Recovery Nutrition for Athletes: Sifting Out the Science from the Sensationalism

Webinar Questions Answered by Rebecca McConville, MS, RD, LDN, CSSD, CEDRD-S

What is your opinion on athletes taking supplements like Athletic Greens? Helpful or unnecessary?

I believe supplements have their place if an athlete has a solid foundation. The supplement needs to support the athlete's performance goals as I find many of my athletes are taking supplements without an understanding of their function in sport & efficacy.

Have you come across research related to recovery and probiotics?

There is a strong link that is explored between the health of the gut not only to improve the body's ability to take in recovery nutrition but also boost immunity. Many companies are now exploring incorporation of probiotics within sports products however the challenge lies with understanding what strands of bacteria would be most supportive as they are unique to the individuals' needs. *Mohr et al. Journal of the International Society of Sports Nutrition (2020) 17:24 https://doi.org/10.1186/s12970-020-00353-w*

Have there been studies that show that the dip in energy intake or training has shown a greater risk in athletes who have PCOS?

None that I know of. The studies that I have read that have an incorporation of PCOS are in treatment of functional hypothalamic amenorrhea. However, I agree with you that I would love to see more research with this condition in sport.

How do you navigate the athlete who is under fueling, but "feels fine" and is performing well/happy with performance? How do you get them on board before they run into trouble?

Great question! I walk them through that likely the reason they are feeling fine is that the acute stressed state led to more blood volume, rapid glucose turnover, increase in pain threshold which may enhance their performance. However, like any stressed state it is the body's ability to withstand as at some point there will be negative consequences. I challenge them "Our goal is to stay strong all season when the big races, big games land lets focus on X to get you there." *Beals, K. A. (2004). Disordered eating among athletes: a comprehensive guide for health professionals. Champaign, IL: Human Kinetics.*

How important is eating before working out? Is it okay for athletes to get up in the morning and exercise before eating?

This can all depend on what that athlete is needing. How long are they training? How intense are they training? How much energy do they need to take in during the day, so they don't start in such a deficit? Many times, I find my athletes enjoy being able to have a little bit of food before training simply because they don't want to feel hunger during that time, and it helps minimize GI issues if they are prone.

Any specific information or resources available for dancers i.e., ballet, tap, jazz etc. age 12-18 yo? Challenging to find & unsure if specific guidelines for CHO, PRO, FAT for this group other than standard recommendations.

Agree I think of them as artistic athletes however we need a better inclusion in our recommendations. I would include them in the lower intensity category of athlete however understanding there are days they are putting in 5-7 hours of dancing therefore needing more nutrition.

What do you suggest helping balance female athlete hormones to help normalize menstruation? Is it increasing calorie intake, specific foods, and/or timing of recovery?

Hormone cycles work in a feed forward mechanism when the body is in energy available state. When the body in a low energy availability state or stressed (physical or mental) there can be a negative feedback mechanism causing dysfunction then shutting off of the menstrual cycle. A calorically adequate diet that is sufficient in fat as it is the backbone for sex hormone production is key to keeping one's cycle (vital sign) all season long. *No Period. Now What? A Guide to Regaining Your Cycles and Improving Your Fertility. Rinaldi N, Buckler S, Waddell*

What is a good goal for hydration? 1mL per kcal plus? (Depending on workout)

I try to not overcomplicate this for my athletes. Aim for ~ 64oz to 80 oz then add 16-24 oz for your training. If training in heat & humidity you may need more with electrolytes. Monitor frequency of urination as they should be going every 2-3 hours and within 1 hour after their training.

What do you think about using plain mashed potatoes as a during event fuel?

I think the incorporation of foods in ultra-endurance events is key for the gut's ability to not only withstand the training but also the ability to tolerate the sports engineered products. The biggest challenge can be the practicality in shorter races.

What recovery foods o you recommend for athletes who have IBS and lactose intolerance?

In that recovery period their gut may have more difficulties with foods that cause dysfunction with IBS. I believe in this window it is permitted to limit those foods but be sure to get enough of comparable nutrients. For example, if using lactose free products be sure to have foods or products included that contain calcium. It is also important to circle back and be sure to address that these intolerances and digestive difficulties are not secondary to poor nutrition.

What do you teach your athletes to look for when buying a protein powder for recovery? (Ingredients, label reading, etc.)

I teach them to look for companies that have integrity in their products. Do they have sensationalized claims? Can I identify every ingredient, or do they label them as a blend? Be sure that the product they intend to use doesn't have a lot of added ingredients to sell the product but dilute down more of the supplement ingredient they are purchasing. *Here is a free resource from CPSDA on supplements- https://www.sportsrd.org/wp-content/uploads/2018/11/Dietary-Supplements_The-Good-The-Bad-And-The-Ugly.pdf*

I agree that tracking macros/kcals are not necessarily encouraged to do daily. It is tedious and can lead to obsessive habits...but how do we make sure they are getting enough of what they need each day without doing that?

