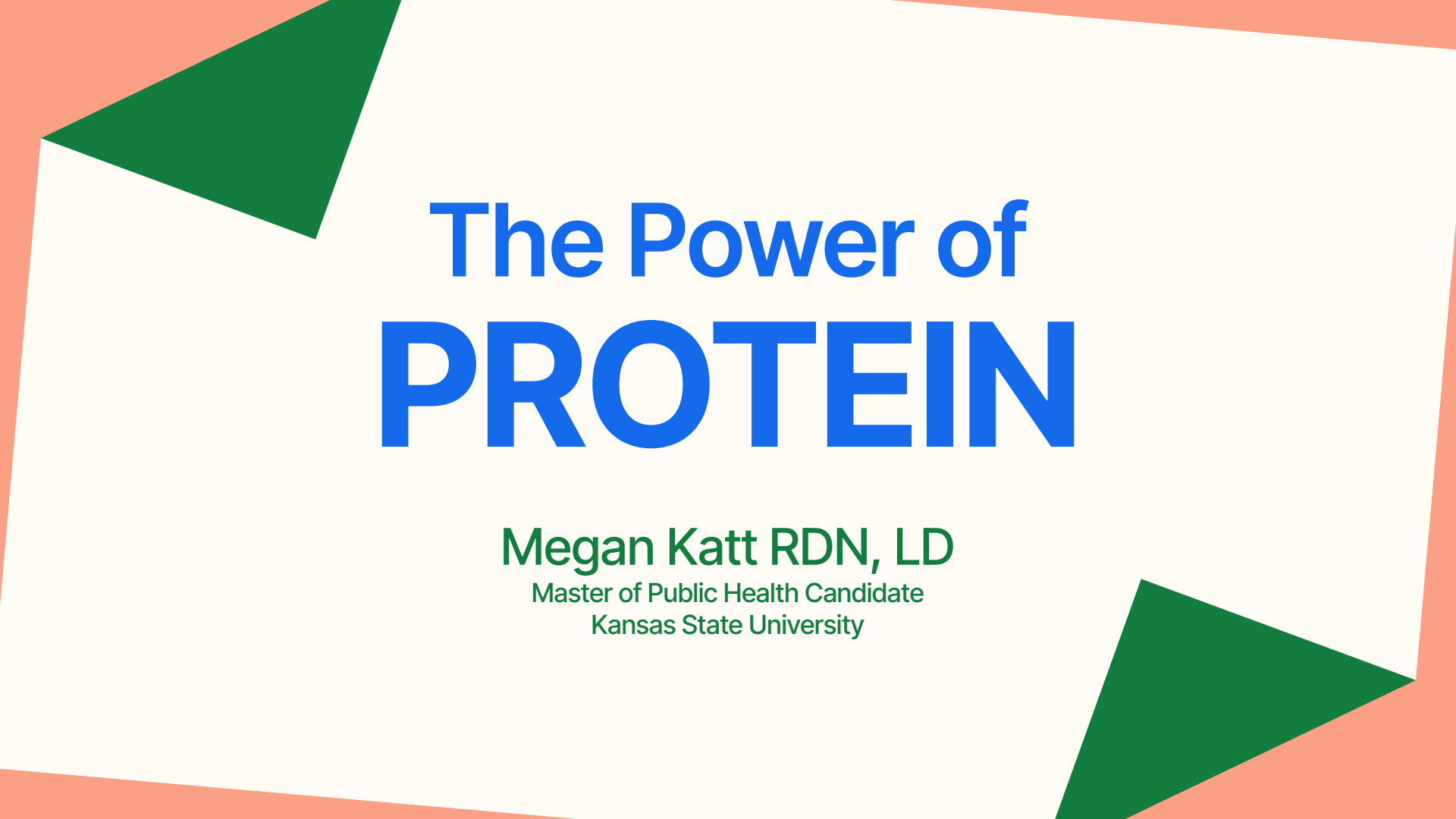




The Power of **PROTEIN**

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Kansas State University

This project was in part funded by the “Ready to Serve: Building a Day-1-Ready Public Health Workforce for Kansas and Beyond” HRSA Award Number: 1 T52HP46763-01-00. This [project/publication/presentation] [is/was] supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$1,489,735.00 with 0% percentage financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS or the U.S. Government.

