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Eating for Optimal Physical, Mental & Dental Health

Upper Island District Dental Society Spring Conference
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Our Current Food Environment

- We live in a toxic food environment. Over the past 70 years, consumption of processed and ultra-processed foods in Canada has doubled, from 30% of the average family's food purchases to 60%.
- Every 7 minutes in Canada, someone dies from heart disease or a stroke. Cancer is a leading cause of death – obesity is a major risk factor. Diabetes is one of the largest global health emergencies of the 21st century. Almost 2 out of 3 Canadians are overweight or obese.
- “For the first time in more than a century, the children of today may have less healthy and possibly even shorter lives than their parents.” Public Health Agency of Canada
- Poor diet generates a bigger disease burden than tobacco, alcohol and physical inactivity combined. (Eur J Clin Nutr., June 2017)

NUTRITIONAL ALL-STARS

Fruits & Vegetables

- Research review (95 studies): An inverse relationship exists between fruit and vegetable intake and the risk of heart disease, stroke, cancer, and all-cause mortality. (Int J Epidemiol., June 2017)
- Higher fruit and vegetable intake linked to significantly lower disability risk.
- Eating at least seven servings of fruits and vegetables daily is linked to significantly greater happiness and better mental health. (Am J Public Health, Aug. 2016)
- Mediterranean diet (high in fruits and vegetables, along with whole grains, nuts, beans, fish, and olive oil) was successful in the treatment of moderate to severe depression. (BMC Medicine, January 2017)
- Dash Diet (8 to 10 servings of fruits and vegetables daily): Significant decreases in blood pressure in just 2 to 4 weeks.

Dark Leafy Greens

- Referred to as “Green Gold” as they contain a goldmine of nutrition and more nutrition per calorie than any other food (rich in nutrients like magnesium, potassium, vitamin K, vitamin E, folate and carotenoids).
- Protect your eyes from cataracts and macular degeneration.
- Daily serving of dark leafy greens linked to significant slowing of cognitive decline – as much as eleven years younger in age. (Neurology, Dec. 2017).
- Consume at least 1 cup daily.

Cruciferous Vegetables (like broccoli)

- These vegetables contain powerful anti-cancer compounds. They turn off genes that promote cancer growth and turn on genes that suppress cancer growth.
- Cruciferous vegetables are uniquely, and significantly, linked to less thickening of the neck arteries. (American Heart Assoc. April 2018)
- Anti-aging: Plant compounds in broccoli protect against ultraviolet-induced skin damage. (J Cosmet Dermatol., March 2016)
- Plant compounds (isothiocyanates) found in cruciferous vegetables, like broccoli, have strong antimicrobial activities and may be useful in prevention and management of dental caries. (J Microbiol Biotechnol., Sept. 2016)
- Eat cruciferous vegetables, like broccoli and kale, three to five times weekly.

Berries (antioxidant all-stars)

- As antioxidant intake increases risk of death from any cause, including heart disease and cancer decreases (inverse relationship). (Eur J Nutr., Aug. 2017)
- Berries protect the aging brain. In animal research a blueberry-rich diet reverses age-related cognitive declines and restores balance and co-ordination.
- Older adults with mild cognitive impairment who consumed blueberries daily for 4 months saw an improvement in both cognitive performance and brain function. (University of Cincinnati, March 2016)
- Berries also: Improve memory and mobility in older adults; lower LDL (bad) cholesterol and triglycerides, while increasing HDL (good) cholesterol; lower blood pressure; Increase insulin sensitivity; protect against cancer; protect against arthritis-based diseases; promote good gut health. (Food & Function, Jan. 2018)
- Eat 1 cup of fresh or frozen berries daily. Organic are higher in antioxidants.

Apples

- Your heart loves apples. University of Oxford study: an apple a day is just as effective as taking a statin (drug) for everyone over 50. (BMJ, Dec. 2013)
- Apples fill you up and satisfy hunger better than most other foods.
- Phenolic-rich fruits, including berries and apples, are most strongly linked to less weight gain. Starchy vegetables like corn, peas, and potatoes are linked to weight gain. (PLOS Medicine, Sept. 2015)
- Eat one whole apple, with the skin on, daily. Granny Smith and Red Delicious are highest in antioxidants.

