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Eating for Optimal Dental Health, Mental Health & A Healthy Waistline

(ODA Annual Spring Meeting, Thursday, April 26th, Afternoon Lecture)

Eating for Optimal Dental Health

- New definition of oral health (World Dental Federation, Oct. 2016): Oral health is a multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expression with confidence and without pain, discomfort, and disease of the craniofacial complex.

Fluoride

- Caries Prevention White Paper (World Dental Federation, Sept. 2016): “Fluoride has altered the dose-response relationship between sugar consumption and caries experience by delaying when cavitation occurs and thus a higher cariogenic diet can be tolerated before caries occurs in many individuals.”
- Fluoride helps harden the enamel coating that protects teeth from the acid produced by bacteria and also reduces the ability of bacteria to stick to teeth, so it’s easier to wash away the bacteria by saliva, brushing and other activity. The only scientifically proven risk of fluoride use, at this time, is the development of fluorosis.
- Based on a “Cochrane Database Systematic Review” of 155 studies, water fluoridation is effective at reducing levels of tooth decay among children. The introduction of water fluoridation resulted in children having 35% fewer decayed, missing and filled baby teeth and 26% fewer decayed, missing and filled permanent teeth.
- Does cessation of community water fluoridation lead to an increase in tooth decay? (review of 15 instances, 13 countries). Overall, the published research points to an increase in dental caries post-community water fluoridation cessation. (J Epidemiol Community Health, May 2016)
- Calgary stopped adding fluoride to water (2011). Calgary children have more than twice as many cavities as their counterparts in Edmonton (Community Dentistry & Oral Epidemiology, Feb. 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)
- Anti-fluoride groups use words like “neurotoxic, toxic, fearful, chemophobia” to elicit an emotional response and to intimidate. Recommendation: Dentists need to be leaders, in support of fluoridation, when talking to patients and local politicians. This is especially important in communities where the dental health burden is high and where dental health inequalities are wide. (British Dental Journal, May 2017)

Food & Dental Caries

- Dietary advice is rarely provided by dental practitioners (dentists or hygienists) and when provided, it is often limited. Barriers: financial considerations, time constraints, dietary education of dental practitioners (Community Dental Health, March 2014).
- “Dental practitioners agree that dietary counselling is essential for caries prevention; however, they provide advice infrequently due to a lack of confidence and competence.” (Aust Dent J., May 2017)
- Frequency of Intake: The amount of sugar is not as important as the frequency of consumption. It takes 30 minutes to an hour to restore the neutral pH of the mouth and restore minerals to tooth enamel lost in an acid attack (remineralisation). Space frequency of food and beverage intake at least 2 hours apart.
- Around the clock eating is harming health. Most people eat for 15 hours or longer each day. Food intake is erratic and continuous (25% of meals/snacks are within 1 hr 25 min. of next meal). The only time people really stopped eating, for any length of time, is when they are sleeping. (Cell Metabolism, Sept. 2015)
- Sugar: Cariogenicity is dose-dependent (one daily exposure is mild, three is moderate, five or more is severe). As little as one daily exposure to sucrose may initiate carious lesion formation (20% more demineralization). (Eur J Dent., July-Sept., 2016)
- Those who consumed free sugars within the hour before bed more than doubled their caries risk. (Community Dental Health, March 2017)
- Sequence and Combination of Foods Eaten: Sugary foods and drinks consumed at meal times causes less decay than when consumed as snacks as the exposure or frequency of acid attacks are reduced. The last food item consumed exerts the greatest influence on subsequent plaque pH. Eating a small piece of cheese or drinking milk at the end of the meal may be beneficial.
- Form & Physical Consistency of the Food: Sugary and/or acidic foods that are liquid, solid, or slow to dissolve or are retained in the mouth are more damaging than those that can be dissolved and washed away quickly.
- Some starches, while not 'sticky in the hand', can be highly retentive in the mouth (such as potato chips, crackers, and pretzels). Metabolism of starch particles can yield a prolonged acidic challenge, especially at retentive, caries-prone sites.
- Biofilms exposed to starch and sucrose were more acidogenic and caused higher demineralization on either enamel or dentine than those exposed to each carbohydrate alone. (Brazilian Oral Research, May 2016)

