



ELIZABETH FUSCO

USOC Sport Nutrition Consultant



Liz grew up in the Berkshire Mountains of Western MA, where she spent her childhood exploring the outdoors, hiking, biking, swimming, and wakeboarding. She received her Bachelors in Dietetics with a minor in Kinesiology at the University of Rhode Island in 2011. She was also a competitive dinghy sailor for the URI Rams. While at URI, she assisted with nutrition, exercise, and eating rate research. After a teaching assistantship in her mentor's sport nutrition course, she was determined to pursue sport dietetics as a career.

While pursuing master's degrees in Exercise Physiology and Nutrition Science at San Diego State University, Liz began an assistantship at the Chula Vista Olympic Training Center in 2012. She worked primarily with

Rugby, field hockey, volleyball, water polo, and canoe-kayak, along with launching the @Nutr4TeamUSA twitter, writing recipes, publishing articles, contributing to protocol papers, and working in the dining hall. At SDSU, she taught food science and conducted sponsored research on carbohydrate metabolism.

After graduating from SDSU in May 2014, she completed her dietetic internship at the Methodist Hospital in Houston, TX. She returned to the Olympic Training Center in April as a sport nutrition consultant to rowing, track cycling, BMX, triathlon, archery, and rugby. Liz likes to make all aspects of sport nutrition as practical and approachable as possible. Her goal is to show her athletes that healthy eating can be simple, delicious, and performance enhancing!

Practical Nutrition for Rowers: An Evidence and Experience-Based Approach



Liz Fusco MS, RDN

Sport Dietitian, US Rowing

Sport Nutrition Consultant, United States Olympic Committee



My Approach

Explanation

Observation

Integration

Assessment

Education

Consistency

Transparency



Explanation

- Coaches
 - What I can do
 - What they want
- Athletes
 - Who I am
 - Why I'm here



Observation

- Common Issues
 - Weight stability
- Identifying Gaps
 - Travel
 - Airport
 - Plane
 - Bus
 - Hotel
 - Course



Integration

- Provide what they need
 - At restaurant / hotel
 - Quality carbohydrates
 - Lean protein
 - Vegetables
 - Cooking methods
 - Serving methods
 - Food safety
 - On venue





















Subjective Assessment

- Observations during travel
- Self-reported data
 - Current eating patterns
 - Weight stable vs. gain vs. loss
- Training
 - Volume
 - Duration
 - Intensity



Objective Assessment



International Standards for Anthropometric Assessment



Education

Sports **2015**, 3, 325-334; doi:10.3390/sports3040325

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Article

A Comparison between Learning Style Preferences, Gender, Sport and Achievement in Elite Team Sport Athletes

Andrea Braakhuis ^{1,*}, Tea Williams ¹, Elizabeth Fusco ², Shawn Hueglin ² and Alex Popple ³

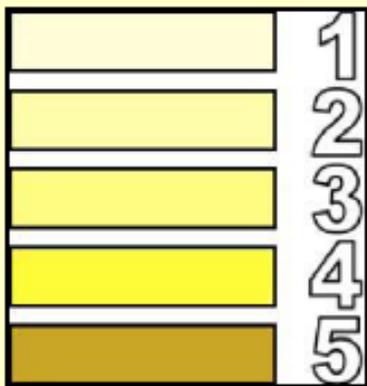
¹ Discipline of Nutrition/Dietetics, Faculty of Medical and Health Sciences, The University of Auckland, Private Bag 92019, Auckland, 1142, New Zealand; E-Mail: twil830@aucklanduni.ac.nz

² United States Olympic Committee, 2800 Olympic Parkway, Chula Vista, CA 91915, USA; E-Mails: Liz.fusco.nutr@gmail.com (E.F.); Shawn.Hueglin@usoc.org (S.H.)

