Introduction to the PD-PRO Diet and Nutritional Management of Common Parkinson's Side Effects

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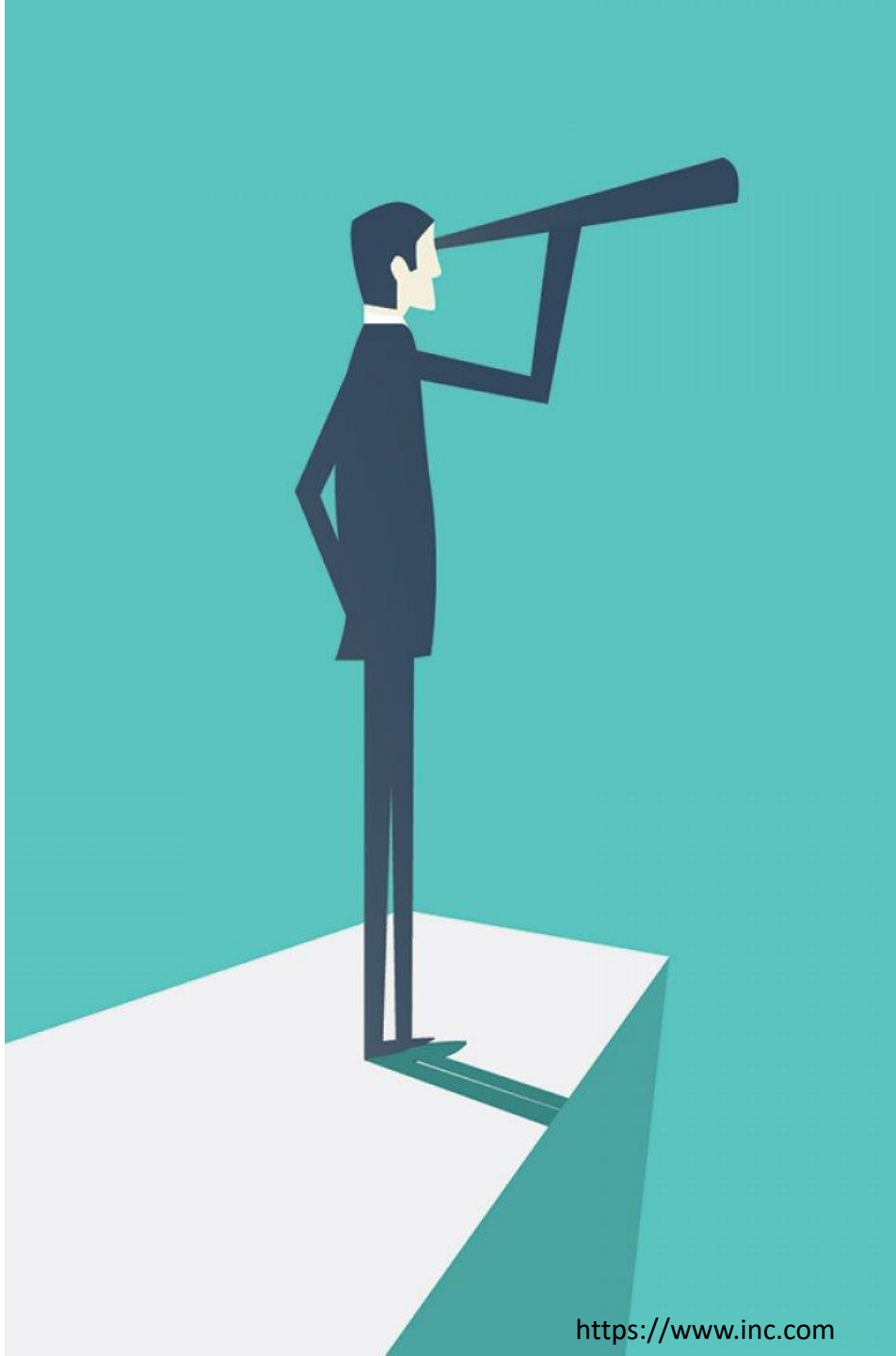
www.seattleintegrativemedicine.com

206-525-8012

Image Credit: https://www.forbes.com/sites/bryanrobinson/2021/03/05/4-brain-foods-to-promote-mindful-productivity-and-career-health/?sh=1bb47be5387f

What we will cover in these four weeks:

- **Class 1**: January 19th: Intro to the PD-Pro Diet and Nutritional Management of Common Parkinson's Symptoms
- **Class 2**: January 26th: Plant Slant: Strategies to Help Transition to a Plant Based Diet
- **Class 3**: February 2nd: Fighting Inflammation with Your Fork
- **Class 4**: February 8th: Brain Supportive Foods, Nutrients and Dietary Patterns



https://www.inc.com

Roadmap for Today

1. Define the PD-Pro diet and its association with improved quality of life with Parkinson's disease
2. Review nutritional strategies for managing side effects of Parkinson’s disease and medications
3. Utilize practical meal planning and preparation techniques to integrate brain-protective foods and dietary patterns into your daily diet



https://spectrum.ieee.org/we-could-build-an-artificial-brain-right-now



Oxidative Medicine and Cellular Longevity
Volume 2017, Article ID 6405278, 9 pages
https://doi.org/10.1155/2017/6405278

Research Article

Role of Diet and Nutritional Supplements in Parkinson's Disease Progression

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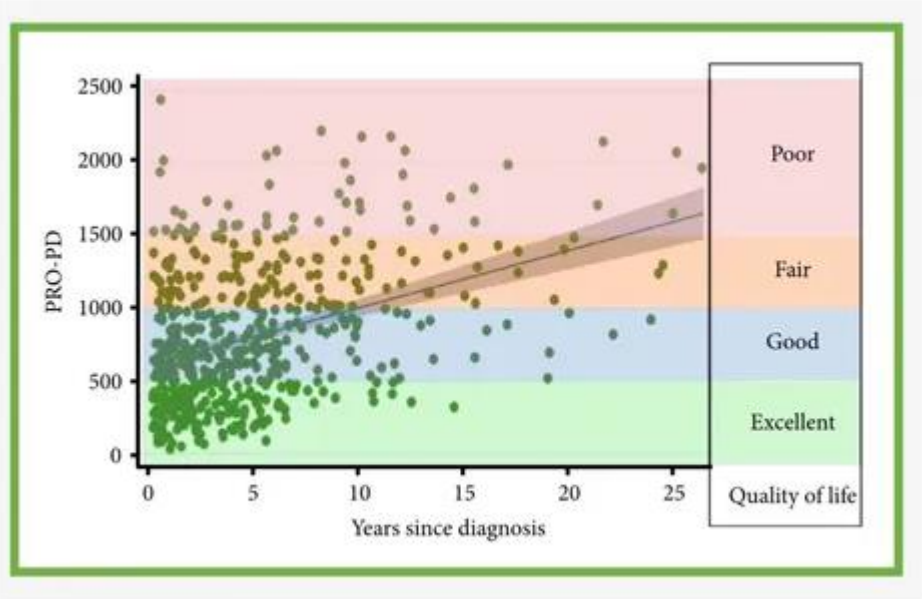
Copyright © 2017 Laurie K. Mischley et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Objectives. The goal of this study is to describe modifiable lifestyle variables associated with reduced rate of Parkinson's disease (PD) progression. *Methods.* The patient-reported outcomes in PD (PRO-PD) were used as the primary outcome measure, and a food frequency questionnaire (FFQ) was used to assess dietary intake. In this cross-sectional analysis, regression analysis was performed on baseline data to identify the nutritional and pharmacological interventions associated with the rate of PD progression. All analyses were adjusted for age, gender, and years since diagnosis. *Results.* 1053 individuals with self-reported idiopathic PD were available for analysis. Foods associated with the reduced rate of PD progression included fresh vegetables, fresh fruit, nuts and seeds, nonfried fish, olive oil, wine, coconut oil, fresh herbs, and spices ($P < 0.05$). Foods associated with more rapid PD progression include canned fruits and vegetables, diet and nondiet soda, fried foods, beef, ice cream, yogurt, and cheese ($P < 0.05$). Nutritional supplements coenzyme Q10 and fish oil were associated with reduced PD progression ($P = 0.026$ and $P = 0.019$, resp.), and iron supplementation was associated with faster progression ($P = 0.022$). *Discussion.* These are the first data to provide evidence that targeted nutrition is associated with the rate of PD progression.

