Inflammation and Diet-
Eating to cool or fuel your internal fire

Healthy Columbus Nutrition Webinar
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Outline

- What is inflammation and why should I worry?
- Inflammation and Diet
  - Dangers of the Western Diet
  - A Rainbow of Fruits and Vegetables
  - The Right Fats
  - Wholesome Whole Grains
  - Spice it Up
- Other things to consider....
  - Grains & Gluten
  - Auto-Immune Disorders
  - Supplements

What is inflammation?
What is inflammation?

- The body’s way of protecting itself against disease or injury
  - Vital to our survival
  - Usually goes away once body has healed = Acute

- When injured, cells produce chemicals (cytokines) which trigger a response by the body

Why should we worry?
Chronic Inflammation

- When inflammatory response is prolonged and does not shut off = Chronic Inflammation
  - Due to persistent threat (disease/injury) to cells and body
  - Inappropriate body response (usually seen with autoimmune disorders)

- Opposite effect of acute inflammation
  - Causes further tissue breakdown
  - Makes body susceptible to other health threat

- Thought to be the root cause of MANY of our chronic diseases seen today (cancer, heart disease, Alzheimer’s disease, etc.)

Chronic Inflammation

- Hard to recognize
  - Usually has no symptoms

- Most common test for chronic inflammation is CRP (C-Reactive Protein) blood test
  - <1 = low risk
  - 1-2.9 = moderate risk
  - 3< = high risk
  - 10+ = more testing may be needed to determine cause (more significant factors in play)
What can we do about it?

- Lifestyle change can have HUGE impact on chronic inflammation
- Eliminate sources creating inflammation
  - Manage any underlying medical causes (i.e., Crohn’s disease)
  - Smoking/Alcohol
  - Obesity (fat cells produce PRO-inflammatory chemicals)
  - Poor diet
  - Stress

What can we do about it?

- Incorporate habits which reduce inflammation
  - Exercise
  - Stress management
  - ANTI-inflammatory diet
Dangers of the Western Diet

- Western Diet raise blood sugar and fat levels to a point that stresses the body
  - Body thinks under attack and produces an inflammatory response
  - Eating these foods frequently results in constant inflammation in the body

- Most foods low in nutrients and high in unhealthy fats, sugar and sodium

Dangers of the Western Diet

- Includes: fast foods, processed foods, foods with refined sugars and grains, foods high in saturated and trans fats, excess calories
A Rainbow of Fruits and Vegetables

- Full of vitamins, antioxidants, phytochemicals, other health-promoting compounds
  - ALL reduce inflammation!!
  - Each F/V has unique combination of these so important to get variety!!

A Rainbow of Fruits and Vegetables

- Because health benefits/nutrients often associated with color, try to get in a rainbow EACH DAY!
  - See Healthy Columbus website for Eating the Rainbow video and resources

A Rainbow of Fruits and Vegetables

- RECOMMENDATION: Aim for 5-9 servings of fruits and vegetables per day
  - 1 small or medium fresh fruit (apple, orange, banana, peach, nectarine)
  - 1 cup cut melon
  - 17 grapes
  - ¼ cup berries (1 cup strawberries)
  - ½ cup cooked or raw vegetables
  - 1 cup leafy greens
A Rainbow of Fruits and Vegetables

- Some F/V have strong anti-inflammatory properties
  - Citrus fruits (oranges, grapefruits, lemons, limes, etc.)
  - Berries (blackberries, raspberries, strawberries, blueberries, etc.)
  - Cherries (especially tart cherries)
  - Foods rich in Carotenoid phytochemicals (red, orange, yellow, and dark leafy green foods)
  - Foods rich in Quercetin phytochemicals (apple skins, red onion)

The Right Fats

- Some fats are pro-inflammatory and should be limited or avoided
  - Trans fats — AVOID
  - Saturated fats — LIMIT

- Other fats are anti-inflammatory and should be included daily
  - Omega-3 polyunsaturated fats
  - Monounsaturated fats
The Right Fats

**RECOMMENDATION:** Aim for 5-7 servings of healthy fats per day
- 1 teaspoon unsaturated oil (olive/canola oil)
- 2 teaspoons peanut butter
- 2 Tablespoons nuts
- 1 Tablespoon ground flax seed
- ½ medium avocado