Sugar & Dental Health

- Children, teens, and young adults are the highest consumers of sugar. Canadians consume as much as 22 teaspoons of added sugar daily.
- The preference for sweet taste: is innate, has a strong genetic component, and decreases with age. It may be modified or reinforced by: pre- and postnatal exposures, feeding behaviour, food choices, taste. (J Pediat Gastroent Nutr., Sept. 2017)
- 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)
- 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.
- Sucrose has been identified as the most cariogenic carbohydrate. In addition to being fermentable, it can be converted by certain plaque microorganisms to glucans and fructans, which help plaque adhere to tooth surface.
- Even low concentrations of sucrose significantly increase carcinogenicity of bacteria. (Appl Environ Microbiol., July 2016).
- High consumption of fermentable carbohydrates is associated with a reduction in bacterial diversity in the oral cavity. (PLOS One, July 2017)
- Higher intakes of sugar, especially from sugar-sweetened beverages, is linked to greater inflammation in the body. (Clin Nutr., June 2017)
- 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.
- Georgia Third Grade Oral Health Study - Caries increased 22% for each serving of sugar-sweetened beverage consumed. (J Public Health Dent., Sept. 2015)
- Finnish Adults' Oral Health Study - There is a dose-response relationship between frequency of sugar-sweetened beverage consumption and caries increment (decayed, missing and filled teeth), which did not vary according to use of fluoride toothpaste. Sugar-sweetened beverage consumption as a risk factor for dental caries is not a problem limited to children. (J Dentistry, Aug. 2014)
- Which is a stronger indicator of dental caries: oral hygiene, food, or beverage? Dietary factors and oral hygiene both contribute equally to dental caries. Sugar-sweetened beverage consumption was a much stronger indicator of dental caries than snack food consumption. (General Dentistry, May-June 2014)
- Soft drinks are an independent risk factor for periodontal disease and poor periodontal health. (Medicine, July 2016).
- Even drinking less than one sugar-sweetened beverage daily significantly increases the chance of permanent tooth loss. (J Public Health Dentistry, March 2017)
- 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)

- American Heart Association (Sept. 2009) recommends a daily added sugar limit of 6 teaspoons daily for women and 9 for men.
- 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.
- 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.
- Based on a critical, in-depth review of international studies, UK researchers recommend that sugar intake throughout life be no more than 2 to 3 % of energy intake (about 3 tsp of sugar daily), whether or not fluoride intake is optimum. (Public Health Nutr., Oct. 2014)
- Almost 70% of packaged foods and drinks in Canada have added sugar. (CMAJ Open, Jan. 2017)
- More than 70% of foods advertised to children are harmful to dental health. This includes many foods that appear healthy, but contain large amounts of hidden sugar, such as sugary cereals and dairy products. (Public Health Journal, March 2018)
- 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.
- Child-targeted cereals are significantly higher in sodium and sugar, and lower in fibre and protein. (Health Promot Chronic Dis Prev Can., Sept. 2017)
- 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)
- Sports and caffeinated energy drinks can pose serious health risks to children and youth and should be avoided. (Position Statement, Canadian Paediatric Society, Sept. 2017)
- Energy drinks can cause: headaches, anxiety, sleep problems, nausea, seizures, cardiac abnormalities, sudden death. (J of Nutr Education & Behavior, Oct. 2017)
- 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)
- Aspartame, even when consumed within recommended safe levels, may disrupt oxidant/antioxidant balance, induce oxidative stress, and damage cell membrane integrity, potentially affecting a variety of cells and tissues and causing deregulation of cellular function, ultimately leading to systemic inflammation. (Nutr Reviews, Sept. 2017)
- Splenda promotes metabolic dysregulation (by increased glucose uptake, inflammation, and production and accumulation of fat) which is associated with increased free radical accumulation and high triglycerides. This effect is more evident in obese rather than non-obese subjects. (Endocrine Society, March 2018)
- 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)
- The majority of xylitol chewing gums sold on the market don't provide consumers with the recommended daily dose of xylitol for caries prevention. (Oral Health Preventive Dentistry, May 2016)

Food & Dental Erosion

- "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-carious 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)
- Prevalence of dental erosion in preschoolers (388 children, age 3 to 5, Saudi Arabia): Age three - 6%; Age four - 30%; Age five - 64%. Linked to consumption of citrus juices, fruit juices, and carbonated beverages. (Nutrition Journal, Nov. 2017)
- For certain individuals, only minimal acidic challenges may be sufficient to cause damage to the teeth, while others may never develop dental erosions despite extensive exposure to acid. (Caries Research, March 2016)
- Dental erosion due to acidic drinks is directly proportional to exposure time. Damage to tooth enamel is permanent, and without that protective outer layer, teeth are more prone to cavities and are much more likely to decay.
- Acids (phosphoric, citric, malic) are added to beverages for taste and increased shelf-life. (J Am Dent Assoc., April 2016)
- "Our research has shown that permanent damage to the tooth enamel will occur within the first 30 seconds of high acidity coming into contact with the teeth. This is an important finding and it suggests that such drinks are best avoided." (University of Adelaide, Aug. 2014)
- Diet and Tooth Erosion in Children and Teens (meta-analysis, 13 studies, over 16,000 participants). Carbonated drinks, acidic candy and snacks, and natural acidic fruit juice increased erosion occurrence. Milk and yogurt had a protective effect. (J Dentistry, Aug. 2015)

- Less damage if erosive acidic drink is swallowed in big gulps in a shorter period than if it is sipped over an extended period; Retention of an acidic drink in the mouth before swallowing increases the damage, especially if it is 'swished' around the teeth. Drinking through a straw can reduce the risk of erosion, but if acidic drinks are habitually consumed through a straw or 'pull-out' drinking cap positioned in front of the teeth, the incisors can be eroded rapidly.
- 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)
- Fruit smoothies (homemade or store-bought) have the potential to bring about dental erosion. (British Dental Journal, Feb. 2013)
- 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).

