of training.”

Nutrition for Event Groups

Start workouts well fueled!

Sprinters/Jumpers

- Consistent Fuel
- Carbs & Protein
- Power, Speed, Strength
- Timing
- Hydration

Distance

- High energy output = high energy needs
- High carb intake
- Risk of energy deficit/LEA
- Recovery nutrition
- Hydration

Throwers

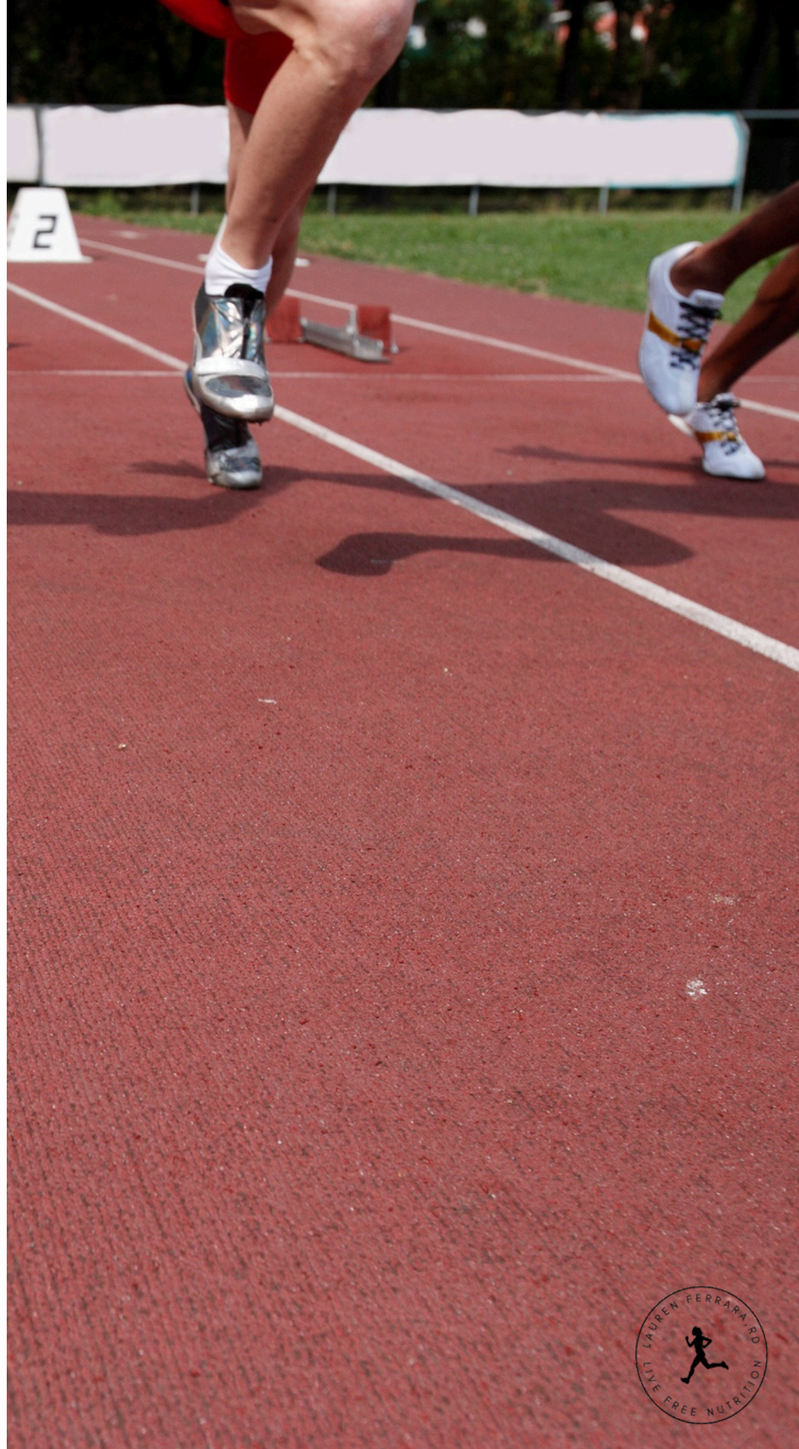
- Strength, power
- Focus on carbs, protein around strength training
- Adequate calories without a “free for all”