Organic

- “There is currently no strong evidence to show that organic foods offer added protection against cancer compared to conventionally grown produce. Further research is required. Eating a diet rich in plant foods, including vegetables and fruits, can help reduce the risk of several cancers – whether they are organically or conventionally produced.” (American Cancer Society, April 2016)
- Environmental Working Group provides a yearly list of fruits and vegetables most and least likely to contain pesticide residues. (www.ewg.org)

Fruit Juice

- It's a concentrated source of nutrition & antioxidants, but also sugar (6 to 8 tsp/cup) and calories (120 to 150 per cup). Consuming 1 cup daily has been linked to an increased risk of diabetes. (BMJ, Aug. 2013)
- American Academy of Pediatrics (Policy Statement): Children should be encouraged to eat whole fruit to meet their recommended daily fruit intake. Fruit juice increases risk of dental caries and weight gain. (Pediatrics, June 2017)
- Juice cleanses - "Although the detox industry is booming, there is very little clinical evidence to support the use of these diets for weight management or toxin elimination." (Journal of Human Nutrition and Dietetics, Dec/2015)

Eating 7 to 10 Fruits & Vegetables Daily

- Fruits, Vegetables & Chronic Disease: Lowest risk for cancer: 7.5 servings/day. Lowest risk for heart disease, stroke, and death from any cause: 10 servings/day. (Int J Epidemiol., June 2017)
- Half your plate should be fruits and vegetables.
- Loughborough University (review of 60 studies): The most powerful influence in promoting vegetable consumption among kids is "seeing their parents eat and enjoy them".
- Unless you reduce the excessive consumption of unhealthy snacks (cookies, candy, salty snacks, and soft drinks), it's very hard to get people to eat more fruits and vegetables. (Public Health Reports, Jan/Feb 2010)

Herbs & Spices

- Since prehistoric times, herbs were the basis for nearly all medicinal therapy until synthetic drugs were developed in the 19th century.
- Regular consumption of curcumin (equivalent to about ½ tsp of turmeric twice/daily) improved memory, ability to pay attention, and mood in people with mild, age-related memory loss. (American J of Geriatric Psychiatry, Oct. 2017)
- Liz's spiced green tea: cinnamon sticks, whole cloves, thinly sliced, fresh ginger.
- Benefits of herbal products over drugs for dental health: wide biological activity (antimicrobial, antioxidant, anti-inflammatory), higher safety margin, lower cost, don't cause side effects or antibiotic resistance. (J Intercult Ethnopharmacol., Jan-Feb 2016)
- Antimicrobial Activity of Various Plants - Clove oil was the most effective of all products against microorganisms causing caries (inhibition zone of 30mm). (J Clin Diagn Res., Dec. 2016)
- Cinnamon and sweet basil essential oils demonstrated impressive anti-cariogenic bacteria and anti-plaque effects. (J Clin Diagn Res., Sept. 2017)
- Arimedadi oil (sesame oil with numerous herbs steeped into it) is equally effective to Chlorhexidine gluconate as an adjunct to mechanical plaque control in prevention of plaque accumulation and gingivitis. (J Clin Diagn Res., July 2016)
- Herbal and probiotic mouthwashes are effective alternatives to Chlorhexidine mouthwash with minimal side effects. (J Clin Diagn Research, March 2017)
- "Chronic mouthwash use can be likened to the effect of antibiotics on gut bacteria.
- Few would contemplate going on antibiotics permanently, while more than 20% of Americans use mouthwash daily." (Nitric Oxide, Dec. 2017)

Whole Grains

- The bran and germ, which are discarded when making refined grains such as white bread, contain 80% or more of the health protective plant compounds.
- Whole grains eaters lost significantly more abdominal fat and almost 40% lower levels of CRP – a marker of inflammation. (Am J Clin Nutr., Jan. 2008)
- Less processed whole grains are better for you (wheat berries, steel cut oats, quinoa, hulled barley).
- Read labels (ingredient list): wheat flour is “white flour”.
- Choose healthier processed, whole grain products (bread, cereal, crackers) using the Harvard 10:1 ratio: At least 1 gram of fibre for every 10 grams of carbohydrates.
- Popcorn fills you up more than other snacks. Only snack that is 100% unprocessed whole grain. Significant source of antioxidants (hull). Non-cariogenic snack.
- “If you are not celiac or have no sensitivity to gluten and I put you on a gluten free diet, I negatively affect your quality of life, because it is a social challenge and change in lifestyle and you have no return on investment.” *Dr. Alessio Fasano, Center for Celiac Research*
- People with reported gluten-sensitivity participated in randomized trial (2 muffins/day for 4 days) and recorded G.I. symptoms. The muffins had the same in look, taste, and texture. One contained gluten, one did not. No clear difference was seen between gluten-containing versus gluten-free muffins, indicating gluten was not the cause of their symptoms. (Neurogastroenterology & Motility, March 2018)
- Levels of toxic metals were much higher among subjects who followed a gluten-free diet than those who did not. Mercury levels were 70% higher in blood of gluten-free subjects, while arsenic levels in urine were almost twice as high. (Epidemiol., Feb. 2017)

