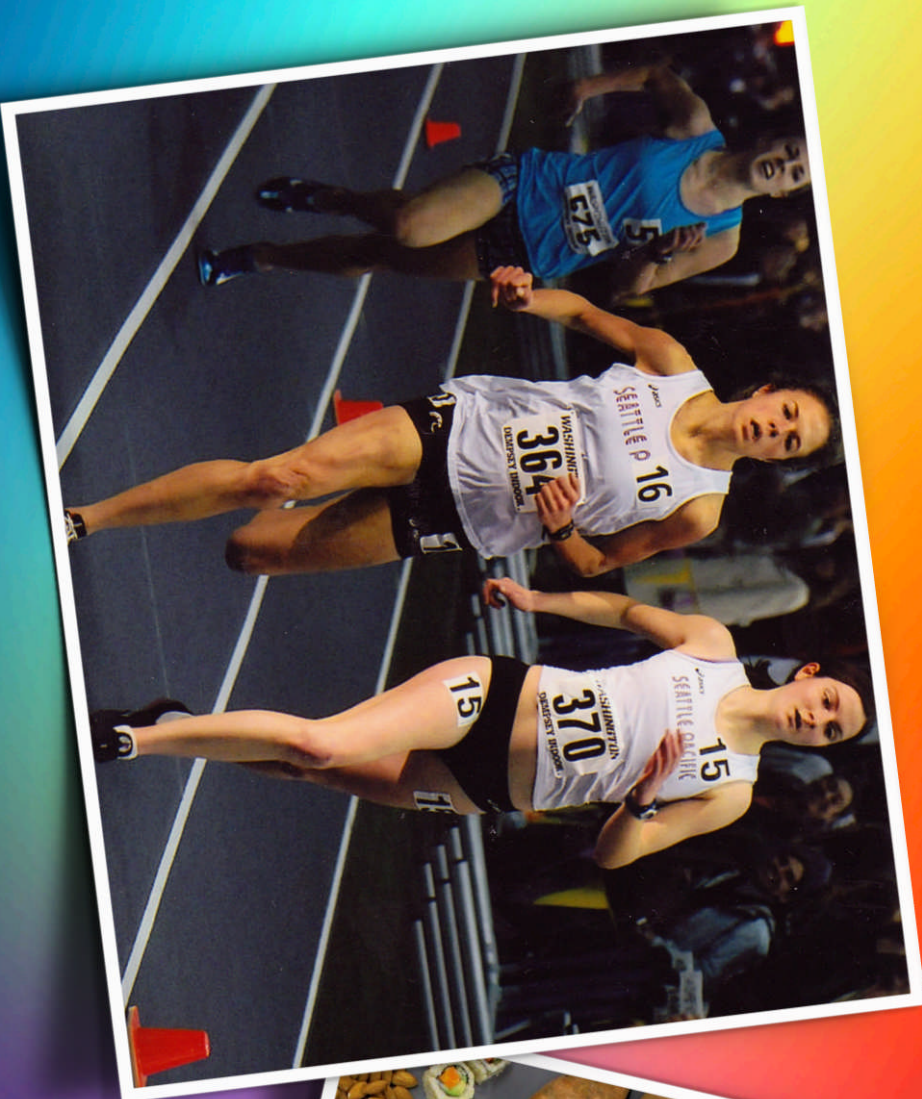


# FUELING AS A HIGH SCHOOL RUNNER



HEIDI STRICKLER, MS RD CSSD METS I ISAK L-1  
[HKSTRICKLER.SPORTSRD@GMAIL.COM](mailto:HKSTRICKLER.SPORTSRD@GMAIL.COM)  
[@HKSTRICKLER\\_SPORTSRD](https://www.instagram.com/HKSTRICKLER_SPORTSRD)



# CARBOHYDRATES TO FUEL

## WHY?

- ✔ Fuel for brain, blood & organs
- ✔ Meet baseline metabolic energy needs
- ✔ Fuel for exercise, especially high intensity
- ✔ Prevents muscle breakdown
- ✔ High-fiber choices are good for gut health
- ✔ Hydrating

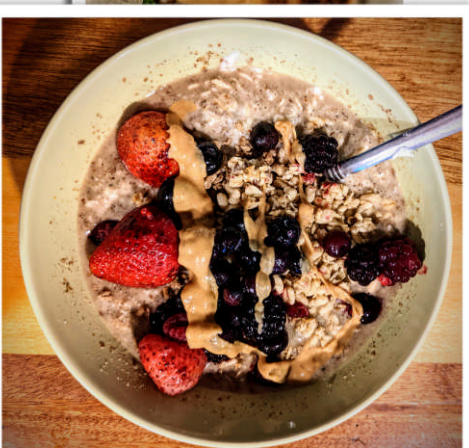
## WHEN?

Carbohydrates should be included with **all meals & snacks** for high school athletes

## WHAT?

Breads, pasta, rice, corn, potatoes, desserts, oatmeal, cereal, milk, granola bars, crackers, fruit, chips, baked goods

**Did you know ...? Your carbohydrate/energy stores are depleted by 70% overnight (you wake up on 30% battery life)**





# PROTEIN TO REBUILD

## WHY?

- ✔ Muscle recovery and repair
- ✔ Bone health
- ✔ Heart function
- ✔ Immune function
- ✔ Blood health

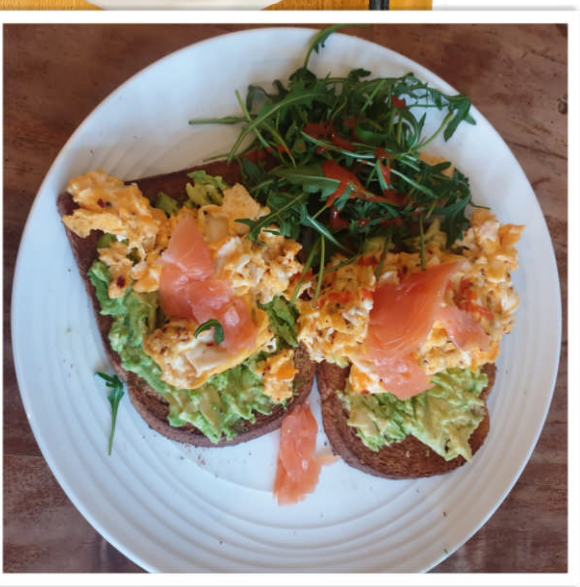
## WHEN?

