**High Intake of Fat**

1. Explore the 4 different types of fats:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of fat | Monounsaturated | Polyunsaturated | Saturated | Trans |
| Food sources | Olive oil, avocado, canola oil and canola-based margarine, nuts such as peanuts, hazelnuts, cashews and almonds, peanut butter and other nut butters. | Omega 3- fish, particularly oily fish such as mackerel, trout, sardines, tuna and salmon; canola and soy oils, and canola-based margarines.  Omega 6- mainly nuts such as walnuts and Brazil nuts, seeds and oils made from corn, safflower and soy. | Generally found in foods of animal origin and are often solid at room temperature. | Found in processed foods such as pies, pastries and cakes. |
| Impact on energy production | 1 gram = 37kJ | 1 gram = 37kJ | 1 gram = 37kJ | 1 gram = 37kJ |
| Impact on cholesterol levels | Reduces level of LDLs, decreases risk of atherosclerosis, heart disease and stroke. | Reduce levels of LDL increases levels of HDLs. | Increases LDLs (negative) | Increases LDLs and decreases HDLs (negative) |
| Impact on blood glucose regulation | Increases proper functioning of glucose regulation | Increased proper functioning of glucose regulation | Increase the impact of impaired glucose regulation and risk of type 2 diabetes | Increase the impact of impaired glucose regulation and risk of type 2 diabetes |
| Impact on colorectal cancer risk |  |  | Excessive intake increases risk of colorectal cancer directly. And from high BMI | Excessive intake increases risk of colorectal cancer directly. And from high BMI |

1. Fats are **energy-dense**. What does energy-dense mean?

(foods) Foods that contain significant amounts of fat, carbohydrates and/or protein, therefore contributing large amounts of energy to the diet.

1. Explain 3 ways that over consumption of fats can contribute to **Burden of Disease** in Australia:

|  |
| --- |
| Increases DALY associated with cardiovascular disease, type 2 diabetes, colorectal cancer. |
|  |
|  |

1. Explain 3 ways that over consumption of fats can contribute to **Health Status** in Australia:

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| --- |
| Increases morbidity rates associated with cardiovascular disease, type 2 diabetes, colorectal cancer. |
| Increases mortality rates associated with cardiovascular disease, type 2 diabetes, colorectal cancer. |
| Lower life expectancy and HALE |

**High Intake of Salt**

1. What is the main nutrient in salt?

Sodium

1. How does the nutrient identified in Question 1 increase blood pressure?  
   Water is attracted to NaCl so will leave cells and enter blood stream when we have high NaCl levels in our blood (after eating high salt foods.) This increases blood volume and therefore blood pressure.
2. Watch <https://www.youtube.com/watch?time_continue=4&v=pPxnIh_WTb8> and explain how high blood pressure impacts on the following parts of the body:

|  |  |
| --- | --- |
| Blood Vessels | Blood vessels become scarred, hardened and less elastic which means they are more likely to get blocked or rupture. Plays a role in the development of atherosclerosis. |
| Heart | Heart must pump harder when atherosclerosis is present. Working this hard makes it bigger, which isn’t good and increases the risk of heart attack. It can get stretched out and some of that blood that’s supposed to be pumped out stays inside the heart and eventually your heart begins to weaken because it cannot continue to pump that hard (congestive heart failure) |
| Brain | Blood vessels can be blocked or rupture, limiting oxygen to the brain, maybe leading to bleeding and brain tissue may not get nutrients. High blood pressure is a major cause of strokes and bleeding in the brain. Also affects normal brain functioning. |
| Kidneys | If the arteries that provide blood to the kidneys are damaged, then kidney tissue won’t get needed blood and kidneys themselves may lose their ability to function. |
| Eyes | Can cause damage to the retina of the eye. Blood vessels around area are of risk of getting more narrow, rupturing or bleeding which can cause impaired vision and maybe blindness. |

1. Explain 3 ways that over-consumption of salt can contribute to **Burden of Disease** in Australia:

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| --- |
| DALY due to hypertension, heart failure, stroke and heart attack. |
| Increased YLD due to osteoporosis especially among older females. |
|  |

1. Explain 3 ways that over-consumption of salt can contribute to **Health Status** in Australia:

|  |
| --- |
| Morbidity and mortality rates due to hypertension, heart failure, stroke and heart attack. |
| Incidence of osteoporosis especially among older females. |
| Lower life expectancy and HALE. |

**High Intake of Sugar**

1. What are 5 common sources of sugar?

Sugar packets, confectionary, soft drinks, fruit drinks and fruit.

1. How does high intake of sugar lead to overweight or obesity?

If eaten in excess, energy is stroed as adipose tissue (fat). Overtime, leading to weightgain and high BMI.

1. Explain 2 ways that high intake of sugar can impact on dental health:

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| --- |
| Food source for bacteria in the mouth, which produce acids that create dental caries. |
| If untreated periods of periodontitis can occur, long term can lead to loosening and loss of teeth. |

1. Explain 3 ways that over-consumption of sugar can contribute to **Burden of Disease** in Australia:

|  |
| --- |
| DALY due to high BMI and associated conditions |
| YLD due to dental caries, especially among younger Australians |
| YLD due to dental diseases including periodontitis |

1. Explain 3 ways that over-consumption of sugar can contribute to **Health Status** in Australia:

|  |
| --- |
| Higher mortality rates due to high BMI and associated conditions |
| Incidence and prevalence of dental caries |
| Lower life expectancy and HALE |

Complete Test your Knowledge questions 2-4 and Apply your Knowledge question 2 from section 3.6 in your textbook.

2. LDL is low density lipoprotein, which is ‘bad’ cholesterol, HDL is high density lipoprotein, which is ‘good’ cholesterol.

3a. Atherosclerosis is the build-up of plague on blood-vessel walls, narrowing the artery and making it harder for blood to get through, reducing blood flow and increasing blood pressure.  
3b. Atherosclerosis contributes to cardiovascular disease as it leads to high blood pressure which means the heart has to work harder to pump the blood through your arteries which can lead to heart failure and cardiovascular disease.

4a. Saturated fats and trans fats. They are ‘bad’ because they both increase LDL’s and trans fats decreases HDL’s as well.

4b. Monounsaturated fats and polyunsaturated fats. They are ‘good’ because they increase levels of HDL and decrease levels of LDL.

2a. Coronary heart disease.   
2b. If you have high cholesterol, there is less room for your blood to travel through your arteries which increases blood pressure which means the heart has to work harder to pump which may lead to coronary heart disease.