


**Energy Recharge Coaching: Protein**

With **Dr. Ritamarie Loscalzo**



LIVING YOUR UNLIMITED POTENTIAL:  
ONE STEP, ONE THOUGHT, ONE BITE AT A TIME

ENERGY RECHARGE COACHING


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**The Myth of Not Enough Protein**

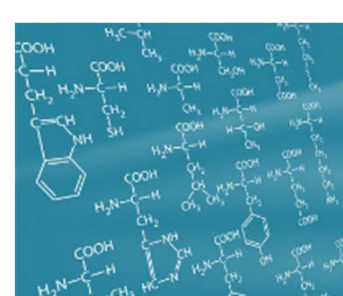


From HappyCow.net

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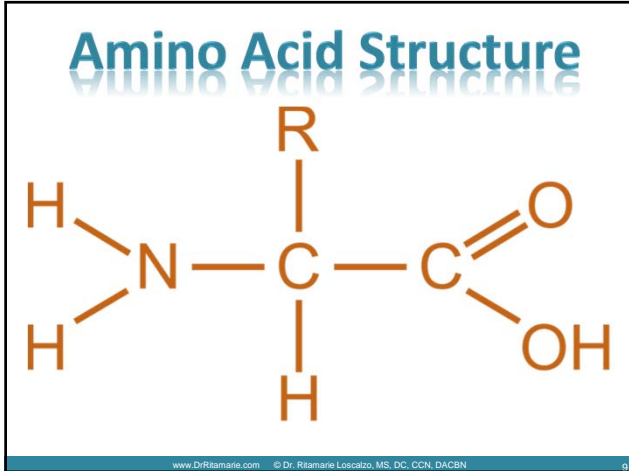
**What You'll Learn:**

- What protein is
- How to resolve the protein dilemma of too much vs. too little
- How to determine if you are low in protein
- Food sources of protein
- Protein powder vs. whole food proteins
- How and when to consume protein powders



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## 9 Essential Amino Acids

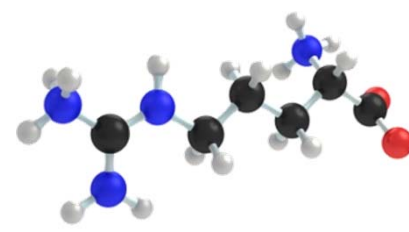
- \* Leucine
- \* Isoleucine
- \* Valine
- \* Lysine
- \* Methionine
- \* Tryptophan
- \* Phenylalanine
- \* Threonine
- \* Histidine

<chem>CC(C)C(=O)O</chem> Alanine A	<chem>CC(C)C(=O)O</chem> Valine V	<chem>CC(C)C(=O)O</chem> Leucine L	<chem>CC(C)C(=O)O</chem> Isoleucine I	<chem>C1CCN1C(=O)O</chem> Proline P
<chem>CC(C)C(=O)O</chem> Methionine M	<chem>C1=CC=C(C=C1)C(C)C(=O)O</chem> Phenylalanine F	<chem>C1=CC=C2C(=C1)C(=CN2)C(=O)O</chem> Tryptophan W	<chem>COC(=O)O</chem> Glycine G	<chem>COC(=O)O</chem> Serine S
<chem>CC(C)C(=O)O</chem> Threonine T	<chem>CSCC(=O)O</chem> Cysteine C	<chem>CC(C)C(=O)O</chem> Asparagine N	<chem>CC(C)C(=O)O</chem> Glutamine Q	<chem>C1=CC=C(C=C1)C(C)C(=O)O</chem> Tyrosine Y
<chem>C(C(=O)O)C(=O)O</chem> Aspartic Acid D	<chem>C(C(=O)O)C(=O)O</chem> Glutamic Acid E	<chem>C(C)C(=O)O</chem> Lysine K	<chem>C(C)C(=O)O</chem> Arginine R	<chem>C1=CC=C(C=C1)C(C)C(=O)O</chem> Histidine H

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## Conditionally Essential Amino Acids

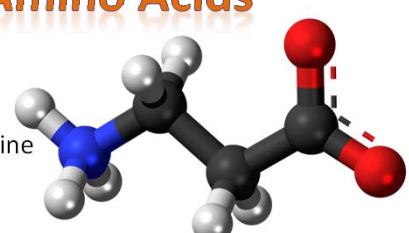
- \* Arginine
- \* Asparagine
- \* Glutamine
- \* Glycine
- \* Proline
- \* Serine
- \* Tyrosine
- \* Cysteine



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## Non-Essential Amino Acids