About Me

Scott City → Clyde, KS

Lafene Health Center → TWCC

B.S. in Education, Dietetics

mom of two

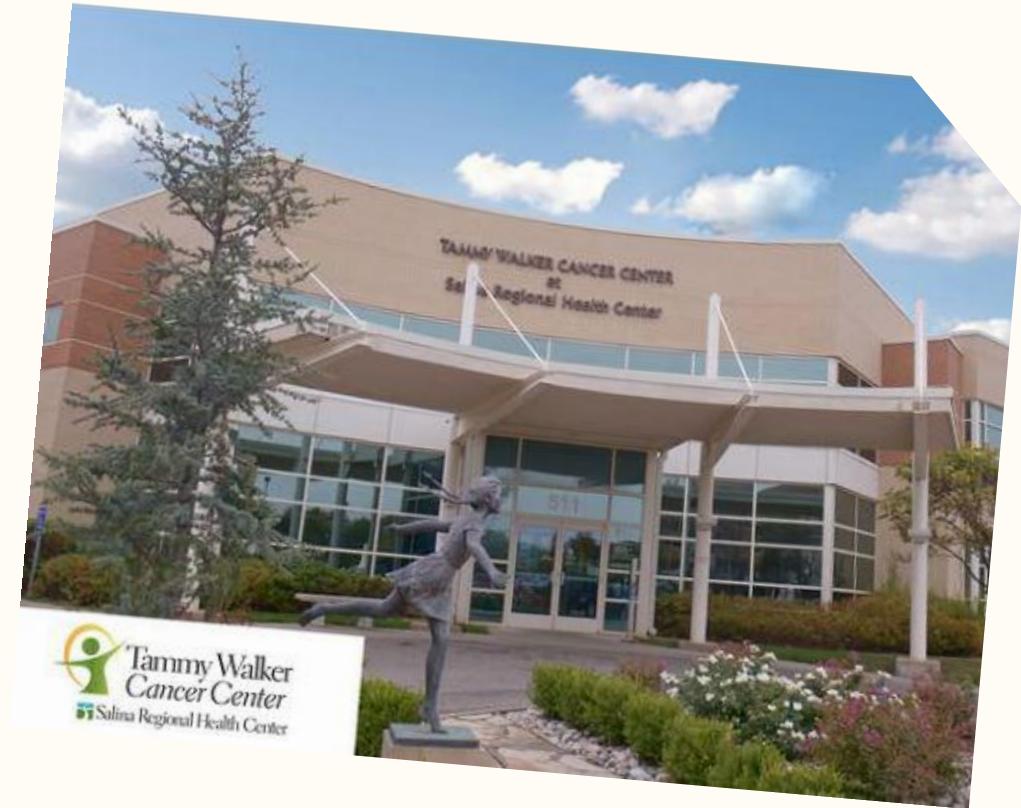
Registered Dietitian Nutritionist

CrossFit, volleyball, plants & reading



Where I Work

- Comprehensive cancer center
- Rural communities around Salina
- Medical oncology
- Radiation oncology
- Support Services
 - Registered Dietitian



2023 Demographics

- **863** patients (430 male / 433 female)
- **94%** white
- Patients from **54** counties
- Top 5 **Counties** at dx
 - Saline
 - Dickinson
 - McPherson
 - Cloud
 - Ottawa
- Top 5 **dx**
 - Breast
 - Bronchus/Lung
 - Prostate
 - Blood/Bone Marrow
 - Colon

Age	# Pts
<20	1
20-29	16
30-39	21
40-49	60
50-59	100
60-69	235
70-79	277
80-89	129
≥90	24

My Role as an Oncology Dietitian



Photos: Marketing, Salina Regional Health Center



Protein Needs in Cancer Patients

- Increased protein needs: 1.0-2.0 g/kg CBW or IBW ¹
- Protein intake is hard to achieve in practice ²
- Increased protein intake associated with positive effects on muscle mass & physical function ³
- Unfavorable RDN to patient ratio