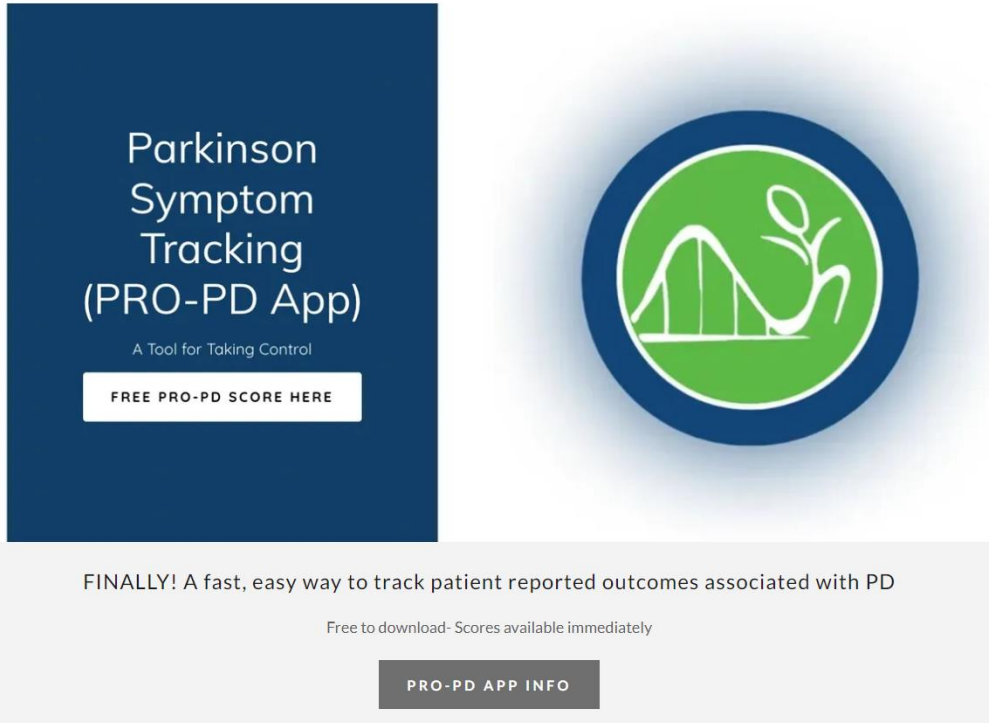
- Ongoing research
- 2023 report: 3,000 people surveyed
- Diet, lifestyle, and social factors associated with the slowest and fastest progression

https://livinghealthywithparkinsons.com/

PRO (Patient Reported Outcomes)-PD Score



The PRO-PD was created because other scales do not permit this type of analysis. The PRO-PD is a patient-centered, continuous **measure of disease severity** that is stratifiable by symptom and correlates with quality of life and existing scales for PD severity (e.g. UPDRS, HY). [Mischley LK, 2017] **Lower Scores are Better.**



https://pd-symptoms.com/

Rate Symptom Severity

Constipation	86
Sense of smell	81
Anxiety	72
Handwriting or Typing	65
Daytime Sleepiness	50
Muscle cramping, pain, or aching	40
Loss of Interest	31
Slowness	25

Report

The PRO-PD App lists the most severely rated symptoms at the top of the list.

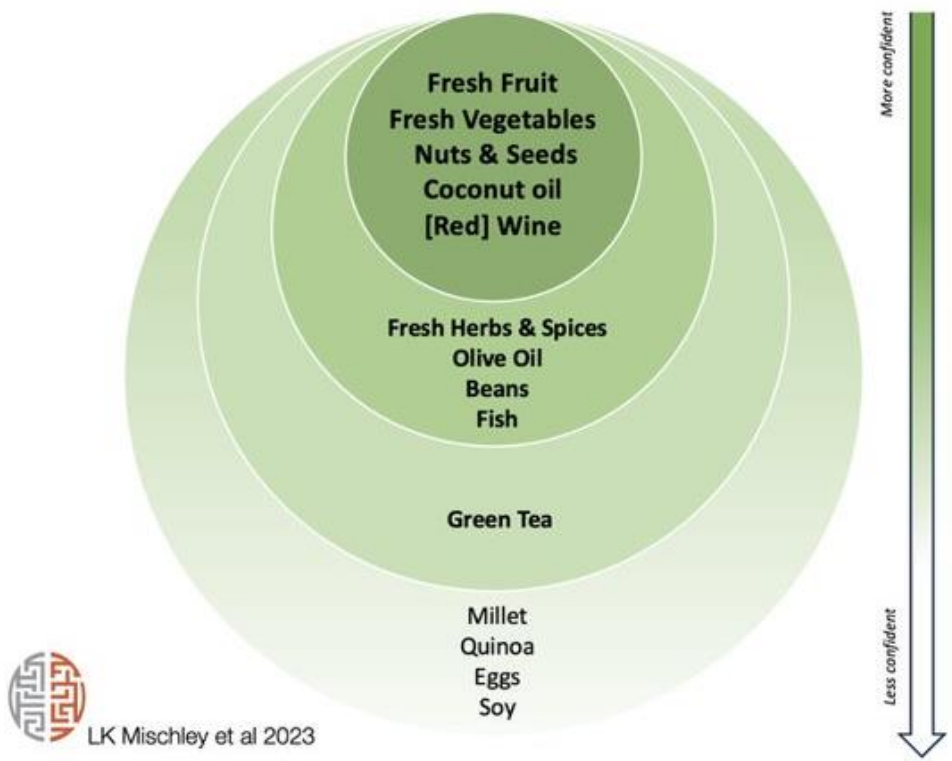
Track Change Over Time

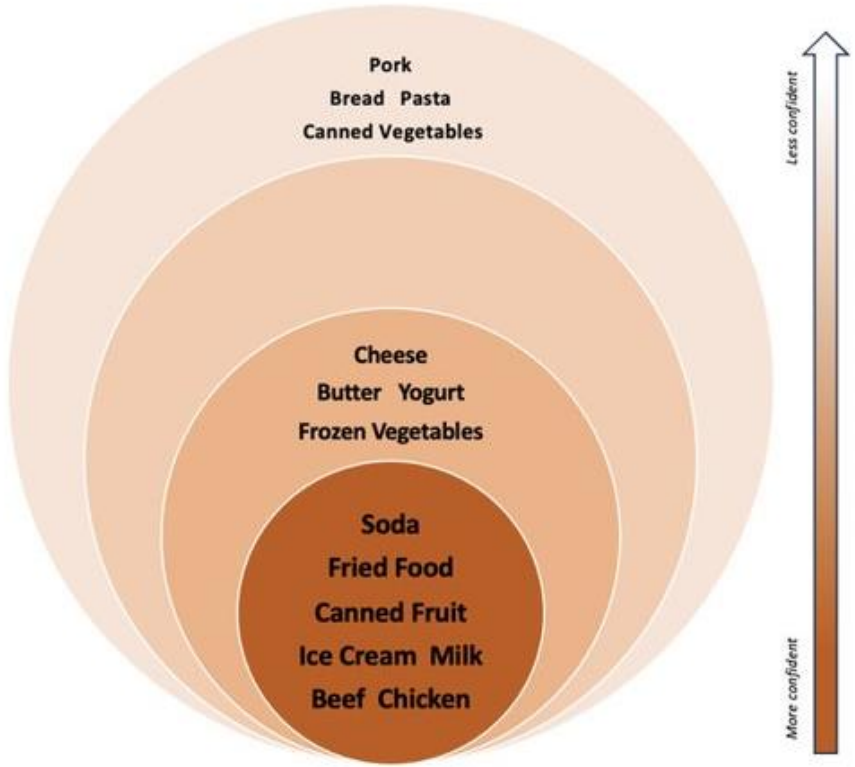


Individuals that submit their scores regularly begin to see patterns. In spite of the ups and downs, trends emerge.

https://pd-symptoms.com/

Degrees of Confidence in the Relationship Between Diet & Parkinson Severity





LK Mischley et al 2023

What else appears to be important?

- ✓ Cooking your own food
- ✓ Sharing meals with others
- ✓ A mostly plant-based diet
- ✓ Buying organic as much as possible
- ✓ Eating minimally processed foods
- ✓ Avoiding plastic bottles and food containers



Goal = end up with negative points at the end of each day

- The more negative, the more your diet is correlated with slower progression

PRO Diet: Designed as a Parkinson Disease Modification Tool

Points Based on Observational Data: Food Choices & Patient Reported Outcomes (PRO) in PD
From Clinical Epidemiology to Therapeutic Tool



		Serving size	Strength of the Association	Multiply by unit of consumption x 0: never x 1: <1/ month x 2: 1/month x 3: 2-3/month x 4: 1/ week x 5: 2-4x/week x 6: 5-6x/week x 7: 1x/day x 8: 2-4x/day x 9: 4-6x/day	
Avoid	Fruit from a can	½ cup	44		
	Fried food	4 ounces	34		
	Ice cream	1 scoop, ½ cup	31		
	Diet soda	12 oz, 1 can	30		
	Beef	4 oz, 1 medium patty	28		
	Soda (not diet)	12 ounces, 1 can	27		
	Vegetables from a can	½ cup	26		
	Butter	1 teaspoon	20		
	Drink from plastic bottles		20		
	Chicken	4 ounces	19		
	Pork	4 oz, 1 medium patty	28		
	Cheese	1 slice, ½ oz, 1 Tablespoon	17		
	Frozen vegetables	½ cup	16		
	Pasta	1 cup	16		
	Yogurt	¾ cup, 6 ounces	15		
	Milk, from mammals	1 cup	13		
	Bread	1 slice	9		
	Juice	8 ounces, 1 glass	9		
				Total insult points	+
Eat	Fresh vegetables	½ cup	- 30		
	Fish	4 ounces	-27		
	Nuts and seeds	¼ cup, 2 Tablespoon spread	-25		
	Fresh fruit	½ cup	-24		
	Fresh herbs	1 teaspoon	-11		
	Wine (red)	6 ounces, 1 glass	-22		
	Coconut oil	1 teaspoon	-16		
	Beans/ legumes	½ cup	-11		
	Green tea	1 cup	-11		
	Olive oil	1 teaspoon	-10		
	Spices	¼ teaspoon	-10		
				Total protective points	-
© LK Mischley 19 Aug 2023_Model-1_Baseline data only				**Total PRO Diet Points**	

nutrients

MDPI

Article

Comparison of Associations between MIND and Mediterranean Diet Scores with Patient-Reported Outcomes in Parkinson's Disease

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* Correspondence: lmischley@bastyr.edu

Abstract: The Mediterranean (MEDI) and Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diets have been associated with a reduced risk of Parkinson's disease (PD) diagnosis. However, studies evaluating whether these diets are associated with disease progression in those patients already diagnosed are lacking. The objective of this study was to evaluate whether MIND and MEDI scores were associated with improved patient-reported outcomes. Additionally, we sought to explore which questions on the MIND and MEDI scales were more strongly correlated with PD symptom severity. Data were obtained from the ongoing Modifiable Variables in Parkinsonism study, using patient-reported outcomes in Parkinson's disease (PRO-PD) as the primary measure for symptom severity, and MIND and MEDI scales for diet score. After adjusting for age, gender, income, and years since diagnosis, for each 1-point increase in the MIND and MEDI scores, PRO-PD scores were 52.9 points lower (95%CI: −66.4, −39.4; $p < 0.001$) and 25.6 points lower (95%CI: −37.2, −14.0; $p < 0.001$), respectively (N = 1205). This study suggests MIND and MEDI scores are associated with fewer patient-reported symptoms over time, with each MIND point being twice as strong as a MEDI point in reducing symptom severity. Future dietary intervention trials should consider the MIND diet as a therapeutic strategy for improving long-term PD outcomes.

