

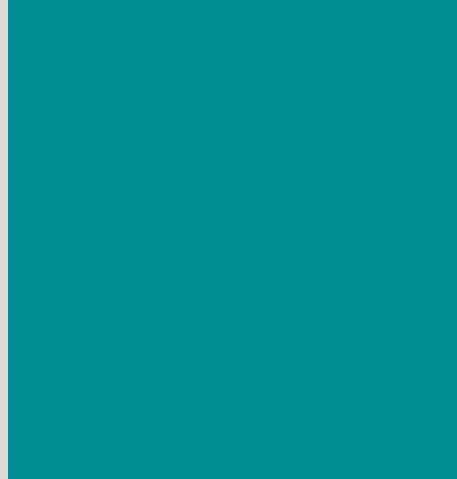


2024 FSHD Conference

Better Nutrition

For FSHD

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Practical

Nutrition

Workshop

For FSHD



Goals of the Diet for FSHD

- Ensure adequate nutrition for optimal health and well-being.
- Support muscle growth and preservation.
- Promote reduced inflammation and reactive oxygen species (ROS) through diet and safe supplementation.

Better Nutrition can make a difference for FSHD

Key Research Take-aways for FSHD Nutrition

- ❑ At least 1.2 grams protein per kilogram body weight daily.
- ❑ Animal protein sources stimulate protein synthesis better than vegetable protein sources.
- ❑ The FSHD disease process includes inflammation and oxidative damage at the cellular level thus dietary choices to reduce inflammation and Reactive Oxygen Species (ROS) may help.
- ❑ Dietary supplementation with key antioxidants may help protect muscle from oxidative damage in FSHD patients.
- ❑ Many FSHD patients don't consume adequate calories thus have difficulty meeting daily nutrient requirements. SIMPLIFYING meal preparation may help patients improve dietary intake.



Step One – Adequate Nutrition for Muscle Health

- 2-3 meals daily with 25-30g high quality protein and 2.5-3g leucine per meal
 - High quality protein – whey protein powder, eggs and egg whites, cheese, yogurt, cottage cheese, milk, chicken, turkey, fish & seafood, red meat, soy protein powder, quinoa, nut butters.
 - **HINT:** Combining animal proteins with vegetable proteins improves the bioavailability of vegetable proteins for skeletal muscle synthesis.
 - **HINT:** Typical serving size of 3-4 oz of a protein-rich food combined with a portion of legumes or grains provides recommended leucine amounts in a meal.
- Eat snacks that include foods from at least 2 food groups.
- Adequately hydrate. Carry non-caffeinated beverages with you for sipping.
- Take a multivitamin and mineral supplement from a reputable manufacturer.



Protein Basics

- Animal proteins contain higher amounts of BCAA, metabolized in muscle cells.
- Most efficient protein utilization – eggs, dairy.
- Whey protein stimulates protein synthesis.
- Combining vegetable protein sources with animal protein improves their utilization.
- Consume high quality protein at each meal to stimulate muscle growth.



Protein Basics

Chart for Recommended Daily Protein Intake*

	120-150lbs	150-180lbs	180-220lbs +
General Population (0.8g/kg BW)	43-54g	54g-65g	65g-80g +
F S H D Older Adults (1.2-1.8g/kgBW)	81-102g	102-121.5g	121.5-150g+
Athletes (1.2-2.8g/kgBW)	81-102g	102-121.5g	121.5-150g+
Weight Management (1.2-1.8g/kgBW)	81-102g	102-121.5g	121.5-150g+

**Approximate values based on the median gram of protein required by age.*

Citation: Stay Above Nutrition Blog Post, January 12, 2024. "How Much Protein Do You Need Based on Your Age?". https://stayabovenutrition.ca/blog/how-much-protein-you-need-based-on-your-age/?goal=0_88c4d02344-02ccdb569e-528209129&mc_cid=02ccdb569e&mc_eid=b65d357f2b.

Make it Real – Protein Basics – Group Discussion

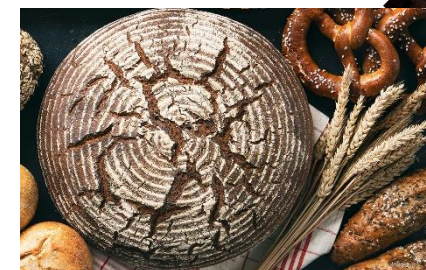
Fiona's Food Diary



Food Diary						Daily Calorie Goal		1600
Meal	Food / Drink	# of Servings	Serving Size	Protein (g)	Carbs (g)	Fat (g)	Calories	
Food Diary - 30 year old woman, 130 lbs	B	Overnight Oats	1	78 g	20	41	5	280
	B	nonfat milk	1	1	8	13	0	90
	S	apple	1	1	0	15	0	60
	L	mixed green salad	1	2 cups	2	3	0.2	20
	L	grilled chicken breast	1	3.5 oz	31	0	3.6	165
	L	cheese stick	1	1	5	1	7	90
	L	salad dressing vinegarett	1	1T	0	0.4	8	72
	S	FitCrunch Protein Bar	1	1	16	14	8	190
	D	grilled chicken breast	1	3.5 oz	31	0	3.6	165
	D	CostCo stir fry vegetables	1	1 cup	2	7	0	35
	D	Brown Rice	1	0.5 cup	2.5	22,5	0.9	108
	S	Fairlife Nutrition shake	1	1	30	4	2.5	150
DAILY TOTALS (Calories Remaining: 175)					147.5	98.4	38.8	1425
Grams Pro/kgBW					2.50			
% of Total Kcal					41%	28%	25%	