Benefits of PROTEIN in Cancer Patients



Photo: Canva

Muscle Maintenance and Growth

Immune Function

Wound Healing

Nutritional Support

Preserving Lean Body Mass

Treatment Tolerance and Recovery

Muscle Maintenance and Growth ⁴

- Chemotherapy and radiation therapy can lead to muscle wasting and weakness
- Protein helps preserve muscle mass and strength
- Increased QOL and functional capacity

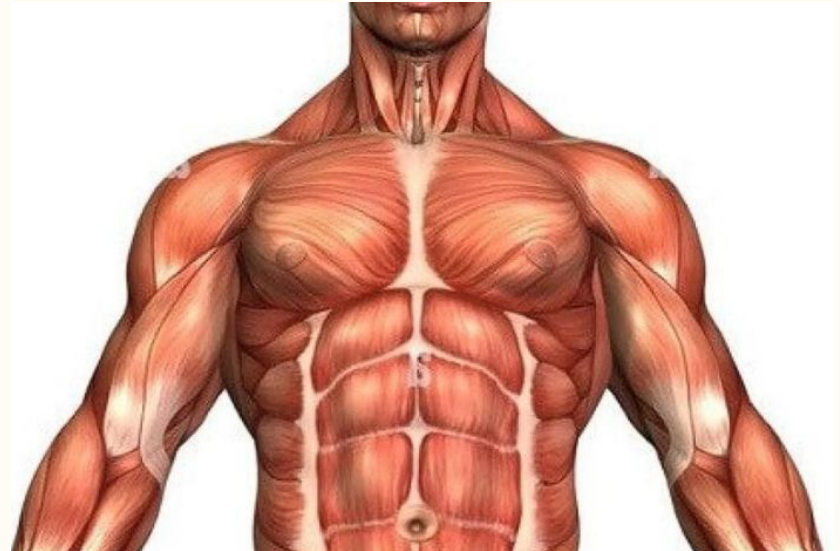
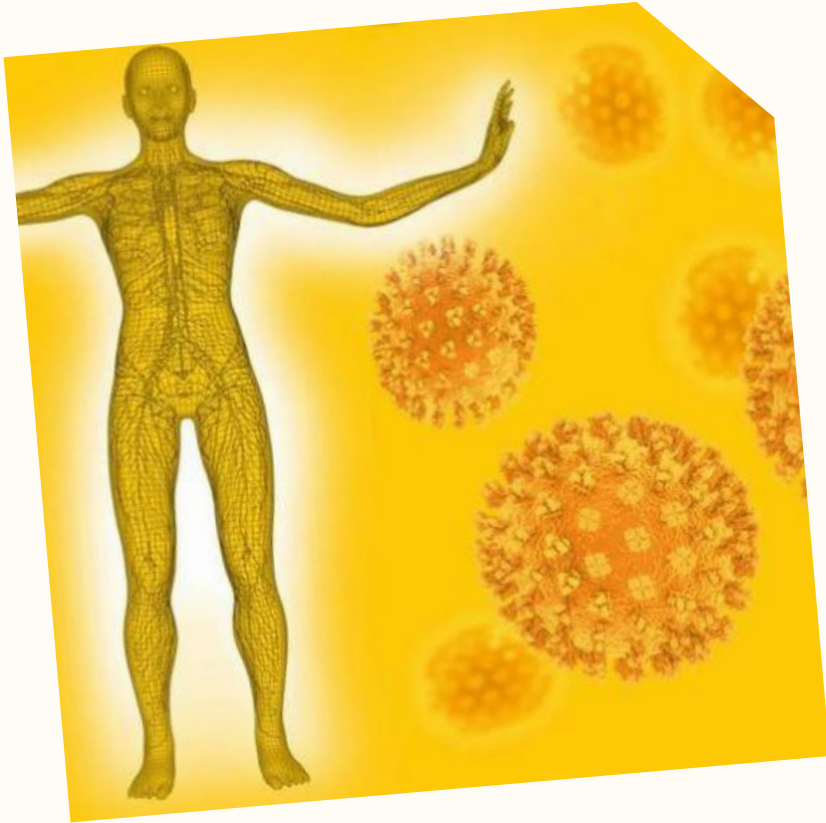