Nutrition for Sprinters / Jumpers

1. No skipping meals! You cannot have speed and power running on empty! High risk of injury with low energy intake.

2. Simple carbs before = 30g = Granola bar, applesauce
   Protein after = 25g = Chocolate milk, ½ sandwich

3. Timing = eat consistently throughout the day; before and after workouts



Nutrition for Distance Runners

1. No skipping meals! Speed and endurance will suffer on low fuel/carbohydrates.

2. Before = 30g carbs for energy = banana, pretzels
   After = carbs for glycogen repletion = PBJ sandwich, sports drink

3. High injury rate and risk of LEA if intake is too low - can affect bones in adulthood

4. Hydrate! Encourage athletes to drink water and electrolytes throughout the day to prevent DHN.

Nutrition for Throwers

1. Carbs and protein for power and strength

2. Focus on quality food - not a “free for all” mentality

3. Quality protein after strength sessions: yogurt, sandwich, protein shake, milk

Supplements

Food, hydration, sleep, stress management first.

Sodium Bicarb

Aka baking soda, used for intense efforts lasting 45 seconds to 8 minutes where acidity builds, by buffering acid buildup to delay fatigue.

Cons - GI distress; expensive

Beta alanine

A non-essential amino acid that aids in the production of carnosine, allowing muscles to work for longer without becoming fatigued.

Cons - tingly, prickly feeling

Creatine

Natural compound that helps muscle produce energy for high intensity efforts.

- Sprinting, weightlifting
- Supports fat-free mass
- Faster recovery
- Cognitive benefits

Cons - use in teens?

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Pre-Practice Snacks

Goal: quick carbs + a little protein, low fiber/fat if close to practice.

- Bagel or PBJ sandwich
- Applesauce pouch, fruit
- Graham crackers
- Crackers, pretzels, popcorn
- Granola bar, fig bar
- Yogurt, cheese, hard boiled eggs
- String cheese, snack packs
- Gummy snacks or dried fruit
- Sports drinks
- Chocolate milk
- Juice

Foods to Limit Before Exercise

High fat/ high fiber foods take longer to digest and may cause more GI discomfort and sluggishness.

- Pizza
- Chips
- Donuts
- French Fries
- Burgers
- Chicken Tenders
- Broccoli
- Beans
- Bran
- Raw Veggies

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Recovery Nutrition

Replenishing glycogen stores, repairing muscle tissue, and rehydrating are vital for recovery. Supporting recovery helps restore energy reserves, prepare for the next session, and reduce injury risk.

Hydration

Replenish fluids and electrolytes lost through sweat.

Sports drink
Chocolate milk
Liquid IV
Smoothie
Protein shake

Protein

Repair muscle damage or build muscle; Consume 20g post-workout.

Carbs

Restore glycogen within 30-60 minutes

Meals

- Avocado toast with hard boiled eggs
- Protein shake with fruit, milk
- Oatmeal with protein powder, walnuts
- Chicken pasta salad
- Turkey and cheese sandwich

My Mantra

“Something is better than nothing!”

Dehydration Signs & Recommendations

- Decreased running speed
- Thirst
- Dizziness
- Muscle cramps
- Dry mouth
- GI upset
- Dark urine
- Infrequent urination
- Headache

- Encourage water intake throughout the school day
- Add electrolytes, especially on high-intensity or long-run days
- Provide regular water breaks, especially in hot or humid conditions

- Electrolyte supplements
- Sports drinks
- Juice

Salty, heavy sweaters need to replace electrolytes.
Provide water and sports drinks (not low sugar) at meets.

Nutritional Strategies Recap

1. **Have an Open Conversation** - Why nutrition is important and the risks involved with low intake.
2. **Passion for the Sport** – Help athletes connect their love for the sport with fueling their bodies properly.
3. **Performance-Focused** – Emphasize how proper nutrition and hydration directly impacts performance.
4. **Words Matter** – Avoid negative food and body talk, keep it positive
5. **Have Snacks on Hand** – Provide accessible, healthy snacks for athletes to keep them energized during and after practice/meets.

Coaches play a powerful role in shaping athletes' habits—express that nutrition is an essential part of training.

References

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Image: IntensEatFit - https://www.intenseatfit.com/blog/low-energy-availability-athletes