In my assessment I will do a 24-hour nutrition recall and estimate their current caloric/macronutrient intake as well as assessing their energy expenditure. If they are in a low energy availability state, we discuss how the body is responding- constipation, sleep, poor endurance performance, etc. then when we correct the energy availability, we use these are checkpoints when they might not be getting enough energy. Many times, the body has told them they were not getting enough energy they either missed the signs or our culture normalized the dysfunction.

In the How do we recover slide, you mentioned simplistic is best 4:1. Please explain 4 of what and 1 of what?

For every 4 grams of carbohydrate in that food item or product there should be 1 gram of protein when looking at the label. For example, perhaps they need 60 grams of carbohydrate then they would need 15 grams of protein as well.

How do the macro percentages change for children/boys/girls?

Even in the adolescent population I will calculate their macronutrient needs according to what they need from their sport whether endurance or power related. The biggest key is to make sure to account for enough energy for their growing needs.

Can you give some examples of what appropriate food items would be to give athletes before, during and after weekend tournaments?

When fueling for tournaments it can be tricky as many times the length of time between matches/games are unpredictable. I deal in terms of what seems most doable and practical. I will have the athlete or athlete provider pack everything that athlete needs for that full day and aim to have everything consumed by the end of the day which might mean they are grazing all day if unable to get a full meal in, but it keeps them from being fatigued when the biggest competitions are at the end of day.

Do you have any book/CEU recommendations for RDs looking to start learning sports nutrition?

Nancy Clark sports Nutrition guidebook is a must, Finding Your Sweet Spot-how to avoid RED-S, ROAR by Dr. Stacy Sims and the Athlete's Gut by Dr. Patrick Wilson are a few of my favorites. Start following companies such as Orgain that use experts to provide free educational webinars.

How do you address athletes who are adamant about following a keto diet?

If they are adamant, I try to not fight with them on it and lean into allowing them to experiment. I do ask them to clearly define what goals they are aiming for and has their nutrition changes helped them meet those goals.

What methods do you recommend for determining lean body mass (for energy availability calculation) for private practice dietitians working with recreational athletes?

I will enter a range of body fat percentages that are appropriate for optimal health so I can find that minimum threshold for my own purpose. The great part about the energy availability window is there is no downside to be well fueled. We need to err on the side of caution to protect them from consequences of LEA.

You mentioned the importance of adequate energy intake for athletes. How do you typically determine energy needs for your athletes?

There is still a big gap in estimating athlete's calorically needs either accessibility wise or accuracy. Therefore, it is still recommended to use the Mifflin-St Jeor equation with an activity factor.

Calculating the resting metabolic rate using the Mifflin–St Jeor equation

Sex	Resting Metabolic Rate (Mifflin–St Jeor Equation)
Male	10 × weight (kg) + 6.25 × height (cm) – 5 × age (years) +5
Female	10 × weight (kg) + 6.25 × height (cm) – 5 × age (years) – 161

Physical activity factors:

Category	**Example**	**PAL Factor**
Sedentary to light activity	Walking or yoga	1.4-1.69
Moderate activity	Fitness classes, weightlifting, running, or cycling	1.70-1.99
Vigorous activity	Endurance and elite athletes	2.0-2.4 or higher for elite athletes

How would you go about determining an athlete's macronutrient/micronutrient needs if the athlete is exercising but modifying and thus not expending as much energy due to current sprain/strain injuries?

Generally, it is recommended to focus on adequate protein to protect muscle mass that is lost due to changes in training. Meanwhile incorporating anti-inflammatory fat and phytonutrients to help with healing. Journal of Athletic Training 2020;55(9):918–930 doi: 10.4085/1062-6050-550-19 by the National Athletic Trainers' Association, Inc www.natajournals.org

How do you approach athletes who need to cut weight but also keep muscle strength?

If an athlete is in a weight focused sport, there has been some literature that speaks to a tailored strength training program with a higher protein intake of 2.2 gm/kg to protect the loss of muscle mass. *Schoenfeld and Aragon Journal of the International Society of Sports Nutrition (2018) 15:10 https://doi.org/10.1186/s12970-018-0215-1*

I've worked with a type 1 diabetic who found after 20-mile-long runs, when they are training for a marathon, their blood sugar would rebound from a normal range to over 300. I've suggested that they use a 50% CHO, 30% Protein and 20% fat - specifically whole milk chocolate milk to help maintain blood sugar and recovery. Is there a better option?

In the Athlete's Guide to Diabetes by Dr. Sheri Coberg she references that chocolate milk or something nutritionally similar continues to be one of the best choices for recovery nutrition & blood sugar stability.