Athletes should consume protein (plus carbohydrates) after exercise, and with meals & snacks **5-7x a day**.

## WHAT?

**Animal sources:** seafood, poultry (chicken, turkey), eggs, dairy, red meat (beef, pork, lamb)

**Plant-sources:** (>8g per serving) beans, lentils, peas, tofu, tempeh, edamame, nuts/seeds, nut butter, plant-based meat products (burgers, patties, nuggets, crumbles), some non-dairy milk & yogurt





# FATS & OILS TO PROTECT

## WHY?

- ✔ Needed for healthy hormones
- ✔ Protects joints and soft tissues (tendons, ligaments)
- ✔ Helps absorption of vitamins & minerals
- ✔ Anti-inflammatory and immune function

## WHEN?

- ✔ **All meals and most snacks**

- ✔ The *only* time fat should be minimized is before/during training

## WHAT?

**All-Stars:** omega-3s from salmon, tuna, trout, sardines, anchovies, flax, chia, hemp, walnuts

**Other sources:** nuts, seeds, nut butter, full fat dairy (butter, cream cheese, full fat milk & yogurt), olives & olive oil, avocado & avocado oil, sesame oil, coconut & coconut oil, bacon & sausage



# VARIETY IS KEY!!!

Protein + Carbohydrates + Fats & Oils + Color

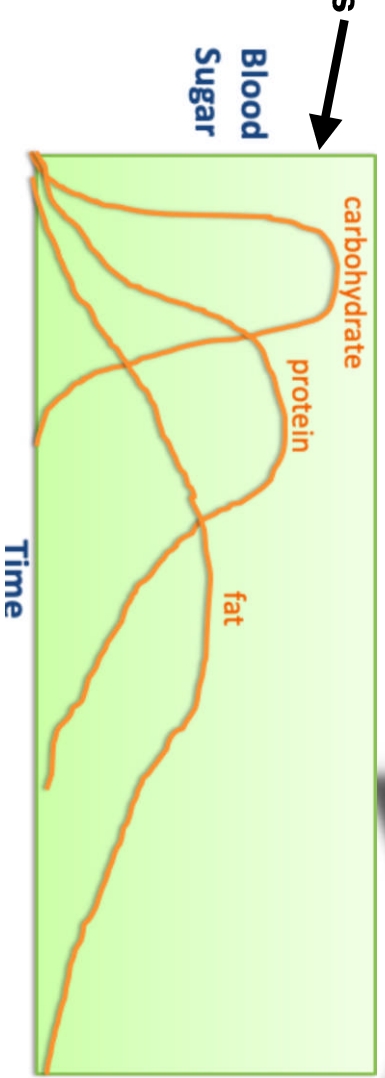
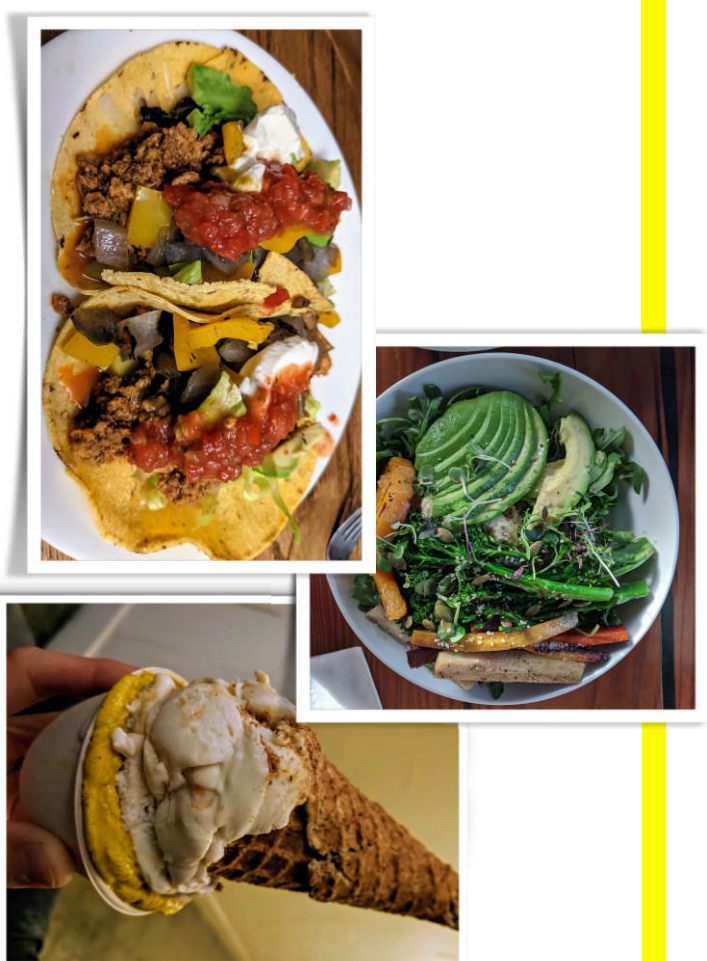
Every 2-3 hours