Photo: Canva



Immune Function ⁵

- Weakened immune systems
- Protein helps body fight off infections and improve recovery

Wound Healing ⁵

- Skin irritation, wounds, surgical incisions
- Protein vital for production of new tissue and repair of damaged cells
- Promotes healing
- Reduces risk of complications



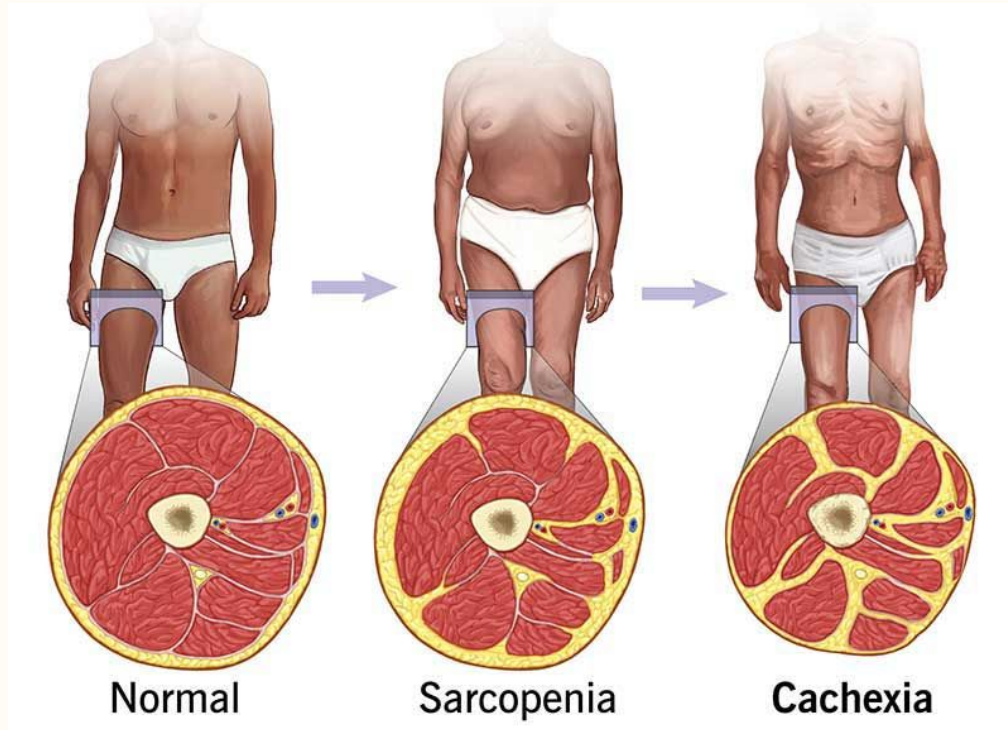
Photo: Indiana University

Nutritional Support ⁶

- Appetite changes, taste alterations, nausea, difficulty eating
- Inadequate nutrient intake
- Malnutrition



Photo: Cleveland Clinic



Lean Body Mass ⁶

- Sarcopenia
- Cachexia

Treatment Tolerance and Recovery ⁵

Cancer treatments are physically taxing and lead to fatigue, nausea, decreased appetite, and more.



Photo: National Cancer Institute

The Power of Protein

One month series of educational and interactive outreach efforts.

- Presentations- "The Power of Protein"
- Display in lobby
- Educational materials
- Product samples
- Connection with dietitian



Learning Objectives



- 1 Understand the importance of protein
- 2 Identify high-protein foods and drinks
- 3 Utilize resources for protein intake
- 4 Experiment with high-protein recipes
- 5 Access professional guidance

Weekly Topics

Week 1

- Muscle, cachexia
- Animal-based protein
- Featured Recipe: High-Protein Pudding

Week 3

- Wound Healing
- Complete Proteins
- Featured Recipe: no recipe due to weather

Week 2

- Immune function
- Plant-based protein
- Featured Recipe: Air-Fried Chickpeas

Week 4

- Treatment tolerance and recovery
- Fortified protein foods and drinks
- Featured Recipe: High-Protein Muffins

Product 1

Dietitian Info Card

Personalized Nutrition Consultations



Talk to a registered dietitian about nutrition and cancer

Nutrition is an important part of cancer treatment. With the onset of cancer and related treatments, nutritional recommendations can change. Proper nutrition is essential for maintaining a good quality of life, minimizing the side effects of treatment, and/or recovering from surgery.