³ High Performance Sport New Zealand, Avantidrome, Hanlin Road, Cambridge 3283, New Zealand; E-Mail: Alex.Popple@hpsnz.org.nz

Education

- Start at the beginning
 - Hydration testing
 - Color
 - Frequency
 - Volume
 - Specific Gravity
 - Sweat rate
 - Weight changes

 A vertical color scale for urine specific gravity, numbered 1 to 5. The colors transition from light yellow at the top to dark brown at the bottom.	<1.009	Well-hydrated
	1.009-1.020	Hydrated
	1.021-1.025	Minimal dehydration
	1.026-1.030	Significant dehydration
	≥1.031	Severe dehydration

Education

- Probiotics
 - Subjective and objective
 - Survey before and after
 - Protocol
 - Loading
 - Maintenance
 - Treatment
 - Experimentation
 - Strains



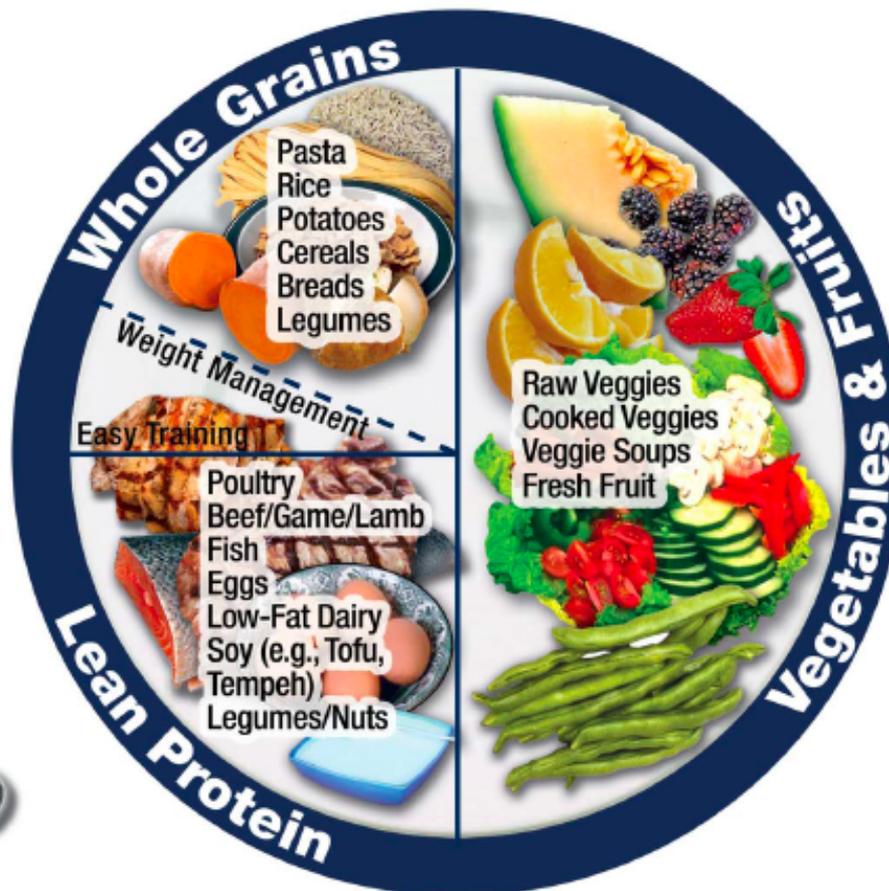
EASY TRAINING / WEIGHT MANAGEMENT:

FATS

1 Teaspoon



Avocado
Oils
Nuts
Seeds
Cheese
Butter



Water
Dairy/Nondairy
Beverages
Diluted Juice
Flavored
Beverages



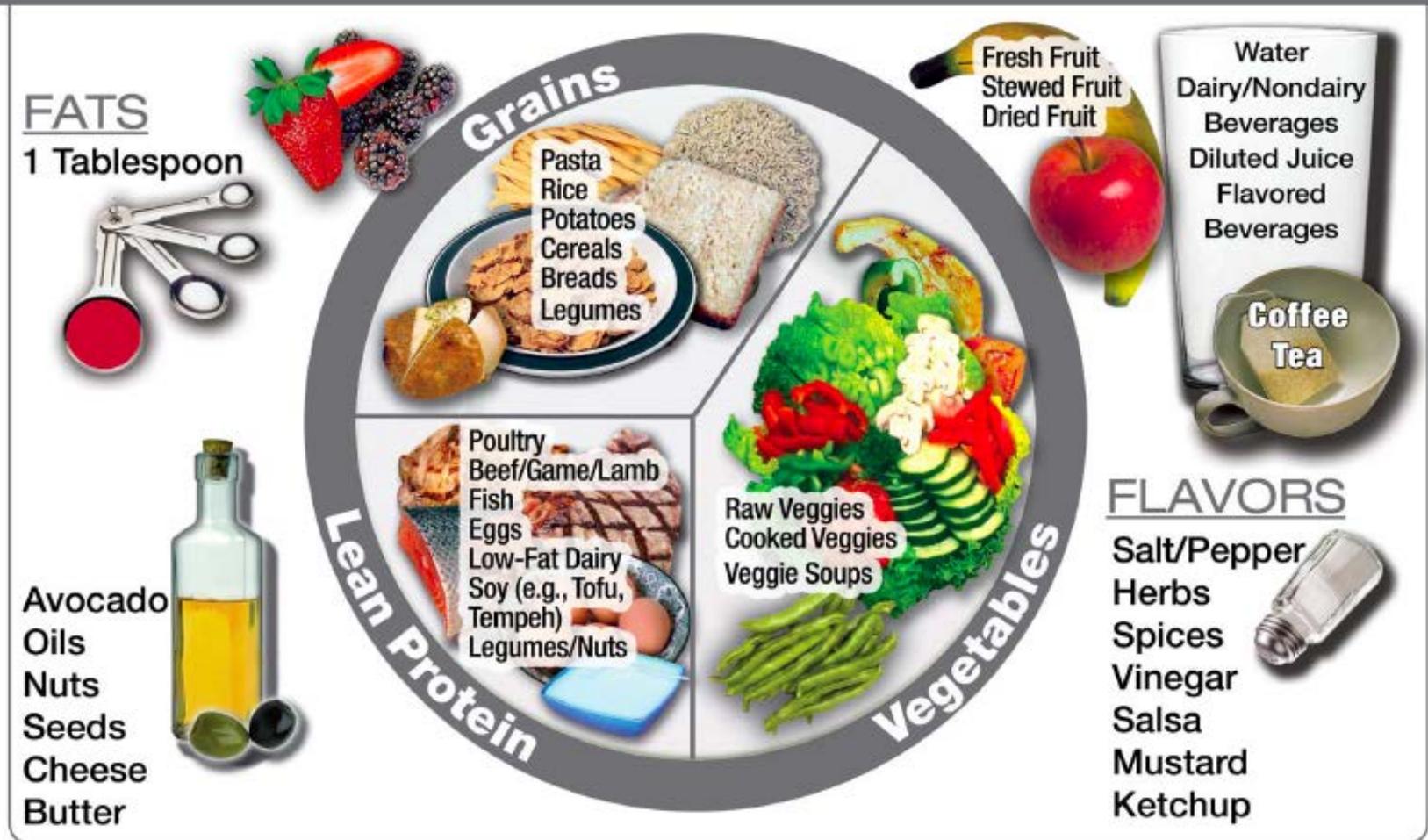
Coffee
Tea

FLAVORS

Salt/Pepper
Herbs
Spices
Vinegar
Salsa
Mustard
Ketchup



MODERATE TRAINING:



HARD TRAINING / RACE DAY:

FATS

2 Tablespoons



Avocado
Oils
Nuts
Seeds
Cheese
Butter

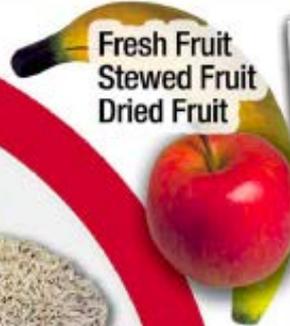


Grains

Pasta
Rice
Potatoes
Cereals
Breads



Fresh Fruit
Stewed Fruit
Dried Fruit



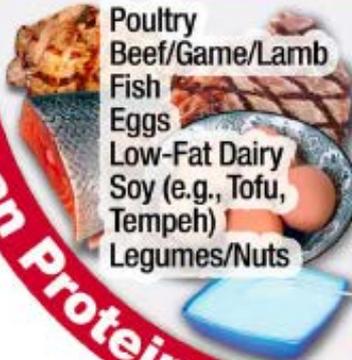
Water
Dairy/Nondairy
Beverages
Diluted Juice
Flavored
Beverages



Coffee
Tea

Lean Protein

Poultry
Beef/Game/Lamb
Fish
Eggs
Low-Fat Dairy
Soy (e.g., Tofu,
Tempeh)
Legumes/Nuts



Cooked Veggies
Veggie Soups
Raw Veggies



Vegetables

FLAVORS

Salt/Pepper
Herbs
Spices
Vinegar
Salsa
Mustard
Ketchup



Recovery Snack Ideas

Choose a food from protein column + food from carb column based on training session!