Step Two - Anti-Inflammatory Superfoods for FSHD

- ❑ **Nuts and Seeds** – Source of monounsaturated and polyunsaturated fatty acids that shift metabolism towards reduced inflammation. Also, an important source of trace minerals, vitamin E and protein!
- ❑ **Green Leafy Vegetables** – Vitamins A, C, K, E plus more. Carotenoids. Frozen or fresh, daily.
- ❑ **Fatty Fish** – Omega 3 Fatty Acids to protect against inflammation, 2 to 3 times a week. Can also get Omega 3 Fatty Acids from Omega 3 eggs.
- ❑ **Berries/Citrus** – Excellent source of polyphenols and other antioxidant compounds and vitamins. Include daily, fresh, frozen or freeze-dried.
- ❑ **Pomegranates** – Rich source of polyphenols. Juice, frozen, fresh.
- ❑ **Dark Chocolate** – Source of polyphenols.
- ❑ **Whole Grains and Legumes** – Trace minerals, iron, fiber, and complementary proteins.
- ❑ **Avocado Oil for high heat cooking, Extra Virgin Olive Oil for low heat cooking, cold food preparation.**



Items to Avoid/Minimize

- **Ultra-processed foods:** “Industrial formulations made by deconstructing natural foods into its chemical constituents, modifying them and recombining them with colorants, flavorings and other additives.”
- **Highly processed seed oils:** canola, soybean, corn, safflower oils.
- Consumption linked to chronic diseases, inflammation.
- **EXAMPLES** - Mass-produced bread, packaged breakfast cereals, cookies, sweets, carbonated drinks, fruit-flavored yogurts, frozen desserts and instant soups/sauces.



What about Gluten?

- Whole grains such as wheat, barley and rye contain gluten. Some individuals have a sensitivity to gluten proteins or Celiac disease and avoid eating these grain sources.
- Alternative whole grains that are gluten-free include: quinoa, brown/black/red rice, buckwheat, amaranth, and corn.
- Nutrients to replace when avoiding wheat products include B vitamins, magnesium and iron.
- Oats are gluten-free but sometimes have gluten contamination because of food processing.
- Beware of highly processed gluten-free foods.

Step 3 - Science Behind Supplements for FSHD

- Dietary supplements may help reduce the presence of ROS in mitochondria and improve skeletal muscle function.

• What has been studied in FSHD Patients?

- Studied together - Vitamin C (500 mg), SeleniUmethionine (200 mcg), Zinc Gluconate (25 mg), Vitamin E, alpha – tocopherol (400 mg)
- Studied together - CoQ10 (200 mg)*, Creatine Monohydrate (5g, 3-5g daily recommended), Alpha Lipoic Acid (200 mg), Vitamin E (400 mg)
- Creatine Monohydrate – provides a substrate for ATP energy pathways. Important for muscle recovery after exercise. May reduce fatigue.
- Using a combination of antioxidant supplements may provide multiple pathways to reducing oxidative species in skeletal muscle.
- *Ubiquinol is the active form of CoQ10 and studies have shown it is better absorbed in people over age 55.

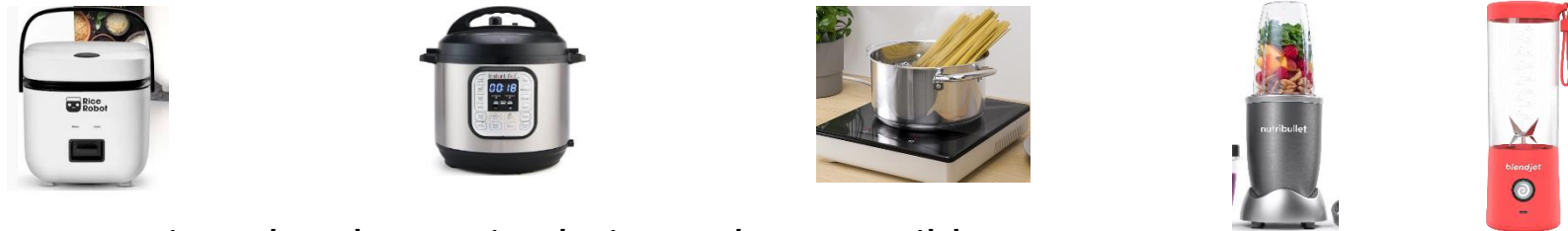


Step 4 - Tips for eating successfully

- **SIMPLIFY** food preparation as needed –
- Kitchen efficiency – purchase pre-cut fruits and vegetables, flash frozen fruits and vegetables, portioned proteins.



