Activity: Calculating Protein Needs for an Athlete

Introduction
Understanding the bodyweight-based recommendations for protein is the first step in helping an athlete meet their needs. Calculating those needs for the individual athlete, breaking them down throughout the day and making realistic food and beverage recommendations is the next step. In this activity, you will be presented with an athlete, asked to calculate her protein needs, and make diet recommendations in two scenarios. Scenario 1 assumes she is a lacto-ovo vegetarian (includes eggs and dairy) and scenario 2 is for an individual who consumes meat. Your food and beverage recommendations should include portion sizes, and the amount of protein provided by the food and beverage should closely match the protein recommendation you've given the athlete. These are meant to be practice examples for the athlete to help meet protein needs.

Supplemental reading: SSE #188: Vegetarian and Vegan Diets for Athletic Training and Performance (Larson-Meyer, D.E.. 2019).

Equipment needed
Calculator

Nutrition Analysis website – several free online programs and apps are available. Indicate which program you used when submitting your lab.

Athlete Profile
Name: Danielle

Age: 20

Height: 6'1" (185.4 cm)

Weight: 182 lbs (82.7 kg)

Sport: DII Collegiate basketball – in season

Training per week: 2x Games, 2x light/moderate practices (1-1.5 hours), 1 hard practice (2 h), 3x weight training sessions (~ 0.5 hours), 1 rest day

1. Calculate Danielle's recommended total daily protein intake and post-practice protein goals based on her current body weight. Show your work.
2. How many protein-containing meals and snacks should Danielle eat throughout the day?
3. Give Danielle two sample menus for a hard practice day focusing on protein-rich foods and beverages to meet the amounts you calculated above. Be sure to include serving sizes. For one menu, assume she is a lacto-ovo vegetarian. For the other assume she is a meat-eater. Create two charts similar to the example below, based on the number of meals and snacks you recommend. Use your preferred nutrient analysis website or app to determine the amount of protein in the foods you recommend.

Occasion	Food Suggestions (Lacto-Ovo Vegetarian)	Protein content of meal (g)
Breakfast		
Morning Snack		
Lunch		
Pre-Practice Snack		
Post-Practice Recovery		
Dinner		
Pre-Bed Snack		
Total Daily Protein		g

Occasion	Food Suggestions (Meat Eater)	Protein content of meal (g)
Breakfast		
Morning Snack		
Lunch		
Pre-Practice Snack		
Post-Practice Recovery		
Dinner		
Pre-Bed Snack		
Total Daily Protein		g