Protein: 15-20 g	Protein: 20-25 g	Carbohydrate: 15-30 g	Carbohydrate: 45-60 g
<ul style="list-style-type: none"> • 2 c milk (cow's, soy)* • ¾ -1 c Greek yogurt* • ¾ c cottage cheese • 2 string cheeses • 1 c firm tofu • 2-3 cooked eggs • 2-3 oz deli meat • 1 ½ c Kefir* • 1 ½ oz jerky • 2-3 oz fish • ½ c nuts or seeds* • ½ - ¾ c edamame • 4 Tbsp nut butter* • 1 c beans* 	<ul style="list-style-type: none"> • 3 c milk (cow's, soy)* • 1 ½ c Greek yogurt* • 1½ c cottage cheese • 3 string cheeses • 1 ¼ c firm tofu • 3-4 cooked eggs • 3-4 oz deli meat • 2-2 ¼ c Kefir* • 2-2 ½ oz jerky • ¾ -1 c nuts or seeds * • 1 c edamame • 1-1½ c beans or lentils* • 1 scoop whey protein 	<ul style="list-style-type: none"> • 1 piece or cup fresh fruit • ¼ - ½ c dried fruit • 1 c fruit juice • 1 c chocolate milk • ½ c oatmeal • 1-2 slices sandwich bread • ½ bagel • 1 english muffin • 1 granola or cereal bar • 2 x 6" tortillas or wraps • ½ - ¾ c rice or farro • ½ -1 c quinoa, beans, lentils* • ¾ c cooked pasta • 4 Tbsp nut butter* 	<ul style="list-style-type: none"> • 2-3 piece or cups fresh fruit • ¾ - 1 c dried fruit • 2 c fruit juice • 2 c chocolate milk* • 1-1 ½ c oatmeal • 3-4 slices sandwich bread • 1 bagel • 2 english muffins • 4 fig bar cookies • 2 x 8" tortilla or wrap • 1-1½ c rice or farro • 1½ -2 c quinoa, beans, lentils* • 1 ½ c pasta

Key: * Protein source contains at least 15 g of carbohydrate. Carbohydrate source contains at least 10 g of protein.

Ideas for adding in extra “quality” calories

- 1 slice or 1 oz cheddar cheese = 100 kcals
(add to salads, sandwiches, wraps, eggs, and dips)
- ½ avocado = 150 kcals
(add to sandwiches, smoothies, and salads)
- 4 Tbsp. hummus + 10 baby carrots = 200 kcals
- Whole wheat bun (200 kcals) or bagel (250 kcals)
(use instead of bread for sandwiches)
- ½ cup dried fruit = 200 kcals
(add to cereal, yogurt, ice cream, and salads)
- 1 cup whole milk (150) + ½ cup oatmeal (dry 150) = 300 kcals
- 1 cup 4% fat cottage cheese (220) + 1 cup pineapple = 300 kcals
- ½ cup granola (200) + 5.3 oz. low-fat Greek yogurt = 350 kcals
- Cook vegetables and meat in 1-3 Tbsp. olive oil = 120-360 kcals

- 1 medium apple (100) + 3 Tbsp. almond butter = 400 kcals
- ½ cup pistachios, almonds, walnuts, sunflower seeds 350-400 kcals
- 2 Tbsp. peanut butter + whole wheat bagel + 1 Tbsp. honey = 500 kcals
- 4 Tbsp. almond butter + banana = 500 calories
- Smoothie: 8 oz milk (80) + 3 dates (200) + 1 Tbsp. almond butter (100) + 1 banana (100) = 460 kcals
- Smoothie: 6 oz whole milk (115) + 8 oz. low-fat Greek yogurt (230) + ½ avocado (150) + 1 cup frozen berries (70) = 565 kcals
- Smoothie: 8 oz chocolate milk (2%) (120) + 2 Tbsp. peanut butter + 8 oz. low-fat Greek yogurt (230) + 1 banana = 650 kcals

Trent Stellingwerff Retweeted



Julien Bahain @JulienBahain



How much does a rower eat per day?
Combien mange un rameur par jour?
Photoshoot by @KatieSteenman with @RobGibson86



Thrifty Foods and 9 others
11/5/15, 12:29 from Victoria, British Columbia

Reply to Julien Bahain, Trent Stellingwerff



Low Calorie Snacks & Ideas

Easy Ways to Cut 100-200 Calories

- Choose water instead of juice or soda at meals
- Choose oil-based dressings over creamy
- Add only 1 Tbsp. of nut butter instead of 2 Tbsp.
- Choose fruit instead of candy for dessert
- Pick Greek yogurt over frozen yogurt or ice cream for dessert
- Pick an English muffin or toast in place of bagel
- ↓ Portion sizes of carbs from 1 cup to $\frac{2}{3}$ cup

