Diet and Arthritis

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Outline

• Background
• What is arthritis?
• What are the common forms?
• Body weight and arthritis
• Diet and arthritis
  – Nutrients
  – Special diets
  – Specific foods
• Take home messages
Background

- Why are we interested in diet?
- A lot of interest by the media
- Some people with arthritis report that certain foods are helpful to reduce arthritic pain, while others make symptoms worse
- Arthritis review – evidence base?
What is arthritis?

• Arthritis is a condition that affects the body’s joints

• Causes pain, swelling, stiffness & fatigue

• Can severely affect quality of life

• Physical impairment

• No known cure
What are the two most common types of arthritis?
A healthy joint

- Muscle
- Bone
- Synovial fluid
- Cartilage
Osteoarthritis (OA)

- Thinning cartilage
- Bone thickens and spreads out
Osteoarthritis

- Develops over time
- ‘Wear and tear’ arthritis
- **Risk factors**: obesity, past joint injury and genetics
- Occurs > 50 years of age
- Affects hands, knees, hips, feet and spine
Rheumatoid Arthritis (RA)

Thinning cartilage

Thickened synovial membrane
Rheumatoid Arthritis

- Inflammatory condition
- Flare-up’s
- Causes pain and loss of strength in joints, tiredness and stiffness
- Hands, knees, feet and shoulders are affected among other joints
- People with this condition are more likely to develop heart disease and osteoporosis
Quick round up (true/false)

Q1) Osteoarthritis is the most common type of arthritis?

Q2) Joint symptoms associated with rheumatoid arthritis include:
pain, joint stiffness, swelling around the joint and loss of motion?

Q3) Joint symptoms associated with osteoarthritis include:
pain, stiffness, loss of motion, fluid accumulation around the joint, redness and warmth over the affected joint?
Body weight and arthritis

- Excess body weight increases the load on joints and can make movement more difficult.
- Avoiding being active because of pain or discomfort can lead to muscle loss and weight gain over time.
- Weight loss can be detrimental to people with RA.
- Balance between diet and physical activity levels.
Diet and Arthritis

Dietary patterns

- Total fat & saturated fat
- Mono & polyunsaturated fat
- Folate & other B vitamins
- Calcium and vitamin D
- Sodium & Potassium

Specific foods

- Fish oil and omega-3 fatty acid supplements
- Green lipped mussels
- Plant oils

Nutrition supplements

- Body weight & arthritis

Antioxidants

- Nutrition supplements
Diet and arthritis an introduction

• Eating a healthy balanced diet is important for people with arthritis, as well as for the general population, as it will provide the right balance of nutrients our body needs for day-to-day functions

• Medications used to treat arthritis may have side effects and may interact with how nutrients are absorbed

• People with arthritis may have restricted food choices due to condition

• People with arthritis may have extra requirements of certain nutrients (e.g. folic acid)
The interaction between diet and arthritis

- The relationship between diet and arthritis is complex
- Studies used to understand this relationship are hampered by study design issues (e.g. how diet is assessed)
- Mixed findings which makes it challenging to draw conclusions
What nutrients should people with arthritis be concerned about?
Fat

- The building blocks of fat are fatty acids that can be saturated, monounsaturated or polyunsaturated

- Polyunsaturated fatty acids (PUFAs), omega-3 (n-3) and omega-6 (n-6)

- PUFAs make up an important part of cell membranes and play a role in regulating inflammatory responses – eicosanoids

- Western diets n-6 > n-3
Polyunsaturated fatty acids and Inflammation

- Intakes of $n$-$3$ PUFAs may reduce inflammatory responses, while increased intakes of $n$-$6$ PUFAs may have the opposite effect

Adapted from (Fetterman and Zdanowicz, 2009)
Does fat matter?

- The type of fat you consume can influence levels of inflammation
- People with arthritis should try to cut back on saturated fat
- Increased risk of heart disease
- Weight control
Fish oils and omega-3 fatty acid supplements

• Omega-3 fatty acids can reduce general inflammation in the body and protect the heart

• There is now strong evidence to suggest that particular omega-3 fatty acids (EPA and DHA) found in oily fish may lessen pain intensity in the joints of people with RA

• Diet suffice?

