

- KEY POINTS posted below, check for [updates](#)

-all presentations, especially those with ** asterisks: ensure that you avoid lecture material and papers/material covered in previous student presentations

- note: it is possible to change a topic as long as the two conditions above are met; it is your responsibility to ensure that you meet the two conditions

- note: all presentations must be focused on nutritional aspects of the topic

>>> check with instructor if you have any questions <<<

● Section D101, 2:30

- 12-Sep Charlotte Crombeen multiple sclerosis
19-Sep Ryley Carr Rheumatoid arthritis
Angela Ho Anorexia nervosa
Gagan Gill Aids
26-Sep Paul Kim Irritable Bowel syndrome
Lindsey Butterworth poverty& child nutrition
Tania Kabantsov leaky gut**
03-Oct Brendan Brauer Bodybuilding/weightlifting
Judy Kim CYP1A2 genetics
Mimi Hsieh Paleonutrition
24-Oct Nick Pratap HIV**
Jeffrey Lee Vitamin A in relation to eye disease
Saskia VanEyk nutrition education
31-Oct Kaja Banasinska **nutrition and genomics
Brandon Harder athletes (basketball)
Kyla Chernichen metabolic disorder
07-Nov Kyle Knees osteoarthritis
Peggy Fung magnesium and osteoporosis
Robbie Sebulen ALS

● Section D102, 3:30

- 12-Sep Tyler Bryan Paleonutrition
M.J. Ziemann Anorexia and Hypophosphatemia
19-Sep Adam Chang major burns
Amanda Cordua-von Specht Irritable Bowel Syndrome
26-Sep Meaghan Chong Anorexia nervosa**
Anna Stojek nutrition and sleep
Oh Run Kim epigenetics**
03-Oct Joel Wollenberg Bone Health
Sunny Sangha Rheumatoid arthritis
24-Oct Kevin Ham oral & dental health
Oscar Cader Bone Health**
Susan Nazem iron (anemia)**
31-Oct Debbie Ko Bulimia Nervosa
Kira Nelson Factors affecting nutrition choices
Prabh Johal eye health
07-Nov Rabab Cheema GI disorders (ulcers)
Kirstin Sullivan multiple sclerosis

● Section D103, 4:30

12-Sep	Erik Rasche	muscle growth
	Britta Conn	oral health
19-Sep	Maggie Tung	Celiac Disease/Gluten-Free Diets
	Randy Khoo	cystic fibrosis
	Sam Spencer	the effects of nutrition on sleep
26-Sep	Megan Gallie	inflammatory diseases and nutrition**
	Kevin Morton	AIDS
03-Oct	Sarah Williams	Irritable Bowel Syndrome (IBS)
	Alexandra Trenter	Anorexia Nervosa
	Ringo Suen	Adolescent food choices
24-Oct	Victoria Rollit	Zinc and celiac's disease
	Krystal Hospes	acid reflux
	David Huang	alcoholism
31-Oct	Riley O'Connor	Gastroesophageal**
	Jake Choi	Pancreatic disease
07-Nov	Hayden Vandenberg	workout supplements
	Jayden Ockenden	concussion
	Callie Fong	kidney disease

● Key Points 2:30 Tutorials

Multiple sclerosis (MS)

- 1) An overall balanced diet, low in saturated fat with plenty of fruits and vegetables (as is recommended for the general population) is best for MS patients
- 2) Vitamin D levels are worth being tested in MS patients so that, if necessary, a supplement can be taken to ensure adequate levels are reached and no adverse health effects result from low or high levels
- 3) it is important to remember that these are STILL STUDIES OF ASSOCIATION: Many doctors still urge caution due to the early nature of the research on vitamin D, though the amount of evidence for its role in MS is quickly growing and looks very promising
- 4) although there are diet plans claiming to improve and even cure MS, the research and scientific evidence backing these is not sufficient enough to support these claims; such claims may even prove to be harmful to someone with MS

Rheumatoid arthritis

- 1) Omega-3 and Omega-6 compete for the enzymes of oxidation that convert them to Eicosanoids therefore the dietary intake of these fatty acid can manipulate how much of each eicosanoid is produced.
- 2) The eicosanoid from each omega fatty acid has a different function in the inflammatory response, therefore dietary manipulation of omega fatty acids can dictate the body's inflammatory response.
- 3) Improvements in symptoms among those suffering rheumatoid arthritis have been obtained with Omega-3 supplementation due to its role in decreasing inflammation.
- 4) Supplementation with Omega-3 can help reduce the daily intake of non-steroidal anti-inflammatory drugs in treatment of Rheumatoid arthritis; chronic intake of these drugs can have adverse health effects.