- 1 cup baby carrots + 1-2 Tbsp. hummus
- $\frac{1}{4}$ cup dried mangos + 1-2 hard-boiled eggs
- 1 cup popcorn + 1 low-fat string cheese
- 8-12 oz. soy or low-fat milk
- $\frac{1}{2}$ cup shelled sunflower seeds
- 1-2 oz. jerky + medium apple
- 6-8 oz. low-fat Greek yogurt
- 1 rice cake + 1 Tbsp. peanut/almond butter
- 2-4 oz. turkey/ham/roast beef + medium orange
- 1 $\frac{1}{2}$ c Kefir
- 1 oz. almonds, peanuts, walnuts, pistachios
- 6 celery sticks + 1-2 Tbsp. peanut/almond butter
- $\frac{1}{2}$ - 1 cup edamame
- $\frac{1}{2}$ cup beans + $\frac{1}{2}$ cup brown rice + salsa
- 1 cup low-fat chocolate milk
- $\frac{1}{2}$ turkey & veggie wrap with $\frac{1}{2}$ Tbsp. hummus
- $\frac{1}{4}$ cup trail mix
- $\frac{1}{2}$ whole wheat English muffin + 1 Tbsp. peanut butter + 1 tsp. honey

Lightweights

- Higher weight most of year
 - Adaptations
 - Reduce injury / overtraining
- Minimize # of weigh-ins
- **Everyone is different**
 - Trial-and-error
 - Pick 2-3 effective strategies
- Post weigh-in recovery
 - Prevent rebound



Lightweights

- Weight making toolkit: considerations
 - Trial strategies under different conditions
 - Hot / cold, hydrated / dehydrated
 - Track variations
 - Record volumes of food and fluid
 - Recover effectively
 - Compete at their best



Lightweights

Strategy	Variations	Duration	Weight Lost*
Overnight loss	Hydrated, dehydrated	10 hours	700g 400g
Fluid restriction	1 L 1.5 L	24 hours	1200g-1600g
Hot bath	1 hour 2 hours		
Sweat Exercise	Bike	1 hour	
Low residue diet		3 days	

This is just an example. The athlete should create their own!

*Can be a range



Lightweights

Food/Fluid	Type	Volume	Fluid (mL)	Sodium (mg)	Carb (g)
Electrlolyte Tablet	[brand]	1 tablet	250	320	0
Sports Drink	[brand]	600mL	600	300	35
Food	Bread	2 slices		310	30
	Jelly	1 teaspoon		15	5
	Peanut Butter	2 teaspoons		80	3
Milk	0% chocolate	1 container	250	150	26

This is just an example. The athlete should create their own!



Dietary Supplements

- Safety
- Efficacy
 - AIS Framework
- Responsibility
 - Third party testing
 - “NSF for sport”
 - Informed Choice
 - Consumer Labs



Consistency

- In information
 - Coaches
 - Medical staff
 - Other service providers
 - Amongst athletes
- In presence
 - Same person
 - Comfort
 - Measurements



Transparency

- Clear intentions
 - Coaches
 - Athletes
- Communicate
- Collaborate
- Be honest
 - “I don’t know”
 - “Ask your coaches”



Conclusion

- Explain and exemplify the role of an RD
- Identify nutrition strengths and weaknesses
- Take the time to become part of the team
- Perform subjective and objective assessments
- Educate, individually and together, with variety
- Be consistent with messaging
 - Collaboration and communication with staff
- Understand there is no “one size fits all”



@LizFoodco



🍊 🥑 🍓 @lizfoodco // Team Nutritionist

A late submission for Team USA Spirit Dogs, Liz Fusco is our Team Nutritionist! Liz loved the Spirit Dog project and wanted her own puppy pic. After some team debate, we decided Liz's spirit pup is the happy, energetic CORGI. This little herding dog is an organizer and a doer, full of spirit and eager to please. They are active, chatty and social, and do well with groups of adults and children (or in this case, adult children) . Corgis' size keep these quick little guardians from getting kicked by the critters they protect; but doesn't prevent them from having a big impact on those around them. 🐾 🇺🇸