Tea, Coffee & Dental Health

- 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)
- 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)
- 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)

- Both fluoride and epigallocatechin gallate (plant compound in green tea) are effective in preventing soft-drink-induced erosion. (J Formosan Medical Assoc., April 2018)
- Teeth exposed to hot coffee showed visible signs of demineralization. Teeth exposed to hot black tea showed visible signs of remineralization - scratches initially present appeared to fade away (high fluoride content may play a role). Decrease in surface hardness of teeth exposed to hot coffee was double that of teeth exposed to hot black tea. (JPMA, July 2016)
- 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)
- Coffee drinking was linked to a small, but significant reduction in the number of teeth with periodontal bone loss. No evidence was found that coffee consumption was harmful to periodontal health. (J Periodontol., Aug. 2014)
- Plant compounds in coffee prevent adhesion of pathogenic bacteria on tooth enamel - inhibition ranges from 40 to 98%. (J of Agricultural & Food Chemistry, Feb. 2002)

Alcohol & Dental Health

- 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)
- Based on study involving over 7,000 adults, consuming more than 1 alcoholic drink daily linked to significantly higher risk of gum disease, especially severe periodontitis. (J Periodontol., March 2018)
- Alcohol's drying effect on the mouth (it slows the production of saliva) may contribute to the formation of plaque that can trigger an inflammatory response in the gums. (J Periodontol., Sept. 2015)
- Plant compounds in red wine (polyphenols) decrease the ability of pathogenic bacteria to stick to teeth. (Journal of Agricultural & Food Chemistry, March 2018)

Foods That Promote Good Dental Health

- “Our current management strategies focus on reduction in the microbial biofilm as a way of reducing inflammatory load; this approach has remained unchanged over the last 50 years and has limitations in treatment outcome. New treatment modalities need to place more emphasis on host inflammatory response which is dysregulated in periodontitis and is recognized as the most important factor in disease pathogenesis.” (Dr. Mike Milward and Dr. Iain Chapple, Birmingham School of Dentistry)
- 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.
- Fructose contained in fresh whole fruit does not break down in the mouth so is generally less cariogenic.

- 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)
- High fibre intake promotes better dental health, including increased salivary flow. (J Am Dent Assoc., Jan. 2014)
- Nuts are a healthy, non-cariogenic snack and a much better choice than granola bars or trail mix (made with dried fruit).
- Popcorn is a healthy, non-cariogenic snack and a much better choice than potato chips, pretzels or cheesies.
- Milk sugars such as lactose and galactose are regarded as less cariogenic as they are accompanied by other essential nutrients (calcium) which can counter potential damage to teeth. Among dairy products, cheese has the highest anticariogenic property. Milk and plain yogurt can be considered noncariogenic. (Academy of General Dentistry, June 2013)
- Chocolate milk is more cariogenic than plain milk, but less so than sugar-sweetened soft drinks. Cocoa may be protective.
- Danish Health Examination Survey (over 3,200 adult participants). Intakes of calcium and dairy foods were inversely associated with severe periodontitis. (Public Health Nutrition, May 2015)
- Cow's Milk Versus Soy Milk. Oral bacteria responsible for the development of tooth decay and gum disease produces five to six times more acid when feeding on soy milk when compared to cow's milk. (Journal of Dentistry, Sept. 2012)
- Hardness scores (remineralization) for teeth immersed in cow's milk were higher than for soy milk. (J. Phys.: Conf. Ser., Aug. 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)
- Omega-3 fats inhibit two enzymes that participate in the destruction of dentin following demineralization by bacteria acids. (Protein J., Aug. 2017)
- Essential Oils & Dental Health (review of 52 studies, lavender, cinnamon, clove, eucalyptus, peppermint, lemon, tea tree): Essential oils demonstrate anti-bacterial and anti-fungal properties. Combining essential oils and antibiotics can reduce antibiotic resistance in multidrug-resistant bacteria. (J Int Soc Prev Community Dent., Sept.-Oct. 2015).
- Benefits of herbal products over drugs: 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)
- Mouthwash made with either a green tea or garlic extract are very good, cost-effective alternatives to a Sodium Fluoride mouthwash. (Int J Clin Pediatr Dent., July-Sept. 2017)