- ✓ Variety of food groups (ALWAYS carbs!)
- ✓ Meals: >4 food groups
- ✓ Snacks: >2-3 food groups
- ✓ Variety within food groups
- ✓ Variety of slow and fast energy at meals

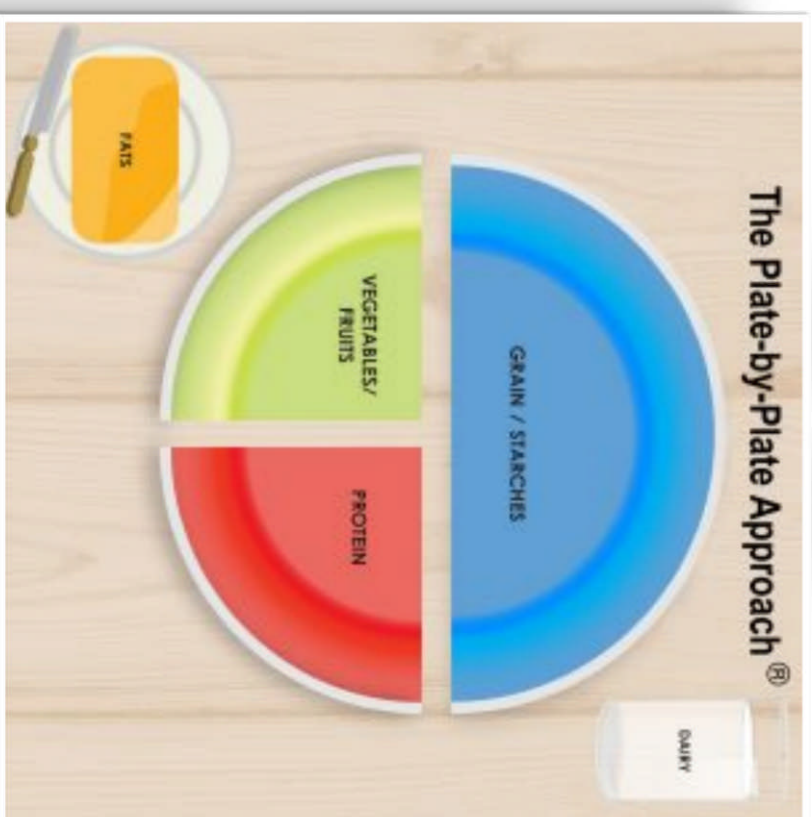
Eat for nutrition & performance ...

AND eat for pleasure & enjoyment!!!

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# BUILDING YOUR PLATE FOR SUCCESS





# IRONING OUT IRON

**At risk groups for iron deficiency & anemia:** runners, endurance athletes, individuals with periods, plant-based individuals

**Incorporate iron-rich foods into your meals:**

- ✓ Heme: oysters, clams, steak, ground beef, pork chops, shellfish, dark meat chicken/turkey, eggs
- ✓ Non-heme: iron-fortified cereals, cream of wheat, unsulphured blackstrap molasses, enriched rice, beans, pumpkin seeds, spinach, tofu
- ✓ **Girls: >18mg/d and Boys: >8mg/d (athletes usually need more 2-3x more!)**

**Enhance your absorption of iron:**

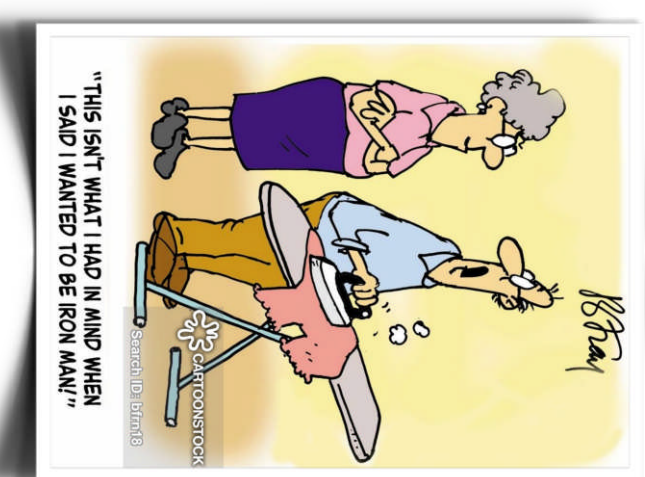
- ✓ Eat heme and non-heme sources together
- ✓ Eat iron foods with vitamin C sources (strawberries, kiwi, citrus, cantaloupe, guava, papaya, peppers, broccoli)
- ✓ Cook in a cast-iron skillet to increase iron in foods

**Avoid blocked absorption:**

- ✓ Avoid drinking coffee and tea at meals containing high-iron foods
- ✓ Avoid calcium-rich foods at meals containing high-iron foods
- ✓ Try and consume your highest-iron foods at least 2 hours away from exercise

**Red Flag?** Consider iron supplementation only **AFTER** consulting with a dietitian or physician!!!!

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# BONE UP FOR BONE HEALTH

## ✔ Eat foods high in

- Calcium
- Vitamin D
- Magnesium
- Protein

## ✔ Adequate overall energy intake

- Low energy availability (LEA) → Decreased bone formation & density
- Inadequate energy and protein intake → protein is pulled from bones to support health