The Tammy Walker Cancer Center at Salina Regional Health Center offers nutrition education and consultations to patients and caregivers of all cancer types.



Nutrition during cancer treatment

The primary goals of enhancing nutrition during cancer treatment are to:

- Prevent or reverse poor nutritional status
- Maintain dose and schedule of cancer treatments
- Manage disease symptoms and treatment-related side effects
- Maintain or improve weight, strength and energy
- Heal and recover faster

To make an appointment with the dietitian, contact:

Megan Katt, RDN, LD
Clinical Oncology Dietitian
(785) 452-4849
mkatt@srhc.com



www.tammywalkercancercenter.com

Product 2

Protein Food/Drink

Handout

Protein-Rich Foods and Drinks

Meat and Poultry

Chicken breast
Turkey breast
Lean beef (sirloin, tenderloin)
Pork (tenderloin, chops)
Lean cuts of lamb
Deer/Venison
Jerky

Fish and Seafood

Salmon
Tuna
Halibut
Tilapia
Cod
Halibut
Shrimp

Dairy and Dairy Alternatives

Eggs
Greek yogurt
Cottage cheese
Cheese (cheddar, etc.)
String Cheese
Milk

Legumes and Beans

Lentils
Chickpeas (garbanzo beans)
Black beans
Kidney beans
Green peas

Grains and Grain Products

Quinoa
Oats
Brown rice
Barley
Whole grain products (pasta, crackers, bread)

Nuts and Seeds

Almonds, Peanuts, Cashews
Peanut butter (or other nut butters)
Pumpkin seeds (pepitas)
Sunflower seeds
Chia seeds
Pumpkin seeds
Flaxseeds
Hemp Seeds

Soy Products

Tofu
Tempeh (fermented soybeans)
Edamame
Soy milk
Soy-based meat substitutes (veggie burgers, soy crumbles)

Other Protein Sources:

Protein-fortified products

- Protein drinks or powder
- Protein bars
- Protein chips
- Protein noodles
- Collagen peptides

Tips for Boosting Protein

- Add cheese
- Use milk or cream in place of water
- Greek yogurt>regular yogurt
- Add leftover or pre-cooked/canned meats to soups, casseroles, salads, omelets
- Pair peanut butter or cottage cheese with fruit or vegetables
- Add beans and peas to dishes
- Explore protein-fortified drinks and foods

Product 3

Benefits of Protein

Handout

THE POWER OF PROTEIN

MEGAN KATT, RD, LD
CLINICAL ONCOLOGY DIETITIAN
(785) 452-4849 mkatt@scrhc.com



Muscle Maintenance and Growth	Protein is essential for maintaining and repairing muscle tissue, which is crucial for cancer patients, especially those undergoing treatments like chemotherapy and radiation therapy, that can lead to muscle wasting and weakness. Adequate protein intake can help preserve muscle mass and strength, improving overall quality of life and functional capacity. Cancer cachexia, a wasting syndrome characterized by severe weight loss and muscle wasting, is a common concern among cancer patients. Consuming adequate protein can help prevent or lessen this condition by supporting the maintenance of lean body mass.
Immune Function	Proteins are essential for the proper functioning of the immune system. Cancer patients often have weakened immune systems due to the disease itself or the treatments they undergo. Consuming sufficient protein can support immune function, helping the body fight off infections and recover more effectively.
Wound Healing	Cancer treatments can sometimes cause skin irritation, wounds, or surgical incisions that require healing. Protein is vital for the production of new tissue and the repair of damaged cells, which is essential for wound healing. Adequate protein intake can help speed up the healing process and reduce risk of complications.
Nutritional Support	Cancer and its treatments can lead to changes in appetite, taste alterations, nausea, and difficulty eating, which may result in inadequate nutrient intake. Protein-rich foods can be calorie-dense and provide essential nutrients that the body needs for energy, tissue repair, and overall health. Ensuring sufficient protein intake can help prevent malnutrition and support the body's nutritional needs during cancer treatment.
Supporting Treatment Tolerance and Recovery	Cancer treatments such as chemotherapy and radiation therapy can be physically taxing and may lead to side effects like fatigue, nausea, and loss of appetite. Protein-rich foods can provide the necessary energy and nutrients to help patients better tolerate treatment and recover more quickly between sessions.

