

Chapter 10

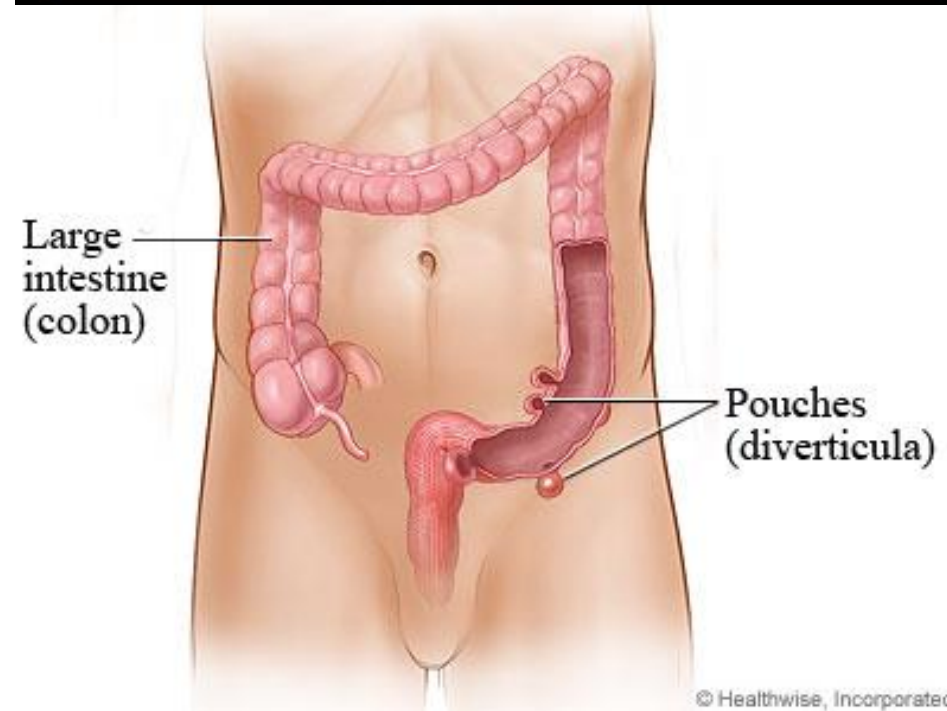
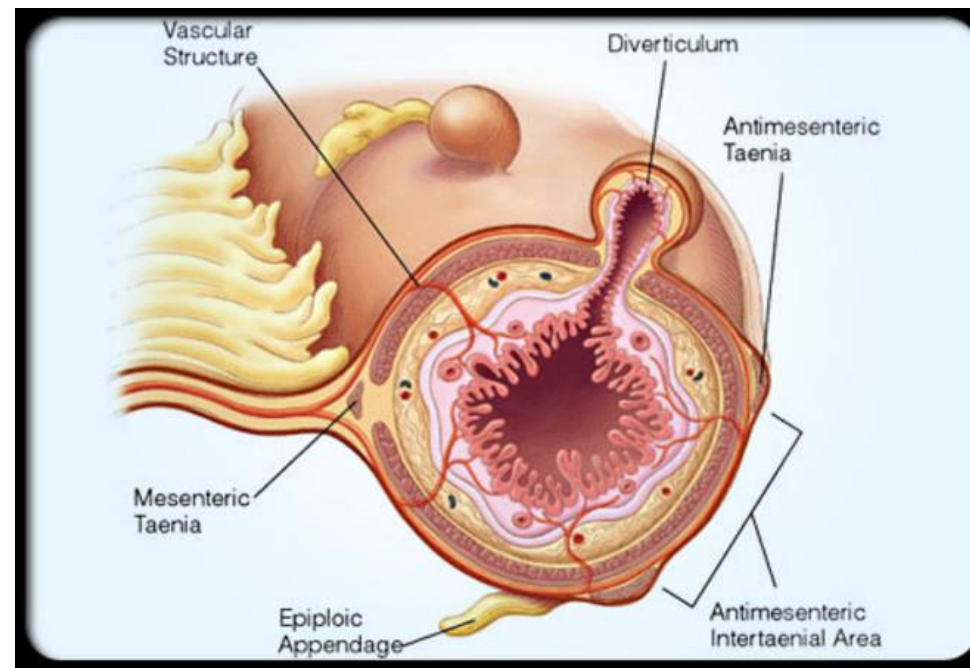
Fiber Modified Diets
Fiber Controlled Diets

High Fiber Diet:

- Is:
 - Nutritionally adequate, meets the DRIs,
 - Useful in preventing and treating:
 - ✓ Constipation
 - ✓ Colonic diverticulosis: [many diverticula in the colon]; diverticulum=a pouch or sac branching out of a hollow organ such as the colon.