Nutrition & AIDS

- 1) Malnutrition is one of the major complications of AIDS; risk of malnutrition is lower if patients follow dietary recommendations, such as micronutrient supplementation.
- 2) Nutritional assistance, such as food assessment and food provision, can be very effective forms of treatment; and there is a benefit to having a dietitian helping patients individually
- 3) Lipid abnormalities are common: e.g., increases in LDL (low-density lipoproteins) and triglycerides, and a decrease in HDL (high-density lipoproteins); and related problems such as lipodystrophy (fat distribution syndrome) can decrease survival.
- 4) Patients that are malnourished are less likely to benefit from antiretroviral therapy.

Paleonutrition

- 1) The Paleolithic diet emphasizes consuming lean meats, fruits and vegetables while limiting grains, processed foods, excess sugars
- 2) The prevalence of chronic conditions such as cardiovascular diseases, obesity, diabetes are thought to be caused by modern diets that are not suited for our metabolism.
- 3) Critics question the restriction of grains and starches which are important in a balanced diet
- 4) Although further research needs to be done, some studies have shown improvements in cardiovascular risks

caffeine

- 1) Cytochrome P450 1A2 (CYP1A2) is the main enzyme in the metabolism of caffeine.
- 2) Carriers for *1F (cytosine) allele are 'slow' caffeine metabolizers, whereas individuals homozygous for the *1A (adenine) allele are 'rapid' caffeine metabolizers.
- 3) Coffee consumption is associated with an 'increased' risk of nonfatal myocardial infarction and hypertension only among individuals with slow caffeine metabolism.
- 4) Coffee consumption is associated with a 'decreased' risk of nonfatal myocardial infarction and hypertension among fast caffeine metabolizers.

Resistance training

1. High protein diets are important for athletes undergoing resistance training, and 1.6-1.7g of protein/(kg body weight)/day is recommended
2. Carbohydrate ingestion is critical to ensure maximal glycogen stores to be utilized during training, and 6g of carbs/1kg of body weight have been suggested as a guideline for men undergoing resistance training, while women would require slightly less
3. Proper nutrition during recovery involves a combination of ~20g of protein and ~1.0-1.2g/kg of body weight of carbohydrates
4. Supplementation with creatine monohydrate (CM) has been shown to increase performance in resistance training —as well as increase associated progression— with no negative consequences

Poverty and Child Nutrition

§ The influence of poverty on child nutrition is not only prominent in developing countries, but is also a critical issue in developed countries, involving many contributing factors. It has been shown that food insecurity and hunger significantly declines with an increase in income

§ Without increased attention to the root causes of under-nutrition and poor development such as social inequality and race/ethnic disparities, it is likely that poor child development and malnutrition will continue to be a prominent health issue.

§ Food supplementation provided to at-risk groups is likely to have maximum benefit if it is multi-faceted and part of a broader based health promotion program delivered through a nation wide public health system, with community based programs throughout.

§ The most successful child nutrition interventions are those that provide direct services to the young child, and combine family and center-based components. Through nutrition education and family and school based programs, children develop early eating habits that are likely to continue into adulthood.

Anorexia nervosa

1. Anorexia Nervosa, one of the most common eating disorders, is a mental illness which leads to a lower than normal BMI due to excessive self-starvation.
2. Anorexia Nervosa patients do NOT lose appetite, they just restrict themselves to consume the amount of food they should be eating.
3. Zinc supplementation improves the rate of weight gain in Anorexia Nervosa patients.
4. Omega-3 Fatty Acid supplementation during re-feeding might have beneficial effects on Anorexia Nervosa patients.