• Dose?
Plant seed oils

• Oils extracted from the seeds of evening primrose, blackcurrant and borage (starflower)

• Active component: Omega-6 fatty acid, gamma-linolenic acid

• Currently there is some evidence to suggest that plant seed oils may be helpful in relieving some symptoms of RA (pain and improved mobility)

• Supplementation

• Dose?
Calcium

- People with RA that take steroids on a long-term basis are at risk of developing osteoporosis

- Choose calcium rich foods such as, semi-skimmed milk, low-fat yogurt and low-fat cheese

- 3 servings per day from milk and dairy food group
Iron

• People with RA frequently experience tiredness, which can be made worse by anaemia

• People with arthritis that take non-steroidal anti-inflammatory drugs on a long-term basis are at risk of anaemia (loss of blood in the stomach)

• Choose iron rich foods (*e.g.* red meat) often to prevent anaemia

• Add fruit, or vegetables, potatoes or a glass of fruit juice to your meal to increase iron absorption from plant based foods
Vitamin B\textsubscript{6}

- Some studies suggest that people with RA may not get enough vitamin B\textsubscript{6} from their diet

- Function: metabolism of amino acids, essential for formation of red blood cells and metabolism and transport of iron

- Sources: poultry, fish, milk and dairy products, eggs, wholegrain foods, soya beans, peanuts and some vegetables
Quick round up

Q1) The best source of Omega-3 fats in the diet is?
   (a) omega-3 enriched eggs
   (b) meat
   (c) oily-fish

Q2) Iron provided by plant based foods is not as well absorbed as it from meat?
   (True/False)
Special diets and arthritis
Special diets and arthritis

• The media frequently reports on different foods or diets that may help alleviate symptoms of arthritis but, the advice can be conflicting

• People with arthritis frequently restrict or omit certain foods from their diets with the aim of reducing symptoms

• Diets most frequently used are:
  ✓ Vegetarian/vegan
  ✓ Mediterranean style
  ✓ Elemental diets
  ✓ Elimination diets
Fasting

• Some people with arthritis believe that avoiding food for a short period of time can help to relieve their symptoms of RA (flare-ups)

• When they return to their normal diet their symptoms will reoccur

• Fasting over prolonged periods is not advisable

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Vegetarian diet

- Vegetarians don’t eat meat, fish, seafood, or animal by-products (gelatine), but the majority of vegetarians do eat some animal products

- Vegans do not eat any food of animal origin
Elemental diet

• Consists of removing all foodstuffs for a period of weeks, solid food is replaced liquid food (containing all the nutrients your body needs)

• Current evidence suggests that elemental diets are not effective in the treatment of RA
Elimination diet

• Foods that may cause pain to people with RA are restricted

• Some implicated foods include: wheat, bacon or pork, milk, rye, coffee and cheese

• Current evidence suggests that elimination diets are not effective in the treatment of RA
Mediterranean diet

• High in fruit, vegetables, cereals, and legumes; and contains moderate amounts of red meat; and high amounts of fish and olive oil
Specific foods and arthritis
Specific foods

• People with arthritis may find that certain foods can improve or worsen their symptoms (e.g. grapefruit)

• Allergy/intolerance?

• No strong scientific evidence that eliminating certain foods will improve symptoms of arthritis

• Food groups
Take home messages

• Studying the relationship between diet and arthritis is complex

• More studies are needed to understand better the role of diet in the treatment of osteoarthritis

• Maintaining a healthy weight is key!

• People with arthritis should consume a varied, balanced diet

• People with arthritis may be lacking in certain nutrients
Take home messages

• Type of fat is important

• Fish oil and omega-3 supplements may be helpful to relieve pain in people with RA

• Elemental, elimination and vegan diets have not found to be effective in the treatment of RA, these can difficult to follow and may have adverse effects

• No supporting evidence for removal of specific foods, no real risk to health provided certain food groups are not eliminated
For more information............

http://www.nutrition.org.uk/healthyliving/healthissues/healthy-eating-tips-for-people-with-arthritis