Keywords: disease modification; neuroprotection; parkinsonism; non-motor symptoms; comparative effectiveness

check for updates

Citation: Fox, D.J.; Park, S.J.; Mischley, L.K. Comparison of Associations between MIND and Mediterranean Diet Scores with Patient-Reported Outcomes in Parkinson's Disease. *Nutrients* **2022**, *14*, 5185. https://doi.org/10.3390/nu14235185

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1. Introduction

Parkinson's disease (PD) is the second most common neurodegenerative disorder and is an insidious, debilitating disease, characterized by both motor and non-motor disturbances. Diagnosis is based on cardinal motor features such as tremors, bradykinesia, rigidity, and postural instability; however, motor symptoms are now understood to manifest late in the disease [1,2]. Non-motor symptoms (NMS) of fatigue, cognitive changes, mood disorders, sleep disturbances, hyposmia, gastrointestinal manifestations, and autonomic dysfunction are proposed to be prodromal markers of PD [3–6]. They often long precede the usual motor symptoms [1,2] and persist throughout the disease [7]. Previous population-based cohort studies have reported that 100% of people with PD (PwP) presented with at least one NMS [7–9]. Recent studies have focused on NMS for the prediction and diagnosis of PD [3,5,6] because prodromal PD (pPD) is difficult identify and manage without subjective or patient-reported outcome (PRO) measures [1]. In the absence of biomarkers and without objective measures of pain, fatigue, apathy, and other early NMS, subjectively reported outcomes are essential for PD symptom tracking early in the disease. Early disease modification efforts are not likely to result in measurable motor improvements, which are minimal and often well-managed by dopamine replacement

- Both Mediterranean and MIND Diet patterns are supportive
- Greater adherence is associated with fewer PD symptoms
- MIND diet includes more **leafy greens** and **berries**
- MIND diet appears more protective

Parkinson's Healthy Plate



FRUITS

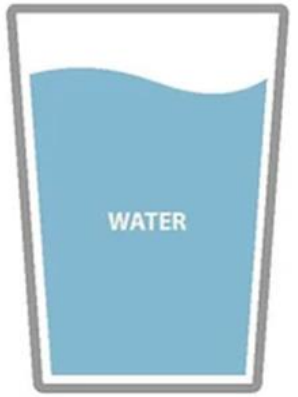
Consume a variety of fruits each day with meals, snacks or as a healthy dessert choice.

VEGETABLES

Fill your plate with a variety of raw and cooked vegetables. Include at least one green vegetable and one other color of vegetable with every meal.

WHOLE GRAINS & STARCHES

Include high-fiber whole grains such as brown rice, quinoa, oats, whole grain breads and pastas or starchy vegetables like sweet potatoes and squash. Limit refined grains: white rice, white breads and pastas.



DIGESTIVES

Fermented foods such as sauerkraut, yogurt, miso, tempeh, kimchi, apple cider vinegar, kombucha, kefir and lacto fermented vegetables can aid in immune function, digestion and support the normal flora of the digestive tract.

HEALTHY FAT

Include fats from whole foods such as avocado, nuts, seeds and fatty fish. Use cold pressed oils such as olive and avocado oil for dressings and marinades and olive oil and coconut oil for cooking and baking.

PROTEINS

Include a variety of pro PD proteins such as legumes, nuts and seeds, fish and eggs. Grains such as quinoa, teff, and amaranth also contain protein. Select organic proteins when possible

BASTYR CENTER FOR NATURAL HEALTH | *the teaching clinic of Bastyr University*

www.BastyrCenter.org

What to use instead of plastic

- Stainless steel water bottles
- Mason jars
- Pyrex (glass) storage
- Wax paper
- Wax cloths (food storage)

SCIENCE

LISTEN & FOLLOW

Researchers find a massive number of plastic particles in bottled water

UPDATED JANUARY 10, 2024 · 11:59 AM ET

By James Doubek



Researchers from Columbia University and Rutgers University found roughly 240,000 detectable plastic fragments in a typical liter of bottled water.

Jody Amiet/AFP via Getty Images

Making the case for cooking



RECOGNIZING THE HEALTH VALUE OF MAKING YOUR OWN FRESH FOOD



IMPROVING YOUR SKILLS



USING ADAPTIVE EQUIPMENT



SHIFTING YOUR MINDSET



KEEP IT SIMPLE

Equipment than makes cooking easier

- Crock pot or instapot
- Air frier
- Panini press
- Blender
- Vegetable chopper
- Garlic press











Avoiding Pesticides

Environmental Working Group – **Dirty Dozen**

https://www.ewg.org/foodnews/dirty-dozen.php



13: Potatoes 14: Blueberries 15: Cherry Tomato

Fewest Pesticides

Environmental Working Group **Clean 15**

https://www.ewg.org/foodnews/clean-fifteen.php



13. Mango

14: Watermelon

15. Sweet Potato

Phytonutrient Spectrum Foods

RED

Foods				Benefits	
Apples	Cranberries	Pomegranate	Rhubarb	Anti-cancer	Gastrointestinal health
Beans *(adzuki, kidney, red)*	Cherries	Potatoes	Rooibos tea	Anti-inflammatory	Heart health
Beets	Grapefruit *(pink)*	Radicchio	Tomato	Cell protection	Hormone health
Bell peppers	Goji berries	Radishes	Watermelon		Liver health
Blood oranges	Grapes	Raspberries			
	Onions	Strawberries			
	Plums	Sweet red peppers			

ORANGE

Foods				Benefits	
Apricots	Mango	Pumpkin	Tangerines	Anti-cancer	Reduced mortality
Bell peppers	Nectarine	Squash *(acorn, buttercup, butternut, winter)*	Tumeric root	Anti-bacterial	Reproductive health
Cantaloupe	Orange		Yams	Immune health	Skin health
Carrots	Papaya	Sweet potato		Cell protection	Source of vitamin A
	Persimmons				

YELLOW

Foods				Benefits	
Apple	Bell peppers	Lemon	Starfruit	Anti-cancer	Eye health
Asian pears	Corn	Millet	Succotash	Anti-inflammatory	Heart health
Banana	Corn-on-the-cob	Pineapple	Summer squash	Cell protection	Skin health
	Ginger root			Cognition	Vascular health

GREEN

Foods				Benefits	
Apples	Bok choy	Green peas	Okra	Anti-cancer	Skin health
Artichoke	Broccoli	Green tea	Olives	Anti-inflammatory	Hormone balance
Asparagus	Broccolini	Greens *(arugula, beet, chard/swiss chard, collard, dandelion, kale, lettuce, mustard, spinach, turnip)*	Pears	Brain health	Heart health
Avocado	Brussels sprouts		Snow peas	Cell protection	Liver health
Bamboo sprouts	Cabbage		Watercress		
Bean sprouts	Celery		Zucchini		
Bell peppers	Cucumbers	Limes			
Bitter melon	Edamame/Soy beans				
	Green beans				

BLUE/PURPLE/BLACK

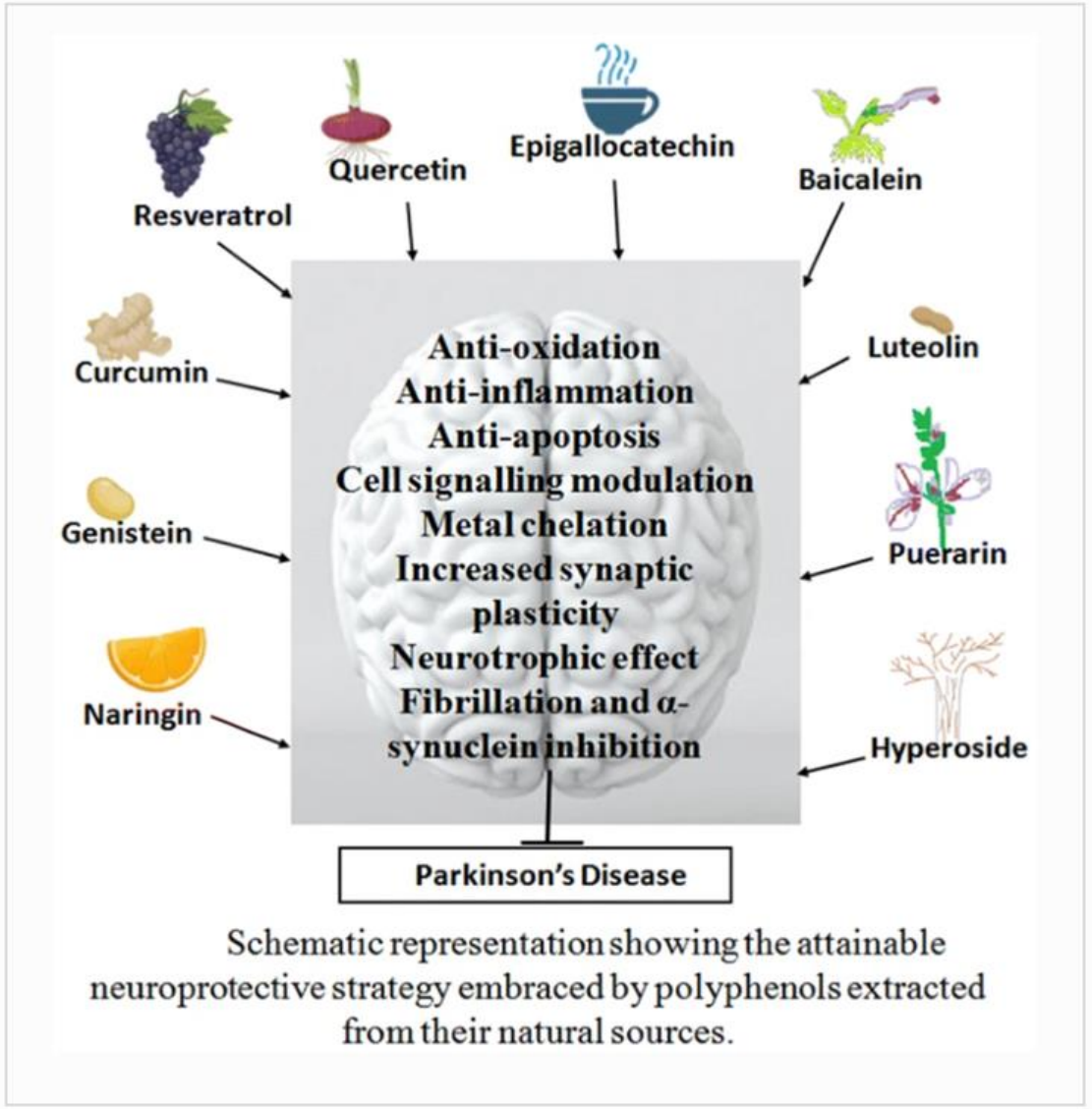
Foods				Benefits	
Bell peppers	Cabbage	Grapes	Prunes	Anti-cancer	Cognitive health
Berries *(blue, black, boysenberries, huckleberries, marionberries)*	Carrots	Kale	Raisins	Anti-inflammator	Heart health
	Cauliflower	Olives	Rice *(black or purple)*	Cell protection	Liver health
	Eggplant	Plums			
	Figs	Potatoes			