Nutrition and Leaky Gut

- some foods irritate epithelial lining of the digestive system
- if inflammation compromises epithelial lining then intestines can become 'leaky' which means that the junctions are compromised. Molecules that are not meant to leave (are not fully digested yet) diffuse into the interstitial visceral space
- leaky gut can cause systemic inflammation
- systemic inflammation can cause myriad of problems and complications (Diabetes, Autoimmune diseases, neurological disorders, allergies and other food sensitivities)

Irritable Bowel Syndrome IBS

1. IBS is a gastro-intestinal (GI) disorder characterized by adverse GI tract symptoms with no known infective cause
2. There is no known cure for IBS, only management of symptoms
3. The majority of IBS patients report food as a trigger for GI symptoms
4. Studies show that diets low in FODMAPs are beneficial for the management of symptoms

Down syndrome DS

- Many children with DS have weak mouth muscles, very important to develop these muscles for proper eating patterns.
- Individuals with DS have higher rates of obesity, therefore monitoring caloric intake is important.
- Diets high in fruits and vegetables are typically recommended in DS.
- DS children should be monitored closely to ensure that micronutrient and macronutrient needs are met for optimal physiological and mental development.

Eye disease

- Xerophthalmia, characterized by dryness of the eyes, is a common and preventable disease
- Vitamin A is an effective treatment; and dietary vitamin A is a more effective long-term solution than supplementation
- A combination of strategies is needed to combat vitamin A deficiency in developing countries with high rates of xerophthalmia
- Protein and zinc intake may help with the assimilation of vitamin A

Hereditary Fructose Intolerance

1. HFI stands for Hereditary Fructose Intolerance and is a recessive autosomal genetic disease due to the malfunctioning of enzyme ALDOB.
2. The treatment is avoidance of foods containing fructose.
3. Symptoms appear early on and include vomiting and stomach pain; longer-term there may be serious kidney and liver problems.
4. Different fructose metabolic pathways may be affected in different people.

Blood-type and Nutrition

1. ABO blood type is an inherited trait and is dictated by the type of carbohydrate antigens existing on the membranes of red blood cells
2. von Willebrand factor (vWF) and FVIII are coagulation factors normally present in the blood. Elevated levels are linked with thrombosis, and decreased levels are linked with bleeding conditions
3. Blood-type and vWF/FVIII are significantly correlated: Individuals with type-AB antigens have the highest levels, and individuals with type-O antigen have the lowest levels
4. Blood-type-specific diets do not seem to be supported in the literature; but some guidelines, such as those for the type-A diet, are beneficial for everyone because they reflect well established nutrition principles

Basketball and nutrition

- Carbohydrate is the primary fuel source for NBA basketball athletes
- Carbohydrate ingestion days and hours before, during, and after competition is crucial for maximal performance
- NBA athletes should consume vitamin D in the diet as they appear to be at risk
- There is little evidence that a PRO/CARB meal before competition will enhance overall performance

amyotrophic Lateral Sclerosis ALS

1. Amyotrophic Lateral Sclerosis is a neurodegenerative disease of the motor pathways which can affect a person's nutritional status.
2. Several factors to consider that can specifically compromise nutrition as ALS progresses include tongue and/or pharyngeal muscle weakness or dyscoordination, upper extremity weakness/dyscoordination, depression, cognitive dysfunction, loss of appetite, constipation, reduced gastric emptying and respiratory muscle weakness.
3. Those who suffer from ALS experience weight loss and the more weight is lost, the lower the survival rate.
4. Hypercaloric nutritional intervention can be a low-risk therapy for the treatment of ALS

osteoarthritis

- 1) Weight management is a key factor for reducing the progression and pain of osteoarthritis (kcal in = kcal out).
- 2) Omega 3 consumption has been reported to have a protective effect on degeneration of cartilage.
- 3) Increased Vitamin C intake has been reported to reduce the progression of osteoarthritis.
- 4) According to some studies, nutritional interventions are just as effective as non-steroidal anti-

osteoporosis

- Osteoporosis is a disease characterized by loss of bone mass, which results from an imbalance between bone deposition and resorption (greater osteoclastic versus osteoblastic activity).
- Magnesium plays numerous structural and physiological roles within the body; inadequacy can lead to direct effects (structurally affecting Hydroxyapatite crystal formation , and osteoblastic and osteoclastic

activity), and indirect effects (impacting secretion of parathyroid hormone and inducing inflammation) on decreasing bone mineral density.