Fibre

- “Out of all the variables we looked at, fibre intake had the strongest influence. Essentially, we found that those who had the highest intake of fibre or total fibre had an almost 80% greater likelihood of living a long and healthy life over a 10-year follow-up.” (Professor Bamini Gopinath, University of Sydney)
- “A low-fiber diet decimates gut bacteria.” (Cell Host & Microbe, Dec. 2017)
- “A very high proportion of people in the general population have lost the richness of their gut microbiome. These individuals have a higher risk of developing type 2 diabetes, liver problems, and heart disease.” Gut Microbiota for Health, 2017
- Long-term diet is the environmental factor with the most significant impact on the microbiome - more significant than exercise, body weight, antibiotic use, and age. (British J of Nutrition, Jan. 2015)
- When microbes don't get the natural fibre they rely on for food, they begin to munch on the natural layer of mucus that lines the gut, eroding it to the point where dangerous invading bacteria can infect the colon wall. (University of Michigan, Nov. 2016)
- Two-week food exchange: African Americans were fed a high-fibre, African-style diet and rural Africans a low-fibre Western-style diet. Result: Just two weeks of eating different food changed the types of bacteria living in the colon and ultimately, the risk of colon cancer. (J Nature Communications, April 2015)

- A high-fiber diet changes the entire gut microbe community and improves blood sugar regulation. (Science, March 2018)
- “People who eat a lot of junk food and boxed food have deficient bacteria in their gut and will be more anxious and more depressed. There’s no question about that.” (Joan Borysenko, PhD)
- Probiotics reduce depression. Probiotics given over 6 weeks decreased brain activity in areas involved in the processing of negative emotions. (Gastroenterology, Aug. 2017)
- The Extreme Fibre Gap (90% of Canadians not getting enough): Current recommendation: at least 25g, Average intake: 15g, Add 10g to your day!
- Eating foods rich in fibre (whole grains, whole fruits and vegetables, nuts and seeds, beans) feeds the “good” bacteria that live in your gut.

Beans

- Nutrient Rich Foods Index (University of Washington): beans are one of the highest-scoring foods.
- Beans contain 12 to 15 grams of fibre per cup, which is exceptional.
- Black beans, red kidney beans, lentils, and pinto beans are high in antioxidants.
- Beans contain slow release carbs (they increase blood sugar very slowly when consumed).
- Eating one serving of beans daily (3/4 cup) is linked to significant weight loss, even when no special effort is made to avoid other types of foods. (Am J Clin Nutr., March 2016)
- Substitution of beans for red meat provides most significant reduction in heart disease risk. (Circulation, Aug. 2010)
- A higher consumption of beans (3 to 4 servings weekly) is linked to a 35% lower risk of diabetes. (Clin Nutr., March 2017)
- Blue Zones study (A study of communities with surprisingly high percentages of centenarians): Eat mostly plants, especially beans.
- Beans & gas: Vast majority report no symptoms at all. For those who did, most (70%) said flatulence dissipated by 2nd or 3rd week of bean consumption. (Nutr J., Nov. 2011)
- Replacing common dips and spreads with hummus: increases diet quality, lowers risk of disease, helps in maintenance of a healthier body weight. (Nutrients, Dec., 2016)
- Enjoy beans at least four days of the week (3/4 cup serving).

Nuts

- Daily nut eaters are significantly less likely to die of any cause, especially heart disease and cancer.
- Research has consistently shown a 30% to 50% lower risk of heart attack, sudden cardiac death, or cardiovascular disease associated with eating nuts several times a week. (Harvard, Nov. 2017)
- Substituting 3 servings of nuts/week for 3 servings of red meat, processed meat, eggs, or refined grains/week was associated with significantly lower inflammation in the body. (Am J Clin Nutr., Sept. 2016)
- Higher intake of nuts is associated with reduced weight gain and lower risk of becoming overweight or obese. (European Journal of Nutrition, July 2017)

- Replacing commonly consumed snacks with nuts increases diet quality significantly (more nutrients, more healthy fats, less empty calories, less unhealthy fats). Even a partial replacement has a significant positive effect on diet quality. (Nutr J., March 2017)
- More reasons to eat nuts: blood pressure, type 2 diabetes, gallstones, macular degeneration, anti-aging.
- Almonds and walnuts are especially nutrient rich, but all nuts are a good source of nutrition and can be included in the diet. Eat a small handful daily.
- Flaxseeds are especially rich in cancer-fighting lignans. Chia seeds are especially rich in fibre. Hemp seeds are especially rich in protein.
- Almond butter is more nutritious than peanut butter, especially for Vitamin E.
- Introducing peanut-containing foods as early as 4 to 6 months of age may reduce the risk of peanut allergy. (Annals of Allergy, Asthma & Immunology, Feb. 2017)
- Nutella is low in nutrition and very high in sugar (two tablespoons contain more than 5 teaspoons of sugar).

