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A Cooking Class Series for Children with Type 1 Diabetes and Their Families

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A COOKING CLASS PROGRAM

FOR CHILDREN WITH TYPE 1 DIABETES AND THEIR FAMILIES

By

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Type 1 diabetes mellitus (T1DM) is a condition caused by the autoimmune destruction of the insulin producing β-cells in the pancreas of genetically susceptible individuals.[1–3] There is increasing evidence of β-cell autoimmunity in early childhood that may be related to a combination of genetics and exposure to environmental factors, such as infectious agents, chemicals, or dietary factors.[2–6] A recent publication also reported a twofold increase in the incidence of T1DM in children with accelerated childhood growth leading to overweight at 2–10 years of life.[7] Research has shown that the disease progresses through three stages of variable and individualized length, starting with the initial presence of at least two autoantibodies and culminating with the onset of hyperglycemia due to deficiency of the hormone insulin.[8] The classical symptoms of T1DM are frequent urination, increased hunger and thirst, fatigue, blurry vision, and weight loss.[4,8] Given that insulin is required by the cells to utilize glucose for energy, most symptoms are related to the inability of the body to obtain said energy from food and the resulting marked elevation of glucose in the bloodstream. To make up for the lack of their own insulin, patients with T1DM require the administration of biosynthetic insulin in the exact amount needed for the glucose consumed.[8] Poor glycemic control is associated with diabetes complications both in the short and long term. In the short term, poorly controlled blood glucose can lead to different degrees of either hypo- or hyperglycemia. Hypoglycemia, which is defined as blood glucose levels below 70 mg/dL, may start as shakiness, sweating, anxiety, and weakness that can quickly lead to injuries, loss of consciousness, coma, and death if not treated in a timely manner.[8] Hyperglycemia –or high blood sugar– develops with insufficient insulin and may lead to diabetic ketoacidosis (DKA), a life-threatening acidification of the blood caused by the excessive production of ketone bodies as a result of the breakdown of fat for energy.[9,10] Symptoms of DKA include excessive thirst, shortness of breath, nausea, vomiting, and impaired

mental function and can potentially lead to coma or death in a short period of time.[10] Long-term diabetes-related complications are a consequence of the vascular damage and the ensuing inflammatory state caused by elevated blood glucose levels.[6,8] Microvascular damage may lead to retinopathy, diabetic kidney disease, and neuropathy after 5 to 10 years of poorly controlled diabetes, though these conditions have been observed after one to two years of suboptimal management.[7] Macrovascular complications resulting from atherosclerosis may lead to cardiovascular disease, cerebrovascular disease, and peripheral vascular disease, and these are leading causes of morbidity and mortality among adults with T1DM.[6,8] Frequent poor glycemic control, in the form of either hypo- and hyperglycemia, can also have adverse effects on brain development and function, both in the short and long term.[11]

The Centers for Disease Control and Prevention (CDC) estimates that in 2018 there were roughly 187,000 children and adolescents under the age of 20 with T1DM in the US.[1] Since there are no validated methods to distinguish between the different types of diabetes, the estimates are updated by applying the percentages determined in past surveys to current population data.[12] Data from the SEARCH Diabetes in Youth Study indicates that during 2014-2015, 18,291 children and adolescents were diagnosed T1DM each year in the US. Data also indicates that the incidence of T1DM in youths under 20 years increased at an overall yearly rate of 1.9% between 2002 and 2015, with higher increases among blacks, Hispanics, and Asian and Pacific Islanders.[13] During the 2002 – 2010 time period, the highest increase in incidence was among Hispanic children and adolescents under 20 years, while between 2011 and 2015, the highest increases were seen among non-Hispanic Asian and Pacific islander youths.[13]

Type 1 diabetes is a disease that requires intensive medical and lifestyle management to avoid short- and long-term complications commonly associated with the disease. Dietary changes are often difficult to implement due to taste preferences, convenience, time constraints, peer pressure, poor quality of food available in the school and/or home environment, lack of cooking skills, and an absence of concern for the impact foods may have on health. The aims of this project are: 1) to conduct a review of the literature to examine previous research on the impact of cooking education for children with type 1 diabetes and their families on food choices that support the management of the disease, and 2) to develop a series of cooking classes that will include recipes that align with nutrition guidelines for this population and common diabetes education topics. The classes will be aimed at helping children and their families find new healthy meal and snack alternatives that will aid in better managing the disease and improving the odds for diabetes-related complications.

Review of the Literature

Medication Management of Type 1 Diabetes

Receiving a diagnosis of type 1 diabetes is a life-changing event, not only for the patient, but for the caregivers and the family as a whole. Achieving glycemic control involves monitoring blood glucose, counting carbohydrates (considering other factors that influence glucose metabolism, such as protein and fats eaten in the same meal, physical activity, hormones, illness, and side effects from medications), and administering multiple daily doses of insulin.[8,14–16] The goals of diabetes management are preventing hypo- and hyperglycemia, attaining optimal blood pressure and serum lipid levels, achieving normal growth and development, and preventing the short- and long-term complications associated with poor glycemic control.[17]

Blood Glucose Monitoring

Monitoring blood glucose helps to maintain levels within the target range and determine insulin needs. For adequate glycemic control, multiple blood glucose measurements are required each day, especially before meals and snacks , around exercise, before driving, and at bedtime.[11] Blood glucose may be checked through finger pricks with a blood glucose meter or, in children aged 2 years and older, using a continuous glucose monitor (CGM).[8,11,18] A CGM's sensor and transmitter are continually attached to the patient's body recording glucose levels.[19] Real-time CGM systems transmit blood glucose data to a handheld device or smartphone's application that will sound an alert if blood glucose is out of range or dropping quickly, whereas intermittently scanned CGMs will only provide information when scanned by the user.[18,20] The CGM's sensors need to be changed every 3-10 days, depending on the model.[19]

Carbohydrate Counting and Beyond

Counting carbohydrates involves recognizing foods that contain carbohydrates, measuring or estimating the anticipated amount of these foods to be consumed, and assigning the correct carbohydrate count to this serving size.[21] Knowing the total amount of carbohydrates that will be eaten at a meal allows to calculate the corresponding amount of insulin that will be required by the body to utilize the glucose obtained from food for energy. Even though protein and fats do not directly require insulin to be utilized by the body, they play an important role in regulating blood glucose after meals, given that they affect the rate of gastric emptying and the insulin sensitivity of the cells.[14,15] Moreover, studies involving patients with T1DM who use CGM's have observed that both high-protein and high-fat meals, or meals that contain both high-protein

and high-fat, may result in sustained hyperglycemia for an increased number of hours, regardless of the presence or absence of carbohydrates in the same meal, and may require an insulin adjustment two to three hours after the meal.[15] Nevertheless, the response to a high fat or high protein meal can vary significantly among individuals and throughout different stages of life, which therefore calls for individualized and recurrent guidance from a registered dietitian or certified diabetes educator to make adequate treatment adjustments.[15]

Physical Activity and Exercise

Physical activity and exercise are highly encouraged due to its many beneficial effects for youths with T1DM, including improved insulin sensitivity, lipid levels, mood, fitness, self-esteem, weight management, and blood pressure. The ADA recommends children and adolescents with T1DM to engage in 60 minutes of moderate- to vigorous-intensity physical activity daily in addition to muscle- and bone-strengthening activities a minimum of three times per week.[8,11] Given the positive effect physical activity has on glucose utilization, there is an increased risk of hypoglycemia, which therefore warrants awareness and careful planning and management before, during, and after exercise, including overnight.[8,11] On the other hand, high-intensity exercise, such as sprinting or strength training, has the potential of inducing hyperglycemia, calling for appropriate management.[8]

Hormones and Medications

The variable effect of hormones released by the body during stress, illness, injury, growth, or menstrual cycles on blood glucose also needs to be taken into account and adequately managed as well as medications that are known to affect glycemia, most notably steroids and certain

antipsychotics.[14] The mechanisms through which hormones and medications affect blood glucose are many and intricate: stress, illness, and injury induce the secretion of epinephrine, cortisol, and growth hormone, which work in conjunction to increase the availability of energy for "fight or flight" by affecting various biochemical pathways that result in increased glucose in blood,[22] menstrual cycles affect glucose levels by reducing insulin sensitivity due to higher progesterone levels in the second half of the cycle (which is known as luteal phase of insulin resistance)[23], steroids affect insulin sensitivity, limiting the body's tissues' ability to utilize glucose for energy,[24] and antipsychotics affect insulin sensitivity and secretion.[25]

Administering Insulin

Insulin therapy is essential for the utilization of glucose for energy and is aimed at mimicking the body's normal insulin secretions patterns. This involves administering both long-acting or basal-insulin, which will cover the body's insulin needs during fasting hours, and fast-acting insulin that will allow the body to utilize the glucose obtained from meals.[8] Insulin administration is achieved either by multiple daily injections with syringes or an insulin pen or by continuous subcutaneous infusion, also known as insulin pump therapy.[8] Insulin pumps deliver insulin directly through a catheter into an infusion site that needs to be changed every three days.[26] This is a significant advantage over the multiple injections a day required when administering insulin with syringes or an insulin pen. Insulin pump systems can be programed to deliver basal and prandial insulin in highly precise doses that are calculated based on patient specific insulin ratios, current glycemic levels obtained from a meter or CGM, and the estimated carbohydrate load of the upcoming meal. Some newer insulin pump systems can integrate glucose data obtained from

CGM sensors.[27] Alternatively, the current blood glucose reading may be entered manually along with the estimated carbohydrate value.

Acquiring the necessary knowledge and skill to fulfill all tasks involved in blood glucose management calls for the extensive individualized training of the patient and, in case of children and youths up to 18 years, the caregivers, at diagnosis and routinely thereafter.[8,11] The daily intensive medical management has a deep impact on the quality of life of the patient and the caregivers, in most cases, the parents.[11] A large Swedish case-cohort study that followed children with T1DM through their 18th birthday was able to observe that, when compared to their healthy siblings, children with T1DM are three times as likely to develop psychiatric disorders within the first 6 months after diagnosis, after which the incidence decreases to twice as likely as their healthy counterparts for the rest of the follow up period.[28] The increased responsibilities of care also have an impact on the mental health of the caregivers, who often experience feelings of grief, shame, distress, anxiety, and depression that lead to a poor quality of life.[11,29] Current technology in the form of insulin pumps used in conjunction with continuous glucose monitoring, has reduced the need for finger pricks, calculations, and injections, significantly improving glycemic control, risk and fear of hypoglycemia, the risk for diabetes-related complications, and thus, quality of life.[8,11] However, successful management of T1DM still requires commitment, discipline, skill, and deep understanding of the different factors that affect glycemic control. Nutrition is one of those factors and possibly one of the most challenging ones to modify due to environmental, cultural, and social factors that will need to be addressed in order for the intervention to be successful.[30]

Nutrition Management of Type 1 Diabetes

In addition to the medication management of T1DM, lifestyle management involving the adoption of a healthy eating pattern and increased physical activity are recommended for pediatric patients as lifelong practices to improve glycemic control, maintain health, support growth, and prevent cardiovascular disease.[8] Medical nutrition therapy (MNT) and mitigation of exercise-induced hypo- and hyperglycemia are part of the intensive diabetes self-management education recommended to all patients at diagnosis, quarterly throughout childhood and adolescence, and yearly thereafter. [8,11] Ongoing education, involving in-person care and frequent telephone contact, has shown to improve hemoglobin A1C (A1C), a marker of glycemic control, and decrease diabetes-related complications.[31] A study that analyzed the relationship between dietary behaviors in families of children 9-14 years with T1DM and A1C determined that adherence to dietary recommendations was associated with improved glycemic control in youth.[32] Moreover, the study observed that A1C, which increases as glycemic control decreases, was inversely correlated with dietary quality of the child and the parents. The guidelines from the American Diabetes Association (ADA) therefore advise that dietary management be approached as a family, focusing on a healthy eating pattern for all members.[8,11] However, it is not uncommon for dietary recommendations to be met with ambivalence and resistance.[30] Incorporating changes into the family's meal patterns can be daunting, especially when trying to process all the feelings associated with a new diagnosis and adapting to a new routine of checking blood sugars, measuring or weighing servings, counting carbs, and administering insulin. In addition, children may not be receptive to trying new foods or recipes, which can make the whole experience even more stressful. Medical nutrition therapy is thus often one of the most difficult aspects of diabetes management.[31] Meal planning education must therefore

take the family's lifestyle, access to food, cooking ability, activities, food preferences, and cultural influences into consideration, while allowing them to learn the effect of food on blood glucose levels.[11,31]