- \* Alanine
- \* Aspartate
- \* Selenocysteine
- \* Glutamate

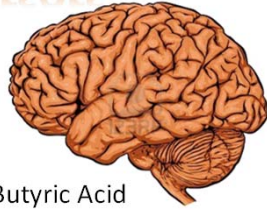


*\*\* Need an abundant supply of essential Amino Acids plus alpha-ketoglutarate and vitamin B6 to synthesize*

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## Amino Acids That Are Neurotransmitter Precursors

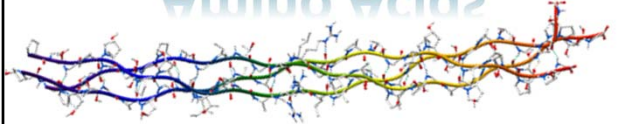
- \* Phenylalanine
- \* Tyrosine
- \* Tryptophan
- \* Glutamic Acid
- \* GABA – Gamma Amino Butyric Acid



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13

## Collagen Related Amino Acids



- \* Proline
- \* Hydroxyproline
- \* Glycine

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14

## Sulfur Containing Amino Acids

- \* Methionine
- \* Cystine
- \* Homocystine
- \* Cystathionine
- \* Taurine



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15

## Energy Producing Amino Acids

- \* Isoleucine
  - \* Leucine
  - \* Valine
- } **Branched Chain Amino Acids –**  
*35% of muscle protein and 50% of dietary amino acids*
- \* Histidine – *high with muscle breakdown, low in RA*
  - \* Lysine – *collagen cross linkages*
  - \* Threonine – *low levels lead to hypoglycemia*

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16

## The Protein Dilemma

### Too Little Protein

- \* Low energy
- \* Poor immune function
- \* Hormone imbalance
- \* Depression
- \* Muscle weakness
- \* Weak brittle nails
- \* Hair thinning or falling out
- \* Poor recovery from injury
- \* Inability to increase muscle bulk or strength with weights

### Too Much Protein

- \* Kidney stress leading to low back pain
- \* Bone loss
- \* Decreased appetite
- \* Nausea
- \* Acidic urine and saliva
- \* Dehydration
- \* Constipation
- \* Increased risk of cancer and heart disease

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17

## What Factors Might Contribute to a Deficiency of Protein?

- \* Low hydrochloric acid
- \* Deficient pancreatic enzymes
- \* Poor liver function: controls amino acid metabolism
- \* Vitamin B6 deficiency can impair the ability of the body to manufacture non-essential amino acids
- \* Bacterial or viral infections and severe physical trauma use up their protein stores rapidly



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18

## Protein Recommendations

- \* **RDA:** 0.36 grams per pound
- \* **Athletes:** 0.6 - 0.9 grams per pound
- \* **Paleo:** 1 gram per pound
- \* **Zone:** 30% of calories
- \* **According to Web MD**
  - ✓ Infants: about 10 grams a day.
  - ✓ Teenage boys: up to 52 grams a day.
  - ✓ Teenage girls: 46 grams a day.
  - ✓ Adult men: 56 grams a day.
  - ✓ Adult women: 46 grams a day.
  - ✓ Pregnant or lactating women: 71 grams a day.



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19

## How Does Cooking Affect Protein?

- \* **Heating and beating** causes denaturation and coagulation
- \* **Denaturation** changes the shape of the protein and decreases solubility
- \* **Coagulation** causes protein molecules to clump together
- \* **Overcooking** foods destroys heat sensitive amino acids, i.e. lysine and makes protein resistant to digestive enzymes



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20

## When is Higher Protein Needed?

- \* Muscle wasting
- \* Weight loss
- \* Fatigue and weakness
- \* Frequent infections
- \* Severe edema (fluid retention)
- \* Slow growth and development in children
- \* Severe trauma
- \* Burns
- \* Competitive athletics



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## Assessing Protein Status

- \* Assess protein intake and sufficiency
- \* Assess adequacy of stomach acid
- \* Assess pancreatic enzyme status
- \* Look for signs of neurotransmitter imbalance
- \* Assess hormone adequacy
- \* Look at healing and immune issues
- \* Clues to vitamin and mineral status
- \* Blood and urine tests



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## Blood Assessment of Protein Status

### \* Blood test indicators of low protein

- ✓ Protein (lo)
- ✓ Albumin (lo)
- ✓ Globulin (lo)
- BUN (lo)
- Creatinine (lo)
- Uric Acid (lo)