Fish

- Omega-3 supplements significantly reduce triglycerides, blood pressure, and inflammation. They also have an anti-arrhythmic effect. (J of Human Nutrition & Dietetics, July 2017)
- Omega-3 fats found to significantly improve eight disease-activity-related markers of rheumatoid arthritis. (Nutrition, Jan. 2018)
- Higher omega-3 fat intake in childhood linked to significantly lower risk of asthma in the teen years. (J Allergy Clin Immunol., Dec. 2017)
- Taking fish oil supplements daily during pregnancy and in the first 3 to 4 months of breast feeding, decreases the risk of allergies in children. (PLOS Medicine, Feb. 2018)
- Omega-3 fats strongly promote gut microbiome diversity. (Scientific Reports, Sept. 2017)
- Fish eaters have significantly lower risk of colon cancer. (JAMA Internal Medicine, May 2015)
- Children who eat more fish have higher verbal, performance, and full scale IQ scores, as well as fewer sleep problems. (Scientific Reports, Dec. 2017)
- Moderate fish intake could be recommended for the prevention of depression. (Translational Psychiatry, Sept. 2017)
- A diet lacking in omega-3 fats during adolescence leads to lower omega-3 levels in certain parts of the brain in adulthood, resulting in emotional and cognitive changes linked to anxiety. (J of Neuroscience, June 2017)
- Fish Oil & Periodontal Disease (55 adults with moderate periodontitis, 3 month study). In this randomized controlled trial, DHA supplementation (2000 mg daily) significantly improved periodontal outcomes in people with periodontitis (decreased mean pocket depth and gingival index). (Journal of Dentistry Research, June 2014)
- “To date, there is good emerging evidence that dietary supplementation with fish oil may be of some benefit and this is enhanced if combined with aspirin.” (Clin Oral Investigation, June 2016)
- Omega-3 fats inhibit two enzymes that participate in the destruction of dentin following demineralization by bacteria acids. (Protein J., Aug. 2017)

- Anti-inflammatory diet linked to significantly fewer missing teeth. (Clin Nutr., June 2017)
- Anti-Inflammatory Foods: Colourful fruits and vegetables; Beans (including soy); High fibre, whole grains; Herbs and spices (garlic, ginger, onions, saffron, turmeric, black pepper, thyme, oregano and rosemary); Healthy fats, such as in olive oil and vegetable oils, fatty fish (like salmon); nuts and seeds; avocado; Healthful, unsweetened beverages (low-fat milk, green/black tea and coffee).
- Pro-Inflammatory Foods (limit or avoid): Sugar-sweetened drinks; Refined grains; Sweets and desserts (cookies, ice cream, cake); Red and processed meats; Unhealthy saturated fats, such as in fatty red meats and butter; Ultra-processed foods (nutrient-poor, calorie-rich); Any calories in excess of energy needs.
- Eat 2 servings of higher fat fish each week (Salmon, Herring, Mackerel, Rainbow Trout, Sardines). If you don't eat fatty fish regularly, consider taking a fish oil capsule daily.
- Avoid fish highest in mercury: Swordfish, Shark, King Mackerel, Gulf Tilefish, Marlin, Orange Roughy. Avoid tuna steaks and sushi made with tuna. Choose canned light tuna (Skipjack Tuna) rather than white (Albacore) tuna.

Eggs

- Eggs are nutrient-dense, low calorie, low in saturated fat, rich in lutein and zeaxanthin, rich in choline.
- Up to seven eggs per week can safely be consumed. For those who suffer from heart disease or type 2 diabetes, eggs only fit within a healthy lifestyle. (Eur J Clin Nutr., Sept. 2017.)
- Higher egg consumption (3 or more eggs weekly) linked to higher blood sugar levels and higher risk of stroke in people with type 2 diabetes or pre-diabetes. (Eur J Nutr., Sept. 2017)

Milk Products

- We found no evidence for a decreased or increased risk of all-cause mortality, coronary heart disease, and stroke associated with adult milk consumption. (BMC Public Health, Dec. 2016)
- This meta-analysis (review of 29 studies) found a neutral link between dairy products, cardiovascular, and all-cause mortality. (Eur. J. Epidemiol., April 2017)
- The risk of sudden cardiac arrest was more than double in those with low blood calcium. (Mayo Clinic Proceedings, Oct. 2017)
- Position Statement: Peak Bone Mass Development & Lifestyle Factors - There is strong and abundant evidence for both physical activity and calcium for optimizing bone mass and density. There is good evidence for a role of vitamin D and dairy consumption. (National Osteoporosis Foundation, April 2016)
- Review of 18 studies - Milk, yogurt, and cheese intake are all associated with a lower risk of hip fracture. (BMC Public Health, Jan. 2018)
- With the exception of soy milk, most milk alternatives are significantly lower in protein than cow's milk. Cow's milk is the most nutritious.
- Joint Statement, Nov. 2017 (Dietitians of Canada, Canadian Paediatric Society): Parents should not rely on plant-based drinks - such as rice, coconut and almond milks - as the main beverage for babies and young kids. For children age 2 to 8, cow's milk or fortified soy beverage are recommended to help meet needs for protein, calcium, and vitamin D.