- Research review (5 studies) - Turmeric and chlorhexidine significantly decrease plaque index (PI) and gingival index (GI), and can be used in the prevention and treatment of gingivitis. (Complement Ther Clin Pract., Nov. 2016)
- Herbal lollipop containing licorice root extract reduced salivary Streptococcus mutans in high-caries-risk children. (Clin Oral Investig., April 2016)
- American Dietetic Association - "Based on the lack of currently available evidence, oil pulling is not recommended as a supplementary oral hygiene practice, and certainly not as a replacement for standard, time-tested oral health behaviors and modalities." (May 2014)
- Coconut Oil & Gingivitis. Oil pulling using coconut oil resulted in a 50% decrease in plaque formation and gingival index scores (the decrease is comparable to what you would see with chlorhexidine). (Niger Med J., March-April 2015)
- 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)
- Harvard Health Professionals Follow-Up Study (over 42,000 males, age 40 to 75, 20 year study). There was a significant inverse association between vitamin D and both tooth loss and periodontitis. (Public Health Nutrition, April 2014)
- Chewing gum stimulates salivation: clears fermentable carbohydrates, dislodges loosely bound oral bacteria from oral surfaces, and increases the concentrations of calcium and phosphates in the oral cavity required for remineralization.
- Chewing of gum can trap and remove bacteria from the oral cavity. (PLOS One, Jan. 2015)
- Increasing sugar-free gum consumption by just 1 piece daily improves improve dental health and results in billions of cost savings for dental treatment worldwide. (Am J Dent., April 2017)
- Probiotics. "With antibiotics or a mouthwash, you are wiping everything out, even the bacteria that are not doing you any harm. By using probiotics, the goal is to eradicate and then replace just that one type of bacteria. This is a new frontier. We have spent the last century trying to destroy bacteria. Probiotics may help us leap forward bio-medically and find new ways to treat diseases." (General Dentistry, Jan 2014).
- Probiotics Review & Meta-analysis (50 studies - RCTs): Current evidence is insufficient for recommending probiotics for managing dental caries, but supportive towards managing gingivitis or periodontitis. (Journal of Dentistry, May 2016)
- Probiotics & Periodontal Disease (Review of 12 studies – RCTs): Oral probiotics improved probing pocket depth, bleeding on probing, and attachment loss, and decreased major periodontal pathogens. Continuous administration, mainly with Lactobacillus species, was necessary to maintain these benefits. (Expert Rev Anti Infect Ther., May 2016)
- Probiotics & Prevention of Dental Caries (review of 23 studies). A continuous, regular, almost daily intake is probably required. Inserting probiotics into other daily preventive products, like toothpaste, may work best. (Nutrients, July 2013)
- Probiotics & Candida Albicans. A probiotic rinse was equally effective as 0.2% chlorhexidine digluconate rinse in reducing salivary Candida albicans counts after 1 week of intervention. (Int J Clin Pediatr Dent., Jan-March 2016)
- Clinical Guide to Probiotic Products Available in Canada - Indications, Dosage Forms & Clinical Evidence-to-Date (www.probioticchart.ca)

Dental Needs Throughout The Lifecycle

- Pregnant women need adequate calcium (1000 mg/day) and Vitamin D (600 IU) for optimal development of their babies' teeth and bones. Hormonal changes result in gums being more susceptible to inflammation. Gingivitis is the most common oral disease in pregnancy affecting 60 to 75% of women.
- Dental Health & Eating Disorders - Dentists lack knowledge of the scope and severity of eating disorders, as well as comfort in discussing their concerns or suspicions.
- Eating disorders may cause dental caries, dental erosion, soft palate damage, impaired salivary function, salivary gland enlargement, and temporomandibular disorders. (BMC Oral Health, Oct. 2015)
- High carb diet, acidic sports drinks and eating disorders take toll on athletes' teeth (review of 39 studies on elite or professional sports men and women). Poor dental health is widespread. (British Journal of Sports Medicine, Oct. 2014)
- "The rise of sports drinks as just another soft drink option among children is a real cause for concern, and both parents and government must take note. They are laden with acids and sugars, and could be behind the decay problems we're now seeing among top footballers. Sports drinks are rarely a healthy choice, and marketing them to the general population, and young people, in particular, is grossly irresponsible. Elite athletes might have reason to use them, but for almost everyone else they represent a real risk to both their oral and their general health." Dr. Russ Ladwa, (British Dental Association, British Dental Journal, June 2016)
- Declines in oral health with age, including tooth loss, is linked to an increased risk of depression and decrease in quality of life and life satisfaction. (J Gerontol B Psychol Sci Soc Sci., March 2016)
- Oral health impacts quality of life in seniors mainly through difficulty in eating and verbal communication. (J Int Soc Prev Community Dent., Oct. 2017)
- Dental Health of Seniors: Many more adults keep their teeth, but have root surface exposure due to gum recession. Oral hygiene difficult for oldest and most frail. Dementia may also impact dental health. Goal: Identify older adults before they begin to manifest oral health deterioration. Regular dental visits should be strongly promoted
- Oral Health & Nutritional Status In Elderly (review of 26 studies) Well-nourished subjects had a significantly higher number of Functional Teeth Units (pairs of opposing teeth). Mean number of teeth was significantly associated with poor nutritional status. Use of prosthesis not associated with poor nutritional status. (Clinical Nutrition, March 2017)
- Denture wearers and those with fewer teeth were 32% more likely to be frail and 20% more likely to be nutritionally deficient. (Geriatrics & Gerontology International, Dec. 2017)
- Eating With Dentures: Begin with small quantities of food cut into smaller pieces and balance food evenly in your mouth. Have cooked vegetables and soft or canned fruits, instead of raw (smoothies are another option). For protein enjoy eggs, fish, Greek yogurt, chicken, beans and bean dips (like hummus), tofu, ground beef and slow cooked meats. Whole grain breads, cereals and pasta may stick to teeth - eat them with liquids so they are easier to chew and swallow.
- Dry Mouth (many drugs reduce saliva flow - decongestants, antihistamines, painkillers, antidepressants, sedatives and diuretics). Treatment includes: Drink plenty of water with and after meals and medications, and throughout the day to assist in clearing food debris from the teeth and keep mouth clean. Dry foods and highly acidic and/or sugary foods or drinks should be limited or avoided. Sugar-free gum between meals can promote saliva flow. Encourage foods that stimulate chewing where possible (nuts, raw vegetables and fruit). Consider a medication which may increase saliva production.