- Kitchen appliances – Personal size Instant pot or rice cooker, induction cooktop (Ikea), lightweight blender.



- Shopping – Grocery delivery services, local organic choices when possible.
- Many quality, healthy options available in bulk at CostCo, Sam’s Club, Superstore (Canada), Bulk Barn (Canada).
- Eat “fresh in season” to optimize nutrition quality of fresh produce.

Make it Real – FSHD Superfoods/Supplements/Simplify




Daniel's Food Diary

Food Diary - 180 lb Male								Daily Calorie Goal
								2400
Meal	Food / Drink	# of Servings	Serving Size	Protein (g)	Carbs (g)	Fat (g)	Calories	
Day 3, 180 lbs Male	B	Shredded Wheat	1	1	3	20	0	90
	B	apple	0.5	1	0	8	0	30
	B	Milk 1%	0.75	8 oz	6	10	2	83
	B	mocha, Starbucks	1	1.5 cup	11	33	13	290
	L	Yakisoba	1.5	1 cup	21	50	10	372
	L	Southwest bean soup	1.5	1 cup	14	38	2	150
	L	grapes	1	.5 cup	0	15	0	60
	D	small red potatoes	1.5	0.5 cup	5	39	0	165
	D	Mixed vegetables	0.75	1 cup	2	5	0	23
	D	Milk 1%	1.5	8 oz	12	20	4	165
DAILY TOTALS				73	235	30	1427	
G Protein per kgBW				0.9				
Percent Kcal				20%	66%	19%		






Make it Real-Grocery List for FSHD

Goal - Adjust diet to increase high quality protein content, increase dietary antioxidants, and promote lower inflammation.

Food Category	Food Items	Simple Preparation Choice	Nutrient/Supplement specifically associated with a food	
High Quality Proteins 	Fresh Eggs or Egg Whites	Frozen Egg Whites	Essential Amino Acids (EAA). BCAA Leucine	
	Note: can also get Omega-3 FA eggs	Frozen Egg Bites		
		Frozen Quiche/Omelets		
	Fresh Milk	Dried Milk Powder- add to beverages and soups for increased protein content	Essential Amino Acids. BCAA Leucine	
	Yogurt/Yogurt Drinks, Kefir Dairy Products			EAA's, BCAA Leucine, Calcium, probiotics
	Cheese/Cottage Cheese		EAA's, BCAA Leucine, Calcium	
	Whey Protein Powders	Adding nuts/seeds to protein shakes maximizes nutrients	Essential Amino Acids. BCAA Leucine	
	Chicken/Beef/Pork	Flash Frozen pre-portioned		
	Shellfish and other seafood			
	Tofu, soy milk		Only missing the EAA methionine.	
Quinoa		EAA's		
Pea/Soy-based protein powders		Only missing the EAA methionine.		
Fatty Fish - Salmon, cod, snapper	pre-portioned frozen packs, canned salmon, canned sardines, tuna	Omega 3 Fatty Acids		
Berries		freeze-dried berries	polyphenols	
Pomegranate		juice, frozen arils (seeds)	CoQ10	
Dark Chocolate		bars, dark hot chocolate, cocoa nibs		
Leafy Green Vegetables		flash frozen vegetables	Vitamin C, Carotenoids, Folate	
		pre-cleaned and processed lettuce		
		"green" shakes		

Make it Real- Grocery List for FSHD

Goal - Adjust diet to increase high quality protein content, increase dietary antioxidants, and promote lower inflammation.

Food Category	Preparation Ideas/Suggestions		Nutrient/Supplement specifically associated with a food
Extra Virgin Olive Oil	for cooking and salads		MonoUnsaturated FA
Avocado Oil	for high heat cooking		
Green Tea			antioxidant
Nuts and Seeds			
Sunflower seeds & almonds			High in Vit E
Pumpkin seeds	roasted or raw -add to shakes, hot cereal		Trace minerals, protein
	add to yogurt, cottage cheese		
	top salads		
Ground flax seeds, walnuts	add to shakes, hot cereal		Alpha Lipoic Acid
	add to yogurt, cottage cheese		
	top salads		
Hemp hearts-shelled hemp seeds	add to shakes, hot cereal		Polyunsaturated FA, trace minerals, protein
	add to yogurt, cottage cheese		
	top salads		
Brazil nuts	1 nut provides RDA for Selenium		Selenium
Legumes 	canned, low-sodium consumed with grains, and/or animal protein creates a higher quality protein combination		Vegetarian protein source, fiber, iron
Whole wheat and/or sourdough breads	Whole wheat bread has more trace minerals, fiber. Sourdough bread has slower gluten development. 		



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THANK
YOU!