- Greek yogurt: Great for protein. Calcium content can be half as much as a glass of milk.
- Kefir (fermented milk): significantly higher in probiotic bacteria than yogurt.
- Walter Willett, PhD, Harvard: “Butter is not back. Long term health will be better with olive and other oils.”
- American Heart Association Presidential Advisory (June 2017): “Overwhelming evidence shows that saturated fats should be consumed in limited quantities.”
- "Saturated fats such as in butter, fatty cheeses and coconut oil are thus the worst thing to eat from the liver perspective." (Dr. Hannele Yki-Jarvinen, University of Helsinki)
- Coconut oil raises total and LDL cholesterol, (but not as much as butter) and unsaturated oils are better for heart health. (Review of 21 studies, Nutrition Reviews, March 2016)

Water

- Even mild dehydration can drain your energy, make you feel tired and impact your ability to think, learn and concentrate.
- Drinking water was shown, to benefit cognitive functioning (memory, response time, focused attention, mood – energy levels, anxiety, depression) when there was a loss of less than 1% of body weight at levels that may occur during everyday living. Even small differences in hydration status has functional consequences. (Am J Clin Nutr., Sept. 2016)
- Most women should aim for at least 6 ½ cups daily and men 8 cups.
- All Beverages Are Hydrating - cola, diet cola, hot tea, iced tea, coffee, lager, orange juice, sparkling water, and a sports drink were not different from response to water ingestion. (Am J Clin Nutr., March 2016)
- The dental profession and scientific community are united in their support of community water fluoridation; however, the general population remains skeptical. Based on a review of 234 media articles, researchers report that media coverage of water fluoridation gives an artificial balance of evidence - equal weight is assigned to opposing views, regardless of the strength of evidence. (J Am Dent Assoc., Feb. 2018)

Vitamin Supplements

- Multivitamin makes sense for most women and everyone over the age of 50.
- Nutrients in high doses can act like drugs, have pharmacological side effects, and be toxic.
- Calcium supplements (1200mg daily) linked to double the risk of polyps in the colon. (Gut, March 2018)
- “Due to our northern latitude and because the sun’s rays are weak in the fall and winter, we recommend that Canadian adults consider taking a vitamin D supplement. Talk to your doctor about taking 1000 international units (IU) a day during fall and winter months.” Canadian Cancer Society
- Vitamin D. Research review: 24 studies involving 3,000 children from United States, Great Britain, Canada, Austria, New Zealand and Sweden. Vitamin D linked to a 47% lower risk of tooth decay. (University of Washington, Nov. 2012)

Coffee

- Dietary Guidelines for Americans (Jan 2016): The committee's scientific advisors cited mounting research showing that daily consumption of the amount of caffeine contained in three to five cups of coffee is not only safe, but also appears to reduce the risk of Type 2 diabetes and heart disease, and may protect against Parkinson's disease.
- Higher coffee consumption (3 or more cups, caffeinated or decaf) was linked to lower risk of death. Coffee drinking was beneficial for liver function, inflammation, insulin sensitivity, and blood lipids. (Annals of Internal Medicine, Aug. 2017)
- "At last, liver physicians have found a lifestyle habit that is good for your liver! Drinking coffee can protect you from developing liver disease and in addition reduces the risk of progressive disease for those already affected." *Professor Graeme Alexander, British Assoc. for the Study of the Liver*
- "Until now, very few dietary factors have been linked with colorectal cancer prognosis. Our new study suggests that coffee may potentially improve survival of patients diagnosed with colorectal cancer." (Yang Hu, PhD Student, Harvard)
- Review of 12 studies - Drinking about 2 to 3 cups of coffee daily linked to significantly lower risk of depression. (Molecular Nutrition & Food Research, Jan. 2016)
- Plant compounds in coffee prevent significant adhesion of pathogenic bacteria on tooth enamel. (Journal of Agricultural & Food Chemistry, Feb. 2002)
- Coffee was found to lower the salivary pH but well above the level of critical pH (may be due to the low acidogenicity of milk). (Scientifica, March 2016)
- Beverage dental erosion study - Starbucks coffee was tested and found to be minimally erosive. (J Am Dent Assoc., April 2016)