Omega-3 fats have very potent anti-inflammatory properties
- Comes primarily from EPA (eicosapentaenoic acid)
- Cold water fish (see chart) or fish oil supplements best choice
  - Make sure get good brand of Fish Oil—can speak to MD or RD (Pure Pharma, Trader Joe’s, examples of good ones)
- Flaxseed and walnuts only have fraction of EPA

**RECOMMENDATION:** Try to eat at least 1 serving (3 ounces) of an omega-3 rich fish every day
**Wholesome Whole Grains**

- Eating whole grains associated with decreased inflammation
- Whole grains contain vitamins, minerals, phytochemicals, healthy fat and fiber
  - These are lost when grains are refined
- Popular whole grains include barley, bulgur, buckwheat, flax, millet, oats, rice, wheat, quinoa…

**RECOMMENDATION:** Eat 3-5 servings per day of whole grain products
- 1 slice whole grain bread
- ½ whole wheat English muffin
- ½ cup cooked grains (brown rice, oatmeal, bulgur, quinoa)
- 1 cup ready-to-eat whole grain breakfast cereal
- 5-7 whole grain crackers

**Spice it Up**

- MANY herbs and spices contain anti-inflammatory properties
- Some such as ginger, cinnamon, chili and turmeric* are inflammation fighting all stars
  - *we do not the phytochemical in turmeric (curcumin) well but if you consume with black pepper increases absorption by up to 2000%!

**RECOMMENDATION:** Try to include as many herbs and spices as possible in diet
Other Considerations…..

Grains

- Some theories say increased grain consumption is cause of increase in chronic disease, especially ones associated with the brain (Alzheimer's)
  - Evidence at this point shows a DIRECT relationship between Refined grains and inflammation
  - Conflicting for whole grains (MOST show INVERSE relationship between WG consumption and inflammation)
  - Impact of WG and overall carbohydrate intake may vary by individual and more research is needed

- **RECOMMENDATION:** Avoid refine grains. If you choose to avoid whole grains focus on incorporating other healthy complex carbohydrates (i.e., sweet potatoes, fruit, etc.)
Gluten

- Evidence supports “gluten sensitivity” in some people, NOT all
  - This is because gluten proteins are not completely broken down by body and can be perceived as an invader and trigger an autoimmune response
  - Symptoms can be broad (brain fog, bloating/GI symptoms, joint pain, headaches, etc.)
  - No good tests at this point to determine gluten sensitivity (gluten tolerance)
- Some need to avoid gluten (i.e. Celiac Disease or gluten allergy, some auto-immune disorders)
- **RECOMMENDATION:** Avoid gluten when medically warranted. If suspect gluten sensitivity, work with RD and trial Gluten Free diet to see if symptoms improve (and/or return on re-introduction into diet)

Auto-Immune Disorders

- Some auto-immune diseases cause chronic inflammation in the body and may be worsened by diet choices
  - Helpful to work with RD to determine sensitivity, trial elimination diets and devise balanced meal plans
- Gluten free may be helpful for Rheumatoid Arthritis and Multiple Sclerosis
- Nightshades may trigger inflammation in people with arthritis, Rheumatoid arthritis or other AI disorders
  - Include tomatoes, eggplants, peppers, potatoes
- **RECOMMENDATION:** If you have an AI disorder and suspect some foods may be triggering inflammation/pain/symptoms, work with RD to trial elimination diet to see if they improve. Nightshades and gluten **DO NOT** need to be avoided by most!

Supplements

- Some have shown promise in helping reduce inflammation
  - EPA/Omega-3 (found in fish oil) and curcumin (phytochemical in turmeric) supplements being studied extensively
  - Others often recommended include Coenzyme Q10, vitamin D, selenium, antioxidants, etc.
- Like all supplements, need to ensure SAFETY for each supplement and individual (potential interactions, quality brands, etc)
  - Natural Medicines Comprehensive Database (determines safety, efficacy, potential interactions, dosage)
  - Consumer Labs (determines safe, reliable and affordable supplements)
- **RECOMMENDATION:** Talk with your MD or RD to determine which supplements may be appropriate for you and to ensure safety.
Questions??

THANK YOU!!