According to the Dietary Guidelines for Americans 2020-2025 (DGA), a healthy eating pattern includes a variety of vegetables from all subgroups, fruits, grains, at least half of which are whole grains, fat-free or low-fat dairy, a variety of protein foods, and oils, and limits saturated fats and *trans* fats, added sugars, and sodium.[33] Misconceptions of what constitutes a healthy diet for children with T1DM are common among patients and their families.[30] The former Medical Director of Camp Kudzu, a camp for children and adolescents with T1DM in Georgia, pointed out that she often had to respond to inquiries from parents asking why children were provided carbohydrates at camp. (Anna M. Albritton, MS, RD, LD, CDE, video conference, October 20, 2020.) A study conducted to explore perceptions, barriers, and facilitators to healthy eating practices among 140 youths 7-16 years with diabetes indicated that the study participants defined healthy eating as incorporating foods low in carbohydrates, vegetables, vitamins and minerals, foods low in fat, and fruit.[34] When looking at dietary practices of the study population, fewer than 20% of the participants met the guidelines for fruit and vegetable intake, none met the guidelines for whole-grain consumption, and fewer than 7% met the guidelines for saturated fat consumption.[34] The review of six studies conducted specifically in youths with T1DM observed similar trends, including a mean saturated fat intake among participants in this population ranging from 11 to 15%, which exceeds the recommendations of the DGA to keep saturated fat consumption below 10%.[30,33,35,36] Researchers hypothesized that this may have resulted from the perception that foods high in total and saturated fat, such as cheese, bacon, and steak, were

considered “free” foods due to their low to no carbohydrate content and therefore good for diabetes management. Flexible insulin regimens and the more prevalent use of technology for glucose management, though remarkably favorable for glycemic control and increased flexibility in dietary choices, have facilitated the inclusion of unhealthy food choices into the daily patterns, since there is no longer a need to regulate or limit the amount nor timing of sugars consumed.[30,34,37] For instance, it is easier to incorporate processed foods that come with nutrition labels than trying to estimate the amount of carbohydrates in a healthier food option, such as an apple that can vary in size.[30] A healthy food pattern is nevertheless important for children with T1DM to manage the increased risk of dyslipidemia and cardiovascular disease.[30] This underscores the need for education to improve knowledge and common practices so that they better align with the demands of the condition and support healthy growth and development. Given that the diabetes-related behavior patterns of the child and the family in the first few years after diagnosis have shown to become established and difficult to change in the long run, it is important to provide the needed support as close to diagnosis as possible.[31]

Barriers to Healthy Eating Among Adolescents

A first step to determining the specific education needs of the youths with T1DM and their families is to identify common barriers and facilitators to healthy eating practices. Among the common barriers to healthy eating, studies have identified the inescapable exposure to unhealthy food options, taste preferences, convenience, food appearance, satiation, lack of time, peer interactions, the poor quality of the food provided in the school environment, and lack of concern regarding impact of foods on health status.[34] A family’s busy schedule with parental work and children’s extracurricular activities adds to the mix by limiting home-cooking missing the chance

to include children and adolescents in food shopping and preparation.[38] This in turn results in children not learning to plan and prepare meals, extending the issue over time. The DGA have brought attention to the importance of home cooking as a way for parents to transfer cooking skills to their children and model behaviors that will support the adoption of a healthy eating pattern.[33] Parental behavior and assistance to choose better alternatives and positive peer involvement or modeling are therefore recognized as facilitators of healthy eating.[34] Nutrition education for children and adolescents with T1DM and their caretakers therefore needs to focus not only in teaching the basics of healthy eating, but also addressing the barriers to healthy eating, such as limited food choices at school, busy schedules, or peer pressure, and providing tools to facilitate the introduction and acceptance of foods that will better adhere to the dietary guidelines and allow this population to achieve both better glycemic control and overall health.[34] Parents should be encouraged to be involved in guiding their children's food choices towards better alternatives by increasing exposure to new foods, providing variety for children to choose from, engaging in positive modeling behavior, and limiting the availability of unhealthy foods in the household.[34]

Approaches for Promoting Dietary Change in Children

The goal of MNT for this population is to maintain blood glucose levels near normal to avoid the short- and long-term complications associated with the condition, sustain blood lipid and blood pressure goals, and provide the nutrients needed for normal growth and development.[30,31] It is important to emphasize that healthy eating for children and adolescents with T1DM is the same as healthy eating for youth without the condition and should include adequate amounts of fruit, vegetables, whole grains, lean protein sources, and low fat dairy, paying special attention to

recommendations regarding fat and saturated fat in order to prevent cardiovascular disease.[30] Nevertheless, it has been established that nutrition knowledge alone is not sufficient to observe changes in dietary behaviors.[30] Nutrition programs that take a behavioral approach to dietary change have shown to be more successful at achieving intended goals.[30] Behavioral modification strategies identify behaviors associated with barriers to healthy eating and directly address them by facilitating the development of improved adaptive responses.[30,39] Past behavioral modification interventions have been successful at promoting dietary change in other pediatric populations with chronic disease and their caretakers.[30] A 6-week behavioral intervention to improve calorie intake in children 5 to 10 years with cystic fibrosis observed significant increase in calorie intake that allowed for weight gain and catch up growth.[40] Two randomized clinical trials to increase calcium intake in children with juvenile rheumatoid arthritis and inflammatory bowel disease revealed that a significantly higher percentage of children in the behavioral intervention arm met the daily calcium intake goal of 1500 mg/day when compared to an enhanced standard of care group.[41,42] Involving parents in the process is particularly important to increase the likelihood of positive changes in children, given the role parents have in influencing children's attitudes, preferences, and values by modeling behaviors and providing the food.[30,43]

One of the approaches that has been used to enhance behavior change in relationship to dietary intake has been participation in culinary interventions in the form of cooking classes that allow for hands on involvement in food preparation and consumption of the food prepared.[44] The classes are usually taught or supported by a dietitian and include nutrition education along instruction on the needed skills to prepare quick and appetizing meals that support the participants' health goals.[44] A systematic review of comparative interventions ranging from two

weeks to two years that involved either children, adults, or children with parents found that culinary interventions were associated with improved attitudes, self-efficacy, and healthy dietary intake in both children and adults.[38,44] In most studies included in the review, the anthropometric and cardiometabolic outcomes were not deemed statistically significant. However, some studies in children did result in improved anthropometric outcomes, in particular BMI and waist circumference, while other studies showed trends towards improved cardiometabolic outcomes that could be deemed clinically signicant.[44] Moreover, the interventions that included additional components, such as nutrition education, physical activity, gardening, goal setting, and grocery store tours, were especially effective.[44] Researchers also agree that applying behavioral theoretical frameworks to the development and application of cooking interventions increases their effectiveness.[38] The mean number of cooking classes in the studies included in the review was eight sessions and the mean follow-up period was 25 weeks.[44] The review, which was not specific to individuals with type 1 diabetes but included studies in populations that were healthy or had comorbid conditions, defined improved healthy intake as any dietary change towards healthier alternatives, either by increasing intakes of favorable food groups, such as fruits, vegetables, low-fat dairy, lean sources of protein, and unsaturated fats, or decreasing consumption of unfavorable options, such as fast food and foods high in added sugars, saturated fats, or sodium.[44] Among children that participated in the studies, the specific observed outcomes included significant improvements in the number of daily servings and weekly variety of fruit and vegetables consumed, attitude towards eating vegetables, vegetable preference, intake of whole grains, lean protein, and low-fat dairy, intake of dietary fiber, intake of cholesterol, willingness to try new foods, cooking attitude (especially in participants without previous cooking experience), perceived cooking skills and abilities –also defined as self-efficacy in

cooking– proportion of dinners consumed at home by children and parents, involvement in food preparation at home, ratings of enjoyment of cooking of both children and parents, willingness of mothers to feed their children the promoted foods, recommended intake for iron, zinc, vitamin A, protein, and energy, children's dietary diversity scores, and caregivers' nutrition knowledge scores.[44] Besides the research mentioned here, many other studies have correlated eating at home with lower food costs and improved adherence to a healthier dietary pattern.[44]

Limitations of the Available Research

Even though there are limitations to the available literature on culinary interventions, such as selection bias, clinical heterogeneity of the study populations, high attrition rate, lack of data to support changes in anthropometric and cardiometabolic outcomes, and a lack of literature in support of cooking interventions in children and adolescents with T1DM, current evidence suggests that cooking classes have a beneficial effect in attitudes and behavior in children and adults.[44] To observe significant changes in cardiometabolic biomarkers, larger trials and longer follow-up periods would be required. Nevertheless, even when some of the observed changes were not statistically significant, they may represent clinically significant improvements.

Target Population for Culinary Interventions

Culinary interventions should be made available to motivated individuals who are interested in learning about food and cooking but lack the skills or cooking self-efficacy.[44] Newly diagnosed children and adolescents with T1DM and their families may therefore be good candidates for this type of intervention given their need and interest to learn new ways of preparing meals or snacks that meet the guidelines and help them achieve their glycemic and overall health goals (Anna

Busby, MS, RD, LDN, CDCES, video conference, October 14, 2020). Even though the studies included in the review were not specific to this population, the positive outcomes observed in the review of culinary interventions align with the recommended dietary guidelines.[32,33,44] Furthermore, group-based cooking classes offer an opportunity to meet and connect with others with similar interests and concerns, which in case of newly diagnosed youths with T1DM and their families becomes extremely important. Research into the psychosocial aspects of culinary interventions has demonstrated positive effects in aspects such as socialization, self-esteem, family connections, and quality of life of the participants.[45] Participants reported that the group setting of the cooking classes gave them a sense of belonging and shared common interests. In addition to nutrition education related to diabetes and general health, some of the skills that may be taught in cooking classes include knife handling, prepping and optimizing ingredient use, cooking techniques, grocery shopping, label reading, food budgeting, meal-planning, and proper food storage.[44]

Barriers to the Implementation of Culinary Interventions

Despite the positive outcomes shown by cooking interventions, there are barriers to their implementation, which include budget, lack of consistent health insurance coverage, affordability, need for specialized personnel and installations, food safety and sanitation, first aid and overall safety, and the need for customization of the class contents to the participant's age range and characteristics while maintaining engagement from all people involved. Given the different cultural and socioeconomic backgrounds of the families affected by T1DM, cooking classes need to take literacy and access to food, cooking utensils, and appliances into consideration when planning for an education session. In addition, some families may want to

learn new cooking tips and more detail on how to optimize the diet for better outcomes, while other families may just need to learn how to cook because they have never cooked before (Carrie Kay, MS, RD, CDE, phone communication, October 21, 2020). Nevertheless, providing family-centered education involving nutrition and cooking skills may provide participants with much needed tools to incorporate foods into their diets that better align with their needs and may help them improve their health outcomes.

What is Being Done

Cooking classes for children with T1DM and their families have started to be implemented in several cities across the US and the world. In Atlanta, Children's Healthcare of Atlanta (CHOA) offers a one-time cooking demo for newly diagnosed children and their caregivers in their teaching kitchen as part of their "Beyond the Basics" diabetes management class.[46] Camp Kudzu, a nonprofit organization that serves children and adolescents with T1DM and offers whole-week summer camp sessions, weekend spring and fall family campouts, as well as other socializing activities, has been working on a project to use CHOA's Teaching Kitchen for quarterly one-time cooking classes.[47] Anna Albritton revealed that cooking videos were the hit of Camp Kudzoom, a virtual summer camp alternative that was created during the 2020 COVID-19 lockdown (Anna M. Albritton, MS, RD, LD, CDE, video conference, October 20, 2020). The Juvenile Diabetes Research Foundation (JDRF) features occasional live virtual cooking classes for families living with T1DM on their website, with the possibility of ordering a box with all the ingredients to be able to follow along from home.[48] Jessica Kassel, a dietetic intern from Fontbonne University, St. Louis, Missouri, used her inspiration as a parent of a child with T1DM to create themed classes to introduce cooking skills and nutritional concepts to families living

with T1DM in a relaxed and fun environment.[49] Jessica found that the cooking classes, which were partially funded by the St. Louis Children's Hospital Foundation and featured volunteer registered dietitians on site, somehow became a diabetes support group, where families shared experiences and asked questions regarding CGMs or insulin pumps. She also found that the main barrier to offering the classes was funding (Jessica Kassel, phone communication, November 19, 2020). And finally, Jamie's Ministry of Food Australia, a program that offers on-site cooking classes to a variety of communities throughout the country, partnered up with the nonprofit Diabetes NSW to teach cooking classes for kids with T1DM and their families.[50] An evaluation of Jamie's Ministry of Food Australia's programs by two universities in the area found that "the program not only increased participants' cooking confidence, knowledge, attitudes, and beliefs towards cooking and healthy eating, but also shifted behavior change towards healthier cooking and eating in the home."[51–53]

Conclusion

Current research supports the need for culinary interventions in combination with additional components, such as nutrition education, physical activity, or gardening to improve attitudes and self-efficacy related to cooking and healthy dietary intake in both children and adults.[44] Cooking classes may also have positive effects in psychosocial aspects, including a sense of belonging, self-esteem, family connections, and quality of life of participants.[45] All of these positive outcomes align with the specific needs of children and adolescents with T1DM and their families and serve as a justification for the need for culinary interventions specifically designed for this population. Offering cooking classes as close to diagnosis as possible may support healthy

adaptation to the new demands of the condition and improve the health outcomes for the patient.[31]

Methodology

The student investigator will perform a non-systematic review of the literature utilizing PubMed and other research databases to find articles that delineate the medical nutrition therapy needs of children and adolescents with type 1 diabetes mellitus, evaluate current food habits among individuals in this population, and establish the need for cooking education for patients and their families. Based on the evidence found and after discussion with the study Principal Investigator, the student will then develop a cooking class curriculum consisting of an eight-week series of hands-on cooking encounters for children with T1DM ages 10 to 14 years and their caretakers. The program will be organized into weekly topics centered around mealtimes and will provide a variety of healthy recipes that will be divided up among small groups to be prepared and shared at the end of class for all participants to taste. Each class will also incorporate nutrition education as it relates to the management of the disease, to be presented by a registered dietitian or diabetes educator.