Product 4

The Power of Protein Presentation



Product 5 Recipes



FEATURED RECIPE:

Air-Fryer-Roasted Chickpeas

SERVINGS: 3 (1/2 C.) PREPPING TIME: 15 MIN COOKING TIME: 15 MIN

INGREDIENTS

- 1- 15.5 oz can chickpeas
- 1 tsp. olive oil
- seasonings

SEASONING

SUGGESTIONS

grated parmesan
garlic powder
onion powder
ranch seasoning
paprika
sea salt & pepper
honey & cinnamon
bbq
chili powder & lime
tahin

DIRECTIONS

1. Drain chickpeas in a colander and preheat air fryer to 400°F.
2. Roast chickpeas in air fryer for 5 minutes to dry.
3. Add chickpeas to a mixing bowl with olive oil and toss to coat.
4. Return chickpeas to air fryer for an additional 10 minutes. Check them and roast for additional time, if necessary.
5. Once crispy, add chickpeas to bowl and mix with desired seasonings.

Enjoy on their own as a snack, over salads, in a trail mix, or as desired. After fully cooling, store in airtight container for 2-3 days.

Per 1/2 cup: 6 grams protein

Recipe adapted from: Slice of Jess (www.sliceofjess.com)

Featured Recipe: Protein Muffins



INGREDIENTS

14 oz. protein shake

5.3 oz. Greek yogurt

1 box Kodiak® Protein-Packed Muffin Mix

DIRECTIONS

1. Add all ingredients to a mixing bowl.
2. Stir until combined.
3. Fill prepared muffin cups with batter.
4. Bake as directed on muffin mix box.

VARIATIONS

- 1. Try different flavor combinations of muffin mix, yogurt, and protein shake.
- 2. Add-in extra goodies: chocolate chips, blueberries, or diced bananas.

Featured Recipe: Protein Pudding



Ingredients

1 single-serve bottle protein shake

etc: Premier Protein, Organi, On the Border

1/2 packet pudding powder

Optional:

2 Tbsp. PB2 (powdered peanut butter)

Directions

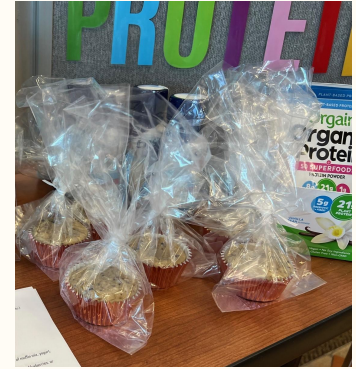
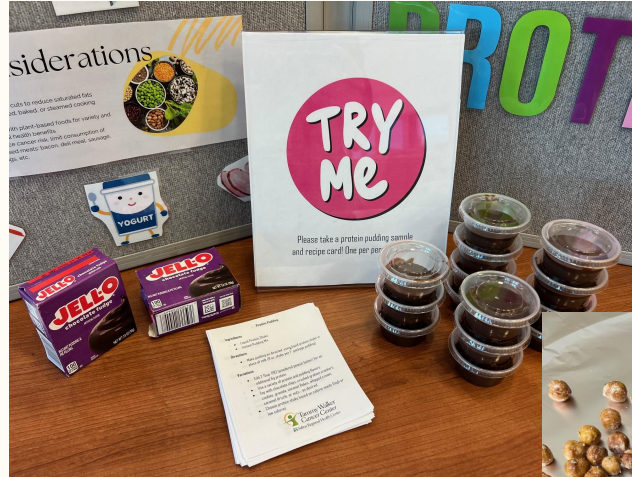
1. Combine all ingredients.
2. Mix thoroughly with hand or stand mixer.
3. Let set in refrigerator.