### \* Blood test indicators of low stomach acid

- ✓ Calcium (lo)
- ✓ Iron (lo)
- ✓ BUN (hi or lo)
- ✓ Chloride (lo)
- ✓ Carbon Dioxide (hi)
- Hemoglobin (lo)
- MCV (hi)
- MCH (hi)
- MCHC (hi)
- Phosphorus (lo)
- Protein (lo)
- Albumin (lo)
- Globulin (hi)

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## Protein in Animal Flesh

Food	Serving Size	Cals	Amount (g)	World's Healthiest Foods Rating
Tuna	4 oz	147.4	33.06	excellent
Cod	4 oz	96.4	21.24	excellent
Chicken	4 oz	187.1	35.18	very good
Turkey	4 oz	166.7	34.17	very good
Soybeans	1 cup	297.6	28.62	very good
Salmon	4 oz	157.6	26.59	very good
Beef	4 oz	132.7	26.16	very good
Shrimp	4 oz	134.9	25.83	very good
Lamb	4 oz	350.4	25.57	very good
Scallops	4 oz	125.9	23.29	very good
Sardines	3.20 oz	188.7	22.33	very good

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### Protein in Dairy and Eggs

Food	Serving Size	Cals	Amount (g)	World's Healthiest Foods Rating
Yogurt	1 cup	149.4	8.50	good
Cheese	1 oz	114.2	7.06	good
Eggs	1 each	77.5	6.29	good
Cow's milk	4 oz	74.4	3.84	good

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### Protein in Legumes

Food	Serving Size	Cals	Amount (g)	World's Healthiest Foods Rating
Miso	4 oz	164.4	17.89	very good
Soy Sauce	4 oz	222.3	20.63	good
Lentils	1 cup	229.7	17.86	good
Dried Peas	1 cup	231.3	16.35	good
Pinto Beans	1 cup	244.5	15.41	good
Kidney Beans	1 cup	224.8	15.35	good
Black Beans	1 cup	227.0	15.24	good
Navy Beans	1 cup	254.8	14.98	good
Lima Beans	1 cup	216.2	14.66	good
Garbanzo Beans	1 cup	269.0	14.53	good

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### Protein in Vegetables

Food	Serving Size	Cals	Amount (g)	World's Healthiest Foods Rating
Spinach	1 cup	41.4	5.35	very good
Asparagus	1 cup	39.6	4.32	very good
Mustard Greens	1 cup	36.4	3.58	very good
Swiss Chard	1 cup	35.0	3.29	very good
Bok Choy	1 cup	20.4	2.65	very good
Pumpkin Seeds	0.25 cup	180.3	9.75	good
Green Peas	1 cup	115.7	7.38	good
Collard Greens	1 cup	62.7	5.15	good
Brussels Sprouts	1 cup	56.2	3.98	good
Broccoli	1 cup	54.6	3.71	good
Kale	1 cup	36.4	2.47	good
Green Beans	1 cup	43.8	2.36	good
Cauliflower	1 cup	28.5	2.28	good
Cabbage	1 cup	43.5	2.27	good
Sea Vegetables	1 TBS	10.8	1.81	good
Mushrooms, Crimini	1 cup	15.8	1.80	good
Turnip Greens	1 cup	28.8	1.64	good
Summer Squash	1 cup	36.0	1.64	good
Tomatoes	1 cup	32.4	1.58	good

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27

### Protein in Nuts and Seeds

- ★ **Almonds:** 15% carbs, 13% protein, 72% fat
- ★ **Cashews:** 22% carbs, 11.5% protein, 66.5% fat
- ★ **Walnuts:** 8.5% carbs, 8% protein, 83.5% fat
- ★ **Pecans:** 8% carbs, 5% protein, 87% fat
- ★ **Flax seeds:** 22% carbs, 12% protein, 66% fat
- ★ **Pumpkin seeds:** 13% carbs, 16% protein, 71% fat
- ★ **Sesame seeds:** 17% carbs, 11% protein, 72% fat
- ★ **Sunflower seeds:** 17% carbs, 11.5% protein, 71.5% fat




<http://www.healthyeatingstartshere.com/nutrition/protein-in-nuts>

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28

## Protein in Nuts and Seeds


Nut/Seed (1/4 Cup, 4 tbs)	Protein (g)
Chia Seed	12
Hemp Seed	10
Flax Seed	8
Sunflower Seed	8
Salba	7.4
Almond	7
Pumpkin Seed	7
Sesame Seed	7
Pistachio	6
Walnut	5
Brazil Nut	5
Hazelnut	5
Pine Nut	4
Cashew	4



