

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

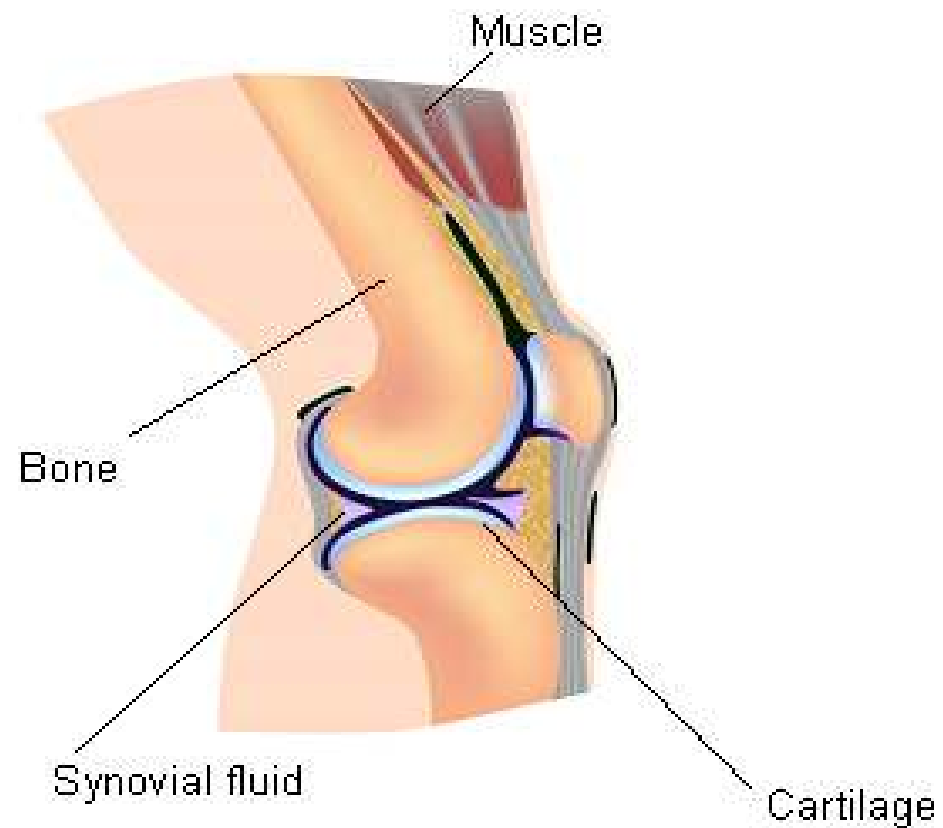
- Why are we interested in diet?
- A lot of interest by the media
- Some people with arthritis report that certain foods are helpful to reduce arthritic pain, while others make symptoms worse
- Arthritis review – evidence base?

What is arthritis?

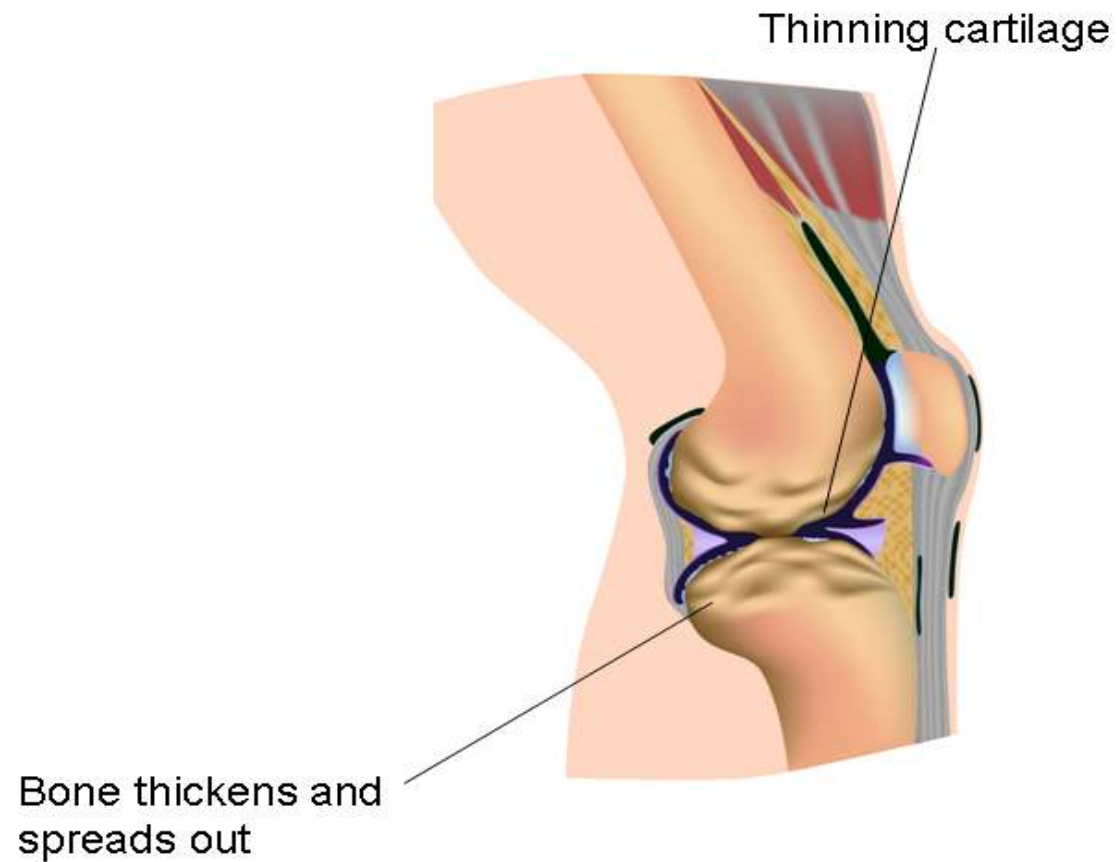
- Arthritis is a condition that affects the body's joints
- Causes pain, swelling, stiffness & fatigue
- Can severely affect quality of life
- Physical impairment
- No known cure

