Kelly Jusczak  
Block 3  
Nurtition

Effects of Too Much or Too Little Nutrients

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| *Protein* | |
| Too little | **Too much** |
| Not enough protein in your diet can lead to hair becoming brittle and fall out and/or hair losing its color. Also, not enough protein can lead to muscle weakness or muscle wasting (losing muscle tissue). It can, additionally, impair the immune system and cause blood or hormonal disorders. | Too much protein can lead to problems as well. A surplus of protein causes a buildup of toxic ketones. These ketones can cause your kidneys to go into overdrive, and flush these ketones from your system, along with water that your body still needs. This will cause your body to become extremely dehydrated, which puts extra stress on your kidneys and heart. |

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| *Carbohydrates* | |
| Too little | **Too much** |
| Having not enough carbohydrates in your diet can cause low energy, muscle tissue loss, dehydration, nutritional deficiencies, and constipation. Because carbs are the body’s main source of energy, not having carbs in your diet will reduce the amount of glucose in your body, making you tired. It can also damage your central nervous system. | Eating too much carbs can hurt your health. Too much carbs in your diet will increase your caloric intake, causing you to gain weight (possibly) leading to obesity. It can also affect your blood sugar. Carbs are mainly composed of simple or complex sugars (monosaccharaides or polysaccharides) which have a significant impact on blood sugar. |

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| *Water* | |
| Too little | **Too much** |
| Not drinking or consuming enough water is not only unhealthy, but dangerous. Of course, you can get dehydrated, but it also has an extremely negative impact on your body. Without water, the kidneys have trouble flushing the toxins out of the body. Keeping those toxins inside of you for any longer than is necessary is not good for you. Also, lack of water can lead to headaches and migraines (due to the buildup of toxins in your body) and is detrimental to the immune system. | On the other hand, drinking too much water, especially in a short amount of time, can have a negative, possibly fatal, effect on your body. Increasing the amount of water in your body rapidly overworks your kidneys, and could cause them to fail. Ingesting more water than is necessary can also increase your total blood volume. Because your blood volume is limited to a contained space (your body), increasing the volume will put unnecessary strain on your heart and blood vessels. If your circulatory system has excess water, your electrolytes will become unbalanced. In an attempt to rebalance yourself, water will seep into your cells, causing your cells to swell in size. If the cells in your brain swell, they cause pressure on your skull, and could even lead to death. |

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| *Vitamins* | |
| Too little | **Too much** |
| There are many risks to not having enough vitamins, each specific to the vitamin that you may be lacking.  Vitamin A: malnourished children can go blind, (most likely found in alcoholics, because the alcohol breaks down the vitamin A too quickly Vitamin B: weakened immune system, swollen tongue, cracked lips, confusion, irritability, depression and dermatitis Vitamin C: Fatigue, mood changes, weight loss, joint and muscle aches, bruising, dental conditions, dry hair and skin, infections Vitamin D: tiredness and general aches and pains; pain in your bones, weakness, frequent infections | Risks of too much of a certain vitamin:  **Vitamin A:** birth defects, liver abnormalities, central nervous system disorders, and lower bone mineral density, causing a person to be at risk of osteoporosis  **Vitamin B:** nerve toxicity  **Vitamin C:** serious side effects of vitamin C are rare because the body cannot store the vitamin (it is water-soluble); high doses can lead to upset stomach, or diarrhea.  **Vitamin D:** too much vitamin D will cause a buildup of calcium in your blood, which causes symptoms such as poor appetite, nausea, and vomiting; weakness, frequent urination and kidney problems may also occur. |

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| *Minerals* | |
| Too little | **Too much** |
| Too little calcium in a child will cause a child’s bones and teeth to no grow strong and straight. If you are lacking iron, it will inhibit your body’s ability to make hemoglobin, which won’t allow oxygen to travel to every tissue (anemia). Not having enough zinc in men will cause a man to become temporarily infertile (because it is crucial in making sperm). Wounds heal more slowly with not enough zinc in the body, and zinc also fights the symptoms of the common cold. Iodine deficiency leaders to reduced production of thyroid hormones, which may give you a goiter (swollen thyroid gland). | Too much potassium can lead to hyperkalemia which has symptoms including heart palpitations, weakness, and hyperventilation. Way too much sodium can cause seizures, but just a mild overdose of sodium can cause irritability and weakness. Too much calcium can cause constipation, bone pain, and kidney stones. General symptoms of too much minerals include breathing difficulties, low blood pressure, and heart problems. |

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| *Fats/Lipids* | |
| Too little | **Too much** |
| Americans tend to lack healthy fats (omega-3 fatty acids, for example). Because of this, it raises the risk of heart-related problems. Fats help the body dissolve vitamins that are fat soluble. Without these fats to dissolve the vitamins, the body will show signs of a vitamin deficiency. Your brain also requires certain fats to function properly. Without these fats, you will not be able to concentrate correctly, and it will cause mood swings, and depression. In severe cases, low-fat diets have been linked with suicidal tendencies. | Eating too much saturated fat is a major risk of heart disease. Too much saturated fat causes a soft, waxy substance (cholesterol) to build up in the arteries. Fat also has a high calorie content, which increases the chances of becoming obese, which is another risk of heart disease, and a possible cause of some kinds of cancer. Too much polyunsaturated fat may increase the risk for other types of cancer. |