- Dry Mouth: The importance of adequate hydration cannot be overstated. Oral lubricants, antimicrobial saliva substitutes, and salivary stimulation may help. One of the simplest and cheapest substances that may be used as an oral lubricant is olive oil. (Sports Medicine, July 2016)

Dental Health & Other Disease States

- Periodontal bacteria can invade human retinal cells and increase risk of macular degeneration. (International & American Assoc. for Dental Research, March 2018)
- There is high quality evidence to support a link between chronic periodontal disease and a higher risk of cardiovascular disease (this risk is independent of other established risk factors for heart disease). (British Dental Journal, May 2017)
- Heart Disease & Dental Health (15,000 heart disease patients, 39 countries): Every increased level of tooth loss was associated with a significantly higher risk of cardiovascular events, including death. (Eur J of Preventive Cardiology, Dec. 2015)
- Oral bacteria & stroke risk - Researchers found that the number of small brain hemorrhages was significantly higher in people with a specific type of bacteria (cnm-positive *S. mutans*) in their saliva. (Scientific Reports, Feb. 2016)
- Adults with gum disease may be twice as likely to suffer a stroke. There is a "dose-response" relationship - the higher the level of gum disease, the worse the risk. (American Stroke Association, Feb. 2017)
- Intensive dental treatment for gum disease lowered blood pressure up to 13 points. (American Heart Association, Nov. 2017).
- An oral bacteria associated with periodontal disease may trigger the production of disease-specific auto-antibodies and arthritis in susceptible individuals. (Science Translational Medicine, Dec. 2016)
- Rheumatoid Arthritis & Periodontal Disease (research review, 26 studies): Patients with arthritis are more likely to suffer from gum disease. *P. gingivalis* may play a role. Medications taken by arthritis patients, such as corticosteroids, may increase the risk of gum disease. (Mediators of Inflammation, 2015)
- Severe gum disease linked to 24% higher risk of cancer (especially lung and colon cancer). (J of National Cancer Institute, Jan. 2018)
- Women with gum disease were significantly more likely to develop cancers of the breast, skin, lung, and gallbladder. The greatest risk was for esophageal cancer - more than three times greater risk. (Cancer Epidemiol Biomarkers Prev., Aug. 2017)
- Periodontal Disease & Body Weight (review of 13 studies). The following are linked to an increased risk or worsening of periodontal disease: Overweight, Obesity, weight gain, and increased waist circumference. (J Periodontol., June 2015)
- Obesity quadruples risk of severe periodontitis. Inflammation (C-reactive protein) appears to be the culprit. (Oral Diseases, May 2017)
- Pathogenic bacteria in the mouth may migrate to the intestine, elicit severe gut inflammation, and promote inflammatory bowel disease. (Science, Oct. 2017)
- Diabetes. Many studies suggest that individuals with diabetes have at least a 2-fold increase in the severity of periodontal disease. Diabetes and persisting hyperglycemia lead to an exaggerated immune-inflammatory response to periodontal pathogens, resulting in more rapid and severe periodontal tissue destruction. (Medical Science Monitor, Oct. 2014)

- Periodontal treatment is effective in diabetic patients, but more long-term recurrence can be expected when diabetes is not well controlled. Severe periodontitis is more frequently found in diabetic subjects with high HbA1c levels and systemic diabetic complications. (World Journal Diabetes, July 2015)
- The salivary microbiome is altered in the presence of a high salivary glucose conc. (hyperglycemia) in a way that favours caries associated bacterial species and therefore, increases the risk of caries, gum disease and dental erosion. (PLOS One, March 2017)

Eating for A Healthy Waistline

- Almost 2/3's of Canadians are overweight or obese. Thirty-three percent of children are overweight or obese. Canada ranks fifth in the world for obesity.
- Four factors linked to obesity (over past 4 decades): less home cooking; more packaged foods; more fast food & restaurant eating; less physical activity. (JAMA, Jan. 2018)
- Fifty percent of individuals met current daily physical activity goals while on the job (1960's), versus less than 20% by 2006. (Obesity, Jan. 2018)
- Position Statement, World Obesity Federation, May 2017 - The magnitude of the obesity and its adverse effects in individuals may relate to the toxicity of the environment and its interaction with the host.
- Foods high in salt, sugar, fat, and flavor additives and are engineered to have "super-normal appetitive properties". (Obesity, Jan. 2018)
- As intake of ultra-processed foods increases, so does the risk of obesity. (Heart & Stroke Foundation of Canada, Dec. 2017)
- "Certain processed foods have acquired the strength to sabotage healthy brain function and override well-regulated and adaptive behaviors." (Caroline Davis, Researcher, York University)
- Dieting: One-third to two-thirds of weight lost is usually regained within 1 year. Almost all weight is regained within 5 years. At least one-third of dieters regain more weight than they lost. Dieting during childhood and adolescence predicts future weight gain and obesity. (Obesity Reviews, Feb. 2015)
- Once an individual loses weight the body: reduces the amount of energy burned at rest, during exercise, and daily activities; increases hunger. This combination of lower energy expenditure and hunger creates a "perfect metabolic storm" of conditions for weight gain. (Endocrine Society, June 2017)
- Weight loss leads to a strong and proportional increase in appetite as part of the body's feedback control system regulating weight. This change is three times greater than the decrease in energy conservation that also takes place. (Obesity, Oct. 2016)
- The biggest loser - On average, participants experienced a 23% drop in their resting metabolic rate. Six years later, competitors regained an average of 90 pounds, but the significant slowing in metabolic rate persisted (about 500 calories lower/day than expected). (Obesity, May 2016)
- Which is better, low fat or low carb diets for weight loss? Review of 48 studies: Both low carb and low fat diets can result in significant weight loss. Critical to diet success: adherence. (JAMA 2014)
- Year-long study of low fat versus low carb diet: average weight loss was 12 pounds (5.5kg) for either diet; both diets improved body mass index, percent body fat, waist circumference, lipids, blood pressure, insulin, and glucose levels; low carb better for HDL cholesterol and triglycerides. Most successful changed relationship to food. (JAMA, Feb. 2018)