-To offset osteoporosis, one can focus on treatments such as: Drug therapy (Anti-resorptive and Anabolic drugs), and lifestyle modifications (having regular physical activity, no alcohol, no smoking, and balanced diet)

-Research in both rats and humans has shown that magnesium deficiency can lead to overall decreases in bone density at various skeletal sites of the body, serum parathyroid concentration, bone magnesium levels, and vitamin D, as well as increases in number of osteoclasts, and cytokines (inflammatory substances).

Children & Nutritional Education

1. Childhood obesity leads to increased risk for many health problems, as well as social and psychological problems
2. Hands on nutritional education is more effective in improving children's food choices than traditional nutrition curriculums
3. Ensure that children properly understand the vocabulary and terminology (such as "diet" or "serving size") surrounding nutritional messages
4. Teach children to use nutrition labels to compare foods, rather than to fulfill daily recommended values

● Key Points 3:30 Tutorials

Irritable bowel syndrome (IBS)

- 1) Irritable bowel syndrome (IBS) is one of the most common gastrointestinal problems that is characterized by abdominal pain, bloating, gas and diarrhea or constipation
- 2) IBS sufferers are at risk for nutrient deficiencies including food groups that contain fibre
- 3) Studies show that soluble fibre has better results in relieving IBS symptoms than insoluble fibre
- 4) Composite yogurt enriched with acacia dietary fibre and B. lactis had additive therapeutic effects in patients with IBS.

Anorexia nervosa

1. Refeeding Syndrome in Anorexia Nervosa represents fluid and electrolyte imbalances, especially hypophosphatemia, that could cause heart failure and death.
2. Incidence of refeeding complications and hypophosphatemia is related to the rate of refeeding, severity of malnourishment and % of ideal body weight.
3. During refeeding the abrupt shift to glucose metabolism increases the need for and use of phosphorus-containing intermediates causing a drop in phosphorous serum levels (hypophosphatemia).
4. Prevention and treatment of refeeding complications and hypophosphatemia is electrolyte and phosphorous serum monitoring and supplementation.

Paleonutrition

1. Shift in diet to more energy rich or more easily processed diet was an essential precursor to increase in brain size.
2. Neocortex size correlates to social group size and is limited energy available during growth and development.
3. Hunting and gathering provide larger mean energy intakes due to large quantity of resources and higher energy yields than foliage.
4. The human brain represents 2% of body weight; however it consumes 20% of total energy intake.

Major burns

- burn patients are often in a state of hypermetabolism
- burned adults require twice the amount of protein compared to a healthy adult
- trace element supplementation has been found to improve clinical outcome
- enteral feeding formulae for burn patients typically have low fat content, but high carbohydrate and protein content

Rheumatoid arthritis

- 1) Rheumatoid arthritis is an autoimmune disease causing inflammation and pain in various joints.
- 2) The high intake of saturated fatty acids common in patients with rheumatoid arthritis puts them at a high risk for cardiovascular disease.
- 3) Calcium deficiencies may cause osteoporosis and increase the risk of fractures due to corticosteroid medication use (reduces calcium absorption)
- 4) Omega-3 fatty acid supplementation leads to an improvement in disease condition

AIDS and Nutrition

- AIDS and its treatment cause numerous negative effects on the body that can be combated with nutritional supplementation of multi-vitamins (key factors in maintaining immune function and neutralizing oxidative stress).
- One of the main issues you can address nutritionally is severe malnutrition and weight loss, particularly loss of lean tissue, and delayed weight gain and height velocity in children.
- By simply increasing doses of multivitamin supplementation you do not always aid the cause, you can perhaps even hinder it.
- Comparing weight between healthy and unhealthy individuals does not always allow one to judge the severity of issues; variables such as over-hydration can skew results.