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Thrive on Type 1 Family Cooking Series Curriculum

Claudia Winter

Georgia State University

2021

Thrive On Type 1 Family Cooking Series Curriculum

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Thrive On Type 1 Family Cooking Series Curriculum

Session 1 out of 8: Building Balanced Meals and Snacks

Class Time: 2:30 hours (150 minutes)
Audience: Family beginner; Children aged 10-14
Class Size: 6 family groups. One to two parents with children per group.
Volunteers needed: minimum 4 (at least 1 registered dietitian and 1 diabetes educator should be present, and dietetic interns)

Lesson Plan:

- Introductions
  - Instructor and support staff
  - Families
- Intro to series:
  - Review dietary recommendations for children with type 1 diabetes.
  - Intro to MyPlate and MyPlate Plan
- Intro to using measuring utensils and food scales for cooking and measuring servings
- Kitchen safety

Handouts
MyPlate Plan Menu (USDA MyPlate)
(https://www.myplate.gov/resources/print-materials)
Create a Grocery Game Plan – Weekly Calendar
(https://www.myplate.gov/resources/print-materials)
Create a Grocery Game Plan - Grocery List
(https://www.myplate.gov/resources/print-materials)
Kitchen Conversion Chart (Free Printable) (Savor + Savvy)
ADA Smart Snacks (American Diabetes Association)

Pre-class Preparation:
☐ Print handouts and recipes and create one binder per family
☐ Print and put together nametags
☐ Assign recipes to family groups according to age of child/children, dietary restrictions, and level of experience
☐ Check equipment, utensils, and supplies at each workstation
☐ Have MyPlate demo plate and measuring cups
☐ Purchase and set up ingredients in corresponding stations
☐ Set up serving station (plates/bowls, utensils, napkins) and trash can.

Activity:
Introductions (instructor, staff, families; 15 minutes)

- encourage child with T1DM to share their names, introduce their family

members, share when they were diagnosed, special interests, kitchen experience, what motivated them to join class.

Activity:

- Demonstrate how to use the MyPlate Plan website to determine recommended number of servings of each food group according to age, weight, and level of activity.
    - https://www.myplate.gov/myplate-plan (2 minutes)
- Each family will determine the recommended number of servings for each food group for the child using MyPlate Plan website (2 minutes).

Activity:

- Activity sheet: MyPlate Plan Menu. Each family will make food selections for all food groups for Day 1 following the serving recommendations: breakfast, lunch, dinner, and snacks.
- Build a Shopping List: Based on the information from the one-day meal plan, start a shopping list to be completed as the weekly menu is filled out (5 minutes)

Activity:

- Watch "Kitchen Safety for Kids"
- https://www.youtube.com/watch?v=KL9r9q9n20A (0:41-4:05, 4 minutes)
- Review main concepts by asking questions about information provided in the video (5 minutes).

Activity:

- Demo on how to measure dry and liquid ingredients.
- Review use of kitchen scale for measuring ingredients and food servings. (10 minutes)

Activity:

- Each family will read the assigned recipe and discuss how they will approach the task as a family (2 min)

Production (40 minutes): Families will apply the skills presented in class, including measuring ingredients with measuring cups, tablespoons, and a kitchen scale, and using adequate knife and blade precautions to prepare simple snacks with assistance of instructor, supporting RD's, and/or dietetic interns.

Recipes: Each family group will work on one or two simple recipes for quick and healthy snacks.

- Trail mix

- Pineapple Strawberry Power Smoothie
- Chocolate Chip No-Bake Granola Bars
- Tzatziki Dip with a Twist
- Chocolate Hummus with Strawberries

During Production:
- Remind families to clean as they go and manage their time efficiently
- Be aware of families who may need help from staff
- Make best use of teaching moments to restate kitchen safety guidelines, nutrition tidbits, and culinary skills

Suggested Serving Display Plating: Each family should prepare a proper portion of the assigned snack according to the serving size on the recipe to reiterate importance of portioning out for accurate portion and carb control.

Sample Plating: Participants will prepare sample servings as indicated in the recipes to share with other participants. The name of the recipe and carb information for the sample serving will be written on the individual blackboard.

Serving: Each participant will grab a sample of each of the foods they're willing to try, helping the child keep track of the carb counts. RD's and dietetic interns will be available to assist in carb counting (5 minutes).

Time for Taste Testing: 15 minutes

Discussion: (25 min) Instructor will invite a representative from each group (preferably the child with T1DM) to share details about the assigned recipe, including what the recipe is, how easy or difficult to prepare they found it to be, and skills learned in class they utilized in the preparation. Instructor will then provide a brief discussion of the nutritional characteristics of the specific snack and what makes it a good option for children with diabetes, highlighting amount of carbs provided in a serving, fiber, protein, healthy fats.

Closing discussion: Instructor will invite participants to share their opinion on the different snacks and ask whether they would consider preparing this snack at home.

After Meal:
Scrape plates and put into tubs.
Collect name tags and binders and keep for following session.

Clean-up with Volunteers

Session 2 out of 8: Breakfast

Thrive On Type 1 Family Cooking Series Curriculum

Class Time: 2:30 hours (150 minutes)
Audience: Family beginner; Children aged 10-14
Class Size: 6 family groups. One to two parents with children per group.
Volunteers needed: minimum 4 (at least 1 registered dietitian and 1 diabetes educator should be present, and dietetic interns)

Lesson Plan:

- Breakfast:
  - Why is it important?
  - Common reasons kids may skip breakfast
- Review information about carbs
  - What are carbohydrate foods?
  - What is a carb serving?
  - What are whole grains and why do they make a difference?
- Review measuring portion size with measuring utensils and a food scale
- Estimating portion sizes without utensils

Handouts

Carbohydrate Foods / Examples of 3 to 5 carb servings per meal (Scripps Health)
What is a Carb Serving? / Estimating Portion Sizes (Scripps Health)
Make Half of your Grains Whole (USDA)
Portion Size Guide (LiveBetter America)

Pre-class Preparation:

☐ Print handouts and recipes and add to family's binder
☐ Assign recipes to family groups according to age of child/children, dietary restrictions, and level of experience
☐ Check equipment, utensils, and supplies at each workstation
☐ Have MyPlate plastic demo plate
☐ Have demo measuring cups and spoons
☐ Purchase 21 oz box of Original Cheerios for "Eyeballing" and "Estimating Portion Sizes" activities. Divide cereal into 6 resealable bags of 3.5 oz each. Set up at each station.
☐ Purchase and set up ingredients
☐ Set up serving station (plates/bowls, utensils, napkins) and trash can.

Activity:

- Recap of last week. Encourage kids to share if they tried any of the skills or if they made any of the snacks from last week at home (5 minutes).

Activity:

- Discuss breakfast. Ask participants if they had breakfast this morning and what they had. Of those who did not have breakfast, ask if they would share why they didn't have breakfast. Discuss importance of breakfast (5 minutes)

Activity:
- Review carbohydrates. Ask for examples of carbohydrates. Go over whole grains and explain why they make a difference in the management of diabetes (5 minutes)

Activity:
- "Eyeballing" cereal. Ask every child with T1D to eyeball one serving of cereal. Measure what they got and calculate the difference that represents in carbs. Measure one serving of cereal with measuring cups and weigh it. Calculate the difference in carbs. (10 minutes)

Activity:
- Discuss "Estimating portion sizes" and when that would be a good option. Have each child measure a cup of cereal and have them hand it over to a parent. Ask the parent to pour the cereal in the child's cupped hands for them to build a reference point on how much is a cup in their hands. Have them bag the cereal in a resealable bag to take home along the rest of the cereal box (5 minutes).

Activity:
- Each family will read the assigned recipe(s) and discuss how they will approach the task as a family (2 min)

Production (55 minutes): Families will apply the skills presented in class, including measuring ingredients with measuring cups, tablespoons, and a kitchen scale, and using adequate knife and blade precautions to prepare the assigned breakfast recipe with assistance of instructor, supporting RD's, and/or dietetic interns.

Recipes: Each family group will work on one or two simple recipes for breakfast.

- Whole Wheat Sweet Potato Pancakes
    - Low-sugar Very Berry Chia Sauce
- Veggie Frittata Pesto Sandwich
    - Arugula-Basil Pesto
- Apple Walnut Peanut Butter Muffins
- Nut Butter Berry Banana Smoothie
- No Added Sugar Orange Granola

- Greek Yogurt Parfait

During Production:
- Remind families to clean as they go and manage their time efficiently
- Be aware of families who may need help from staff
- Make best use of teaching moments to restate kitchen safety guidelines, nutrition tidbits, and culinary skills

Suggested Serving Display Plating: Each family should prepare a proper portion of the assigned breakfast recipe following the serving suggestion on the recipe to reiterate the importance of portioning out for accurate portion and carb control.

Sample Plating: Participants will prepare sample servings as indicated in the recipes to share with other participants. The name of the recipe and carb information for the sample serving will be written on a blackboard that will be placed by the samples.

Serving: Each participant will grab a sample of each of the foods they're willing to try, helping the child keep track of the carb counts. RD's and dietetic interns will be available to assist in carb counting (5 minutes).

Time for Taste Testing: 20 minutes

Discussion: (25 min) Instructor will invite a representative from each group (preferably the child with T1DM) to share details about the assigned recipe, including what the recipe is, how easy or difficult to prepare they found it to be, and skills learned in class they utilized in the preparation. Instructor will then provide a brief discussion of the nutritional characteristics of the specific recipe and what makes it a good option for children with diabetes, highlighting amount of carbs provided in a serving, fiber, protein, healthy fats.

Closing discussion: Instructor will invite participants to share their opinion on the different breakfast options and ask whether they would consider preparing this snack at home.

After Meal:
Scrape plates and put into tubs.
Collect name tags and keep for following session.

Clean-up with Volunteers

Thrive On Type 1 Family Cooking Series Curriculum

Session 3 out of 8: School Day Lunch

Class Time: 2:30 hours (150 minutes)
Audience: Family beginner; Children aged 10-14
Class Size: 6 family groups. One to two parents with children per group.
Volunteers needed: minimum 4 (at least 1 registered dietitian and 1 diabetes educator should be present, and dietetic interns)

Lesson Plan:

- Food Safety
- Hand Washing
- Knife skills

Handouts

Food Safety Quick Tips: Step 1 – Clean (FDA)
Food Safety Quick Tips: Step 2 – Separate (FDA)
Food Safety Quick Tips: Step 3 – Cook (FDA)
Food Safety Quick Tips: Step 4 – Chill (FDA)

Pre-class Preparation:

☐ Print handouts and recipes and add to family's binder
☐ Assign recipes to family groups according to age of child/children, dietary restrictions, and level of experience
☐ Check equipment, utensils, and supplies at each workstation
☐ Have one partitioned lunch box on each workstation for plating display
☐ Purchase Glow Germ Gel
☐ Purchase and set up ingredients
☐ Set up serving station (plates/bowls, utensils, napkins) and trash can.

Activity:

- Recap of last week. Encourage kids to share if they tried any of the skills or if they made any of the recipes from the last two weeks at home (5 minutes).

Activity:

- Watch "Food Safety in Seconds", https://www.youtube.com/watch?v=iguM_pqetzo. Review the concepts discussed while following along the four food safety handouts for Clean, Separate, Cook, Chill (15 minutes)

Activity (only possible if the room can be completely blacked out):

- Handwashing: Use Glow Germ Gel activity to illustrate importance of thorough handwashing (10 minutes).

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Activity:
- Watch "Basic Knife Skills", https://youtu.be/G-Fg7l7G1zw. Review the basic concepts and types of cuts discussed (10 minutes)

Activity:
- Each family will read the assigned recipe(s) and discuss how they will approach the task as a family (2 minutes)

Production (55 minutes): Families will apply the skills presented in class so far, including measuring ingredients with measuring cups, tablespoons, and a kitchen scale, and using adequate knife skills, and knife and blade precautions to prepare the assigned school day lunch recipe with assistance of instructor, supporting RD's, and/or dietetic interns.

Recipes: Each family group will work on one or two simple recipes for school day lunch.

- Tortilla Pinwheels
- White Bean Hummus with veggies and baked whole wheat pita chips
- Turkey Quesadilla
- Pasta Salad
- Chicken Salad in pita pockets

During Production:
- Remind families to clean as they go and manage their time efficiently
- Be aware of families who may need help from staff
- Make best use of teaching moments to restate kitchen safety guidelines, nutrition tidbits, and culinary skills

Suggested Serving Display Plating: Each family will plate a whole lunch box meal with the assigned lunch recipe following the serving suggestion on the recipe to reiterate importance of portioning out for accurate portion and carb control, and to adjust the meal to the MyPlate Guidelines.

Sample Plating: Participants will prepare sample servings as indicated in the recipes to share with other participants. The name of the recipe and carb information for the sample serving will be written on a blackboard that will be placed by the samples.