## ✔ Food first, supplement second! (aim for real foods over protein powder!)

## ✔ Bone breakers: highly sweetened & diet drinks, excessive caffeine, excessive calcium or vitamin D supplements

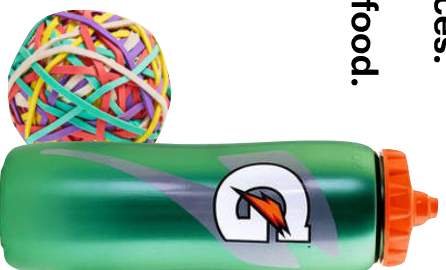
**Did you know ...?** *Peak bone mass is achieved by age 18-20 in females, and 20-25 in males*

### Quick snack ideas for strong bones

- Cheese and apple
- Baby carrots with peanut butter
- Broccoli with yogurt dip
- Whole grain cereal and low or non-fat milk
- Banana and almonds
- Yogurt and fruit
- Oatmeal with pumpkin seeds and fruit
- Whole wheat toast and avocado
- Lettuce wrap with leftover chicken
- Asparagus wraps with cheese and lean steak
- Hard-boiled egg and fortified orange juice
- Whole wheat crackers and tuna or salmon salad

# HYDRATION

- ✔ Start drinking water as soon as you wake up.
- ✔ Carry a bottle with you during the day (\*Heidi's rubber band tip!)
- ✔ Drink multiple glasses at meals.
- ✔ Have a bottle accessible in training and sip when possible.
- ✔ Rely on sports drinks during high-intensity practices.
- ✔ Replace electrolytes lost in sweat by salting your food.
- ✔ Monitor your urine color and volume.
- ✔ Remember other drinks count too!
- ✔ Use the **Beef Jerky analogy!**



Your body weight (lbs) ÷ 2  
+ 16-24 oz/hr of exercise daily

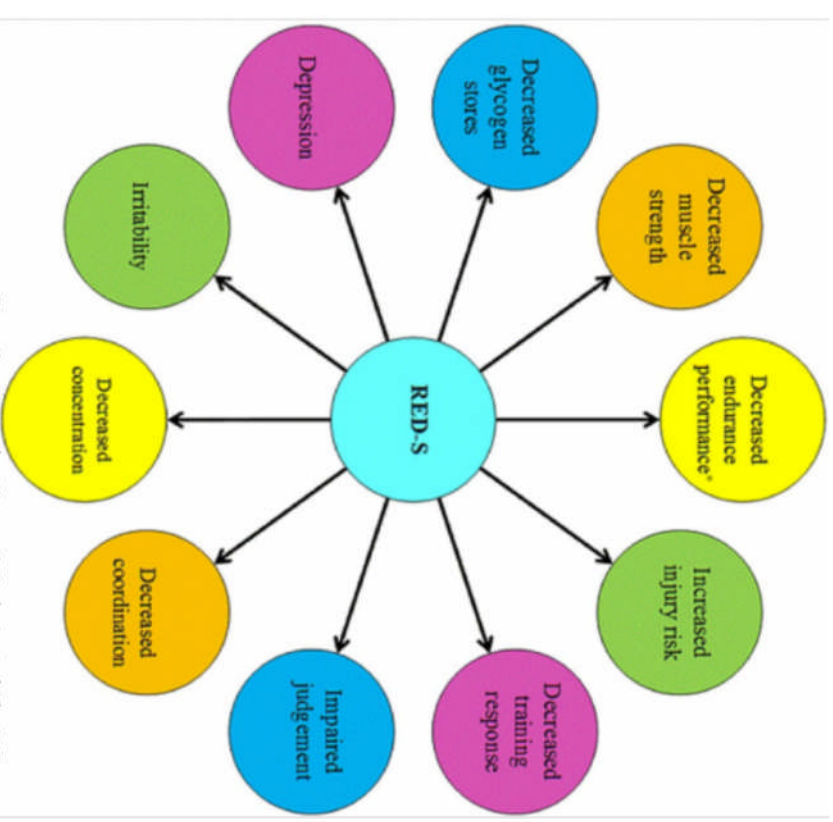
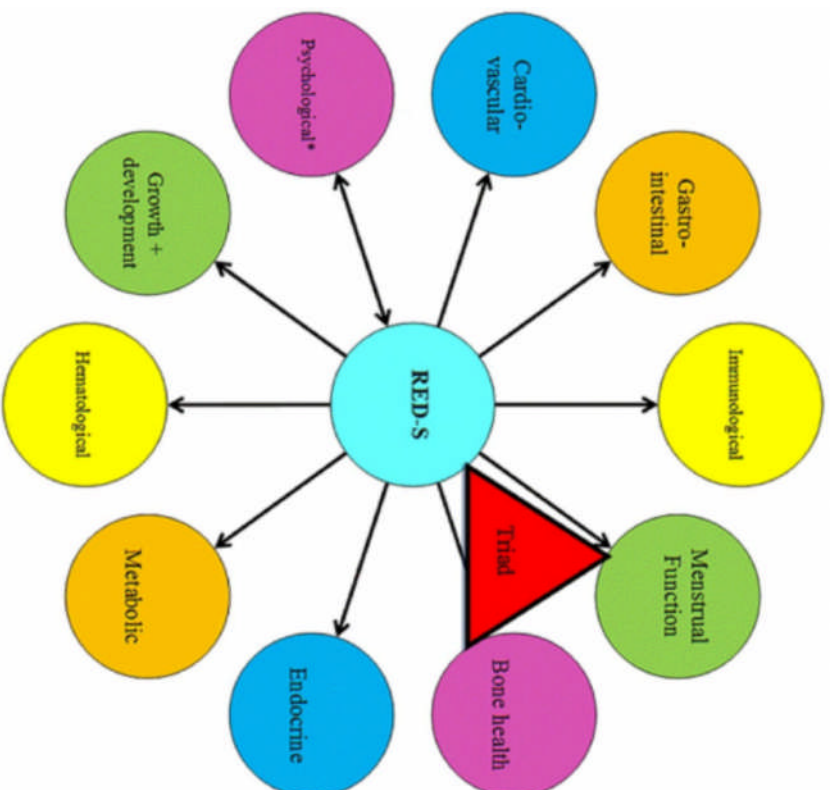
## AM I HYDRATED?