Diverticulitis:

- Inflamed diverticula as a result of:
 - Obstruction by feces or
 - Hardened mucus or
 - Mucosal erosion



High Fiber Diet Cont'd.

- The previous 2 health problems are less prevalent than the following conditions of public health concern:
 - ✓ Obesity
 - ✓ CVDs [cardiovascular disease]
 - ✓ Type II Diabetes
 - High Fiber Diet is useful in treating and preventing the above conditions because:
 - ✓ A high fiber diet is more likely to contain:
 - ↓ Calories [less calorically dense],
 - ↓ Fat,
 - ↓ Added sugar
- than a diet lower in fiber.

Characteristics of the High Fiber Diet

- Contains 25-30 g dietary fiber.
- Fiber is found only in plant foods, so increase the consumption of plant foods such as:
 - ✓ Whole grains: wheat, burghol, rye, barley; oatmeal, brown rice, wild rice, popcorn, amaranth, millet, quinoa, sorghum, cornmeal.
 - ✓ Fruits
 - ✓ Vegetables
 - ✓ Beans
 - ✓ Nuts, and Seeds



Amaranth: was the staple food of the Aztecs who were dominant in Mexico before the Spanish conquest of the 16th century.



Millet: are important crops in India, Nigeria, Niger



Quinoa: Grown in South America (Peru, Chile and Bolivia)



Sorghum: is an important food crop in Africa, Central America, and South Asia, and is the "fifth most important cereal crop grown in the world".

Source & Mode of increasing fiber intake

- Fiber should come from foods rather than supplements to ensure adequate nutrient intake.
- Fiber intake should be increased gradually to prevent possible short term side effects such as:
 - Abdominal discomfort
 - Bloating
 - Cramping
 - Diarrhea

Fluid Intake

- Increase in fiber intake should be accompanied by a liberal intake of fluids [water and other fluids] because fiber holds water and thereby softens the stools
 - ✓ At least 8 c of water or liquids daily should be consumed daily.
- Inadequate fluid consumption can lead to:
 - Constipation or
 - Impaction in the colon

Popular Belief

- People with diverticulosis need to eliminate:
 - Nuts
 - Popcorn hulls
 - Seeds such as
 - Sunflower seeds
 - Pumpkin seeds
 - Sesame seeds, etc.
- The above mentioned elimination is based on popular belief.
- There is no scientific evidence to support it.

Fiber Content of Foods

Food	Serving size	Average Fiber Content g
Milk and its products	1 c	0
Meat all kinds and their products	1 oz.	0
Beans , peas, & lentils	½ c	> 6

Fiber Content of Foods

Food	Serving size	Average Fiber Content g
Oils/Fats (only Nuts = 2-3 g per 1/4c)	1/4 c	2.5 g
Bread list foods	1 oz.	1 g (white)
Cereals and grains (whole)	1/2 c	2 g
Starchy vegetables	1/2 c or 1/4 c (potatoes with skin)	3 g

Fiber Content of Different Types of Bread

Food	Serving size	Average Fiber content g
Pita bread / white enriched	oz.	0.6 g
Pita bread, whole-wheat	oz.	2.1 g
Commercially prepared:		
• Bread, white	oz.	0.8 g
• Bread, wheat	oz.	1.2 g

Fiber Content of Foods

Food	Serving size	Average Fiber Content g/exchange unit g
Non Starchy Vegetables	1 c raw or ½ c cooked	2 Range 1-4 g
Fruits [especially raw with skin]	½ c	2.5 g Range 1-5
Juices: Fruit or Vegetable	½ c	Minimal

Low Fiber Diet

Low Fiber (Low Residue) Diet

- A low-residue diet is closely related to a low-fiber diet.
- In fact, the two terms are sometimes used interchangeably.
- Technically, however, they're not the same thing,
- A low-residue diet which includes undigested food is more restrictive than is a low-fiber diet.

When is a Low Fiber Diet Used

- After abdominal surgery
- When a patient suffers from a flare-up [sudden acute pain] of a digestive problem, such as:
 - Diverticulitis
 - Inflammatory bowel diseases (IBD) such as: Ulcerative Colitis or Crohn's disease:
 - [narrowing of the bowel due to an inflammatory disease or due to a tumor].

Low Residue Diet ???

- Similar to low fiber diet
- But besides low fiber
- Typically includes restrictions on foods that increase bowel activity such as:
 - Milk
 - Milk products
 - Prune juices
 - All fruits and vegetables except for bananas and peeled potatoes
 - Fibrous meats
 - Butter
 - Above foods are OK in moderation

When is a Low Residue Diet Used Cont'd.

- When receiving radiation therapy on or near the intestine: radiation damages or irritates the digestive tract.
- Partial bowel obstruction.
- Acute gastroenteritis.
- Postoperative anal or hemorrhoids surgery.

