

Nutrition and Cancer

Recipe Book for Developing Nutrition
Care for the Patient With Carcinoid
Cancer

Leigh Anne Burns MS, LDN/RD

LSU School of Medicine

New Orleans

Stanley S. Scott Cancer Center

Author: You!



Objective: Developing Your Recipe Book

- Develop a team concept
 - Who's head chef
 - Identifying team responsibilities
- Building strategy
 - What's the problem?
 - Plan to solve problem
- Making the recipe book
 - Meal plan
 - Recipe development
- Evaluating success
 - Maintaining goals
 - Maintaining quality

Developing a Team concept

- Who's head chef
 - Primary chef (self)
 - Primary shopper
 - Nutrition consultant
 - Medical team
 - Caretakers
 - Other church, friends, etc

Developing Strategy

- What's the problem?
 - Nutritional complications
 - Involuntary weight loss
 - Carcinoid syndrome
 - Maintain healthy lifestyle
- What's the plan to solve problem?
 - Setting objectives
 - Developing plan

Location of Tumors

- Foregut
 - 15% all carcinoids
 - Lungs, stomach, duodenum
- Midgut
 - Most common
 - Appendix (30%-50%), small intestine (15%-35%)
- Hindgut
 - Less frequent
 - Distal colon, rectum

Making the Book!

- Ingredients: protein, calories, fiber, fluid
 - Meals
 - Breakfast
 - Lunch
 - Supper
 - Snacks
 - Recipes
 - Appendixes
 - Seasoning
 - Supplements

Develop Meal Plan

- Protein source
- Carbohydrate source
- Fat source
- Fiber source
- Fluid sources

Protein

Amount and Sources

- Understanding ingredient
 - Role of proteins
 - Amines
- Determining amount needed
 - Set goals
 - Keep intake record
 - Consult registered dietitian
- Possible complications
 - Malabsorption
 - Carcinoid syndrome
 - Cultural or preference restraints

Understanding Role of Protein

- Why protein?
- Why not protein?

Lean Tissue: Components

- **Skeletal and smooth muscles**
- **Other components of lean tissue**

Type	Function
Organ tissue and skin	Normal organ function, protective barrier
Visceral protein	Transport proteins
Collagen	Structure
Enzymes	Normal cell function
Antibodies	Normal immune function
Growth factors	Normal cell turnover, wound healing

Lean Tissue: Smooth Muscle



Weight Related to Lean Tissue

- Total weight includes fat and lean tissues
 - Major component of lean tissue = muscle
 - Loss of muscle is marker of loss of other lean tissues
- Loss of lean tissue is associated with compromised outcomes

Amino Acids and Amines

- **Amino acids components forming proteins**
- **Vasoactive amines:** formed by the decarboxylation from amino acids
- Types affecting or affected by
- Complications
 - Tyramine, dopamine,
 - Tryptophan (serotonin) test
 - Liver metastasis

Amines

- Action fight or flight!
 - Flushing, palpitations, sweating, diarrhea
 - Food sources
 - Medication
 - Activity
 - Stress
- Restriction or limit

Tyramine Restricted Diet

- Fermented and aged foods includes leftovers
- Alcohol beverages
- All cheeses except cream cheese ricotta, cottage
- Meats that are smoked, aged, pickled, fermented, spoiled, leftover sausage, bologna, pepperoni, frankfurters, bacon, liverwurst, ham, wild game, livers
- Yeast, brewers, and extracts

Tyramine Cont.

- Fruits and vegetables banana overripe and peels,
- Sauerkraut,
- All over ripe and spoiled
- Limit ½ cup avocados, bananas, canned figs, raisins, raspberries, red plums
- Beans broad fava, Italian beans, Chinese pea pods, bean paste, fermented bean curds including soya beans, soya sauce, tofu, miso soup

Tyramine Cont.

- Condiments/ seasoning protein and yeast check labels, bouillon, cubes and powder, meat tenderizers, dry packaged and canned soups, gravy, stew mixes, instant soup dry powder, soy sauce, teriyaki
- Beverage beer, ales, domestic and imported wine, whiskey, liqueurs
- Ginseng

Test

- Foods that are precursors to 5HAA should be avoided at least 24 hours prior and during testing
- 5-hydroxytryptamine (serotonin) is derived from Tryptophan an indole containing amino acid

Serotonin Food Sources

Minimize or Avoid Prior to 5 IHAA

- Highest - meats especially turkey and chicken, barley, bajra, finger millet, mangoes, papaya, sweet potatoes, walnuts, cashew nuts peanuts, almonds, soy products, dairy especially cottage cheese and milk, brown rice,
- In most all nuts, seeds and vegetable

Protein Food Sources

- Nutrients
- Tolerances and intolerances
 - Animal-
 - Beef, poultry, fish,
 - Dairy
 - Non animal
 - Legumes, grains, nuts, and vegetables
 - Preparation
 - Recipe
 - Seasoning
 - Supplement

Calories

- Determine need
 - 30 – 35 calories / kg body weight
- Sources
 - Carbohydrate
 - Fats

Carbohydrate

– Understanding Types

- Why?
 - Energy
 - nutrients
 - wellness
- Why not?
 - Intolerances
 - Nutrients

Types

- Simple sugars
 - Sucrose - table sugar, syrups, honey
 - Fructose - fruit sugar
 - Lactose - milk sugars
- Complex
 - Starch
 - Fiber
 - Soluble
 - Insoluble