Urine Color Chart

1		If your urine matches these colors, you are drinking enough fluids
2		Drink more water to get the ideal color in Shade 1 and 2.
3		Dehydrated
4		
4		You may suffer from cramps and heat-related problems
5		Health risk! Drink more water.
6		Health risk! Drink more water.
7		Health risk! Drink more water.
8		Health risk! Drink more water.

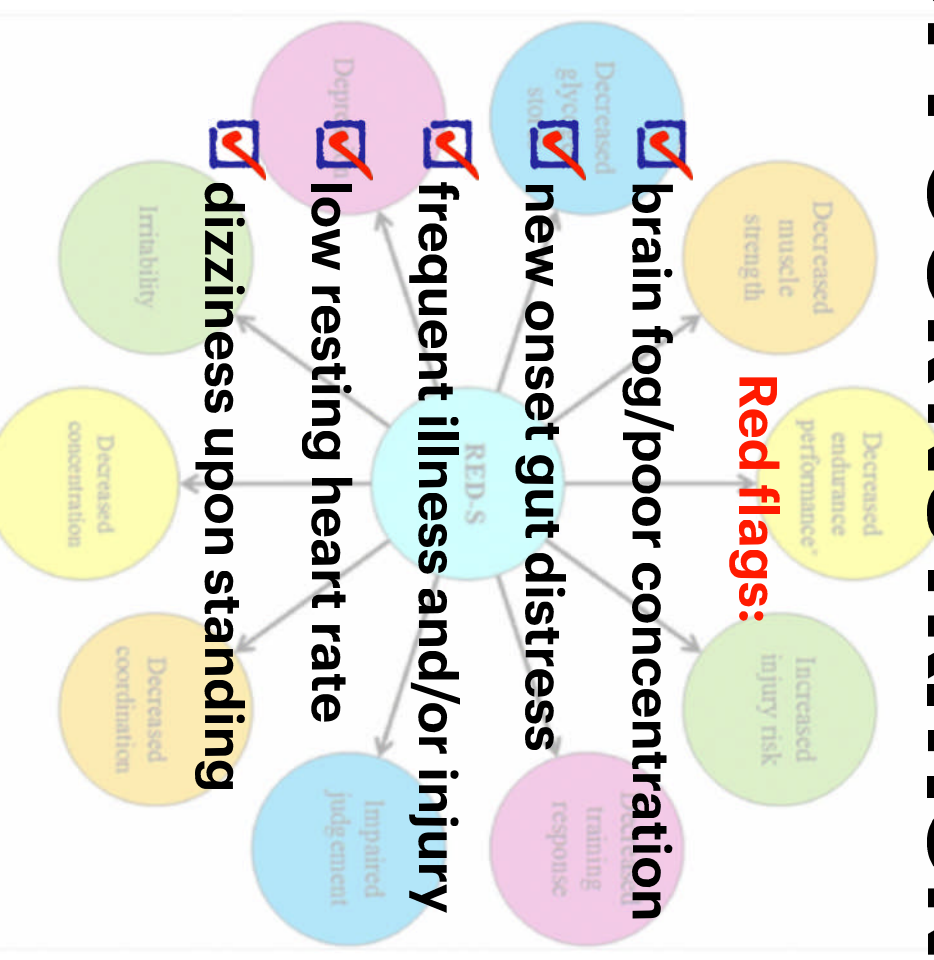
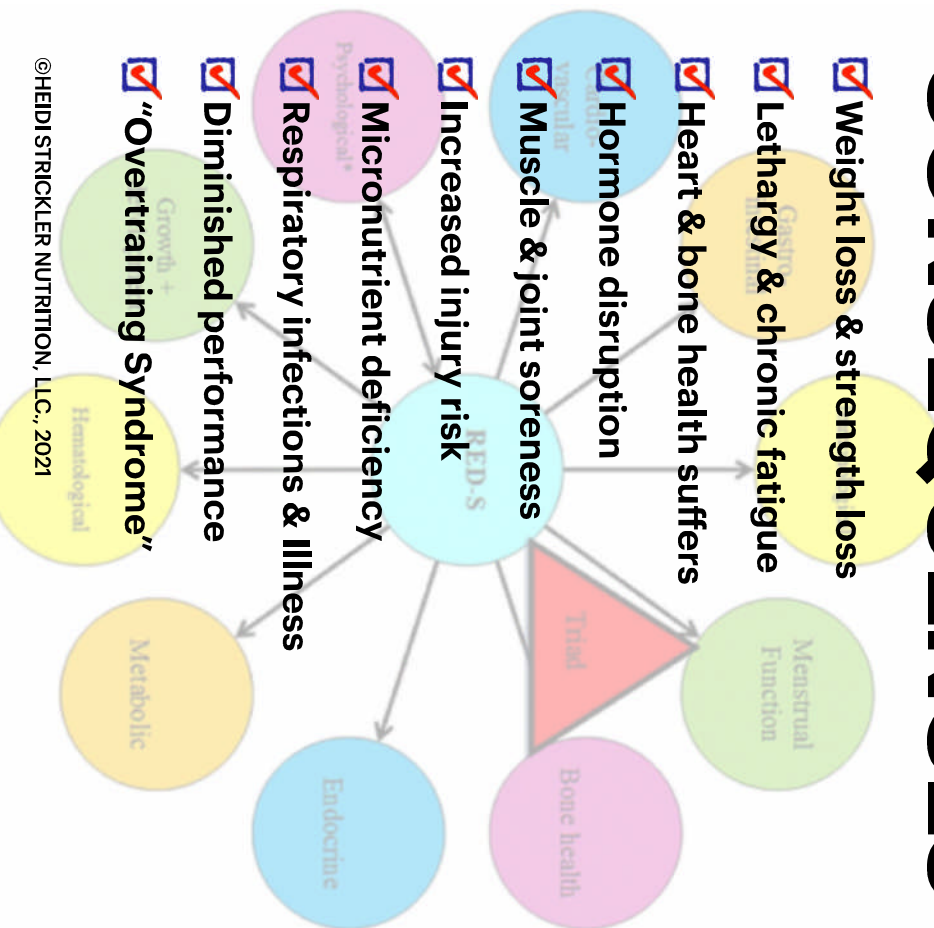