Anorexia nervosa

1. Nutrient Deficiencies and self-starvation can cause heart failure in Anorexia Nervosa Patients
2. These nutrient deficiencies cause an electrolyte imbalance and alter the mechanism of the cardiac action potential
3. Anorexia Nervosa Patients experience hypotension, bradycardia and a loss of muscle mass in the heart
4. There is a direct positive correlation between BMI and left ventricular mass.

epigenetics

1. A number of vitamins (e.g., some B vitamins) play role in regulating gene expression (epigenetic regulation) via DNA methylation.
2. Vitamin B9 (folate/folic acid) affects gene expression by directly influencing DNA methylation
3. Folate is a source of methyl-tetrahydrofolate (methyl-THF) which determines the availability of S-adenosylmethionine (SAM) which is a universal methyl donor for methylation reaction.
4. Supplementation of B vitamins (e.g., folic acid, vitamin B12) can completely inhibit expression of certain type of genes (e.g., Agouti gene) via DNA methylation.

sleep

- 1) A restriction in sleep causes the body to increase its levels in ghrelin and decrease its levels in leptin
- 2) High-glycemic-index foods shorten sleep onset latency

- 3) The brain converts the neutral amino acid tryptophan into serotonin which is then converted to melatonin, a hormone that regulates sleep.
- 4) Increased serotonin levels decrease the amount of REM you experience in a night's sleep, creating a deeper and more regenerative sleep.

Age-related macular degeneration AMD

1. Age-related macular degeneration is the deterioration or breakdown of the macula.
2. There are two kinds of AMD: wet (neurovascular), which results from abnormal growth of blood vessels, and dry (atrophic), which results from thinning and breakdown of cells in the macula.
3. Eating foods rich in vitamins C and E, beta-carotene and zinc may reduce the progression of AMD.
4. Serum EPA and EPA+DHA (omega-3 fatty acids) may lower the risk of developing wet AMD

dental health

- 1) Decreased serum Vitamin D levels are associated with decreased clinical attachment levels (distance between cemento-enamel junction & bottom of the pocket)
- 2) It takes up to 3 months for serum Vitamin D levels to stabilize after vitamin D intake is increased
- 3) If an individual is vitamin D deficient, minimal benefits can be obtained from periodontal surgery.
- 4) Anabolic agent, such as Teriparatide, benefits from vitamin D sufficiency to promote oral bone formation.

Iron

- Iron-deficient anemia can result from inadequate iron intake, blood loss, impaired absorption of iron, and genetic causes
- The RDA for iron is 8mg/day for men and 18mg/day for women
- Foods containing heme iron are the best sources for increasing or maintaining healthy iron levels
- Iron-deficiency anemia is when iron levels are below 12g/dL for women and 13g/dL for men.

bulimia nervosa

1. Bulimia nervosa is a type of eating disorder which is characterized by frequent episodes of binge eating, followed by frantic efforts to avoid gaining weight, and is most common in adolescent women in industrialized countries who suffer from low self-esteem.
2. Patients with bulimia nervosa are often malnourished, and do not consume a healthy amount of vitamins and minerals.
3. Most patients in bulimia recovery have relapses; about 30% of patients have relapses after treatment.
4. The treatment of choice for bulimia nervosa is cognitive behavioral therapy in conjunction with moderate physical exercise.

Dietary planning

1. Diet choice is a complex area because there are a number of influential factors which include biological, economic, physical, social, and psychological determinants, as well as attitudes, beliefs and knowledge about food.
2. Effective nutrition intervention and education strategies are needed to promote adoption of healthy eating behaviors.
3. Developments of nutrition intervention and education strategies require an understanding of eating behavior and factors that influence behavior.