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## Protein in Grains


- ★ **Buckwheat:** 82% carbs, 12% protein, 6% fat
- ★ **Millet:** 82% carbs, 11% protein, 7% fat
- ★ **Oats:** 70% carbs, 15% protein, 15% fat
- ★ **Quinoa:** 70% carbs, 15% protein, 15% fat



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## Protein in Legumes


- ★ **Split peas:** 73% carbs, 24.5% protein, 2.5% fat
- ★ **Lentils:** 70% carbs, 27% protein, 3% fat
- ★ **Aduki beans:** 79% carbs, 20% protein, 1% fat
- ★ **Kidney beans:** 73% carbs, 24% protein, 3% fat



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## Protein in Vegetables

- ★ **Asparagus:** 68% carbs, 27% protein, 5% fat
- ★ **Beets:** 86% carbs, 11% protein, 3% fat
- ★ **Mushrooms:** 50% carbs, 37% protein, 13% fat
- ★ **Broccoli:** 71% carbs, 20% protein, 9% fat
- ★ **Zucchini:** 72% carbs, 18.5% protein, 9.5% fat



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## Protein Powder vs. Whole Food Proteins

- ★ Predigested and easy to absorb
- ★ Easy to consume
- ★ Easy to get too much
- ★ Protein powders are missing the other nutrients in whole foods



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23

## Ingredients to Beware Of

- ★ Added sweeteners
- ★ Non-fat milk solids
- ★ Soy
- ★ Casein
- ★ Whey
- ★ Non-sprouted grains
- ★ Added oils



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24

## Choosing Protein Powders

- **Plant versus animal:** Whey or No Whey!
- Sprouted brown rice versus heated brown rice protein
- **Hemp** protein
- Pea and other **legume** protein
- Quinoa and other **grain** proteins
- Choose the vegan protein powder that **you like best** and you will take it more often
- Consider also, choosing the one that *makes you feel the best*
- **Alternate** to prevent boredom and broaden nutrient intake



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25

## Consuming Protein Powders

- **To add flavor**, try variations of adding some raw cacao powder, vanilla, stevia, or xylitol.
- Add **ice or frozen berries** for a smoother texture.
- Many protein powders come in convenient **single-serving sized packages** so you can try them out.
- Once you find a brand you like, get some single-serving sized packets to make up your own "to go" bag for a quick meal on the road.



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### Sun Warrior Raw Vegan Protein Powder

<http://www.drritamarie.com/go/SunwarriorProtein>



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27

### Vega Protein and Meal Replacements

<http://www.drritamarie.com/go/VegaProtein>



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### Health Force Nutritionals Warrior Food

<http://www.drritamarie.com/go/HealthForce>



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### Garden of Life Raw Protein

<http://www.drritamarie.com/go/GLRawProtein>



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40

## Hemp Protein

Living Harvest: <http://www.drRitamarie.com/go/LHempProtein>

Nutiva: <http://www.drRitamarie.com/go/NutivaHempProtein>

Manitoba Harvest (Vanilla): <http://www.drRitamarie.com/go/MHVanHempProtein>

Manitoba Harvest (Chocolate): <http://www.drRitamarie.com/go/MHChocHempProtein>



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41

## Sprouted Brown Rice Protein

<http://www.drRitamarie.com/go/SproutLivingEpicProtein>



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42

## Inca Meal Sprouted Rice Protein

Ingredients: <http://www.drRitamarie.com/go/NPeacefulPlanetIncaMeal>

Amazon: <http://www.drRitamarie.com/go/PeacefulPlanetIncaMealSproutedProtein>



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43

## Boku Super Protein: Vegan Protein

<http://www.drRitamarie.com/go/BokuSuperProtein>



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44

### Swanson Organic Brown Rice Protein

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### Designs for Health Pure Pea

<http://www.drritamarie.com/go/DHPurePea>



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### Juvo Green Protein

<http://www.drritamarie.com/go/Juvo>



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### Vega Protein and Meal Replacements

<http://www.drritamarie.com/go/VegaSportProtein>



<http://www.drritamarie.com/go/VegaProtein>

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## Greens+ Chia

<http://www.drRitamarie.com/go/SSGreensChia>

While technically not a protein powder, chia makes a great addition to any of the above protein powders. It's loaded with Omega-3 fats, minerals, and vitamins.



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## Resources

- \* <http://gentleworld.org/10-protein-packed-plants/>
- \* <http://breakingmuscle.com/nutrition/an-athletes-guide-to-nuts-and-seeds>
- \* <http://www.theholykale.com/plant-based-protein-chart/>
- \* <http://www.whfoods.com/genpage.php?tname=nutrient&dbid=92>

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