# RED-S & LOW ENERGY AVAILABILITY



Mountjoy M, Sundgot-Borgen J, Burke L, et al. The IOC consensus statement: beyond the Female Athlete Triad—Relative Energy Deficiency in Sport (RED-S). *British Journal of Sports Medicine* 2014;48:491–497.

# CONSEQUENCES OF POOR NUTRITION



# DISORDERED EATING

## Red flags:

- Not eating with the team
- Significant body weight changes
- Significant declines in performance
- Eating very slowly, small bites
- Avoiding eating out
- Fatigue, injury and/or illness beyond what is expected
- Thin hair, dry skin, weak fingernails

## Things to keep in mind:

- ✔ Both girls & boys are impacted
- ✔ Better to bring it up with a specialist than let it go unnoticed
- ✔ Disordered eating takes many forms
- ✔ Eat with your athletes when eating out & for team dinners
- ✔ **DO NOT** justify food as a reward for exercise

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Eating disorders affect **both males and females** and often strike during adolescence. If not treated, they can have serious, even fatal consequences.

## Surprising Eating Disorder Statistics



**50%**

Americans who know someone with an eating disorder



of people with eating disorders are aged **12 to 25**

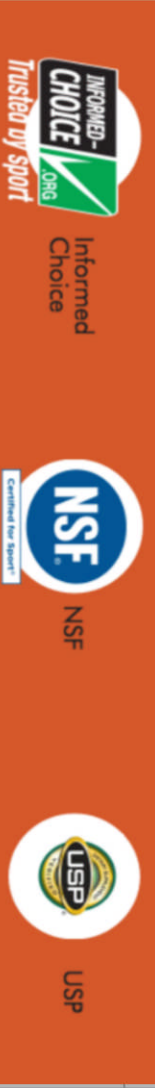
**18-20%** of anorexics die within **20 years** of contracting the disease



**Talk with a Registered Dietitian first!**

# SUPPLEMENT SAVVY

Look for these images on the label of your supplement



Keys for a Smart Supplement

List individual ingredients on the label



Dosage is based on scientific research



Tested for banned substances



Uses branded ingredients/raw material



## Healthy Tips



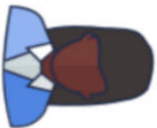
Don't order online or in the mail, unless you know the brand is safe



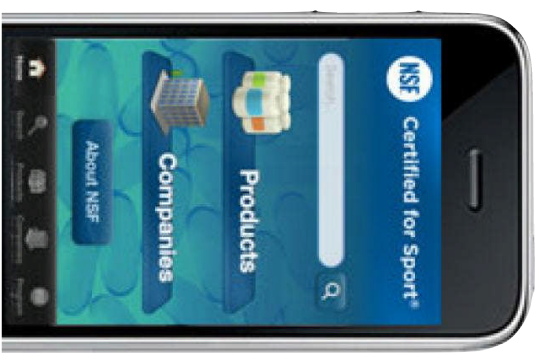
Be careful when you see the word natural on the label. Natural doesn't always mean safe



Never try any new supplements before your competition



If you are taking a new supplement or thinking of trying one, go to your dietitian or athletic trainer first



**Great for meats, travelling & on-the-go!**

# PRE-FUELING & RE-FUELING

## PRE-FUEL (<30 minutes before)

- ✔ Banana or handful of dried fruit, such as dates, raisins, or apricots
- ✔ Handful of pretzels or wheat thins or sweetened low-fiber cereal
- ✔ Gram crackers or animal crackers or 1 Pop Tart or Rice Krispie treat
- ✔ Low-fiber bar (Nature Valley Original, Larabar, Zbars, Nutrigrain)
- ✔ 12 oz Gatorade

## PRE-FUEL (60-90 minutes before) + WATER!!!!

- ✔ Drinkable flavored yogurt + Chewy Bar
- ✔ Small PBJ or turkey/ham/tempoh sandwich
- ✔ Trail mix: nuts, dry fruit, pretzels, chocolate, cereal, etc.
- ✔ Small quesadilla
- ✔ 1/2-1 bagel or slice toast with cream cheese or PB or fried egg
- ✔ Bowl of low-fiber cereal with shelf-stable milk
- ✔ Handful of pretzels + string cheese
- ✔ Low-fiber bars: Clif, UCAN, ProBar; candy bars: Snickers or PayDay