4. An increased frequency of fast food dining is associated with higher intake of calories and calories from fat, but this can be altered with increased awareness about nutrition.

cataracts

- Cataracts are the opacification of the lens in the eye leading to blurred vision and eventually blindness.
- In Age Related Cataracts, there is damage of lens proteins due to free radicals and UV light.
- Risk of Cataracts seems to be multi-factored, and is less common in individuals who eat a more vegetarian diet, in concurrence with the idea that antioxidant-rich food groups may protect against the damage
- However, even with vegetarian diets, the variety and diversity of legumes and leafy greens is likely to be important. If mainly protein-rich legumes are consumed, the risk of Cataracts may not be appreciably different than for those with meat-rich diets.

osteoporosis

- 1) Poor nutrition, and a suppression of progesterone levels due to stress and other environmental factors, can increase the risk of osteoporosis.
- 2) Physical activity is important in decreasing the risk osteoporosis, as it promotes higher bone mass densities.
- 3) Sufficient calcium intake during adolescence is key to reaching peak bone mass.
- 4) Individuals living above 37 degrees of latitude need to ensure vitamin D intake is sufficient, especially November to February.

multiple sclerosis MS

- 1) Fats consumed influence the make up of myelin and the body's ability to repair damaged neurons.
- 2) Multiple sclerosis is influenced by environmental factors like food, which suggests that risk of MS may be affected by certain lifestyle changes.
- 3) Combinations of antioxidants, and polyunsaturated fatty acids seem to influence immune and non-immune related inflammatory response.
- 4) Various components of foods can influence the body's ability to repair damage and to protect itself from further damage.

peptic ulcer

1. A peptic ulcer is a break in the mucous membrane lining the digestive tract causing gradual tissue damage
2. Helicobacter pylori is the predominant factor causing peptic ulcers
3. Duodenal ulcers are more common than gastric ulcers
4. Peptic ulcers should be closely monitored by the doctor because complications can lead to internal bleeding and the development of stomach cancer

● Key Points 4:30 Tutorials

Oral Health

- 1) Nutrition affects the development of the oral cavity
- 2) Food affects the oral cavity on a multitude of levels
- 3) Oral manifestations arise from nutrient deficiencies
- 4) A large number of Canadians struggle with aspects of nutrition that affect their oral health

Muscle growth

- Essential amino acids are required for muscle growth
- Responses to timing of protein intake can vary
- Calories in vs calories out affects muscle growth
- Dietary supplements can have positive effects on muscle growth

Celiac

- Some symptoms of celiac disease are psychological, such as anxiety and depression, which can lead to a negative diet change in an individual's life.
- The only treatment for celiac disease is to maintain a strict gluten-free diet.
- If celiac disease is left untreated, it can affect the overall health of the individual.
- Being on a gluten-free diet may have positive impacts on other diseases and disorders, such as irritable bowel syndrome and autism.

Cystic Fibrosis (CF)

- 1) Genetic disease that affects mainly the digestive system and lungs
- 2) Requirement: 10-30% or more calorie intake than an average person
- 3) CF patients often must take pancreatic enzymes before or during a meal
- 4) Children with cystic fibrosis typically do not grow at an optimal rate due to malnutrition

Sleep

1. High Glycemic Index foods can decrease sleep onset latency, supposedly due to increased relative tryptophan levels in blood plasma.
2. The timing of eating has a significant effect on the length of sleep onset latency; eating 4 hours prior to sleep is more favorable than eating 1 hour prior.
3. Decreased sleep quality due to sleep fragmentation, especially slow wave sleep, is related to poor insulin sensitivity
4. Decreased sleep quality due to fragmentation is related to poor insulin effectiveness and production

Food Choices

- Teens don't choose food based on nutritional needs, but rather on factors such as appeal, convenience, and social media.
- Schools and universities need to increase availability and appeal of healthy foods
- Price of foods and marketing practices are an essential part of choosing foods
- A reduction in price of healthy foods, leads to increased sales.

Irritable Bowel Syndrome (IBS)

- IBS affects 3-20% of the adult population with many cases going undiagnosed
- IBS has both physical and mental triggers
- Probiotics (chiefly Bifidobacteria bifidum - MIMBb75) can effectively alleviate global and specific symptoms of IBS
- A low FODMAP Diet can significantly reduce IBS symptoms especially those with fructose malabsorption

Rheumatoid arthritis

1. Diets high in trans fats as well as foods with a high glycemic index may increase circulating levels of inflammatory molecules
2. Diets high in fruits and vegetables, fibre, whole grains and polyphenols may reduce inflammation in these patients, as well as Omega-3 fatty acids
3. Some, limited fasting may help reduce inflammation