- Intermittent fasting - People on an "every other day" diet (about 500 calories consumed every other day) lost no more weight than those on a normal diet plan. High drop out rate too. (JAMA Internal Medicine, May 2017)
- The most important weight management advice – don't gain it in the first place. Prevention is critical.
- "Individuals must accept moderate, modest weight loss as a success." (Judith Matz, Author, Beyond a Shadow of a Diet)
- Telling people that weight loss is extremely challenging, motivates people to lose more weight, as compared to telling them "You can do it!" (Am J Clin Nutr., Jan. 2018)
- Straight forward advice on weight control: Keep a food diary; Reduce restaurant and ultra-processed meals; Cook meals made with fresh whole ingredients and eat them free from distractions; Include protein with all your meals and snacks; Minimize all caloric beverages (especially sugar sweetened beverages and alcohol); Cultivate good sleep habits and good friends; Exercise as much and as often as you can enjoy. (Yoni Freedhoff, MD, University of Ottawa)
- Harvard 20 year study. The following foods are linked to weight gain: potato chips, potatoes (fries), sugar-sweetened beverages, red meat and processed meat. The following foods are linked to a healthier body weight: vegetables, fruits, whole grains, nuts, yogurt.
- Harvard Nurses' Health Study - Highest fibre intake: 50% less likely to gain weight over a 12-year period. Increasing fibre by 12 grams (to reach 25 grams) gained about 8 pounds (3.5 kg) less.
- Around the clock eating is harming our waistlines and our health. The more often you eat, the greater your opportunity to overeat.
- Three behaviors linked to lower risk of obesity: eating slowly, cutting out after-dinner snacks, and not eating within two hours of going to bed. (BMJ Open, Jan. 2018)
- Consuming a big breakfast, average lunch, and small dinner had rapid and positive impact, compared to six small meals evenly distributed throughout the day, in overweight individuals with type 2 diabetes. (Endocrine Society, March 2018)
- Overweight individuals who normally ate over a period of 14 hours daily, confined their eating to 10 to 11 hours daily for 16 weeks. They lost weight (average of 7 pounds), slept better, snacked less, and became less tolerant of very sweet foods. (Cell Metab., Nov. 2015)
- Recommendation: Contain your eating to 12 hours a day or less. The clock starts with the first bite or drink.
- When we haven't eaten, junk food is twice as distracting as healthy food or non-food items. (Psychonomic Bulletin & Review, Oct. 2017)
- One of the strongest factors influencing food consumption is related to "effort required". Convenient food that requires little to no preparation encourages you to eat more than needed.
- The two most fundamental determinants of total calorie intake are eating frequency and portion size. Serving people a smaller portion size of food affects their perception of what constitutes a normal-sized serving and results in them choosing to eat less of that food in future. (American Journal of Clinical Nutrition, April 2018)
- Portion Size & Calorie Intake (review of 61 studies) People consistently consume more food and drink when offered larger-sized portions. (Cochrane Database Syst Rev., Sept. 2015)
- Participants ate 7 times more apple and about 4 times more popcorn when food was near versus far (Appetite, May 2014).