What are the two most common types of
arthritis?

A healthy joint



Osteoarthritis (OA)

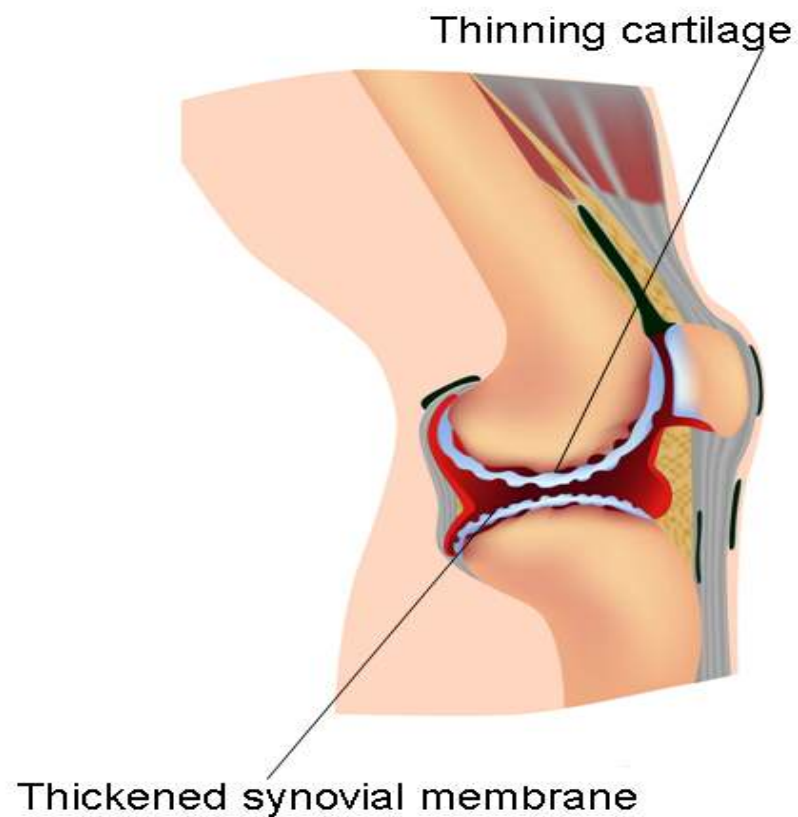


Osteoarthritis

- Develops overtime
- ‘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)





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)