WHITE/TAN/BROWN

Foods				Benefits	
Apples	Dates	Mushrooms	Shallots	Anti-cancer	Heart health
Applesauce	Garlic	Nuts *(almonds, cashews, pecans, walnuts)*	Soy	Anti-microbial	Hormone health
Bean dips	Ginger		Tahini	Cell protection	Liver health
Cauliflower	Jicama	Onions	Tea *(black, white)*	Gastrointestinal health	
Cocoa	Legumes *(chickpeas, dried beans or peas, hummus, lentils, peanuts, refried beans/ low-fat)*	Pears	Whole grains *(barley, brown, rice, oat, quinoa, rye, spelt, wheat)*		
Coconut		Sauerkraut			
Coffee		Seeds *(flax, hemp, pumpkin, sesame, sunflower)*			

IFM

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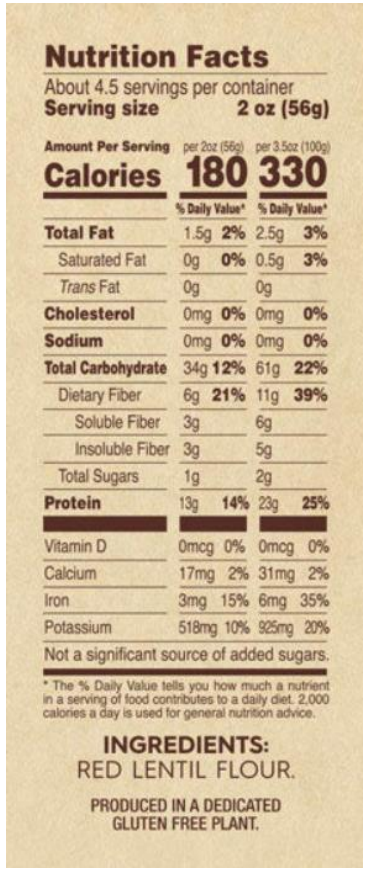
Schematic representation showing the attainable neuroprotective strategy embraced by polyphenols extracted from their natural sources.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5986521/

https://link.springer.com/article/10.1007/s11064-020-03058-3

Defining Processed Foods

Minimally processed



Nutrition Facts

About 4.5 servings per container

Serving size **2 oz (56g)**

Amount Per Serving	per 2oz (56g)		per 3.5oz (100g)	
Calories	**180**		**330**	
	% Daily Value*		% Daily Value*	
Total Fat	1.5g	**2%**	2.5g	**3%**
Saturated Fat	0g	**0%**	0.5g	**3%**
Trans Fat	0g		0g	
Cholesterol	0mg	**0%**	0mg	**0%**
Sodium	0mg	**0%**	0mg	**0%**
Total Carbohydrate	34g	**12%**	61g	**22%**
Dietary Fiber	6g	**21%**	11g	**39%**
Soluble Fiber	3g		6g	
Insoluble Fiber	3g		5g	
Total Sugars	1g		2g	
Protein	13g	**14%**	23g	**25%**
Vitamin D	0mcg	0%	0mcg	0%
Calcium	17mg	2%	31mg	2%
Iron	3mg	15%	6mg	35%
Potassium	518mg	10%	925mg	20%

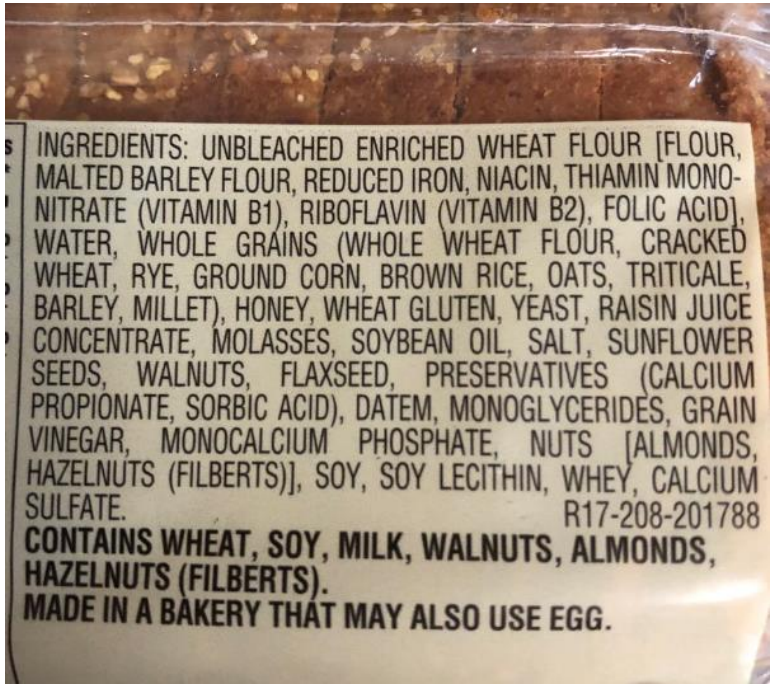
Not a significant source of added sugars.

* The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

INGREDIENTS:
RED LENTIL FLOUR.

PRODUCED IN A DEDICATED GLUTEN FREE PLANT.

Highly processed



INGREDIENTS: UNBLEACHED ENRICHED WHEAT FLOUR [FLOUR, MALTED BARLEY FLOUR, REDUCED IRON, NIACIN, THIAMIN MONONITRATE (VITAMIN B1), RIBOFLAVIN (VITAMIN B2), FOLIC ACID], WATER, WHOLE GRAINS (WHOLE WHEAT FLOUR, CRACKED WHEAT, RYE, GROUND CORN, BROWN RICE, OATS, TRITICALE, BARLEY, MILLET), HONEY, WHEAT GLUTEN, YEAST, RAISIN JUICE CONCENTRATE, MOLASSES, SOYBEAN OIL, SALT, SUNFLOWER SEEDS, WALNUTS, FLAXSEED, PRESERVATIVES (CALCIUM PROPIONATE, SORBIC ACID), DATEM, MONOGLYCERIDES, GRAIN VINEGAR, MONOCALCIUM PHOSPHATE, NUTS [ALMONDS, HAZELNUTS (FILBERTS)], SOY, SOY LECITHIN, WHEY, CALCIUM SULFATE. R17-208-201788

CONTAINS WHEAT, SOY, MILK, WALNUTS, ALMONDS, HAZELNUTS (FILBERTS).
MADE IN A BAKERY THAT MAY ALSO USE EGG.

Ultra processed



Nutrition Facts

Serving Size 1 Package (61.5g)
Servings Per Container 36

Amount Per Serving

Calories 250 Calories from fat 25

	% Daily Value*
Total Fat 2.5g	**4%**
Saturated Fat 2.5g	**13%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 20mg	**1%**
Total Carbohydrate 56g	**19%**
Dietary Fiber 0g	**0%**
Sugars 45g	
Protein 0g	

Vitamin A 0% • Vitamin C 0%

Calcium 0% • Iron 0%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,000
Total Fat	Less than	65g	80g
Sat. Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

MADE OF: SUGAR, CORN SYRUP, HYDROGENATED PALM KERNEL OIL; LESS THAN 2% OF: CITRIC ACID, TAPIOCA DEXTRIN, MODIFIED CORN STARCH, NATURAL AND ARTIFICIAL FLAVORS, COLORS (TITANIUM DIOXIDE, RED 40 LAKE, RED 40, YELLOW 5 LAKE, BLUE 1 LAKE, YELLOW 5, BLUE 1, YELLOW 6, BLUE 2 LAKE), SODIUM CITRATE, CARNAUBA WAX.
Gluten-Free, Gelatin-Free

PRODUCED WITH GENETIC ENGINEERING



https://www.freepik.com/free-photos-vectors/personal-computer

Your Body is a Sophisticated Computer

What software / programs are you running?

Are you downloading garbled information?