Tea

- Regular tea drinking is good for health: heart disease, stroke, cancer, dementia, diabetes, bone health, eye health, dental health, immunity.
- Dutch food-based dietary guidelines (2015): Guideline: Drink three cups of tea daily - linked to lower risk of stroke, high blood pressure, and diabetes.
- Antibiotics up to three times more effective in their fight against resistant superbugs when taken with green tea. (Society of General Microbiology)
- Drinking tea reduces the risk of cognitive impairment in older persons by 50% and as much as 86% for those who are genetically at risk of Alzheimer's. (J of Nutrition Health & Aging, Dec. 2016)
- Green Tea. Study: Assess the effect of rinsing with green tea in comparison with chlorhexidine and plain water on Streptococcus mutans count. Results: Green tea mouth rinse proved to be equally effective compared to chlorhexidine. (J Clin Diagn Res., Nov. 2014)
- Green and black tea compared to soft drinks and orange juice over 20 weeks: The erosive effect of tea was similar to that of water, which has no erosion potential. Given the systemic and dental benefits of tea and the low potential for erosion, green and black tea should be highly encouraged for daily beverage consumption. (General Dentistry, July/Aug. 2008)
- Both fluoride and green tea extract are effective in preventing soft-drink-induced erosion. (J Formosan Med Assoc., April 2018)

- Black tea rinse inhibits alpha-amylase (enzyme that breaks down starches). (J Clin Diagn Res., March 2016)
- Tea & Xerostomia. Study (60 patients): The catechin-containing natural formula increased unstimulated saliva by 4-fold and stimulated saliva by 2-fold. (Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology Journal, Oct. 2014)
- Enjoy 3 to 6 cups of green tea daily. Decaf has 50% fewer beneficial plant compounds. Don't drink it too hot.

Alcohol

- Moderate drinking linked to a lower risk of heart attack, sudden heart death, heart failure, ischemic stroke. Heavy drinking linked to significantly higher heart health risks. (BMJ, March 2017)
- As little as half a drink every other day is enough to produce some reduction in heart attack risk. All kinds of alcohol protect the heart.
- If someone binge drinks even once a month, any health benefits from light to moderate drinking disappear." (Dr. J. Rehm, Centre for Addiction and Mental Health)
- Alcohol abuse (chronic heavy drinking) is the most important preventable risk factor for onset of all types of dementia, and especially early-onset dementia. (Lancet Public Health, March 2018)
- The World Health Organization has classified alcohol as a "Class 1" carcinogen since 1988. After tobacco, alcohol is the second biggest cause of cancer.
- "The most consistent dietary risk factor for premalignant and invasive breast cancer is alcohol, whether consumed during early or late adult life, even at low levels." (Lancet Oncology, August 2017)
- Review of 18 studies – Higher alcohol use (about 3 or more drinks daily) linked to a 60% higher risk of periodontal disease. (J Clin Periodontol., July 2016)
- Plant compounds in red wine (polyphenols) decrease the ability of pathogenic bacteria to stick to teeth. (Journal of Agricultural & Food Chemistry, March 2018)
- Drink only in moderation: one drink daily for women and no more than two drinks for men.

Leaving Room For Chocolate

- Kuna Indians drink 4 to 5 cups of cocoa daily and have significantly lower blood pressure, as well as much lower rates of heart disease and cancer. (J of the American Society of Hypertension, March/April 2009)
- Cocoa flavanols are good for your heart: lower blood pressure, reduce stickiness of blood, anti-inflammatory, antioxidant, reduce plaque build-up, improve endothelial function. (Diseases, Dec. 2016)
- Consuming chocolate in moderation (3 to 6 servings/week) linked to lower risk of heart disease, stroke, and diabetes. (Nutrients, July 2017)
- Cocoa is the healthiest way to enjoy. Don't buy "dutched" cocoa (40 to 90% less flavanols).

DIETARY VILLAINS

Red Meat and Processed Meats

- October 2015: The World Health Organization classified processed meats as a carcinogen and red meat as a possible carcinogen. These meats are linked to an especially higher risk of colon cancer.
- Red Meat Increases Risk of Dying From 9 Diseases: cancer, heart disease, respiratory disease, stroke, diabetes, infections, Alzheimer's disease, kidney disease, liver disease (BMJ, May 2017)
- Barbecuing, broiling, and frying creates cancer-causing compounds: marinate (extra virgin olive oil, lemon juice, garlic, herbs/spices); trim the fat; cook smaller portions; keep flipping; pre-cook in microwave.
- Burgers cooked with an antioxidant-rich spice blend (oregano, rosemary, black pepper, paprika and garlic) reduced the formation of cancer-causing compounds by 71%.
- Eat lean, red meat no more than 3 times/week.
- Store-bought rotisserie chicken: remove the skin as it is high in cancer-causing compounds. (Kansas State University, 2011)

Ultra-Processed Foods

- Canadians are the second largest consumers of ultra-processed foods and drinks in the world. About half of all food consumed is ultra-processed. (Heart & Stroke, Dec. 2017)
- As ultra-processed food consumption goes up, the greater the nutritional degradation of the diet. Ultra-processed foods contain: twice as many calories and sodium, three times more sugar, and are significantly lower in fibre, protein, potassium, calcium, magnesium, zinc, vitamin A, C, D, and B vitamins. (Heart & Stroke, Dec. 2017)
- Always choose fresh or minimally processed foods and freshly made dishes and meals to ultra-processed foods.