- Food altars: any site within an open workspace where food provided by individuals and brought from home is made available for the taking by others. Responsible for the majority of unplanned and “unhealthful” eating decisions in the workplace. (Food, Culture & Society, June 2016)
- Food habits are now considered one of the most powerful predictors of eating behaviour. When behaviour is habitual, people require little information to make decisions, intentions are poor predictors of behaviour, and behaviour is triggered by situational cues.
- Weight and weight change within married couples is highly interdependent – when one person changes their behaviour, the other changes too. (Obesity, Feb. 2018)
- Review of 53 studies - Television viewing was strongly linked to an increased consumption of unhealthy snacks, drinks, and fast food and a decreased consumption of fruits and vegetables
- Healthy habits include: Keep counters clear of all foods EXCEPT the healthy ones; Never eat directly from a package—always portion food out into a dish; Avoid going for more than three to four hours without having something small to eat; Eat something for breakfast, at home, within the first hour of waking up.
- Fast food: no other lifestyle factor is so strongly linked to severe obesity than the consumption of fast food. Also, significantly increases the risk of high blood pressure and diabetes.
- People consume 220 more calories in fast-food environments that have food-related cues, such as eye-catching, menu signs. (Clin Psych Sci., Nov. 2017)
- Are you hungry or bored? People ate twice as many M&M's while watching the boring, repetitive scene. (Appetite, Jan. 2015)
- Employees who have a stressful workday bring their negative feelings to the dinner table - they eat more than usual and opt for more junk food. (Journal of Applied Psychology, July 2017)
- Mindful eating: eating with both intention and attention. When we savour food, we enjoy it more and eat less.
- Taste drives your eating decision before health. Wait a bit longer before making a food choice. (California Institute of Technology)
- Lack of sleep may double the risk of being overweight or obese. It changes how your brain regulates appetite and reacts to food. (Obesity Reviews, Feb. 2015)
- Insufficient sleep: harms blood sugar levels, reduces resting metabolic rate, increases hunger. (JAMA, March 2017)
- Compared to those who got enough sleep, those who were sleep-deprived consumed an average of 385 more calories a day. (Eur J Clin Nutr., Nov. 2016)
- Those who increased the amount of sleep they got each night reduced their added sugar intake significantly. (American Journal of Clinical Nutrition, Jan. 2018)
- Food Intake & Sleep Quality - Higher fibre intake was linked to more time spent in the stage of deep, slow wave sleep. Higher saturated fat was linked to less slow wave sleep. Higher sugar intake was linked to more arousals from sleep. (Journal of Clinical Sleep Medicine, Jan. 2016)
- NIH Body Weight Planner - Allows users to make personalized calorie and physical activity plans to reach a goal weight within a specific time period and to maintain it afterwards. This tool accurately simulates average weight-loss and energy balance dynamics in response to long-term calorie restriction. (American Journal of Clinical Nutrition, April 2018)
- The biggest predictor of long term success is whether you actually enjoy your life/diet while losing. If you don't, the weight's coming back.

- National Weight Control Registry (what successful weight maintainers have in common): Eat breakfast daily. Drink less calories; Weigh themselves regularly; Watch less than 10 hours of TV weekly; Eat fast food less than once a week; Eat the same on weekdays and weekends; Spend at least one hour of each day exercising (high level of activity).
- Adults were given mid-afternoon snacks after going for a walk. Those thinking they had taken an exercise walk ate more than twice as many M&Ms than those who had been told they were on a scenic walk. (Cornell Food & Brand Lab)

Eating For Optimal Mental Health

- A high dietary diversity score was linked to significantly less anxiety in women, (Psychiatry Research, Dec. 2015)
- Females with an inadequate intake of four or more nutrients were significantly more likely to suffer from depression. (European Journal of Nutrition, Sept. 2017)
- Women with the highest DII scores (dietary inflammatory index) were over twice as likely to suffer from anxiety and depression. (Clinical Nutrition, Sept. 2017)
- Higher intakes of fruits and vegetables are linked to lower rates of depression, anxiety, and psychological distress. (European J of Nutrition, March 2018)
- Eating more whole grains linked to lower risk of anxiety in women. Eating more refined grains is linked to higher rates of depression and anxiety in women. (European J of Nutrition, Nov. 2017)
- Polyphenols promote resiliency to stress and may be an effective alternative to traditional pharmacological treatments in psychiatry. (Molecular Nutrition Food Research, Feb. 2018)
- Curcumin shows promise for reducing depression risk (about 1 to 2g of curcumin daily). (Phytotherapy Research, Feb. 2018)
- Mood was assessed before and two hours after drinking flavonoid-rich blueberry drink or control. The blueberry drink was linked to significantly higher happiness and well-being. (Nutrients, Feb. 2017)
- Increase the amount of good bacteria in the gut: curbs inflammation and cortisol levels; reduces depression and anxiety; lowers stress reactivity; lessens neuroticism and social anxiety. (Critical Reviews In Food Science & Nutrition, Nov. 2017)
- Probiotics given over 6 weeks decreased brain activity in areas involved in the processing of negative emotions. (Gastroenterology, Aug. 2017)
- Dietary Fat, Gut Microbiota & Inflammation - Saturated fats should be avoided. Monounsaturated and omega-3 fats should be encouraged. (International J of Food Science & Nutrition, March 2018)
- Moderate fish intake could be recommended for the prevention of depression. (Translational Psychiatry, Sept. 2017)
- A diet lacking in omega-3 fats results in emotional and cognitive changes linked to anxiety. (Journal of Neuroscience, June 2017)
- Progressively higher consumption of added sugars was linked to a significantly higher risk of depression. (Am J Clin Nutr, Aug. 2015)
- Higher consumption of coffee (3 to 4 cups daily) and tea (1 or more cups daily) are linked to a lower risk of depression, while higher intakes of soft drinks (1 or more daily) are linked to a greater risk of depression. (European J of Clinical Nutrition, March 2018)
- In the SMILES Trial a Mediterranean-type diet helped reduce depression. Those who improved their diet the most experienced the greatest benefit. (BMC Medicine, January 2017)