Defining minimally processed foods

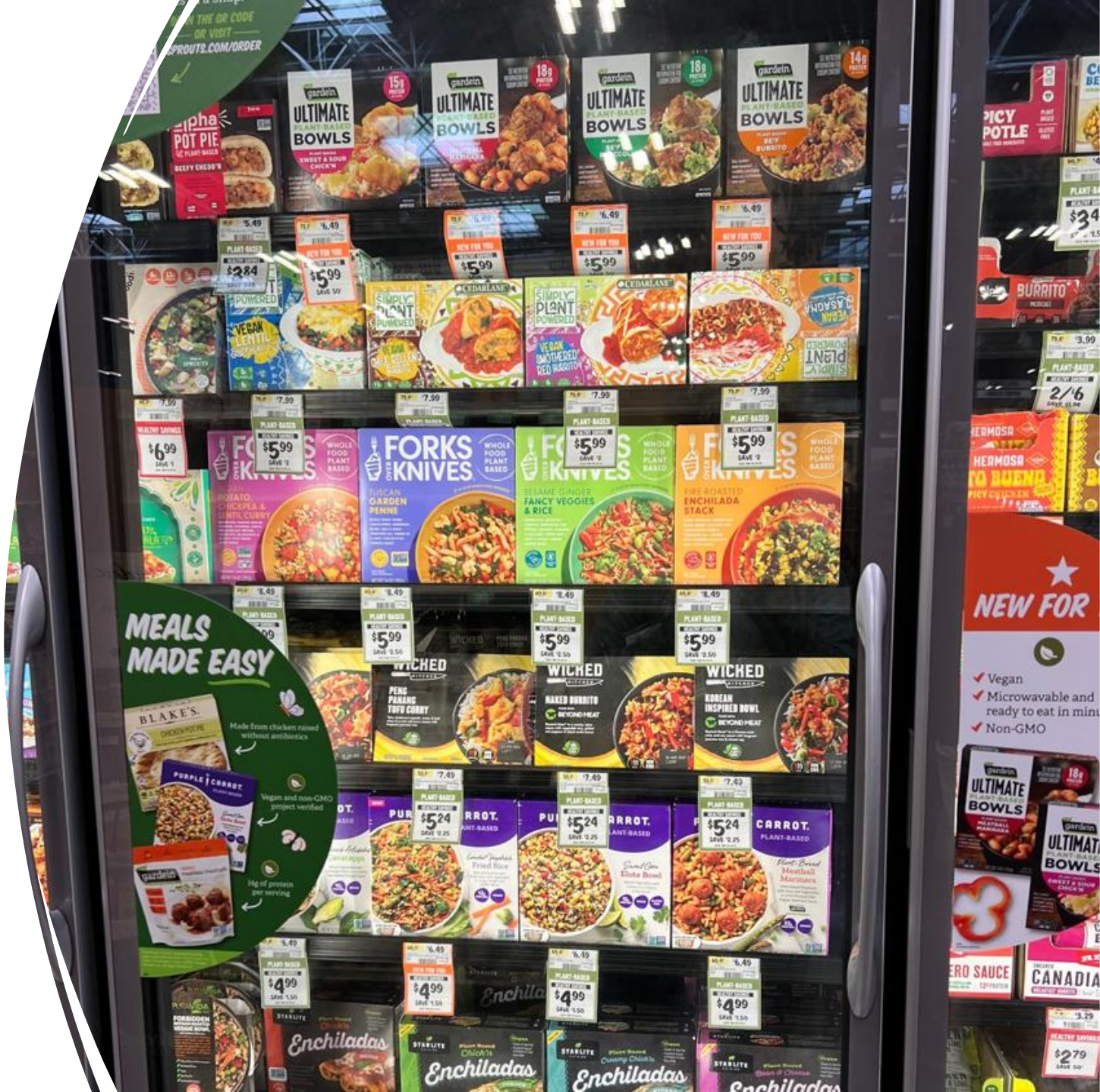
- Can you identify each ingredient as a food?
- Does this food have all of its original parts or has anything been removed?
- Does each ingredient have an identity (tied to region, season, culture)?
- Does it have the capacity to spoil / break down?
- Would your ancestors recognize it as food?





Parkinson's Pro Convenience Pantry Items

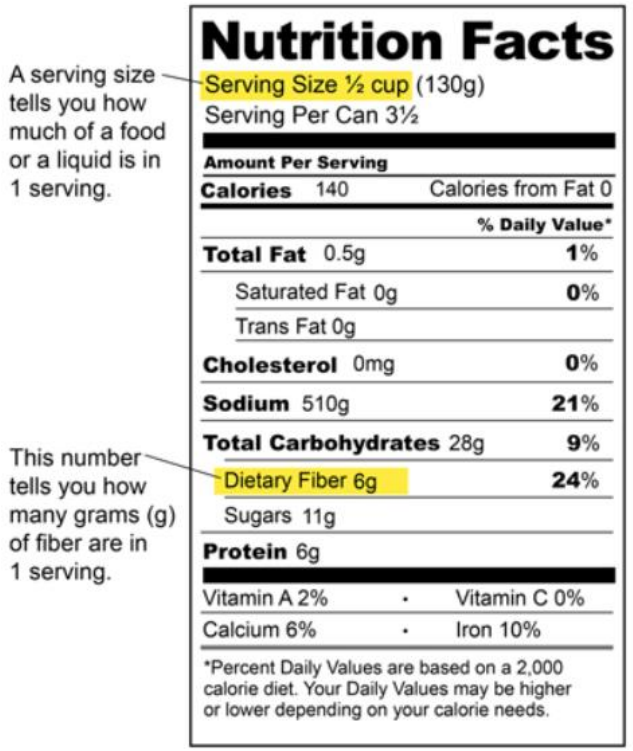
- Salad Dressings and Marinades
- Heat and eat meals including veggie burgers
- Grain products and cereals
- Legumes (beans) in a jar
- Dairy alternatives
- Snacks
- Sweets

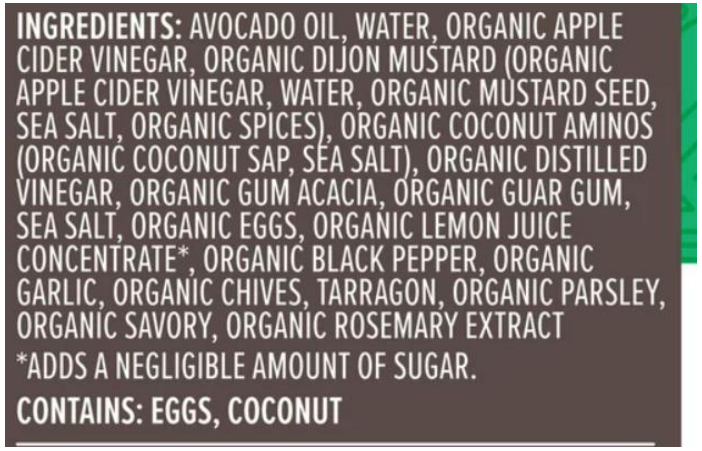


What to look for on the label

- Quality of carbohydrates
  - 100% whole grain? Fiber?
  - How much sugar? 4g = 1 teaspoon
- Quality of Fats
  - Use olive oil avocado oil?
- Added ingredients
  - Does it look like a science project?
  - Can you pronounce everything?
  - How much salt?





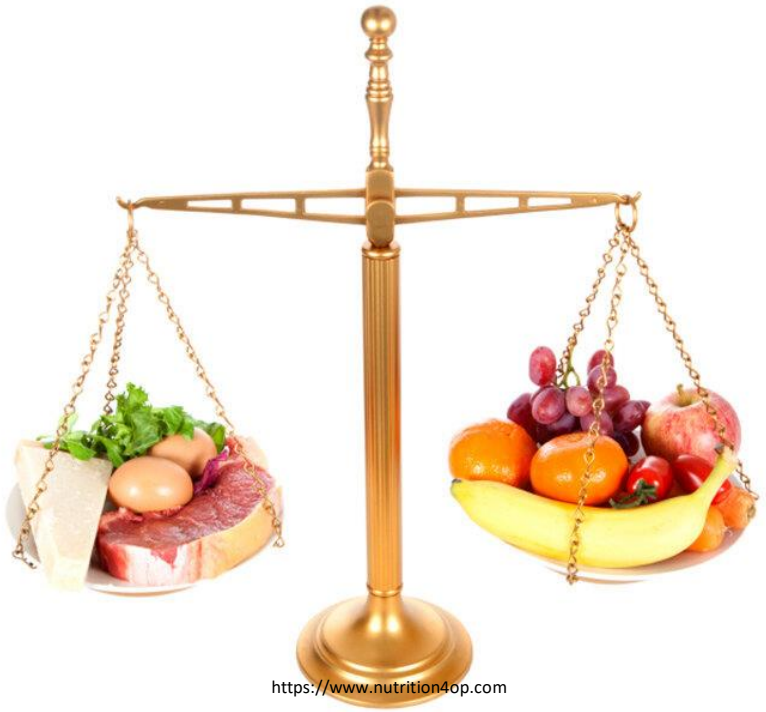


Foods Associated with Faster Progression of Parkinson's	Eat this instead
Milk	Dairy free milks: Coconut, Oat, Almond, Cashew, Flax. Soy is also DF but is high in protein. (Califa and Elmhurst brands have the least processed ingredients)
Cheese	Dairy free cheese: Follow your Heart, Miyokos (excellent DF butter), Daiya, Violife, Chao
Yogurt	Dairy Free Yogurt: Silk, SoDelicious, Oui, Kite Hill (some are higher protein), Sigis (some are higher protein), Forager, Nancy's, Coco Jun
Frozen Vegetables and Canned Vegetables and Fruits	Fresh vegetables: ones that last longer: cabbage, carrots, celery, root vegetables (sweet potato, red, yellow and purple potatoes), winter squash. Put a paper towel in your prewashed greens. Bagged salads.
Pork, Chicken, Beef	Fish, shellfish, legumes (beans), tofu, tempeh, eggs
Foods / beverages stored in plastic especially water	Glass containers are best
Soda / Diet Soda	Splash juice in sparkling water, cinnamon tea made strong and poured over ice (Bengal Spice, Pukka), kombucha, kefir water (Kevita)
White Pasta	Quinoa, farro, sorghum, gluten free pasta (legume, rice and quinoa based), zoodles (zucchini noodles), spaghetti squash, soba noodles (buckwheat)
Ice Cream	Dairy Free Ice Cream: Coconut, Oat, Soy (may have more protein) Sorbet – make a smoothie, frozen fruit (bananas, mango, berries with DF whip cream)
Fried Foods	Baked, Air Frier, use spices to protect the food from high heat, dehydrated (apples, bananas, peppers, coconut…) Craving something crispy? Nori (dried seaweed), kale chips, snap peas, baby carrots…
Artificial sweeteners, colors and flavors (aspartame depletes dopamine)	Natural ingredients, check labels, fruit and vegetable colors