Fiber Content of a Low Fiber Diet and Characteristics

- Contains < 10 to 15 grams of fiber each day.
- Includes foods that reduce frequency and volume of stools
- Reduces the residue in the colon but it does not eliminate it
- Is mechanically and chemically non-irritating to the colon
- Is smooth in texture.

Low Fiber/Low Residue Diet

- Provides all nutrients if well planned.
- Helps to relieve abdominal pain, diarrhea or flare-ups of certain digestive problems, such as diverticulitis.
- Food tolerances vary greatly and patients should be encouraged to eat the most liberal diet possible and include adequate fluids.

Duration of the Low Fiber/Low Residue Diet

- Long term use is not recommended because it can lead to:
 - Constipation,
 - Diverticulosis and
 - Colon cancer.
- It is a transitional diet in order to go back to a regular diet

Low Fiber Diet

Foods Allowed and Foods to be Avoided

Food	Allow	Avoid
<p>Milk limit to 2-3 c/day</p> <p>If poorly tolerated one can try lactose-free milk substitutes such as soy milk</p>	<ul style="list-style-type: none"> • Milk, • Plain Yogurt, • Labaneh • Cottage cheese, pudding, or creamy soup, or 1.5 ounces of hard cheese. 	<ul style="list-style-type: none"> • Any milk product containing nuts and seeds or pieces of fruits or vegetables
<p>Meat and Beans 2-7 oz. /day</p>	<ul style="list-style-type: none"> • Tender: ground or well cooked meat, poultry, fish and eggs 	<ul style="list-style-type: none"> • Beans, peas, lentils, etc. • Tough meats

Food	Allow	Avoid
<p>Fruits</p> <p>1-2.5 c /day</p>	<ul style="list-style-type: none"> • Pulp free strained or clear fruit juices • Ripe bananas and cooked fruits (peeled) 	<ul style="list-style-type: none"> • Prunes, prune juice • Most fresh fruits, berries, pineapple, • Fruits containing many seeds such as pomegranate, kiwi, figs, • Dried fruits like raisins, dates etc

Food	Allow	Avoid
Vegetables 1-4 c	<ul style="list-style-type: none"> • Vegetable juices without seeds or pulp [strained] • Most well cooked vegetables without seeds or skins • May eat raw: <ul style="list-style-type: none"> ○ Lettuce ○ Cucumbers (without seeds) ○ Zucchini 	<ul style="list-style-type: none"> • All raw vegetables • All vegetables containing many seeds such as: tomatoes, cucumbers with seeds, etc. • Fried vegetables

Food	Allow	Avoid
<p>Grains</p> <p>3-10 choices (serving)</p>	<ul style="list-style-type: none"> Refined Grains and their product: breads, cereals, crackers, chips and pasta with < 1 gram of fiber per serving <p>(Note: Ideally, look for products with zero grams of dietary fiber per serving.)</p> <ul style="list-style-type: none"> White rice 	<ul style="list-style-type: none"> Whole-grain breads, Whole grain products such as cereals and pasta Kaak bi sumsom and products containing seeds. Corn, popcorn Wild Rice Brown rice Bran

Food	Allow	Avoid
<p>Oils/Fats Use sparingly</p> <p>Limit foods high in fat.</p>	<ul style="list-style-type: none"> • Oil, margarine, butter and mayonnaise • Smooth salad dressings 	<ul style="list-style-type: none"> • Hot and spicy salad dressings • Olives, pickles • High fat gravies and sauces • Chunky peanut butter • Coconuts, seeds, and nuts and foods containing them

Food	Allow	Avoid
Fluids 6-8 c/day	<ul style="list-style-type: none"> • Water and • Other fluids such as tea and coffee 	<ul style="list-style-type: none"> • All juices that contain pulp and seeds • Prune juice

Food	Allow	Avoid
<p>Sweets and Desserts</p> <p>Keep within the 2-3 c limit of milk</p>	<ul style="list-style-type: none"> • All puddings • Ice cream • Honey • Syrup • Hard candy • Marshmallows • Jelly • Jello (no fruits) 	<ul style="list-style-type: none"> • All desserts containing: <ul style="list-style-type: none"> ○ Nuts and seeds ○ Coconut and ○ Dried fruits etc. ○ Jam ○ Marmalade

Marshmallow is a confection that, in its modern form, typically consists of sugar, whipped to a spongy consistency, molded into small cylindrical pieces, and coated with corn starch. Marshmallows are a sugar candy (confections).

Some recipes use eggs!!!!

Food	Allow	Avoid
Condiments	<ul style="list-style-type: none"> • Salt • Tomato sauce • Ketchup • Vinegar • Mayonnaise <p>If tolerated</p>	<ul style="list-style-type: none"> • Hot and spicy sauces such as: <ul style="list-style-type: none"> ○ Mustard ○ Pepper ○ Pickles ○ Spices ○ Chutney