Serving: Each participant will grab a sample of each of the foods they're willing to try, helping the child keep track of the carb counts. Encourage participants to make their plate look like MyPlate. RD's and dietetic interns will be available to assist in carb counting (5 minutes).

Time for Taste Testing (20 minutes)

Discussion: (25 min) Instructor will invite a representative from each group (preferably the child with T1DM) to share details about the assigned recipe, including what the recipe is, how easy or difficult to prepare they found it to be, and skills learned in class they utilized in the preparation. Instructor will then provide a brief discussion of the nutritional characteristics of the specific meal and what makes it a good option for children with diabetes, highlighting amount of carbs provided in a serving, fiber, protein, healthy fats.

Closing discussion: Instructor will invite participants to share their opinion on the different school lunch options and ask whether they would consider preparing this at home.

After Meal:
Scrape plates and put into tubs.
Collect name tags and binders and keep for following session.

Clean-up with Volunteers

Thrive On Type 1 Family Cooking Series Curriculum

Session 4 out of 8: Soups

Class Time: 2:30 hours (150 minutes)
Audience: Family beginner; Children aged 10-14
Class Size: 6 family groups. One to two parents with children per group.
Volunteers needed: minimum 4 (at least 1 registered dietitian and 1 diabetes educator should be present, and dietetic interns)

Lesson Plan:

- Reading Nutrition Facts Labels
- Using Recipe Nutrient Calculator apps to recalculate carbohydrates in a recipe when making ingredient substitutions

Handouts

Use the Nutrition Facts Food Label to Make Smart Food Choices (FDA)
Make Smart Choices! Nutrition Label Word Search (FDA)

Pre-class Preparation:

☐ Print handouts and recipes and add to family's binder
☐ Print one word search per participant to be used during wait times
☐ Assign recipes to family groups according to age of child/children, dietary restrictions, and level of experience
☐ Check equipment, utensils, and supplies at each workstation
☐ Purchase and set up ingredients
☐ Purchase six different packaged food items families would normally consume for Nutrition Label reading activity. Alternatively, available packaged foods may be used for the activity.
☐ Set up serving station (plates/bowls, utensils, napkins) and trash can

Activity:

- Recap of last week. Encourage kids to share if they tried any of the skills or if they made any of the recipes from the last two weeks at home (5 minutes).

Activity:

- Watch "Making Healthy Choices Using the Nutrition Facts Label", https://youtu.be/OWMSJqnYFMY.
- Review the concepts discussed while following along the provided handout.
- Highlight information specifically important when managing diabetes (carbohydrates, added sugars, saturated fats, and sodium).
- Have families identify the food label in their workstation and find the serving size, total carbohydrates, added sugars, fiber, fat, saturated fat,

sodium, protein, and calcium. (15 minutes)

Activity:
- Demonstrate how to use the Cronometer app or website to recalculate the carbohydrates in a recipe when making ingredient substitutions and creating a new nutrition label. (10 minutes).

Activity:
- Each family will read the assigned recipe(s) and discuss how they will approach the task as a family (2 minutes)

Production (55 minutes): Families will apply the skills presented in class so far, including measuring ingredients with measuring cups, tablespoons, and a kitchen scale, using adequate knife skills, and knife and blade precautions to prepare the assigned recipes with assistance of instructor, supporting RD's, and/or dietetic interns.

Recipes: Each family group will work on a set of recipes for a flavorful and balanced meal.

- Three bean turkey chili on sweet potato
- Chicken tortilla soup with cheese quesadilla wedges
- Lentil and vegetable soup with whole wheat garlic toast
- Chickpea and pumpkin curry with quinoa
- Minestrone with grilled cheese sandwich

During Production:
- Remind families to clean as they go and manage their time efficiently
- Be aware of families who may need help from staff
- Make best use of teaching moments to restate kitchen safety guidelines, nutrition tidbits, and culinary skills

Suggested Serving Display Plating: Each family should plate a full meal of the assigned recipes following the serving suggestion on the recipe to reiterate the importance of portioning out for accurate portion and carb control, and to adjust the meal to the MyPlate Guidelines.

Sample Plating: Participants will prepare sample servings as indicated in the recipes to share with other participants. The name of the recipe and carb information for the sample serving will be written on a blackboard that will be placed by the samples.

Serving: Each participant will grab a sample of each of the foods they're willing to try, helping the child keep track of the carb counts. Encourage

participants to make their plate look like MyPlate. RD's and dietetic interns will be available to assist in carb counting (5 minutes).

Time for Taste Testing: 15 minutes

Discussion: (25 min) Instructor will invite a representative from each group (preferably the child with T1DM) to share details about the assigned recipe, including what the recipe is, how easy or difficult to prepare they found it to be, and skills learned in class they utilized in the preparation. Instructor will then provide a brief discussion of the nutritional characteristics of the specific meal and what makes it a good option for children with diabetes, highlighting amount of carbs provided in a serving, fiber, protein, healthy fats.

Closing discussion: Instructor will invite participants to share their opinion on the different soup options and ask whether they would consider preparing this at home.

After Meal:
Scrape plates and put into tubs.
Collect name tags and binders and keep for following session.

Clean-up with Volunteers

Thrive On Type 1 Family Cooking Series Curriculum

Session 5 out of 8: Game Night!

Class Time: 2:30 hours (150 minutes)
Audience: Family beginner; Children aged 10-14
Class Size: 6 family groups. One to two parents with children per group.
Volunteers needed: minimum 4 (at least 1 registered dietitian and 1 diabetes educator should be present, and dietetic interns)

Lesson Plan:

- Protein
  - Why do we need it?
  - Where can we find it?
  - How much is a serving?
  - How can it help manage diabetes?
- Recommendations for safe fish intake
- How to use a food thermometer to keep food safe

Handouts
FDA – EPA Fish Advise (page 2)
Using a Food Thermometer (Academy of Nutrition and Dietetics)

Pre-class Preparation:
☐ Print handout and recipes and add to family's binder
☐ Assign recipes to family groups according to age of child/children, dietary restrictions, and level of experience
☐ Check equipment, utensils, and supplies at each workstation
☐ Purchase and set up ingredients
☐ Set up serving station (plates/bowls, utensils, napkins) and trash can

Activity:

- Recap of last week. Encourage kids to share if they tried any of the skills or if they made any of the recipes from the last two weeks at home (5 minutes).

Activity:

- Visit https://www.myplate.gov/eat-healthy/protein-foods to review information on protein:
  - Why do we need it?
  - Where can we find it?
  - How much is a serving?
  - How can it help manage diabetes? (10 minutes).

Activity:

- Watch "How to Use a Food Thermometer", https://youtu.be/5FxslPBcvAw.
- Review the concepts discussed while following along the handout provided on Week 3 (Food Safety Quick Tips: Step 3 - Cook). (5 minutes)

Activity:
- Each family will read the assigned recipe(s) and discuss how they will approach the task as a family (2 minutes)

Production (55 minutes): Families will apply the skills presented in class so far, including measuring ingredients with measuring cups, tablespoons, and a kitchen scale, using adequate knife skills, knife and blade precautions, and a food thermometer if needed to prepare the assigned recipes with assistance of instructor, supporting RD's, and/or dietetic interns.

Recipes: Each family group will work on selected recipes to create a whole game night meal.

- Black bean burgers and Coleslaw
- Fiesta dip with oven baked tortilla chips
- Oven fried chicken tenders and Crunchy broccoli bites with chipotle sauce
- Texas caviar burritos
- Turkey Taco Salad

During Production:
- Remind families to clean as they go and manage their time efficiently
- Be aware of families who may need help from staff
- Make best use of teaching moments to restate kitchen safety guidelines, nutrition tidbits, and culinary skills

Suggested Serving Display Plating: Each family should plate a full meal of the assigned recipes following the serving suggestion on the recipe to reiterate the importance of portioning out for accurate portion and carb control, and to adjust the meal to the MyPlate Guidelines.

Sample Plating: Participants will prepare sample servings as indicated in the recipes to share with other participants. The name of the recipe and carb information for the sample serving will be written on a blackboard that will be placed by the samples.

Serving: Each participant will grab a sample of each of the foods they're willing to try, helping the child keep track of the carb counts. Encourage participants to make their plate look like MyPlate. RD's and dietetic interns will be available to assist in carb counting (5 minutes).

Time for Taste Testing: 15 minutes

Discussion: (25 min) Instructor will invite a representative from each group (preferably the child with T1DM) to share details about the assigned recipe, including what the recipe is, how easy or difficult to prepare they found it to be, and skills learned in class they utilized in the preparation. Instructor will then provide a brief discussion of the nutritional characteristics of the specific meal and what makes it a good option for children with diabetes, highlighting amount of carbs provided in a serving, fiber, protein, healthy fats.

Closing discussion: Instructor will invite participants to share their opinion on the different recipe options and ask whether they would consider preparing this at home.

After Meal:
Scrape plates and put into tubs.
Collect name tags and binders and keep for following session.

Clean-up with Volunteers

Thrive On Type 1 Family Cooking Series Curriculum

Session 6 out of 8: Desserts and Sweet Treats

Class Time: 2:30 hours (150 minutes)
Audience: Family beginner; Children aged 10-14
Class Size: 6 family groups. One to two parents with children per group.
Volunteers needed: minimum 4 (at least 1 registered dietitian and 1 diabetes educator should be present, and dietetic interns)

Lesson Plan:

- Fats
    - Why do we need them?
    - Where can we find them?
    - How can they help manage diabetes?

Handouts
Cut Down on Dietary Fats (DGA 2015-2020)

Pre-class Preparation:
☐ Print handout and recipes and add to family's binder
☐ Assign recipes to family groups according to age of child/children, dietary restrictions, and level of experience
☐ Check equipment, utensils, and supplies at each workstation
☐ Purchase and set up ingredients
☐ Set up serving station (plates/bowls, utensils, napkins) and trash can

Activity:

- Recap. Encourage kids to share if they tried any of the skills or if they made any of the recipes learned so far at home. Encourage them to share if they used the Recipe Nutrition App and if they learned something helpful (15 minutes).

Activity:

- Review handout on healthy fats:
    - Why do we need them?
    - Which foods have fats?
    - Substituting unsaturated fats for healthier options.
    - Discuss how healthy fats can help manage diabetes (15 minutes).

Activity:

- Each family will read the assigned recipe(s) and discuss how they will approach the task as a family (2 minutes)

Production (55 minutes): Families will apply the skills presented in class

so far, including measuring ingredients with measuring cups, tablespoons, and a kitchen scale, using adequate knife skills, knife and blade precautions, and a food thermometer if needed to prepare the assigned recipes with assistance of instructor, supporting RD's, and/or dietetic interns.

Recipes: Each family group will work on selected recipes to create a dessert or sweet treat.

- Chewy banana nut oatmeal cookies
- Carrot cake muffins
- Lentil brownie and Banana ice cream sandwiches
- No bake peanut butter and chocolate bites
- Pineapple upside down coconut cupcakes

During Production:

- Remind families to clean as they go and manage their time efficiently
- Be aware of families who may need help from staff
- Make best use of teaching moments to restate kitchen safety guidelines, nutrition tidbits, and culinary skills

Suggested Serving Display Plating: Each family should plate a full serving of the assigned recipe(s) following the serving suggestion on the recipe to reiterate the importance of portioning out for accurate portion and carb control.

Sample Plating: Participants will prepare sample servings as indicated in the recipes to share with other participants. The name of the recipe and carb information for the sample serving will be written on a blackboard that will be placed by the samples.

Serving: Each participant will grab a sample of each of the foods they're willing to try, helping the child keep track of the carb counts. RD's and dietetic interns will be available to assist in carb counting (5 minutes).

Time for Taste Testing: 15 minutes

Discussion: (25 min) Instructor will invite a representative from each group (preferably the child with T1DM) to share details about the assigned recipe, including what the recipe is, how easy or difficult to prepare they found it to be, and skills learned in class they utilized in the preparation. Instructor will then provide a brief discussion of the nutritional characteristics of the specific meal and what makes it a good option for children with diabetes, highlighting amount of carbs provided in a serving, fiber, protein, healthy fats.

Closing discussion: Instructor will invite participants to share their opinion on the different dessert and sweet treat options and ask whether they would consider preparing this at home.

After Meal:
Scrape plates and put into tubs.
Collect name tags and binders and keep for following session.

Clean-up with Volunteers

Thrive On Type 1 Family Cooking Series Curriculum

Session 7 out of 8: Family Dinner

Class Time: 2:30 hours (150 minutes)
Audience: Family beginner; Children aged 10-14
Class Size: 6 family groups. One to two parents with children per group.
Volunteers needed: minimum 4 (at least 1 registered dietitian and 1 diabetes educator should be present, and dietetic interns)

Lesson Plan:

- Meal Prep as a way of overcoming the barrier of a busy family schedule
- Meal storage guidelines
- Using herbs and spices as a way of enhancing flavor without excessive use of fat or salt

Handouts
How to Master Meal Prep (PrecisionNutrition.com)
Refrigerator & Freezer Storage Chart (FDA)
Herb & Spice Cookery (Scripps Health)

Pre-class Preparation:
☐ Print handouts and recipes and add to family's binder
☐ Assign recipes to family groups according to age of child/children, dietary restrictions, and level of experience
☐ Check equipment, utensils, and supplies at each workstation
☐ Purchase and set up ingredients
☐ Set up serving station (plates/bowls, utensils, napkins) and trash can

Activity:
- Recap. Encourage kids to share if they tried any of the skills or if they made any of the recipes learned so far at home (10 minutes).