Variations

- Use a variety of protein and pudding flavors.
- Top with chocolate chips, crushed graham crackers, cookies, coconut flakes, or nuts.
- Serve with a dollop of whipped cream or caramel drizzle.

Product 6

Recipe Samples



Product 6 Educational Booth



Results

- 300+ patients and caregivers reached
 - Continue to use products

Limitations and Lessons Learned

- Difficult to measure learning
- Hard to perform outreach without falling behind in clinical work

Next Steps

- Translate materials into Spanish
- Booth with roving info: sugar, alcohol

MPH Foundational Competencies

Number and Competency		Description
1	Apply epidemiological methods to the breadth of settings and situations in public health practice	Through the identification of a health issue (protein malnutrition in cancer patients), assessment of patient needs, and development of targeted interventions to improve nutrition, you have applied epidemiological methods in a public health practice setting. By focusing on the cancer patient population and tailoring your educational outreach, you have used key epidemiological principles to address a significant health concern.
7	Assess population needs, assets and capacities that affect communities' health	National and internal assessment, through literature reviews and professional clinical experience, of the effects of inadequate protein intake during cancer treatment.
9	Design a population-based policy, program, project or intervention	The Power of Protein, an educational outreach effort designed to target the nutritional needs of the cancer patients of the Tammy Walker Cancer Center consisted of outputs that will be available to patients during the month of February 2025 and beyond.
18	Select communication strategies for different audiences and sectors	Create a variety of outputs utilizing different communication strategies in order to effectively reach more patients, colleagues, patient caregivers, etc., with content (oral presentation, handouts, food sampling with recipes, educational booth, dietitian info card).
19	Communicate audience-appropriate public health content, both in writing and through oral presentation.	Create a variety of outputs utilizing different communication strategies in order to effectively reach more patients with content (oral presentation, handouts, food sampling with recipes, educational booth, dietitian info card).

PH Nutrition Emphasis Area Competencies

Number and Competency		Description
1	Information literacy of public health nutrition	The project demonstrated information literacy by sourcing relevant and current nutrition research on the role of protein in cancer care and incorporating it into educational materials. Nutritional gaps within the patient population, such as inadequate protein intake, were identified, and evidence-based resources were used to design educational interventions, such as handouts and presentations. This approach showcased the ability to efficiently gather, evaluate, and apply nutrition information to improve public health outcomes.
2	Compare and relate research into practice	Research findings regarding the benefits of increased protein intake for cancer patients were directly applied to the project. Studies indicating that cancer patients often experience muscle wasting and nutritional deficiencies (such as malnutrition and cachexia) were translated into practical interventions. For example, easy-to-follow handouts were created, and educational outreach efforts were implemented to empower patients to increase protein in their diet. This approach demonstrated the ability to take theoretical knowledge and apply it in real-world patient care.
3	Population-based health administration	The project focused on a specific patient population—cancer patients at Tammy Walker Cancer Center—and developed resources and educational outreach with the goal of improving health outcomes for this group. Interventions were designed to address the unique nutritional needs of these patients. Collaboration with other healthcare providers and staff reflected the administrative aspect of coordinating and supporting a population-based health initiative aimed at improving cancer patients' nutrition and overall health.
4	Analysis of human nutrition principles	Core human nutrition principles were applied throughout the project, particularly the importance of protein in maintaining muscle mass, supporting immune function, and enhancing treatment outcomes. The nutritional needs of cancer patients in the context of their treatment and recovery were assessed, with a specific focus on how protein could address muscle wasting and nutritional deficiencies. This demonstrated the ability to analyze and apply human nutrition principles to improve health outcomes for cancer patients.
5	Analysis of nutrition epidemiology	The project applied principles of nutrition epidemiology by identifying a significant nutrition-related issue—protein malnutrition—within the cancer patient population and developing interventions to address it. The broader impact of protein deficiencies on recovery and treatment tolerance was assessed, and evidence from nutrition epidemiology was used to guide interventions aimed at improving protein intake. This approach linked population-level nutritional trends with individual patient care.

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