## RE-FUEL

- ✔ Chocolate milk + banana or granola bar
- ✔ Yogurt and granola
- ✔ Overnight oats
- ✔ Muffin + milk or 2 hard boiled eggs
- ✔ Pasta salad with protein
- ✔ Tuna/meat sandwich + chips
- ✔ Egg sandwich/burrito + fruit or juice
- ✔ Heidi's power pancakes or waffles
- ✔ Bean & cheese burrito
- ✔ Smoothie: fruit, dairy, oats, PB
- ✔ Burger + milkshake
- ✔ Daal over rice
- ✔ Teriyaki rice bowl with protein of choice
- ✔ Tacos, torta, or burrito with protein of choice



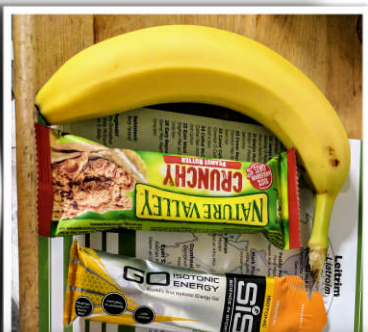
# MEET DAY MINI MEALS

The goal is to resupply your fuel stores & rehydrate.

Many athletes undercut between events or heats. This can create a major energy deficit & blood sugar crash causing poor performance & increased injury risk.

Your meet day mini-meals should be:

- ✓ Low in fiber with moderate protein & fat
- ✓ Easily digested
- ✓ Rich in fast & slow carbohydrates
- ✓ Small-to-medium in size
- ✓ High in fluids & electrolytes, namely salt



Examples: applesauce, pretzels, gummy candy, meat/cheese or PBJ sandwich, string cheese, sports drinks, chocolate milk, gram crackers, jerky, bananas, granola bars, dry breakfast cereal, trail mix, mini muffins, Pop-Tarts, Chex Mix, white rice, tortillas, quesadillas, fig bars, Ritz PB or cheese sandwich cookies, fruit snacks

**Great for school, meets, and travel days!**

# SMART BACKPACK SNACKS

## ALL-STAR MEAL & SNACK IDEAS



### SLOW FUEL - WHOLE GRAIN CARBS & HEALTHY FATS

**Eat throughout the day for sustained energy**

- Fruit and nut bars.
- Trail mix—dried fruit, nuts, whole grain cereal.
- Whole grain crackers and hummus cups.
- Granola/cereal in baggies.
- Pre-popped, low-fat popcorn.
- PB&J—whole grain bread, peanut butter, and jelly.
- Corn chips and guacamole or salsa.
- Instant oatmeal/cream of wheat.
- Fresh Fruit—apples, bananas, clementines, and grapes travel well.
- Baby carrots or other cut veggies.



### PERFORMANCE PROTEINS

**Optimal for mid-day snack and refueling post-workout**

- Beef jerky.
- Hard-boiled eggs.
- String cheese.
- Greek yogurt.
- Deli turkey, chicken, or ham for simple deli sandwiches.
- Dry-roasted edamame.
- Tuna/chicken pouches.
- Protein powder—NSF certified.
- Single-serve peanut butter packets (protein & fat source).
- Shelf-stable chocolate milk/protein shakes.



# NUTRITION VARIETY: MAKE A FOOD LIST

## Example #1:

- ☑ Breakfast: oatmeal made with milk, PB & banana
- ☑ Morning snack (optional): trail mix
- ☑ Lunch: Meat or hummus sandwich with cheese, veggies & mayo or avocado. Fruit + dessert or chips on the side. Drink of choice.
- ☑ Pre-practice Snack: Nature Valley Bar + mini Gatorade
- ☑ Post-practice snack: string cheese or soy nuts + pretzels + Craisins
- ☑ Dinner: spaghetti and meatballs with salad or cooked veggies
- ☑ Bedtime snack (optional): bowl of cereal with milk or yogurt & granola

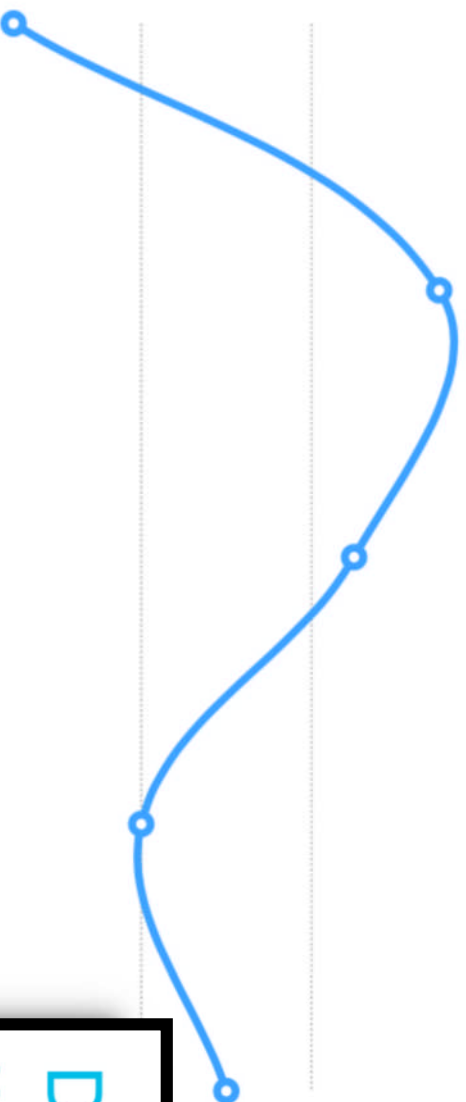
## Example #2:

- ☑ Breakfast: Pre-made frozen breakfast burrito (take on the go!)
- ☑ Morning snack (optional): granola bar of choice
- ☑ Lunch: PBJ sandwich, veggies + dip. Dessert or chips. Milk.
- ☑ Pre-practice Snack: Bag of sweetened dry cereal. Water + Nuun.
- ☑ Post-practice snack: Bottled shake or flavoured milk + Ritz crackers
- ☑ Dinner: stir fry with rice, protein, veggies, coconut milk, peanuts
- ☑ Bedtime snack (optional): bowl of ice cream or homemade milkshake

**Example!**

Protein	Carb	Fats/oils	Color
Chicken	Oatmeal	Nuts	Apple
Beef	Rice	Avocado	Banana
Fish	Quinoa	Olive oil	Grapes
Canned tuna	Potatoes	Coconut	Carrots
Shrimp	Corn	PB	Spinach
Turkey	Beans	Seeds	Tomatoes
Beans/lentils	Peas	Olives	Peppers
Meat subs	Breads	Ghee	Fruit juice
Hummus	Baked goods	Salmon	Celery
Cheese	Pasta	Butter	Cherries
Cottage cheese	Tortillas	Cream sauce	Cucumber
Greek yogurt	Crackers	Dairy	Broccoli
Eggs	Cereal	Bacon	Beets
Tofu	Granola bars	Half & half	Snap peas
Edamame	Chips	Whole milk	Blueberries
Pumpkin seeds	Waffles	Cheese	Mango

## Draw your energy levels over a day



Waking

Midmorning

Noon

Midafternoon

Do you have lots of energy for your workouts or competitions?

- Yes
- No
- 🤔?

Do you recover well from workouts / competitions?

- Yes
- No
- 🤔?

**LIKE WHAT YOU HEARD?  
FOLLOW ME ON INSTAGRAM!**

**MONDAY**



*may the*

**BUSTING**

@hkstrickler\_sportsrd

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**Heidi Strickler, MS RD CSSD**  
@hkstrickler\_sportsrd

Not sure who needs to hear this, but:

**Smaller is ~~faster~~.**

- weaker.
- undernourished.
- losing your period.
- osteoporosis.
- heart dysfunction.
- risking everything.
- not worth it.**

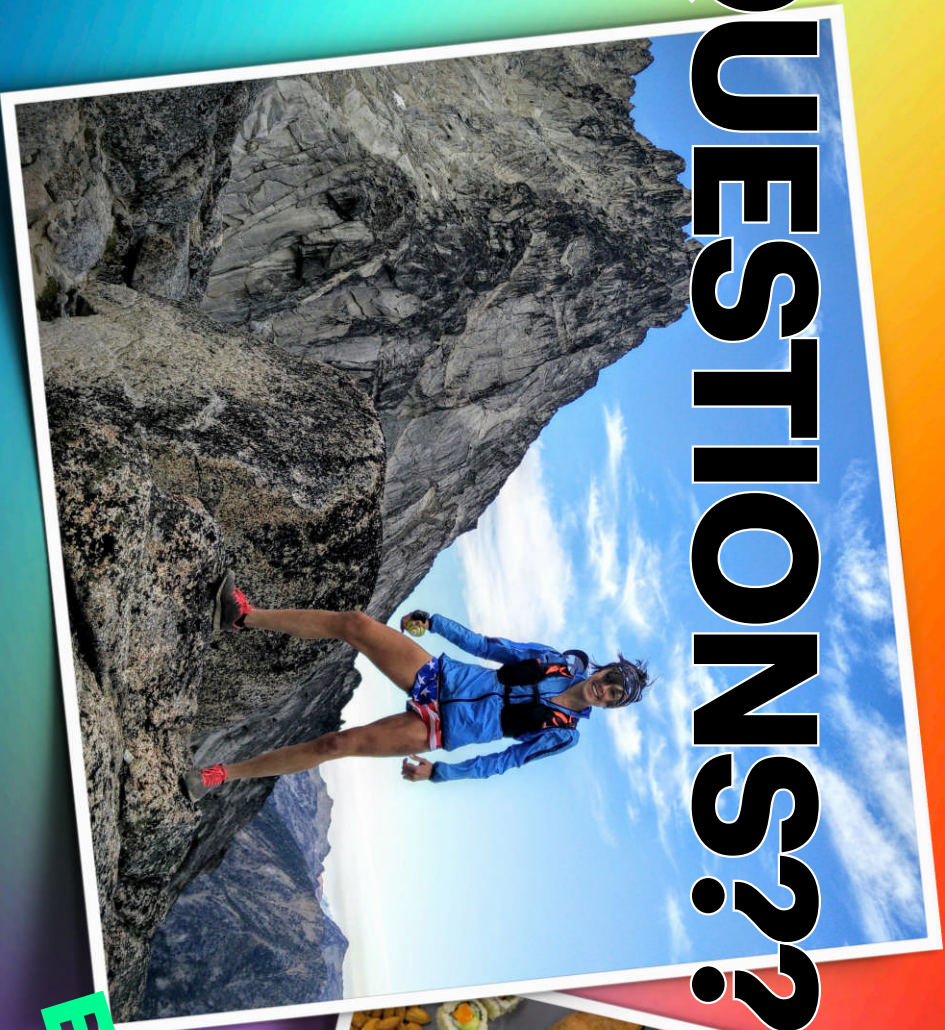
@hkstrickler\_sportsrd





# FUELING AS A HIGH SCHOOL RUNNER

## QUESTIONS??



**EMAIL ME!!!**

HEIDI STRICKLER, MS RD CSSD METS I ISAK 1  
[HKSTRICKLER.SPORTSRD@GMAIL.COM](mailto:HKSTRICKLER.SPORTSRD@GMAIL.COM)  
[@HKSTRICKLER\\_SPORTSRD](https://www.instagram.com/HKSTRICKLER_SPORTSRD)