Parkinson's Specific Dietary Considerations

Protein and Levodopa

- Protein can interfere with your levodopa medication and reduce effectiveness
- Take your Levodopa medication:
  - On an empty stomach 30 minutes before or 60 minutes after a meal that contains protein
    - Wait until you are ON to eat protein
  - To prevent nausea, take with a low protein food like crackers, rice, toast or fruit
  - To aid absorption, take with some lemon juice (1-2 Tbs) or vitamin C (200 mg)



https://www.nutrition4op.com

What foods have protein?



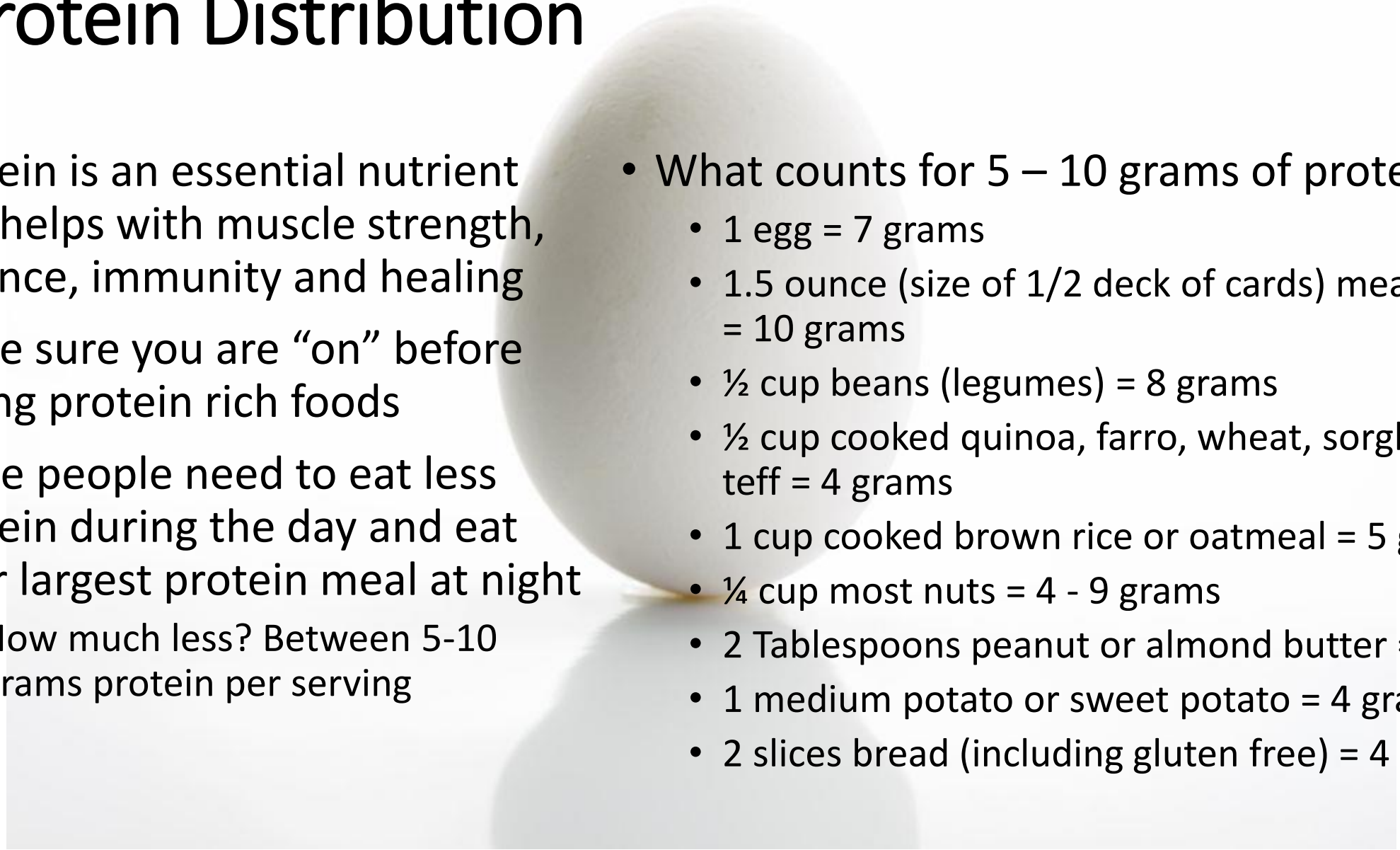
- **Highest levels / most concentrated:**
  - Beef, pork, poultry and fish, shellfish
  - Eggs
  - Tofu (esp firm and extra firm)
  - Milk, yogurt and cheese
  - Protein powders, bars and drinks

- **Less concentrated:**
  - Legumes
  - Nuts and seeds and nut butters
  - Pseudograins like quinoa, teff and amaranth

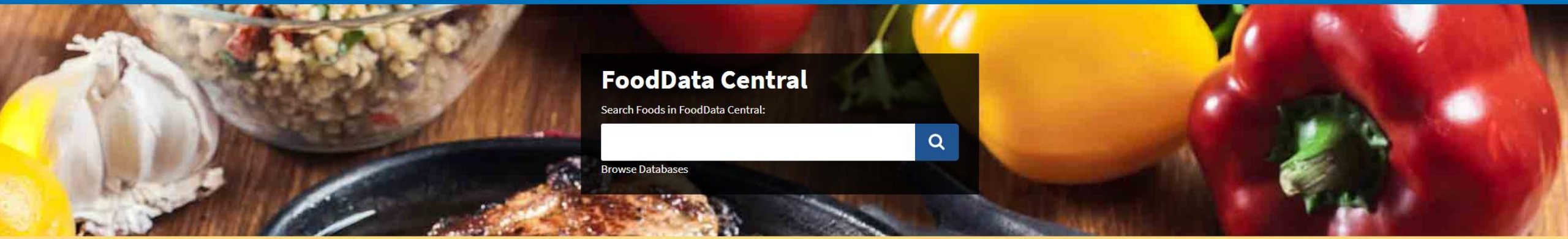
- **Least concentrated**
  - Whole grains and starches
  - Vegetables
  - Fruit

Protein Distribution

- Protein is an essential nutrient and helps with muscle strength, balance, immunity and healing
- Make sure you are “on” before eating protein rich foods
- Some people need to eat less protein during the day and eat their largest protein meal at night
  - How much less? Between 5-10 grams protein per serving



- What counts for 5 – 10 grams of protein?
  - 1 egg = 7 grams
  - 1.5 ounce (size of 1/2 deck of cards) meat or fish = 10 grams
  - ½ cup beans (legumes) = 8 grams
  - ½ cup cooked quinoa, farro, wheat, sorghum or teff = 4 grams
  - 1 cup cooked brown rice or oatmeal = 5 grams
  - ¼ cup most nuts = 4 - 9 grams
  - 2 Tablespoons peanut or almond butter = 8 grams
  - 1 medium potato or sweet potato = 4 grams
  - 2 slices bread (including gluten free) = 4 - 6 grams



FoodData Central

Search Foods in FoodData Central:

Browse Databases

Download Data | Get an API Key | API Guide

FoodData Central is an integrated data system that provides expanded nutrient profile data and links to related agricultural and experimental research.

At this time, only a basic view of search results is available for viewing on mobile devices. Advanced filter features, such as searching by data type, are not yet mobile-enabled and are available only in desktop view. Users are encouraged to use a desktop computer to conduct food item searches.

Inventory and Update Log

New for October 2023:

- New information regarding published beta-glucan values in mushrooms

FoodData Central takes the analysis, compilation, and presentation of nutrient and food component data to a new level. FoodData Central:

- Can be used by, and has benefits for, a variety of users, including researchers, policy makers, academicians and educators, nutrition and health professionals, product developers, and others.
- Includes five distinct data types that provide information on food and nutrient profiles: **Foundation Foods**, Food and Nutrient Database for Dietary Studies 2019-2020 (**FNDDS 2019-2020**), National Nutrient Database for Standard Reference Legacy Release (**SR Legacy**), USDA Global Branded Food Products Database (**Branded Foods**), and **Experimental Foods**. Each of these data types has a unique purpose and unique attributes.
- Links these distinct data types in one location, thus strengthening the ability of researchers, policy makers, and others to address vital issues related to food, nutrition, and diet-health interactions.
- Provides a broad snapshot in time of the nutrients and other components found in a wide variety of foods and food products.

Before you get started, view the About Us page for essential information about FoodData Central data types and how to use this system.