4. Undiagnosed or 'hidden' food allergies may be an underlying cause of inflammation in as many as a third of rheumatoid arthritis patients

Celiac disease and Zinc

1. Zinc absorption isn't impaired despite the villous atrophy caused by celiac's disease.
2. The half-life of zinc in those with untreated disease is shorter than in those who are healthy or those with celiac's disease on a gluten free diet.
3. A gluten free diet can help to reduce the turnover of zinc.
4. A zinc deficiency can lead to a delay in growth, loss of appetite, and impaired immune function.

alcoholism

1. Ethanol is metabolized mainly by the liver
2. Excess alcohol leads to Liver damage and loss function
3. Loss of function leads to inability to metabolized nutrients
4. Loss of function leads to many health problems

Pancreas

1. Pancreas plays an essential role in converting food into fuel
2. most pancreatic cancers are found after the cancer has metastasised
3. Majority of patients with advanced pancreatic cancer suffer from wasting syndrome (cachexia)
4. fish oil-enriched nutritional supplement has the potential to be a safe, effective anti-cachectic agent

Gastroesophageal Reflux Disease GERD

1. Gastroesophageal Reflux Disease (GERD) is a chronic disease in which acid is refluxed up into the esophagus.
2. Is commonly associated with poor lifestyle choices such as smoking, and poor diet
3. If left untreated can lead to a precancerous condition called Barrett's Esophagus
4. Increased fruits and vegetable intake can decrease the incidence of GERD and precancerous tissue formation

Pre-workout supplements

- Pre-workout supplements can increase exercise performance
- Overall such supplements are considered to be relatively safe
- The supplements typically include high doses of Vitamin B6, B12 and folate
- There is much controversy regarding many of the ingredients in typical pre-workout supplements; be smart and research them.

Chronic kidney disease CKD

- The kidney plays an essential role in maintaining water and remove waste products from blood
- People who have cardiovascular disease, high blood pressure, or diabetes, are more likely to develop chronic kidney disease
- If patient is in stage 4-5 CKD they require a kidney transplant
- There is no cure for CKD; but there may be the possibility of prevention or delaying disease progression.

Traumatic Brain Injury (TBI)

- TBI is a relatively new study in the field of nutrition and more studies need to be done
- There is controversy regarding the possible benefits of some nutrients in cases of TBI

- Daily supplementation of DHA and Eicosapenoic Acid (EPA) promotes anti-inflammatory response to concussions and TBI
- Human trials of closed head injuries showed positive outcomes after supplementation with zinc.

Acid Reflux (GERD)

- Individuals with BMI >25 are at higher risk for having GERD symptoms
- There is a positive correlation between fat intake and BMI for total fat, saturated fat, and cholesterol for those with GERD symptoms
- foods high in fat, tomatoes, citrus fruits, chocolate, spicy foods and alcohol increase GERD symptoms
- Increased fiber intake can help reduce GERD symptoms

HIV/AIDS and Nutrition

- Due to a suppressed immune system, food safety is extremely important
- Inadequate nutrition leads to wasting, and is strongly associated with an increased risk of HIV/AIDS related mortality
- Multivitamin supplementation is effective in delaying HIV progression
- Selenium deficiency increases the risk of HIV/AIDS related death

Anorexia nervosa

- 1) Nutritional restoration must occur gradually over the treatment period
- 2) Supplementation with vitamins such as B1 and B6 is often started early in treatment.
- 3) Refeeding syndrome is the result of fluid and electrolyte imbalances; it can lead to mortality.
- 4) When restoring nutrients, one must avoid large quantities of carbohydrate because glucose metabolism increases the cells need for phosphate and depletes phosphate serum levels. Such phosphate depletion can lead to fluid retention and affect heart function.

Nerve conduction

- Nerve conduction dysfunction was more commonly associated with nutritional deficiencies than nerve demyelination or degeneration
- Sodium, potassium, magnesium, and calcium are important major electrolytes in regards to normal nerve conduction
- Vitamin B12 is essential for maintaining nerve health
- Alcohol consumption in large quantities can affect the efficiency of nerve conduction