Activity:
- Introduction to Meal Prep as a way of overcoming the barrier of lack of time. Ask participants to share their own experience with lack of time to prepare a meal, when does it happen, what was the solution at the time. Review How to Master Meal Prep handout (15 minutes).

Activity:
- Review Refrigerator & Freezer Storage Chart and how it could be applied with past recipes made in class (5 minutes).

Activity:

- Review Herb & Spice Cookery handout. Discuss how using seasonings is a good way of enhancing a dish's flavor without the need for excess fat or sodium. Ask families if they have used any of these seasonings in the past and what type of meals they've used it for (5 minutes).

Activity:
- Each family will read the assigned recipe(s) and discuss how they will approach the task as a family (2 minutes)

Production (55 minutes): Families will apply the skills presented in class so far, including measuring ingredients with measuring cups, tablespoons, and a kitchen scale, using adequate knife skills, knife and blade precautions, and a food thermometer if needed to prepare the assigned recipes with assistance of instructor, supporting RD's, and/or dietetic interns.

Recipes: Each family group will work on one or a set of selected recipes for family dinners.

- Fish tacos with corn relish
- Turkey burger with chipotle dip
    - Cucumber and Tomato Salad
- Sheet pan chicken fajitas
- Chickpea and pumpkin curry over quinoa

During Production:
- Remind families to clean as they go and manage their time efficiently
- Be aware of families who may need help from staff
- Make best use of teaching moments to restate kitchen safety guidelines, nutrition tidbits, and culinary skills

Suggested Serving Display Plating: Each family should plate a full serving of the assigned recipe(s) following the serving suggestion on the recipe to reiterate importance of portioning out for accurate portion and carb control.

Sample Plating: Participants will prepare sample servings as indicated in the recipes to share with other participants. The name of the recipe and carb information for the sample serving will be written on a blackboard that will be placed by the samples.

Serving: Each participant will grab a sample of each of the foods they're willing to try, helping the child keep track of the carb counts. RD's and dietetic interns will be available to assist in carb counting (5 minutes).

Time for Taste Testing: 15 minutes

Discussion: (25 min) Instructor will invite a representative from each group (preferably the child with T1DM) to share details about the assigned recipe, including what the recipe is, how easy or difficult to prepare they found it to be, and skills learned in class they utilized in the preparation. Instructor will then provide a brief discussion of the nutritional characteristics of the specific meal, what makes it a good option for children with diabetes, highlighting amount of carbs provided in a serving, fiber, protein, healthy fats, and how the recipe could work well for meal-prep and storage.

Closing discussion: Instructor will invite participants to share their opinion on the different family dinner options and ask whether they would consider preparing this at home.

After Meal:
Scrape plates and put into tubs.
Collect name tags and binders and keep for following session.

Clean-up with Volunteers

Thrive On Type 1 Family Cooking Series Curriculum

Session 8 out of 8: Festive Menu

Class Time: 2:30 hours (150 minutes)
Audience: Family beginner; Children aged 10-14
Class Size: 6 family groups. One to two parents with children per group.
Volunteers needed: minimum 4 (at least 1 registered dietitian and 1 diabetes educator should be present, and dietetic interns)

Lesson Plan:

- Importance of Reducing Food Waste at Home
  - Saves money
  - Saves time
  - Saves resources

Handouts
Reducing Food Waste at Home (Iowa State University)

Pre-class Preparation:
☐ Print handouts and recipes and add to family's binder
☐ Assign recipes to family groups according to age of child/children, dietary restrictions, and level of experience
☐ Check equipment, utensils, and supplies at each workstation
☐ Purchase and set up ingredients
☐ Set up serving station (plates/bowls, utensils, napkins) and trash can

Activity:
- Recap. Encourage kids to share if they tried any of the skills or if they made any of the recipes learned so far at home. (10 minutes).

Activity:
- Watch "Food Wastage Foodprint", https://youtu.be/IoCVrkcaH6Q. Discuss the content of the video. What are some ways of reducing food waste? Go over "Reducing Food Waste at Home" handout. (15 minutes)

Activity:
- Each family will read the assigned recipe(s) and discuss how they will approach the task as a family (2 minutes)

Production (55 minutes): Families will apply the skills presented in class so far, including measuring ingredients with measuring cups, tablespoons, and a kitchen scale, using adequate knife skills, knife and blade precautions, and a food thermometer if needed to prepare the assigned recipes with assistance of instructor, supporting RD's, and/or dietetic interns.

Thrive On Type 1 Family Cooking Series Curriculum

Recipes: Each family group will work on one or a set of recipes for holiday meals.

- Crunchy green bean casserole
- Mini turkey meatballs with cauliflower mac & cheese
- Butternut squash soup
- Chickpea and Kale Salad
- Pumpkin chocolate chip cookies and hot chocolate

During Production:
- Remind families to clean as they go and manage their time efficiently
- Be aware of families who may need help from staff
- Make best use of teaching moments to restate kitchen safety guidelines, nutrition tidbits, and culinary skills

Suggested Serving Display Plating: Each family should plate a full serving of the assigned recipe(s) following the serving suggestion on the recipe to reiterate importance of portioning out for accurate portion and carb control.

Sample Plating: Participants will prepare sample servings as indicated in the recipes to share with other participants. The name of the recipe and carb information for the sample serving will be written on a blackboard that will be placed by the samples.

Serving: Each participant will grab a sample of each of the foods they're willing to try, helping the child keep track of the carb counts. RD's and dietetic interns will be available to assist in carb counting (5 minutes).

Time for Taste Testing: 20 minutes

Discussion: (25 min) Instructor will invite a representative from each group (preferably the child with T1DM) to share details about the assigned recipe, including what the recipe is, how easy or difficult to prepare they found it to be, and skills learned in class they utilized in the preparation. Instructor will then provide a brief discussion of the nutritional characteristics of the specific meal and what makes it a good option for children with diabetes, highlighting amount of carbs provided in a serving, fiber, protein, healthy fats.

Closing discussion: Instructor will invite participants to share their opinion on the different meal options and ask whether they would consider preparing this at home.

After Meal:
Scrape plates and put into tubs.
Collect name tags and binders and keep for following session.

Clean-up with Volunteers

Appendix 1: Recipe Book Sample Pages

THRIVE ON TYPE 1

Selected Recipes for Kids
with Type 1 Diabetes

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SNACKS

SNACKS

TRAIL MIX

With just the right amount of sweetness and crunch, trail mix is an easy and satisfying snack you can make ahead and carry with you wherever you go!

Servings: 14 | Total Prep Time: 10 minutes

Ingredients

1 1/3 cup multigrain oat cereal	39 grams
1/2 cup unsalted sunflower seeds	70 grams
1/2 cup unsalted pumpkin seeds	59 grams
1 cup dry roasted peanuts	146 grams
1 cup unsweetened raisins	145 grams
1 cup mini dark chocolate chips	91 grams

Trail Mix

Nutrition Facts

Serving Size	1 x 1/3 cup (39 grams)	
Amount Per Serving		
Calories	**195.2**	
		% Daily Value*
Total Fat	12.7 g	16 %
Saturated Fat	3 g	15 %
Trans Fat	0 g	
Cholesterol	0.2 mg	0 %
Sodium	58.9 mg	3 %
Total Carbohydrate	17.3 g	6 %
Dietary Fiber	2.8 g	10 %
Total Sugars	9.6 g	
Added Sugars	2.1 g	4 %
Protein	5.9 g	
Vitamin D	0.1 mcg	1 %
Calcium	32.6 mg	3 %
Iron	3 mg	17 %
Potassium	267.3 mg	6 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at cronometer.com

Directions

1. Mix all ingredients in a large bowl.
2. Store in bulk in an airtight container or portioned out in individual resealable bags

EXPERT TIP:
You can substitute the seeds with any nut or seed and the raisins for any unsweetened dried fruit you like to make this trail mix to come up with your own unsweetened dried fruit and nuts/seeds combinations! Be aware that the carb counts will vary depending on your ingredient choice. You can use your favorite Recipe Nutrition Calculator App (such as Whisk or MyFitnessPal) to recalculate the carbs in your recipe!

SNACKS

PINEAPPLE STRAWBERRY POWER SMOOTHIE

This smoothie is creamy perfection and packed with nutrition!

Servings: 1 | Total Prep Time: 5 minutes

Ingredients

1/3 cup nonfat plain Greek yogurt	122 grams
1/2 cup unsweetened almond milk	120 grams
1.2 cup fresh or frozen pineapple	82 grams
1/2 cup fresh or frozen strawberries	76 grams
1 tablespoon ground chia or flax seeds	10 grams
1 oz fresh baby spinach	28 grams

Strawberry Pineapple Power Smoothie

Nutrition Facts

Serving Size	1 Recipe
Amount Per Serving	
Calories	**211**
	% Daily Value*
Total Fat	5.1 g 7 %
Saturated Fat	0.7 g 3 %
Trans Fat	0 g
Cholesterol	6.1 mg 2 %
Sodium	156.1 mg 7 %
Total Carbohydrate	27.9 g 10 %
Dietary Fiber	7 g 25 %
Total Sugars	17 g
Added Sugars	0 g 0 %
Protein	16.4 g
Vitamin D	1.2 mcg 6 %
Calcium	469.6 mg 36 %
Iron	3.4 mg 19 %
Potassium	658.2 mg 14 %

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Full Info at cronometer.com </>

Directions

1. Place all ingredients in a blender and blend until smooth.
2. Enjoy!

EXPERT TIP:
Select ripe fruit at its peak of ripeness for best flavor!

SNACKS

CHOCOLATE CHIP NO-BAKE GRANOLA BARS

These granola bars are are as much a sweet delicious treat as they are nutrition packed snack! You may never go back!

Servings: 24 | Total Prep Time: 15 minutes

Ingredients

12 ounces Medjool dates	340 grams
1/4 cup water (as needed)	60 grams
1/2 cup peanut butter	129 grams
1/2 cup unsweetened applesauce	122 grams
2 teaspoons cinnamon, ground	5 grams
1/4 teaspoon salt	1.5 grams
2 teaspoons vanilla extract	9 grams
3 cups old-fashioned rolled oats	243 grams
1 cup almonds	130 grams
1/2 cup sunflower seeds	70 grams
1/2 cup pumpkin seeds	59 grams
1/2 cup mini semi-sweet chocolate chips	85 grams

Directions

1. Line a 9x13-inch baking dish with parchment paper.
2. Place dates, peanut butter, applesauce, cinnamon, salt, and vanilla extract in a food processor or blender and process until a smooth thick paste forms. Scrape down ingredients and add water only as needed.
3. Combine oats, almonds, sunflower seeds, pumpkin seeds, and chocolate chips in a large bowl. Add date paste and mix with your hands, until fully incorporated.
4. Press mixture into the baking dish. Cover with another piece of parchment paper and press down evenly. You may use a can or jar as a roller for help. Freeze for 1 hour.
5. Once firm, lift parchment paper out of baking dish and place on a cutting board. Cut into 24 squares.
6. Store in an airtight container in the refrigerator for up to 7 days or in the freezer for up to 2 months.

Chocolate Chip No-Bake Granola Bars

Nutrition Facts

Serving Size	**1 Bar (52 grams)**
Amount Per Serving	
Calories	**194.9**
	% Daily Value*
Total Fat	10 g 13 %
Saturated Fat	1.9 g 10 %
Trans Fat	0 g
Cholesterol	0 mg 0 %
Sodium	27.2 mg 1 %
Total Carbohydrate	23.7 g 9 %
Dietary Fiber	3.7 g 13 %
Total Sugars	12.6 g
Added Sugars	0.4 g 1 %
Protein	5.5 g
Vitamin D	0 mcg 0 %
Calcium	42.3 mg 3 %
Iron	1.5 mg 8 %
Potassium	248.4 mg 5 %

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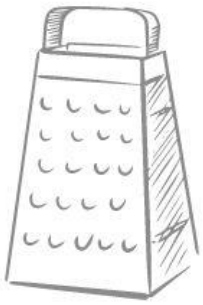
Full info at cronometer.com

THRIVE ON TYPE 1

SNACKS

TZATZIKI DIP WITH A TWIST

For those days you just want a savory snack!



Servings: 6 | Prep Time: 20 minutes

Ingredients

1 English cucumber, with peel, grated	300 grams
16 ounces nonfat plain Greek yogurt	454 grams
1 tablespoon garlic, chopped	8 grams
1/2 cup black olives, chopped	80 grams
2 tablespoons olive oil	27 grams

Directions

1. Squeeze grated cucumbers to remove excess water.
2. Mix yogurt, garlic, olives, and olive oil in a medium bowl. Add cucumbers and mix well.
3. Chill at least 30 minutes and up to 2 hours before serving.