Food Sources

- Starches and breads
- Vegetables
- Fruits
- dairy
- Condiments

Concerns or Restrictions

- Carcinoid syndrome
- Dumping syndrome
- Celiac sprue
- Hyperglycemia or hypoglycemia
- Diarrhea
- Obstruction

Resources

- www.mypyramid.gov
- Dumping syndrome
- Diabetes
- Celiac
- Crohn's

Fats

- Understanding actions
- Nutrients
- Tolerances and intolerances
- Wellness
- Concerns or restrictions

Types

- Polyunsaturated
 - Omega 3
 - Omega 6
 - Sources
- Monounsaturated
- Saturated
- transfats

Concerns or Restrictions

- Digestion and absorption
- Heart disease
- Immunity
- Other

Sources

- www.mypyramid.gov
- www.aha.org



Meal Plan

- Protein need
- Calorie need
- Feedings per day
- Fluids with or between meals
- Recording meal and tolerances
- Add to book, alter, delete

Meal Development

- Feedings
 - Meat_____
 - Starch /bread_____
 - Vegetable_____
 - Fruit_____
 - Dairy_____
 - Condiments fats/sweets_____
 - Supplement

Taking Time for Development

- Team work
- Identify group similar problems
- Develop days meal for 2200 calorie plan
- Develop pre test day
- Develop thanksgiving dinner

Making a meal

- Meat_____ modification_____
- Starches/ bread_____Mod_____
- Vegetables_____ Mod_____
- Fruit_____ Mod_____
- Dairy_____ mod_____
- Fats/ condiments_____
- Dessert_____ mod_____

Foods and Recipes

- Meal type
- Tolerated
- Not tolerated
- Adjust
- Avoid
- Record

Evaluate

- Goals achieved
- Goals not achieved
- Continue objectives with adjustment
- Change objectives
- Reset goals

Appendix

- Supplements
 - Calorie / protein sources
 - Vitamins
 - Mineral

Enteral and parenteral Nutrition

- Nutrition products for calorie or protein
- Nutrition for absorption
- Nutrition via I V
 - PPN
 - TPN

Seasoning and Herbs

- Seasoning ideas
- Herbal information
 - <http://www.mskcc.org/mskcc/html/11570.cfm>
Sloan-Kettering professional resource for herbs, botanicals, and other products
many interfere check with physician before use

Supplements and Cam

- Review of literature
- resources



Summary

- Ingredients for nutritional success
 - Team approach
 - Understand why and why not
 - Use available tools for meal development
 - Record and evaluate
 - Adjust as needed

Conclusion

A team approach can help improve outcomes and quality of life

Every one just needs the recipe for success!

Nutrition resources

<http://www.mypyramidtracker.gov/>

<http://web.cancernutritioninfo.com>

<http://www.cancer.gov/cancerinfo/pdq/supportivecare/nutrition>

<http://www.cancer.gov/cancertopics/eatinghints>

[http://www.cancer.gov/cancertopics/pdq/supportivecare/nutrition/
HealthProfessional/page4](http://www.cancer.gov/cancertopics/pdq/supportivecare/nutrition/HealthProfessional/page4)

http://www.aicr.org/site/PageServer?pagename=dc_resources

<http://www.mskcc.org/mskcc/html/11570.cfm>

Sloan-Kettering professional resource for Herbs,
botanicals, and other products

<http://www.eatright.org/cps/rde/xchg/ada/hs.xsl/index.html>

American Dietetics Association

<http://www.nutrition.gov/> Practical information on healthy eating, dietary
supplements, fitness
and how to keep food safe.

Compiled and maintained by the combined efforts of U.S. federal government agencies.

<http://www.5aday.com/> review animated color 5 a day the color way

[5 A Day Promotes the importance of eating five servings of fruits and vegetables each day. Includes recipes, information on current research and a guide to making your diet more colorful](http://www.5aday.com/)

<http://www.us.sandostatin.com/hcp/carcinoid/epidemiology-pathophysiology.j>

http://www.aicr.org/site/PageServer?pagename=dc_resources#return
American Institute of cancer research useful for prevention and treatment material includes New American plate information

http://www.dvo.com/recipe_pages/cancer/Two-

[Day Suggested Eating Plan for Diarrhea.html](http://www.dvo.com/recipe_pages/cancer/Two-Day_Suggested_Eating_Plan_for_Diarrhea.html) Betty Crocker cook book CD for cancer care recipe addition via computer

<http://www.healthcastle.com/index.shtml> trusted source of nutrition information

<http://www.healthcastle.com/cancerdiet.shtml> very good resource for cancer nutrition complications including diarrhea

http://www.healthcastle.com/candiettx_08_01.shtml low fiber diet

Resources cont.

fats <http://www.americanheart.org/presenter.jhtml?identifier=4582>

Mediterranean diet <http://www.mediterraneandiet.gr/words.html>

<http://ibdcrohns.about.com/cs/cdrecipes> recipes designed for patients with chrohn's It contains recipes lactose free and chocolate replacement

USDA Food and Nutrition Information Center

www.nal.usda.gov/fnic/ Information on U.S. Dietary Guidelines for Americans and the food guide pyramid. "Consumer Corner" includes frequently asked questions

Professional sources

Professional Assessment tool <http://www.mna-elderly.com/clinical-practice.htm>

Oncology nutrition overview

<http://www.touchbriefings.com/pdf/174/dixon.pdf> a report by Suzanne W. Dixon MPH. MS. RD