Chickpeas (garbanzo beans, bengal gram), mature seeds, cooked, boiled, without salt

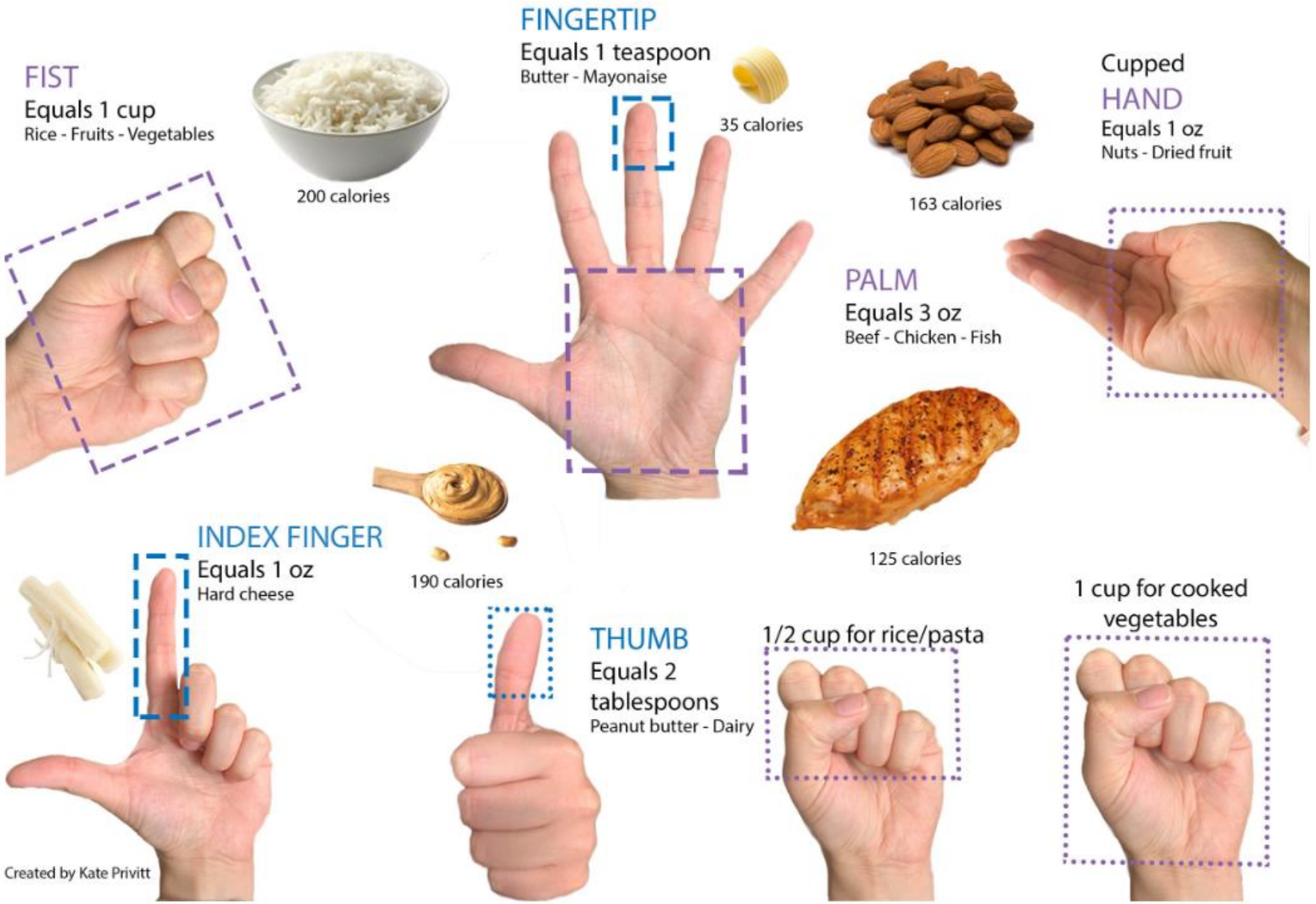
SR Legacy, released in April 2018, is the final release of this data type and will not be updated. For more recent data, users should search other data types in FoodData Central.

Data Type: SR Legacy **Food Category:** Legumes and Legume Products **FDC ID:** 173757 **NDB Number:** 16057
FDC Published: 4/1/2019

Nutrients **Measures**

Portion: 1 cup (164 g)

Name	Amount	Unit	Deriv. By	n	Samples	Min	Max	Median	Footnote	Last Updated
Water	98.7	g								12/1/1986
Energy	269	kcal	Calculated							4/1/2007
Energy	1130	kJ	Calculated							4/1/2007
Protein	14.5	g								12/1/1986
Total lipid (fat)	4.25	g								12/1/1986
Ash	1.51	g								12/1/1986
Carbohydrate, by difference	44.9	g	Calculated							4/1/2007
Fiber, total dietary	12.5	g								1/1/1994
Sugars, total including NLEA	7.87	g	Taken from another source--other tables of food composition							2/1/2003
Calcium, Ca	80.4	mg								12/1/1986
Iron, Fe	4.74	mg								12/1/1986
Magnesium, Mg	78.7	mg								12/1/1986
Phosphorus, P	276	mg								12/1/1986
Potassium, K	477	mg								12/1/1986
Sodium, Na	11.5	mg								12/1/1986
Zinc, Zn	2.51	mg								12/1/1986
Copper, Cu	0.577	mg								12/1/1986



A Portion Size Guide using Only Your Hand. Created by Kate Privitt.

https://www.ebnutritionconsulting.com/portion-size-guide

What this looks like for many people

(although everyone is individual)…..

- Breakfast: ~5-10 grams protein
- Snack: ~ 5 grams protein
- Lunch: ~5-10 grams protein
- Snack: ~5 grams protein
- Dinner: ~30 grams protein
- Snack: ~10 – 20 grams protein

Add multiple textures to meals
to improve satisfaction



Parkinson's PRO Meal Pattern Example

Daytime (less protein)

Salad greens, ¼ cup garbanzo beans, cut up veggies, roasted sweet potato, dairy free feta cheese, avocado and whole grain crackers



https://www.forkinthekitchen.com/wprm_print/5327

Evening (more protein)

Fish tacos with avocado and lime, black beans and salad



https://kristineskitchenblog.com/fish-tacos/

Resources for meal planning and tracking:



- **Mediterranean diet recipes:**
  - Old Ways Foundation (website)
  - Eating Well Magazine (website)
- **Mind Diet recipes:**
  - Mind Diet Recipes by Julie Andrews MS, RDN (book)
  - Mind Diet for Beginners by Kelli McGrane, MS, RDN (book)
- **Vegan recipes:**
- Becoming Vegan by Vesanto Melina (book)
- Pick Up Limes (blog)
- The Full Helping (blog)
- The Minimalist Vegan (blog)
- Vegan Richa (blog)
- Forks over Knives (website)

- **Beans**
  - The Bean Institute (Website)
- **Cooking**
  - Cookus Interruptus (You Tube)
  - All Recipes (many recipes have videos)

Use Cronometer – free diet tracking app to put in ingredients to get protein per serving and calories

Cronometer

Image credit: https://pngtree.com/so/cooking-logo

Meal Delivery – If you need a break

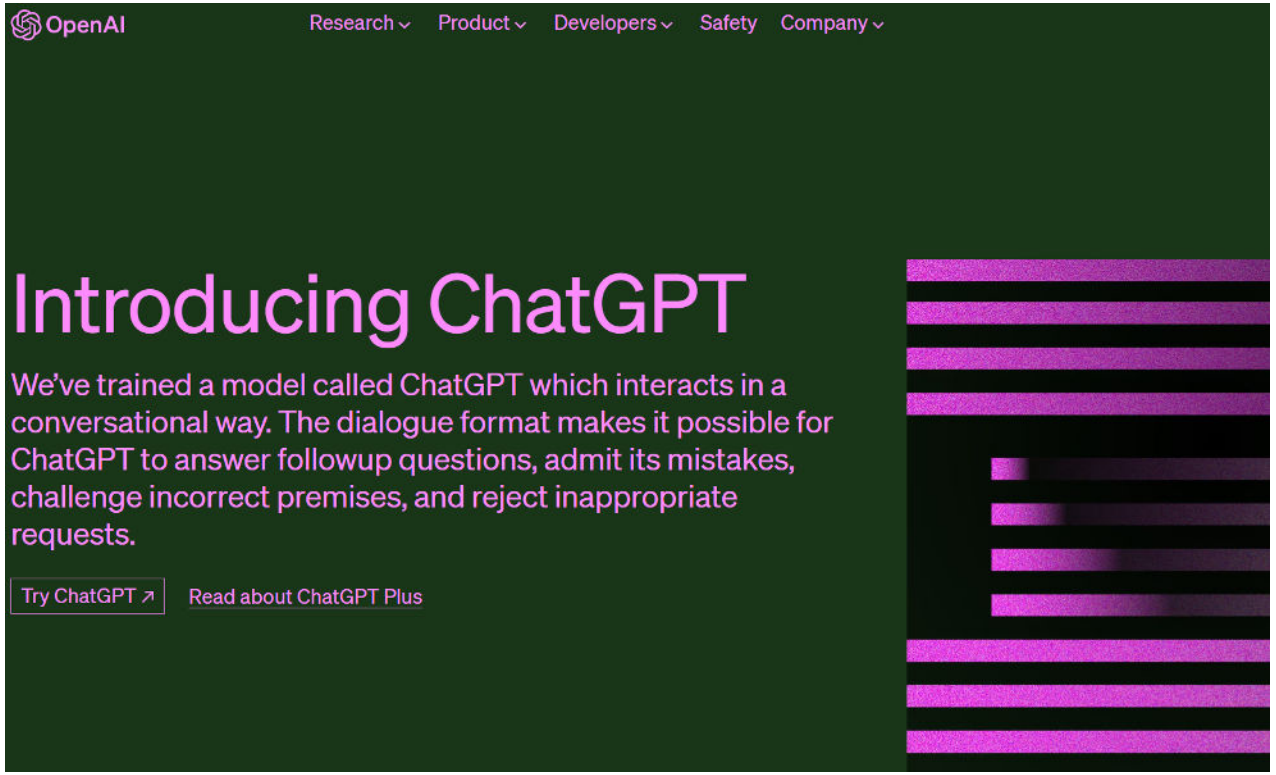
- Daily Harvest https://www.daily-harvest.com/
- Thistle: https://www.thistle.co/
- Modify Health (Mediterranean) https://modifyhealth.com/
- Shef – available in some areas – local chefs https://shef.com/