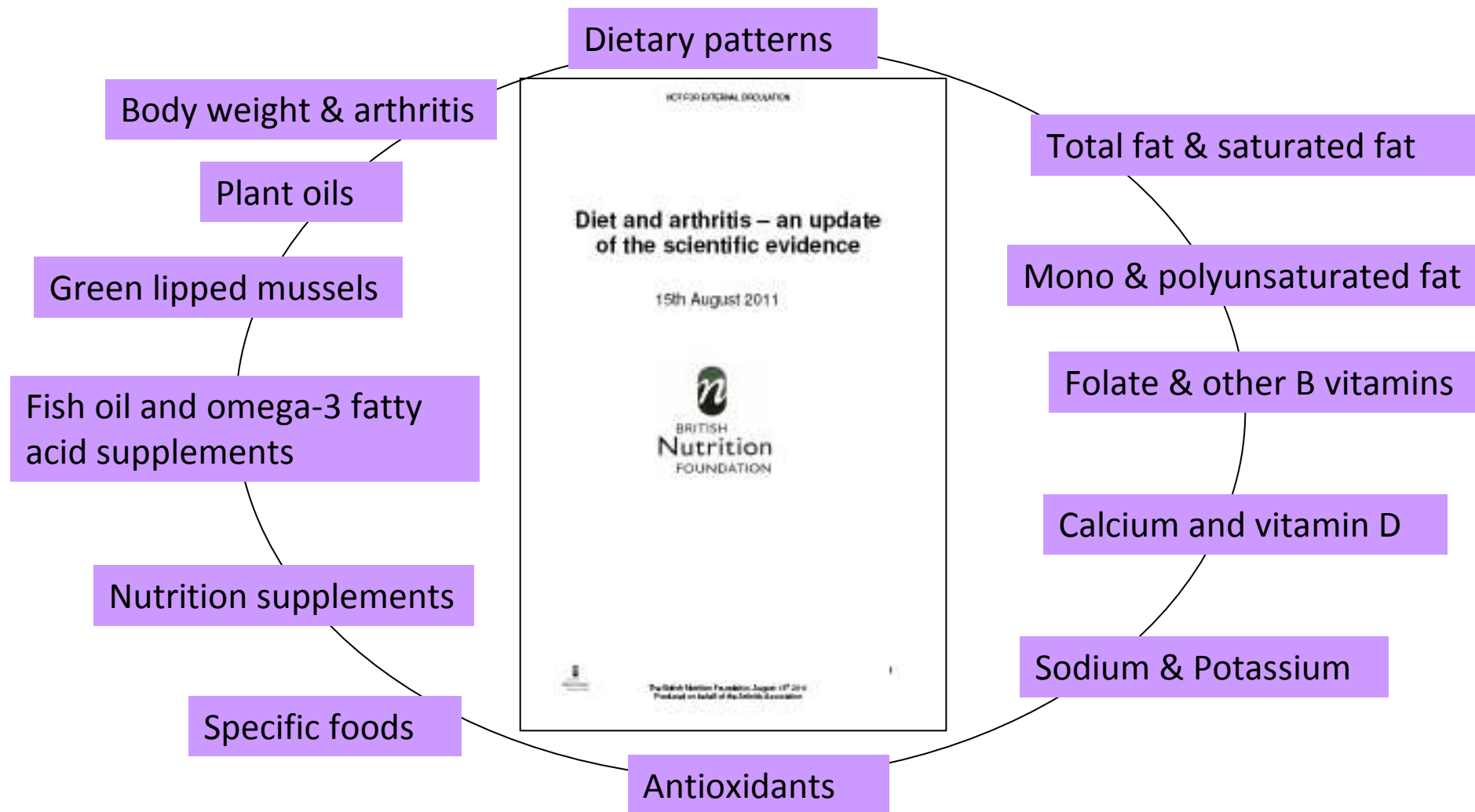
- Q1) Osteoarthritis is the most common type of arthritis?
- Q2) Joint symptoms associated with **rheumatoid arthritis** include:
pain, joint stiffness, swelling around the joint and loss of motion?
- Q3) Joint symptoms associated with **osteoarthritis** include:
pain, stiffness, loss of motion, fluid 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 overtime
- Weight loss can be detrimental to people with RA
- Balance between diet and physical activity levels



Diet and Arthritis



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?



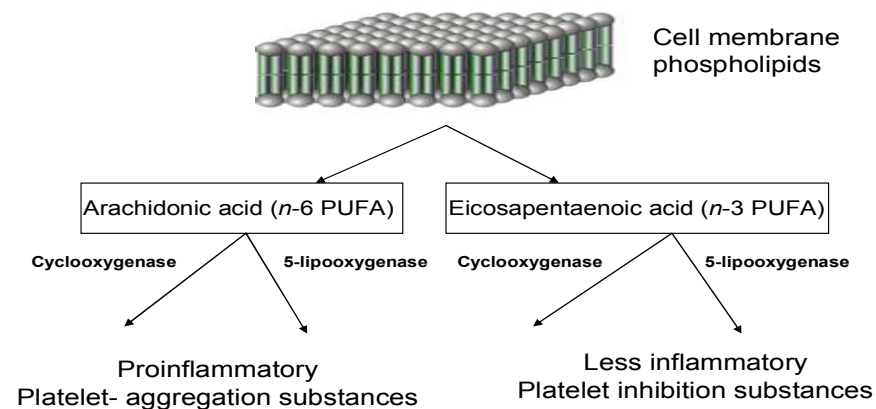
Fat

- 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 reliving 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 B₆

- Some studies suggest that people with RA may not get enough vitamin B₆ 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)



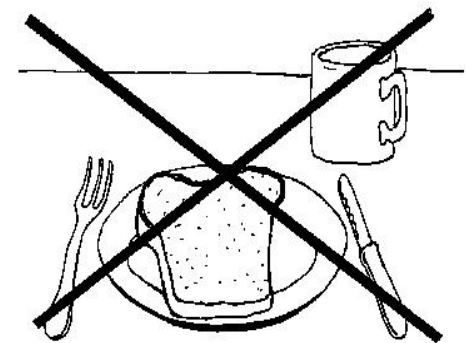
Special diets and arthritis

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





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