Food, Body Image & Mental Health

- For both males and females, increasing levels of body dissatisfaction is linked to: poor mental health, poor physical health, and significant psychological distress. (Aust N Z J Public Health, July 2016)
- Far greater attention should be to be given to body image as a strong predictor of quality of life. (PLOS One, Sept. 2016)
- The media creates constant pressure for women to look like the “thin ideal” and men the “muscular ideal”. The more media we consume, especially social media, the more we dislike our bodies.
- Fiji Islands: large female bodies were valued for their strength and contribution to family and community. In 1995 television was introduced to the islands. Three years later: 11% of girls were practicing self-induced vomiting, 29% were at risk for eating disorders, 69% had dieted to lose weight, and 74% felt “too fat”. (British Journal of Psychiatry, June 2002)
- Media images stay with us and we process them over and over again, and we process them subconsciously. No matter how much you know about image manipulation and photoshop, nothing erases the power of an image.
- Social Media, Disordered Eating & Body Image (over 1700 adults age 19 to 32): Participants who spent the most time on social media throughout the day had more than double the risk of reporting eating and body image concerns. Participants who reported most frequently checking social media throughout the week had almost triple the risk. Gender, specific age, race, and income did not influence the association; all demographic groups were equally affected. (Journal of the Academy of Nutrition and Dietetics, May 2016)
- Getting a large number of likes on a photo activates the same brain reward circuits as eating chocolate or winning money. (Psychological Science, May 2016).
- Girls who regularly share self-images on social media are significantly more likely to over-value their appearance, restrict their food intake, internalize the thin ideal, and be dissatisfied with their bodies. (Int J Eat Disord., Dec. 2015)
- Parental role modeling of body dissatisfaction, focus on appearance, and disordered eating promotes the same in children.
- Girls who reported that their mother or father talked about their weight ‘very much’ were almost 3 times more likely to engage in extreme weight control behaviors. Girls whose mothers encouraged them to diet were 5 times more likely to engage in extreme weight control behaviours. (J Adolesc Health, Sept. 2010)
- Weight-based bullying is the most common type of bullying by youth. It leads to shame, severe self-criticism, self-hate, depression, and disordered eating. (Journal of Adolescence, October 2015)
- Fat talk or body talk (conversations that directly or indirectly reinforce the “thin” ideal or the “muscular” ideal) significantly increase body dissatisfaction.
- Body image dissatisfaction and disordered eating is increasing in males and deserves our attention. Many males have an unhealthy preoccupation with being lean and muscular.
- Male body-image problems often come disguised as health and fitness goals. Exercise is often combined with protein powders, meal bars, supplements, and sometimes steroids.
- The Institute of Medicine states that male teens need about 52 - 56 g of protein daily to build and maintain body tissues. Most males can easily meet protein needs with food. Protein supplements are not necessary.

- Body dissatisfaction lowers self-esteem, leads to feelings of depression and deep shame, and is the strongest predictor of disordered eating and eating disorder development and maintenance. Early treatment for disordered eating should be a top priority.

What Parents Can Do:

- Children are “insulated against a wounding world by safe emotional attachments to caring adults.” The more that you matter to your child, the less that what happens on the outside matters. (Gordon Neufeld, Developmental Psychologist)
- Families who routinely engage in positive forms of direct communication and show genuine concern about each other's activities also have children who are less likely to be overweight or obese, or engage in unhealthy eating habits. (Journal of Family Relations, Feb. 2016)
- Helping children successfully regulate and manage their emotions significantly lowers their risk of disordered eating. (Psychiatry Research, Jan. 2017)
- The avoidance of thoughts and feelings exacerbates the impact of weight, body shape and shame on disordered eating. (Eating & Weight Disorders, May 2016)
- New Guidelines from the American Academy of Pediatrics (2016): When teenagers are overweight, parents and doctors should encourage a healthy lifestyle rather than worry about the number on the bathroom scale. Adults should move away from "weight talk," and instead help kids have a healthy relationship with food and their bodies. Discourage dieting, skipping of meals, or the use of diet pills; instead, encourage and support the implementation of healthy eating and physical activity behaviors that can be maintained on an ongoing basis.
- Parental diet is the strongest predictor of a child's diet quality. Role model healthy eating habits and a healthy relationship with food.
- Children prefer high fat and high sugar foods more if parents: use food to regulate emotions, use food as a reward, pressure the child to eat more, restrict unhealthy food. Children prefer high fat and sugar foods less if parents: make healthy food available in the home, model healthy eating in front of the child, explain why healthy foods should be consumed. (Appetite, June 2017)
- Family meals should be a top priority. They reduce the risk of obesity and disordered eating, are good for mental health, and reduce harm caused by cyberbullying. Aim for a minimum of five family meals per week, with an emphasis on shared family dinners.
- Make sure your kids get enough sleep. Not getting enough sleep, having a poor sleep, and going to bed late are all associated with increased food intake.
- Media literacy (ability to analyze and evaluate the media) reduces body dissatisfaction.
- Discourage all forms of body or fat talk, as well as body checking (get rid of the bathroom scale).
- Perceived body acceptance by others significantly predicts an increase in body appreciation over time. Accept and love your children just as they are. (Developmental Psychology, March 2016)
- Important skills to role model and teach our kids to reduce body dissatisfaction and disordered eating include: mindfulness (paying attention to thoughts and feelings with an attitude of kindness and curiosity), silencing of the inner critic, and practicing self-compassion (responding to one's own suffering with kindness and care).
- Self-compassion is consistently linked to lower levels of disordered eating and protective against poor body image. (Body Image, June 2016)

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