Tzatziki Dip with a Twist

Nutrition Facts

Serving Size 1 × 1/2 Cup (145 grams)

Amount Per Serving

Calories 110

		% Daily Value*
Total Fat	6.3 g	8 %
Saturated Fat	1 g	5 %
Trans Fat	0 g	
Cholesterol	3.8 mg	1 %
Sodium	126.9 mg	6 %
Total Carbohydrate	5.9 g	2 %
Dietary Fiber	0.8 g	3 %
Total Sugars	3.4 g	
Added Sugars	0 g	0 %
Protein	8.3 g	
Vitamin D	0 mcg	0 %
Calcium	106 mg	8 %
Iron	1.1 mg	6 %
Potassium	191.3 mg	4 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at cronometer.com </>

SERVING SUGGESTIONS:
Serve with whole grain crackers, a whole grain pita pocket, or sliced veggies!

THRIVE ON TYPE 1

SNACKS

CHOCOLATE HUMMUS

No one will be able to tell there are chickpeas in the mix!

Servings: 4 | Prep Time: 5 minutes

Ingredients

1 can of low-sodium chickpeas, drained and rinsed	228 grams
3 1/2 tablespoons unsweetened cocoa powder	19 grams
3 tablespoons maple syrup	59 grams
2 tablespoons almond butter	31 grams
1 teaspon vanilla extract	5 mL
1 pinch of salt	0.8 gram
2 tablespoons water (as needed)	30 grams

Directions

1. Combine all ingredients, except water, in a food processor and blend until smooth. Scraping the sides and add water as needed.
2. Store refrigerated in an airtight container for 4-5 days.

Chocolate Hummus

Nutrition Facts

Serving Size	**1 × 1/3 Cup (80 grams)**	
Amount Per Serving		
Calories	**165**	
		% Daily Value*
Total Fat	6.4 g	8 %
Saturated Fat	0.8 g	4 %
Trans Fat	0 g	
Cholesterol	0 mg	0 %
Sodium	197.3 mg	9 %
Total Carbohydrate	23.7 g	9 %
Dietary Fiber	6.2 g	22 %
Total Sugars	8.8 g	
Added Sugars	6 g	12 %
Protein	6.5 g	
Vitamin D	0 mcg	0 %
Calcium	68.1 mg	5 %
Iron	1.5 mg	8 %
Potassium	212.8 mg	5 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full Info at cronometer.com

SERVING SUGGESTION:
Strawberries! 'Nuff said.

THRIVE ON TYPE 1

BREAKFAST

BREAKFAST

WHOLE WHEAT SWEET POTATO PANCAKES

Fluffy and scrumptious, these pancakes make for the perfect breakfast.

Servings: 8 | Total Prep Time: 30 minutes

Ingredients

1 1/2 cup white whole wheat flour
1/4 cup almond flour
1 teaspoon cinnamon
2 teaspoons baking powder
1/2 teaspoon baking soda
1/4 teaspoon iodized salt
2 eggs
3/4 cup cooked sweet potato, pureed
1 cup skim milk or milk alternative
1/2 cup plain non fat Greek yogurt
1 1/2 tablespoon maple syrup
1 tablespoon olive or canola oil
1 teaspoon vanilla extract

Whole Wheat Sweet Potato Pancakes

Nutrition Facts

Serving Size	1 x 2 Pancakes	
Amount Per Serving		
Calories	**187.2**	
		% Daily Value*
Total Fat	5.3 g	7 %
Saturated Fat	0.9 g	4 %
Trans Fat	0 g	
Cholesterol	42.8 mg	14 %
Sodium	239.7 mg	10 %
Total Carbohydrate	27.5 g	10 %
Dietary Fiber	3.7 g	13 %
Total Sugars	6.6 g	
Added Sugars	2.2 g	4 %
Protein	9 g	
Vitamin D	0.6 mcg	3 %
Calcium	167 mg	13 %
Iron	1.4 mg	8 %
Potassium	329.9 mg	7 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at cronometer.com </>

Directions

1. Mix dry ingredients in a large bowl: whole wheat flour, almond flour, cinnamon, baking powder, baking soda, salt.
2. In a separate bowl, whisk together eggs, sweet potato puree, milk, Greek yogurt, maple syrup, oil, and vanilla.
3. Add wet ingredients to dry ingredients and stir until just combined. Do not overmix!
4. Heat up nonstick skillet or griddle over medium heat. Pour ¼ cup of batter into the skillet. Cook until bubbles start to form and pancake is golden brown underneath, about 2 minutes, then flip and cook other side another 1-2 minutes, until golden.
5. Repeat with remaining batter. Serving ideas:
   - with peanut butter and fresh fruit
   - with low-sugar very berry chia sauce and chopped nuts.

MEAL PREP TIP:
To freeze leftover pancakes once they have cooled down, place pancakes on a sheet pan, making sure they are not touching, and put them in the freezer for 30 minutes, until frozen. Transfer to a resealable bag and keep for up to 2 months. To thaw, place frozen pancakes on a microwave-safe plate and microwave about 20 seconds for 1 pancake, and about 30-35 seconds

THRIVE ON TYPE 1

BREAKFAST

LOW-SUGAR VERY BERRY CHIA SAUCE

This versatile fruit sauce works in pancakes, waffles, muffins, toast, oatmeal, crackers, cheese, or yogurt parfait!

Servings: 8 | Total Prep Time: 35 minutes

Ingredients

4 cups of mixed berries of your preference (blueberries, strawberries, raspberries, blackberries, you choose!

2 tablespoons sugar or maple syrup

1 teaspoon lemon peel (optional)

1/4 cup water

2 tablespoons chia seeds

Low-Sugar Very Berry Chia Sauce

Nutrition Facts

Serving Size	**1 x 1/4 cup**
Amount Per Serving	
Calories	**67.8**
	% Daily Value*
Total Fat	1.3 g 2 %
Saturated Fat	0.1 g 1 %
Trans Fat	0 g
Cholesterol	0 mg 0 %
Sodium	1.4 mg 0 %
Total Carbohydrate	14.5 g 5 %
Dietary Fiber	3.8 g 14 %
Total Sugars	9.6 g
Added Sugars	3.1 g 6 %
Protein	1 g
Vitamin D	0 mcg 0 %
Calcium	27.6 mg 2 %
Iron	0.7 mg 4 %
Potassium	94 mg 2 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full Info at cronometer.com </>

Directions

1. Place berries, sugar or maple syrup, lemon peel, and water into a medium saucepan.
2. Cook over medium-high heat until mixture starts boiling, about 2-3 minutes.
3. Reduce heat to low and simmer for about 30 minutes while stirring occasionally. The sauce will be ready when it starts to thicken.
4. Remove from heat, add chia seeds and stir to combine ingredients.
5. Serve immediately or store in refrigerator in an airtight container for up to 5 days.

EXPERT TIP:
You can use any fruit you like to make this sauce and even come up with your own fruit and spice combinations! Be aware that the carb counts will vary depending on your fruit choice. You can use your favorite Recipe Nutrition Calculator App (such as Whisk or MyFitnessPal) to recalculate the carbs in your recipe!

BREAKFAST

VEGGIE FRITTATA PESTO SANDWICH

This breakfast sandwich is delicious and perfect for meal prep!

Servings: 12 | Prep: 20 minutes | Bake: 20 minutes

Ingredients

6 eggs
1/2 cup water
1 tablespoon parmesan cheese
1 tablespoon basil, finely chopped
1/4 teaspoon black pepper
1 tablespoon olive oil
½ onion, diced small
½ medium bell pepper, diced
1 small round tomato, deseeded and diced
¼ cup scallions, thinly sliced
¼ cup sharp cheddar cheese

To serve, per sandwich:
2 teaspoons arugula-basil pesto (see recipe)
1 whole wheat English muffin
1 tomato slice

Veggie Frittata Pesto Sandwich

Nutrition Facts

Serving Size	**1 Frittata Sandwich with 2 teaspoons basil pesto**
Amount Per Serving	
Calories	**258**

		% Daily Value*
Total Fat	11.5 g	15 %
Saturated Fat	2.6 g	13 %
Trans Fat	0.1 g	
Cholesterol	97.4 mg	32 %
Sodium	389.8 mg	17 %
Total Carbohydrate	30.3 g	11 %
Dietary Fiber	5.4 g	19 %
Total Sugars	7.3 g	
Added Sugars	1.6 g	3 %
Protein	11.2 g	
Vitamin D	0.6 mcg	3 %
Calcium	239.7 mg	18 %
Iron	2.4 mg	13 %
Potassium	323.3 mg	7 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full Info at cronometer.com </>

Directions

1. Preheat oven to 350°F and brush a nonstick 12-muffin pan with olive oil or nonstick cooking spray.
2. Mix eggs, water, parmesan cheese, basil, and black pepper and whisk until well combined. Set aside.
3. Heat oil on a skillet over medium heat. Add the onions and sauté for about 5 minutes until onions are translucent. Add the red peppers and sauté for 1-2 more minutes. Remove from the heat.
4. Add tomatoes and scallions to the skillet with onions and peppers and mix well. Divide vegetable mixture among the muffin tins. Ladle egg mix over the vegetables and sprinkle with cheddar.
5. Bake for about 20-25 minutes, until eggs are set.
10. Allow frittata to cool down in pan for 5 minutes before serving.

MEAL PREP TIP:
You can store leftover frittatas for 3 days in the fridge or freeze for 3 months. To freeze, wrap cooled down frittatas individually in cling wrap or foil and transfer to a resealable bag. Thaw frozen frittata uncovered in refrigerator overnight and heat up in microwave for 45 seconds or until the internal temperature reaches 165 degrees.

THRIVE ON TYPE 1

BREAKFAST

ARUGULA–BASIL PESTO

Great flavor add-on to sandwiches, pizza, pasta, bruschetta, vegetables, or marinades!

Servings: 12 | Prep: 15 minutes

Ingredients

2 garlic cloves

2 cups fresh basil (1 ½ oz)

2 cups fresh arugula (1 ½ oz)

1/2 cup walnuts

1/4 cup parmesan cheese, grated

juice of 1 lemon

1/2 teaspoon salt

1/4 cup olive oil

Arugula-Basil Pesto

Nutrition Facts

Serving Size	1 × 2 teaspoons	
Amount Per Serving		
Calories	**79.2**	
		% Daily Value*
Total Fat	7.9 g	10 %
Saturated Fat	1.2 g	6 %
Trans Fat	0 g	
Cholesterol	1.8 mg	1 %
Sodium	135.8 mg	6 %
Total Carbohydrate	1.5 g	1 %
Dietary Fiber	0.4 g	1 %
Total Sugars	0.3 g	
Added Sugars	0 g	0 %
Protein	1.5 g	
Vitamin D	0 mcg	0 %
Calcium	35.5 mg	3 %
Iron	0.3 mg	2 %
Potassium	52.4 mg	1 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full Info at cronometer.com </>

Directions

1. Place garlic cloves in food processor or blender and pulse a few times, until garlic is finely chopped.
2. Add basil and arugula and process or blend for a few seconds until leaves are chopped down somewhat, but not minced.
3. Add walnuts, parmesan, lemon juice, garlic, and salt in. With the machine running, slowly drizzle in the olive oil. Continue processing until the mixture is well blended but still has some texture, pausing to scrape down the sides as necessary.

MEAL PREP TIP:
Store leftover pesto in the refrigerator in an airtight container for up to 1 week. You can also freeze pesto in an ice cube tray and transfer to a freezer bag. Thaw at room temperature as needed.

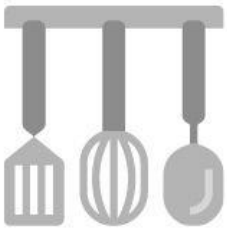
THRIVE ON TYPE 1

BREAKFAST

APPLE WALNUT PEANUT BUTTER MUFFINS

Looking for an easy, delicious, and satisfying breakfast muffin you can prepare ahead of time? Your search is over!

Servings: 12 | Prep: 15 minutes | Bake: 25 minutes



Ingredients

1 3/4 cups white whole wheat flour
1 1/2 teaspoons baking powder
1/2 teaspoon baking soda
1 teaspoon cinnamon, ground
1/4 teaspoon salt
2 cups grated apples
1/2 cup applesauce
2 eggs
1/2 cup peanut butter
1/3 cup maple syrup
1/2 cup nonfat plain Greek yogurt
1 teaspoon vanilla extract
1 cup walnuts, chopped

Apple Walnut Peanut Butter Muffins

Nutrition Facts

Serving Size	1 Muffin
Amount Per Serving	
Calories	**244.2**
	% Daily Value*
Total Fat	13.2 g 17 %
Saturated Fat	2 g 10 %
Trans Fat	0 g
Cholesterol	27.9 mg 9 %
Sodium	243.4 mg 11 %
Total Carbohydrate	26.9 g 10 %
Dietary Fiber	3.8 g 14 %
Total Sugars	10.3 g
Added Sugars	6.1 g 12 %
Protein	8.2 g
Vitamin D	0.2 mcg 1 %
Calcium	59.7 mg 5 %
Iron	1.3 mg 7 %
Potassium	239.8 mg 5 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full Info at cronometer.com

Directions

1. Preheat oven to 375 degrees Fahrenheit and brush a nonstick 12-muffin pan with canola or olive oil or nonstick cooking spray.
2. In a large bowl, combine the flour, baking powder, baking soda, cinnamon, and salt. Mix well with a whisk. Add the grated apple and stir to combine.
3. In a separate bowl, combine the applesauce, eggs, peanut butter, maple syrup, Greek yogurt, and vanilla extract and stir with a whisk.
4. Pour the wet ingredients into the dry and mix with a spatula, without overmixing. Fold in the walnuts and divide the batter evenly among the 12 muffin cups.
5. Bake muffins for 22 to 25 minutes until a toothpick inserted into a muffin comes out clean.
6. Once out of the oven, let muffin pan sit for 5 minutes and then place muffins on cooling rack to cool.