Sodium

- "High blood pressure is the leading cause of premature death and disability in the world." (Christopher Murray, University of Washington)
- Strong evidence from more than 100 clinical trials shows that a lower sodium diet can decrease blood pressure. (Harvard Medical School, Dec. 2016)
- Sodium increases blood pressure – this relationship persists even when controlling for 13 macronutrients, 12 vitamins, 7 minerals, sex, age, and race). These findings underscore importance of reducing salt intake for the prevention and control of pre-hypertension and hypertension. (Hypertension, March 2018)
- Almost 80% of sodium consumed comes from processed foods and restaurants.
- Top 5 food sources of sodium: bread, pizza, sandwiches, cold cuts & cured meats, soup.
- Sodium: Recommended daily intake is 1500 mg (upper limit 2300 mg). One teaspoon of salt contains about 2,300 mg of sodium.

Sugar & Soft Drinks

- Children, teens, and young adults are the highest consumers of sugar. Canadians consume as much as 22 teaspoons of added sugar daily.
- Is sugar addictive? Excessive sugar consumption increases dopamine levels in the brain, with higher levels of sugar needed to achieve the same reward levels and avoid mild states of depression (PLOS One, March 2016).
- Long-term consumption of highly palatable food can cause: changes in brain reward pathways (similar to what's seen with chronic drug abuse); changes in cell shape, structure, form, and size; changes in brain cell connectivity and ability to regulate electrical activity. (Giuseppe Gangarossa, PhD, Aug. 2017)
- Teens consumed milkshakes in which the concentrations of fat and sugar were increased or decreased (brains were scanned). Increasing the sugar content compared with the fat content caused significantly greater activity in brain regions associated with food reward. (Am J Clin Nutr., Dec. 2013)
- A high free-sugar intake has a significant diluting effect on most nutrients. (American Journal of Clinical Nutrition, Jan. 2018)
- Sugar is making us sick (review of over 8,000 scientific papers). Too much causes heart disease, tooth decay, type 2 diabetes, obesity, and metabolic syndrome. (www.sugarscience.org)
- Reducing consumption of added sugar, even without reducing calories or losing weight, has the power to reverse a cluster of chronic metabolic diseases in children, including high cholesterol and blood pressure in as little as 10 days. (J of Obesity, Feb. 2016)
- Sugar and sugar-sweetened beverages, especially when combined with high sodium intake, are linked to increasing blood pressure. (J Atheroscler Thromb., Dec. 2015)
- "If you look at a liver under the microscope, from an alcoholic and a soda consumer, you can't tell the difference." (Dr. Robert Lustig)
- Progressively higher consumption of added sugars was linked to a significantly higher risk of depression. (Am J Clin Nutr, Aug. 2015)
- Dietary free sugars are the primary dietary factor responsible for caries. Each additional 5 grams of sugars (about 1 tsp) intake has been associated with an increase in the probability of developing caries.
- Those who consumed free sugars within the hour before bed more than doubled their caries risk. (Community Dental Health, March 2017)
- Even low concentrations of sucrose significantly increase carcinogenicity of bacteria. (Appl Environ Microbiol., July 2016).
- Sugar & Periodontal Disease - "A high frequency of consumption of added sugars is associated with periodontal disease, independent of traditional risk factors, suggesting that this consumption pattern may contribute to the systemic inflammation observed in periodontal disease." (Am J Clin Nutrition, Oct 2014)
- "Modifying factors such as fluoride and dental hygiene would not be needed if we tackled the single cause - sugars." (Aubrey Sheiham, PhD, University College London)
- One Sweet App: A mobile app that will help Canadians track their sugar intake.
- Sugary drinks are single largest contributor of sugar in the average Canadian diet - sales remain near historic highs. As soft drinks sales decline, sales of energy drinks, sports drinks, flavoured water, and drinkable yogurt have increased significantly. (U of Waterloo)