DAILY HARVEST modifyhealth THISTLE shef

Chat GPT – Artificial Intelligence online tool can help with meal ideas, recipes and shopping lists

- https://openai.com/blog/chatgpt
- Potential prompts:
  - Give me 5 recipes for quinoa according to a dairy free Mediterranean diet
  - Provide 5 dinner ideas using MIND diet principles that can be made in 20 minutes or less
    - Provide recipes and a shopping list for these meals….
  - Provide a recipe for how to use these three ingredients (enter ingredients) using a MIND diet perspective
  - Create a shopping list for the recipes you just gave me





Digestion

Image credit: https://www.eatingwell.com/article/8053282/how-to-digest-food-faster/

Constipation

- **The 4 F's**
  1. **Fiber** – oats, flax, chia, fruits, vegetables, beans, whole grains, nuts and seeds
  2. **Fluid** – stay hydrated
  3. **Flora** – fermented foods and fiber
  4. **Physical Activity**

Easy Chia Pudding:

2 tablespoons chia seeds

1 cup dairy free milk

½ tablespoon maple syrup

Toppings of choice: combine all ingredients in a small bowl or jar and let sit overnight in the fridge





Image credit: https://fermentationassociation.org/survey-fermented-foods-and-consumer-behavior/

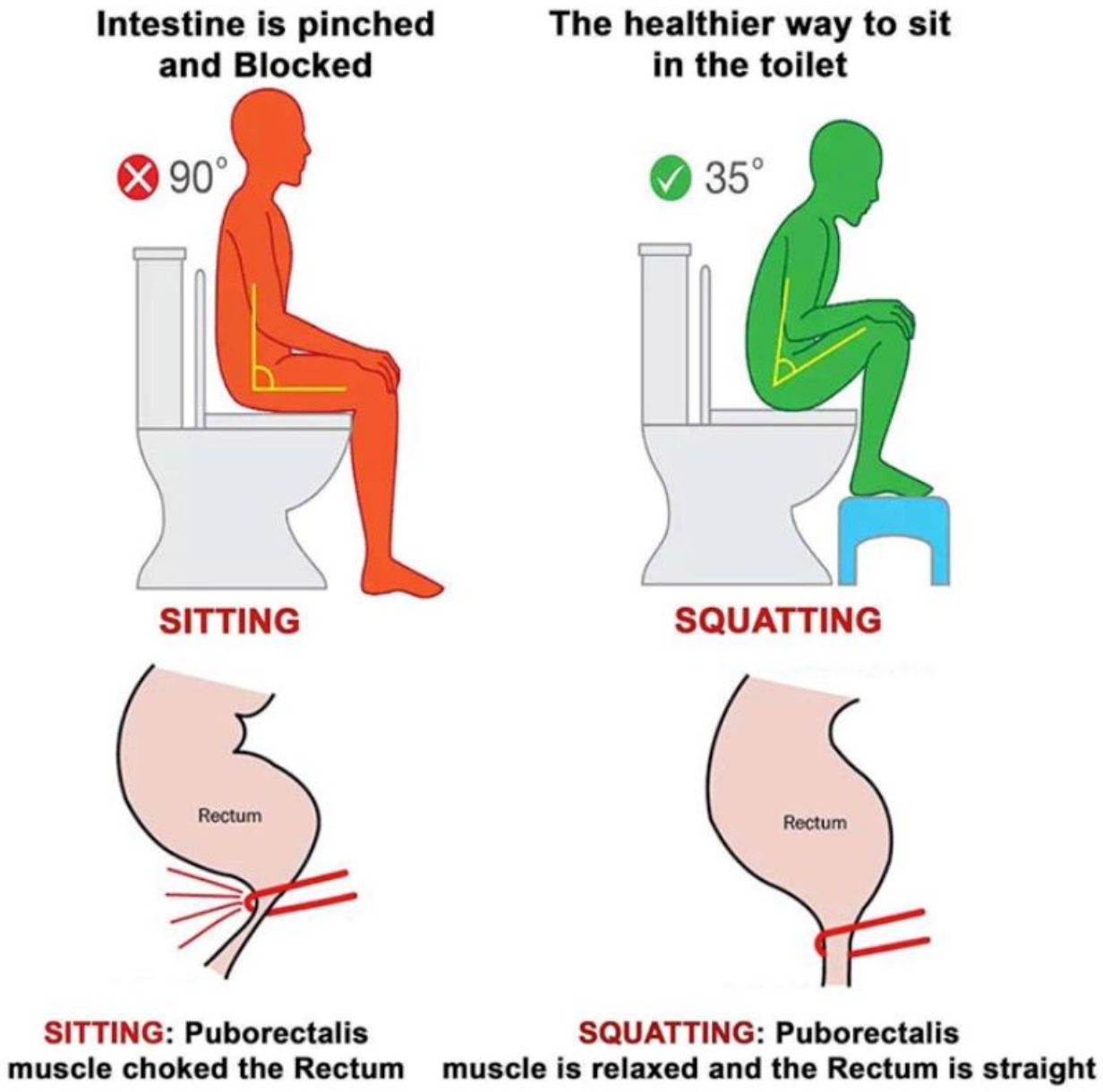
Fermented Foods

- Refrigerator section of the store
- Sauerkraut
- Fermented vegetables (beets, carrots…)
- Pickles
- Miso
- Dairy free yogurt (watch sugar)
- Kombucha (watch sugar)
- Kefir water (Kevita)
- Apple Cider Vinegar
- Make your own: Cultures for Health https://culturesforhealth.com
- Add as flavoring and digestive boost to your meals

Optimizing Digestion

- Squatty Potty
- Abdominal massage
- Heating pad

- Magnesium
- Psyllium
- Polyethylene glycol (MiraLAX)



https://motipt.com/tag/squatty-potty/

Gut Motility Activators

- **Ginger** – in all forms
  - Tea, powder, candy, pickled ginger
- **Bitter flavors**
  - Green vegetables, green tea, chamomile, ginger, roasted dandelion root, citrus fruits and zest, coffee, dark chocolate, turmeric
- **Probiotics-** fermented foods and dietary supplements
  - Dairy free yogurt and kefir, pickles, fermented vegetables, miso, apple cider vinegar, kvass, kombucha
- **Hydration** – drink / sip plenty of water - ½ body weight in ounces (ie 150 lbs = 75 ounces)



https://www.instagram.com/jilliangreavesrd/

My favorite bitters…..







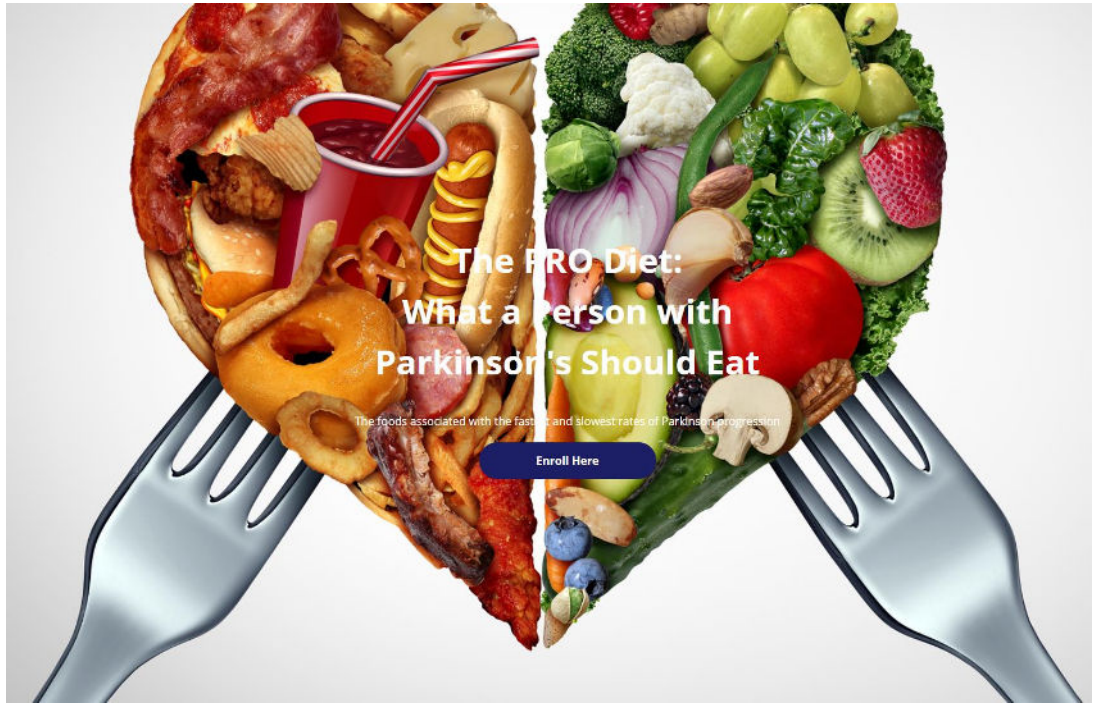
Additional PD and Nutrition Resource

Parkinson's School https://www.parkinson-school.com/

I teach a monthly Nutrition class through PD School

PARKINSON'S SCHOOL

An Online Course for Patients and Providers



Next class….

Friday January 26th…

Plant Slant: Strategies to Help Transition to a Plant Based Diet



https://www.chenmedicalcenters.com/articles/everything-you-need-know-about-plant-based-diet