MEAL PREP TIP:
Store muffins covered at room temperature for up to 2 days or in the refrigerator for up to 4 days. Freeze leftover muffins for up to 3 months. Thaw at room temperature or heat up in the microwave for 30 seconds per muffin.

THRIVE ON TYPE 1

BREAKFAST

NUT BUTTER BERRY BANANA SMOOTHIE

This breakfast smoothie is delicious, satisfying, and oh-so-easy!

Servings: 2 | Prep: 10 minutes

Ingredients

2 cups of skim milk or unsweetened milk alternative
1/2 cup of rolled oats
2 tablespoon chia seeds
2 tablespoon peanut butter
1 banana, fresh or frozen
½ cup blueberries, fresh or frozen
sweetener to taste, optional

Directions

1. Place all ingredients into a blender and blend until smooth.
2. Allow to sit in blender for 5 minutes for chia seeds to absorb liquid.
3. Blend a few more seconds, pour into glasses, and enjoy.

Nut Butter Berry Banana Smoothie (milk alternative)

Nutrition Facts

Serving Size	1 Smoothie	
Amount Per Serving		
Calories	**350**	
		% Daily Value*
Total Fat	15.3 g	20 %
Saturated Fat	2.6 g	13 %
Trans Fat	0 g	
Cholesterol	0 mg	0 %
Sodium	167.8 mg	7 %
Total Carbohydrate	48.6 g	18 %
Dietary Fiber	10 g	36 %
Total Sugars	18.4 g	
Added Sugars	1.3 g	3 %
Protein	10 g	
Vitamin D	2.3 mcg	11 %
Calcium	500.2 mg	38 %
Iron	3.8 mg	21 %
Potassium	621.9 mg	13 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at cronometer.com </>

Nut Butter Berry Banana Smoothie (skim milk)

Nutrition Facts

Serving Size	1 Smoothie	
Amount Per Serving		
Calories	**400**	
		% Daily Value*
Total Fat	13.3 g	17 %
Saturated Fat	2.5 g	12 %
Trans Fat	0 g	
Cholesterol	4.9 mg	2 %
Sodium	110.1 mg	5 %
Total Carbohydrate	57.9 g	21 %
Dietary Fiber	9.6 g	34 %
Total Sugars	29.1 g	
Added Sugars	1.3 g	3 %
Protein	17.4 g	
Vitamin D	2.9 mcg	14 %
Calcium	388.8 mg	30 %
Iron	3.2 mg	18 %
Potassium	855.6 mg	18 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at cronometer.com </>

SUBSTITUTION TIPS:
Peanut butter: any other nut or seed butter
Chia seeds: flax seeds
Banana and blueberries: any other fruit you like
ANY SUBSTITUTION MAY RESULT IN A CHANGE IN CARB CONTENT! Use your favorite nutrient calculator to find the new carb count.

THRIVE ON TYPE 1

BREAKFAST

NO ADDED SUGAR ORANGE GRANOLA

Combine this flavorful low-sugar granola with your choice of milk or Greek yogurt and berries for a perfect MyPlate breakfast!

Servings: 16 | Prep: 15 minutes | Bake: 25-30 minutes

Ingredients

1 cup raisins

Juice and zest of 2 oranges

1 tablespoon cinnamon

1/4 teaspoon salt

4 cups old-fashioned rolled oats

1 cup sunflower seeds, shelled

1/2 cup pumpkin seeds, shelled

1/2 cup flax seeds, ground

No Added Sugar Orange Granola

Nutrition Facts

Serving Size	1 × 1/2 Cup
Amount Per Serving	
Calories	**209.5**
	% Daily Value*
Total Fat	9.9 g 13 %
Saturated Fat	1.1 g 6 %
Trans Fat	0 g
Cholesterol	0 mg 0 %
Sodium	36.5 mg 2 %
Total Carbohydrate	26.1 g 10 %
Dietary Fiber	5.4 g 19 %
Total Sugars	7.3 g
Added Sugars	0 g 0 %
Protein	7 g
Vitamin D	0 mcg 0 %
Calcium	47.7 mg 4 %
Iron	2.2 mg 12 %
Potassium	289.2 mg 6 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at cronometer.com </>

Directions

1. Preheat oven to 350 degrees Fahrenheit and line a large baking sheet with parchment paper.
2. Add raisins, orange juice, cinnamon, and salt into the blender and blend for about 30 seconds. Let mixture sit for 5 minutes.
3. In a large mixing bowl, combine the oats and seeds. Stir to combine.
4. Blend the mixture in the blender for about 15-30 more seconds, until smooth. Pour the mixture onto the dry ingredients.
5. Spread the granola onto the baking sheet in an even layer and bake for 25 to 30 minutes, stirring halfway, until the granola turns lightly golden in color. The granola will become crispier when cool.
6. Let the granola cool before storing in an airtight container at room temperature for up to 2 weeks.

MEAL PREP TIP:
You can freeze granola for up to 2 months in an airtight container. Thaw at room temperature before opening the container.

THRIVE ON TYPE 1

BREAKFAST

GREEK YOGURT PARFAIT

This parfait is so delicious you may feel you are having dessert for breakfast!

Servings: 1 | Prep: 5 minutes

Ingredients

2/3 cup nonfat plain Greek yogurt	164 grams
1/4 cup of low-sugar very berry chia sauce	69 grams
1 ounce no sugar added orange granola	30 grams
1 tablespoon slivered almonds	8 grams

Directions

1. Layer ingredients as desired and enjoy!

Greek Yogurt Parfait

Nutrition Facts

Serving Size	**1 full recipe**	
Amount Per Serving		
Calories	**295.6**	
		% Daily Value*
Total Fat	9.6 g	12 %
Saturated Fat	1 g	5 %
Trans Fat	0 g	
Cholesterol	8.2 mg	3 %
Sodium	83.3 mg	4 %
Total Carbohydrate	31.9 g	12 %
Dietary Fiber	5.6 g	20 %
Total Sugars	17.5 g	
Added Sugars	3.1 g	6 %
Protein	22.5 g	
Vitamin D	0 mcg	0 %
Calcium	267.4 mg	21 %
Iron	2.3 mg	13 %
Potassium	371.9 mg	8 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full Info at cronometer.com </>

SUBSITUTIONS:
Use fresh berries or other fruits for the low-sugar very berry sauce.
Be aware that the carb counts will vary depending on your fruit choice. You can use your favorite Recipe Nutrition Calculator App (such as Whisk or MyFitnessPal) to recalculate the carbs in your recipe!

THRIVE ON TYPE 1

Thrive On Type 1 Family Cooking Series Curriculum

Appendix 2: Full Sample for Session 1

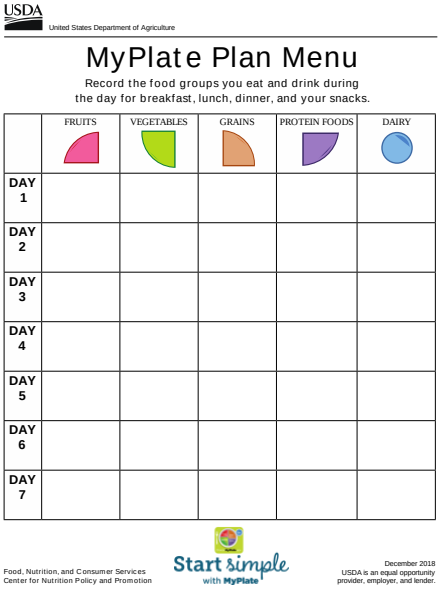
Session 1 out of 8

Class Time: 2:30 hours (150 minutes)
Audience: Family beginner; Children aged 10-14
Class Size: 6 family groups. One to two parents with children per group.
Volunteers needed: minimum 4 (at least 1 registered dietitian and 1 diabetes educator should be present, and dietetic interns)

Lesson Plan:

- Introductions
  - Instructor and support staff
  - Families
- Intro to series:
  - Review dietary recommendations for children with type 1 diabetes.
  - Intro to MyPlate and MyPlate Plan
- Intro to using measuring utensils and food scales for cooking and measuring servings
- Kitchen safety

Handouts
MyPlate Plan Menu (USDA MyPlate)
(https://www.myplate.gov/resources/print-materials)



USDA
United States Department of Agriculture

MyPlate Plan Menu

Record the food groups you eat and drink during the day for breakfast, lunch, dinner, and your snacks.

	FRUITS	VEGETABLES	GRAINS	PROTEIN FOODS	DAIRY
DAY 1					
DAY 2					
DAY 3					
DAY 4					
DAY 5					
DAY 6					
DAY 7					

Food, Nutrition, and Consumer Services
Center for Nutrition Policy and Promotion

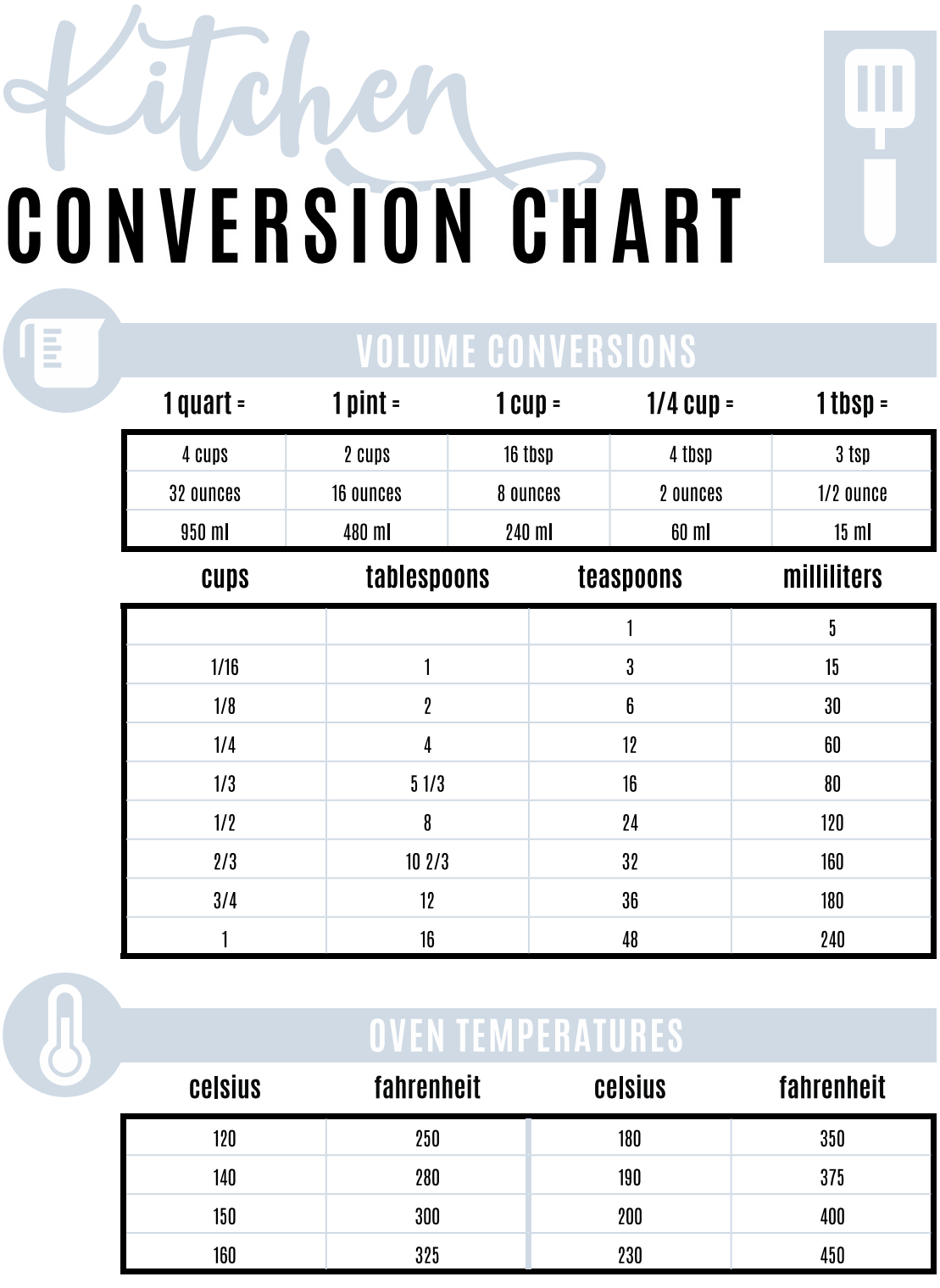
Start simple with MyPlate

December 2018
USDA is an equal opportunity provider, employer, and lender.