- Even drinking less than one sugar-sweetened beverage daily significantly increases the chance of permanent tooth loss. (J Public Health Dentistry, March 2017)
- American Heart Association (Sept. 2009) recommends a daily added sugar limit of 6 teaspoons daily for women and 9 for men.
- American Heart Association recommendation (Aug. 2016): Kids age 2 – 18 should have no more than 6 teaspoons of added sugar daily. Children younger than 2 years should not consume foods or drinks with added sugars at all. Children & teens aged 2 to 18 should consume no more than 8 oz (250 ml) of sugar-sweetened drinks per week.
- In March 2015, the World Health Organization released guideline recommendations on the intake of free sugars to reduce the risk of disease in adults and children, with a focus on the prevention of dental caries. Adults and children should reduce their daily intake of free sugars to less than 10% of their total energy intake. A further reduction to below 5% or roughly 25 grams (6 teaspoons) per day would provide additional health benefits.
- Free sugars include sugar that is added to foods, plus the sugars naturally present in honey, syrups, and fruit juices. Because there is no reported evidence of adverse effects of consumption of intrinsic sugars and sugars naturally present in milk, the recommendations of this guideline focus on the effect of free sugars intake.
- Almost 70% of packaged foods and drinks in Canada have added sugar. (CMAJ Open, Jan. 2017)
- Canada will not be changing the new food label to include “added sugars”, as other countries around the world are doing, like the U.S. and the U.K. They will only list total sugars, which is very confusing for consumers.
- Over 50 names for sugar can appear on food labels. Divide grams of “sugars” on food labels by 4 to determine how many teaspoons of sugar the product contains.
- The most effective approach to reduce sugar in coffee was with a mindfulness intervention. Giving up sugar all at once, was also more effective than giving it up gradually. (J Health Psychol., Aug. 2017)
- Alternatives sweeteners (aspartame, acesulfame, erythritol, stevia, and xylitol) promote the formation of oral biofilm with lighter mass and lower bacterial adherence (thin, porous and healthier plaque). (Arch Oral Biol., Aug. 2017)
- Sugar Alternatives and Health (Review of 372 studies) - This scoping review identifies the need for more research. There are numerous gaps in evidence related to the health effects in both healthy and non-healthy populations. (Nutr Journal, Sept. 2017)
- Artificial Sweeteners & The Microbiome: Artificial sweeteners may result in indirect yet profound microbial-induced consequences, including significant metabolic effects, including weight gain, diabetes, and metabolic syndrome. (Gut Microbes, Feb. 2015)
- Stevia: Natural Herbal Sweetener - anti-hyperglycaemic, anti-hypertensive, anti-inflammatory, anti-cancer, antioxidant, anti-cariogenic, anti-bacterial role on oral bacteria flora. (Molecules, Dec. 2015)
- Erythritol more effective than sorbitol and xylitol for maintaining and improving oral health (dental plaque, cariogenic bacteria, caries, periodontal disease). Most effective: Candies containing 90% erythritol, daily consumption of 7.5 g erythritol, divided over three consumptions of 2.5 g erythritol. Candies with a hard texture - exposure time of about 4 minutes or more per eating occasion. (Int J Dent., Aug. 2016)

- “Over the last few decades, there was a drastic decline in the prevalence of dental caries world-wide which has been accompanied by a remarkable increase in the incidence of non-cariou lesions such as dental erosion.” (Ann Med Health Sci Res., Sept. 2014)
- Overall prevalence of tooth erosion in permanent teeth of children and teens is 30%. (Review of 22 studies, Journal of Dentistry, January 2015)
- Erosive potential of 379 Beverages (juices, sodas, flavored waters, teas, and energy drinks) were evaluated in the United States. Results: 54% were erosive; 39% were extremely erosive; Only 7% were minimally erosive. (J Am Dent Assoc., April 2016)
- The erosive potential of an acidic drink is not exclusively dependent on its pH value, but is also strongly influenced by its mineral content (calcium, phosphorus). The addition of calcium is more effective than phosphate at reducing erosion in acid solutions. Erosion proceeds more rapidly the higher the temperature of a solution. (Monographs in Oral Science, June 2014)
- Non-sugared drinks (diet and zero-calorie), as a whole, were more erosive than sugared beverages (General Dentistry, July-Aug. 2015)
- Researchers Compared Acidity of 13 Sports Drinks and 9 energy drinks. After only five days damage was already evident. Energy drinks caused twice as much damage to teeth as sports drinks - percent weight loss of enamel exposed to energy drinks for five days was 3.1% compared to 1.5% for sports drinks. (General Dentistry, May/June 2012)
- “It takes a lot more to neutralize the pH of saliva after exposure to energy drinks. As a result, it’s not just caries we see, but loss of tooth structure.” Poonam Jain, B.D.S., M.S., Southern Illinois University School of Dental Medicine
- Seventeen of 30 sugar-free confections were found to have high erosive potential. Ten of these displayed dental messages on the packaging suggesting they were safe for teeth. (Aust Dent J., June 2017)
- Dental erosion can be hard to diagnose properly. Consider having all patients fill out a form that includes questions about their diet. Tactful questioning, especially when new lesions appear, can help identify problems at an early stage. Lesions associated with sugar-sweetened drinks resemble those in dental caries (more brown in colour), while those attributed to diet drinks look like those associated with mechanical wear and tear (whitish enamel and dark yellow dentin).

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