[Create a Grocery Game Plan – Weekly Calendar](https://www.myplate.gov/resources/print-materials)
(https://www.myplate.gov/resources/print-materials)

[Create a Grocery Game Plan - Grocery List](https://www.myplate.gov/resources/print-materials)
(https://www.myplate.gov/resources/print-materials)

[Kitchen Conversion Chart (Free Printable)](#) (Savor + Savvy)



Kitchen

CONVERSION CHART

VOLUME CONVERSIONS

1 quart =	1 pint =	1 cup =	1/4 cup =	1 tbsp =
4 cups	2 cups	16 tbsp	4 tbsp	3 tsp
32 ounces	16 ounces	8 ounces	2 ounces	1/2 ounce
950 ml	480 ml	240 ml	60 ml	15 ml

cups	tablespoons	teaspoons	milliliters
		1	5
1/16	1	3	15
1/8	2	6	30
1/4	4	12	60
1/3	5 1/3	16	80
1/2	8	24	120
2/3	10 2/3	32	160
3/4	12	36	180
1	16	48	240

OVEN TEMPERATURES

celsius	fahrenheit	celsius	fahrenheit
120	250	180	350
140	280	190	375
150	300	200	400
160	325	230	450

SAVOR + SAVVY

[ADA Smart Snacks](#) (American Diabetes Association)

American Diabetes Association. | What Can I Eat?

Smart Snacks

When you choose to snack, think of it as a way to fit in more veggies, fruits, whole grains, and healthy fats. These foods can fill you up and give you an energy boost.

TIPS

- Watch your portions.
  - Use measuring cups and spoons to help.
  - Do not eat out of a family size bag or box.
- Do not snack in front of the TV or computer, while reading, or while driving.
- Stock up on healthy snacks so you have them on hand.
- Shop for snacks along the perimeter of the store. (Skip the candy and chips in the middle aisles.)

HEALTHY SNACK IDEAS

Lower in Carbohydrate (<5 grams)
• ¾ cup of light popcorn • 1 cup sugar-free gelatin • 3 celery sticks + 1 Tablespoon of peanut butter • 5 baby carrots • 5 cherry tomatoes + 1 Tablespoon ranch dressing • 1 hard-boiled egg • 1 cup cucumber slices + 1 Tablespoon ranch dressing • 1 cup of salad greens + ½ cup of diced cucumber + drizzle of vinegar and oil • 1 frozen sugar-free popsicle • 10 goldfish crackers • 1 string cheese stick

American Diabetes Association. | What Can I Eat?

HEALTHY SNACK IDEAS (continued)

Other Good Snacks (with more carbohydrate, about 15-20 grams)

- 1 small apple + 1 slice reduced-fat cheese
- ½ cup plain yogurt + ½ cup canned fruit or fruit cocktail (drained and rinsed)
- 3 cups light popcorn
- 1/3 cup hummus + 1 cup raw fresh cut veggies
- 1 cheese quesadilla + ¼ cup salsa
  - make with one 6-inch corn tortilla + ¼ cup shredded cheese
- 5 whole wheat crackers + 1 piece of light string cheese
- ½ turkey sandwich
  - make with 1 slice whole wheat bread + 2 slices turkey + mustard
- ½ peanut butter sandwich
  - make with 1 slice whole wheat bread + 1 Tablespoon peanut butter
- ¼ cup dried fruit and nut mix
- 1 cup tomato soup or veggie soup (not creamy)
- ½ toasted English muffin + 2 Tablespoons mashed avocado
- ¼ cup cottage cheese + ½ cup canned or fresh fruit
- 2 rice cakes + 1 Tablespoon peanut butter

What snacks do you usually have?

1._____

2._____

3._____

Are there foods you can swap out to make your snacks healthier?

Write down healthy snacks you'd like to try:

1._____

2._____

3._____

Thrive On Type 1 Family Cooking Series Curriculum

Pre-class Preparation:

☐ Print handouts and recipes and create one binder per family
☐ Print and put together nametags
☐ Assign recipes to family groups according to age of child/children, dietary restrictions, and level of experience
☐ Check equipment, utensils, and supplies at each workstation
☐ Have MyPlate demo plate and measuring cups
☐ Purchase and set up ingredients in corresponding stations
☐ Set up serving station (plates/bowls, utensils, napkins) and trash can.

Activity:
Introductions (instructor, staff, families; 15 minutes)

- encourage child with T1DM to share their names, introduce their family members, share when they were diagnosed, special interests, kitchen experience, what motivated them to join class.

Activity:

- Demonstrate how to use the MyPlate Plan website to determine recommended number of servings of each food group according to age, weight, and level of activity.
    - https://www.myplate.gov/myplate-plan (2 minutes)
- Each family will determine the recommended number of servings for each food group for the child using MyPlate Plan website (2 minutes).

Activity:

- Activity sheet: MyPlate Plan Menu. Each family will make food selections for all food groups for Day 1 following the serving recommendations: breakfast, lunch, dinner, and snacks.
- Build a Shopping List: Based on the information from the one-day meal plan, start a shopping list to be completed as the weekly menu is filled out (5 minutes)

Activity:

- Watch "Kitchen Safety for Kids"
- https://www.youtube.com/watch?v=KL9r9q9n20A (0:41-4:05, 4 minutes)
- Review main concepts by asking questions about information provided in the video (5 minutes).

Activity:

- Demo on how to measure dry and liquid ingredients.
- Review use of kitchen scale for measuring ingredients and food servings. (10 minutes)

Thrive On Type 1 Family Cooking Series Curriculum

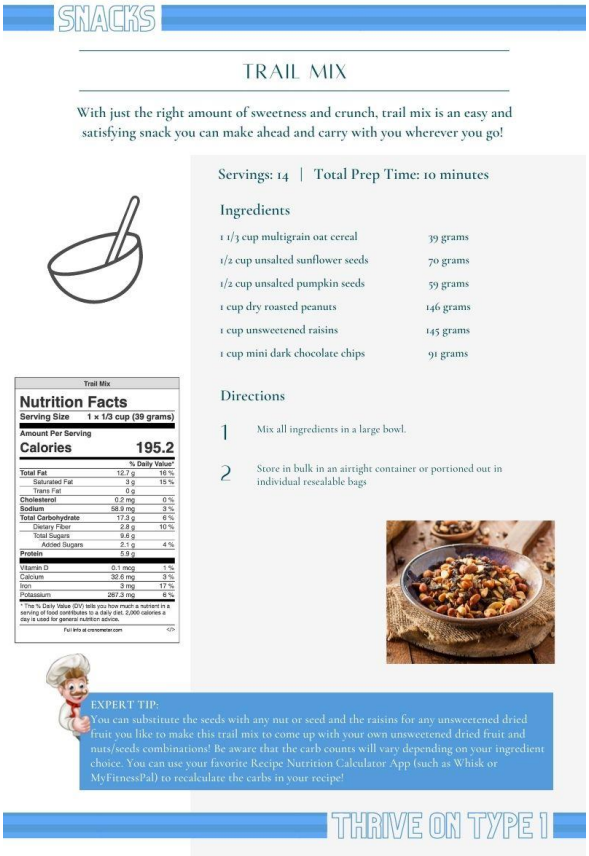
Activity:

- Each family will read the assigned recipe and discuss how they will approach the task as a family (2 min)

Production (40 minutes): Families will apply the skills presented in class, including measuring ingredients with measuring cups, tablespoons, and a kitchen scale, and using adequate knife and blade precautions to prepare simple snacks with assistance of instructor, supporting RD's, and/or dietetic interns.

Recipes: Each family group will work on one or two simple recipes for quick and healthy snacks.

- Trail mix
- Pineapple Strawberry Power Smoothie
- Chocolate Chip No-Bake Granola Bars
- Tzatziki Dip with a Twist
- Chocolate Hummus with Strawberries


SNACKS

TRAIL MIX

With just the right amount of sweetness and crunch, trail mix is an easy and satisfying snack you can make ahead and carry with you wherever you go!

Servings: 14 | Total Prep Time: 10 minutes

Ingredients

1 1/3 cup multigrain oat cereal	39 grams
1/2 cup unsalted sunflower seeds	70 grams
1/2 cup unsalted pumpkin seeds	59 grams
1 cup dry roasted peanuts	146 grams
1 cup unsweetened raisins	145 grams
1 cup mini dark chocolate chips	91 grams

Directions

1. Mix all ingredients in a large bowl.
2. Store in bulk in an airtight container or portioned out in individual resealable bags

Trail Mix

Nutrition Facts

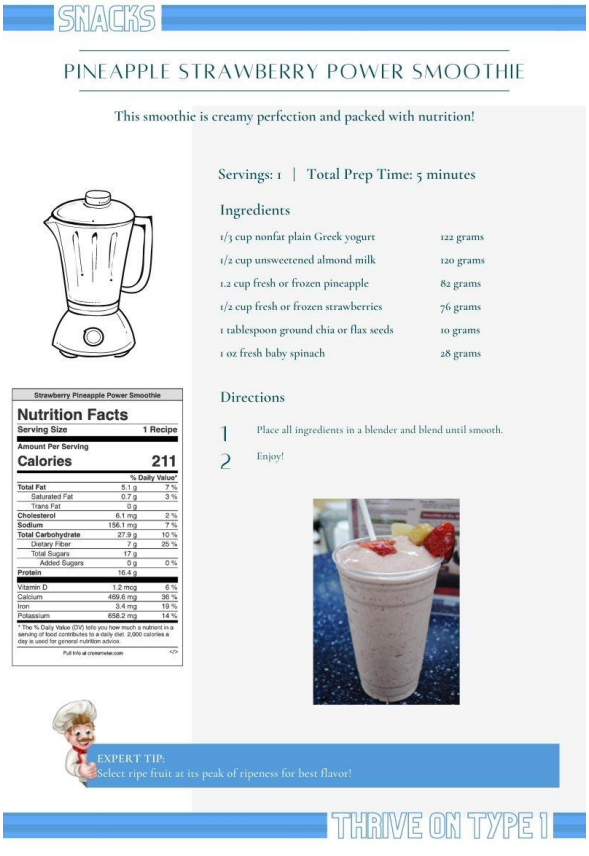
Serving Size	1 x 1/3 cup (39 grams)
Amount Per Serving	
Calories	195.2
	% Daily Value*
Total Fat 12.7 g	16 %
Saturated Fat 3 g	15 %
Trans Fat 0 g	
Cholesterol 0.2 mg	0 %
Sodium 58.9 mg	3 %
Total Carbohydrate 17.3 g	6 %
Dietary Fiber 2.8 g	10 %
Total Sugars 9.6 g	
Added Sugars 2.1 g	4 %
Protein 5.9 g	
Vitamin D 0.1 mcg	1 %
Calcium 32.6 mg	3 %
Iron 3 mg	17 %
Potassium 287.3 mg	6 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at crosmeter.com

EXPERT TIP:
You can substitute the seeds with any nut or seed and the raisins for any unsweetened dried fruit you like to make this trail mix to come up with your own unsweetened dried fruit and nuts/seeds combinations! Be aware that the carb counts will vary depending on your ingredient choice. You can use your favorite Recipe Nutrition Calculator App (such as Whisk or MyFitnessPal) to recalculate the carbs in your recipe!

THRIVE ON TYPE 1


SNACKS

PINEAPPLE STRAWBERRY POWER SMOOTHIE

This smoothie is creamy perfection and packed with nutrition!

Servings: 1 | Total Prep Time: 5 minutes

Ingredients

1/3 cup nonfat plain Greek yogurt	122 grams
1/2 cup unsweetened almond milk	120 grams
1.2 cup fresh or frozen pineapple	82 grams
1/2 cup fresh or frozen strawberries	76 grams
1 tablespoon ground chia or flax seeds	10 grams
1 oz fresh baby spinach	28 grams

Directions

1. Place all ingredients in a blender and blend until smooth.
2. Enjoy!

Strawberry Pineapple Power Smoothie

Nutrition Facts

Serving Size	1 Recipe
Amount Per Serving	
Calories	211
	% Daily Value*
Total Fat 5.1 g	7 %
Saturated Fat 0.7 g	3 %
Trans Fat 0 g	
Cholesterol 6.1 mg	2 %
Sodium 156.1 mg	7 %
Total Carbohydrate 27.9 g	10 %
Dietary Fiber 7 g	25 %
Total Sugars 17 g	
Added Sugars 0 g	0 %
Protein 16.4 g	
Vitamin D 1.2 mcg	6 %
Calcium 469.6 mg	36 %
Iron 3.4 mg	19 %
Potassium 658.2 mg	14 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at crosmeter.com

EXPERT TIP:
Select ripe fruit at its peak of ripeness for best flavor!

THRIVE ON TYPE 1

SNACKS

CHOCOLATE CHIP NO-BAKE GRANOLA BARS

These granola bars are are as much a sweet delicious treat as they are nutrition packed snack! You may never go back!

Servings: 24 | Total Prep Time: 15 minutes

Ingredients

12 ounces Medjool dates	340 grams
1/4 cup water (as needed)	60 grams
1/2 cup peanut butter	129 grams
1/2 cup unsweetened applesauce	122 grams
2 teaspoons cinnamon, ground	5 grams
1/4 teaspoon salt	1.5 grams
2 teaspoons vanilla extract	9 grams
3 cups old-fashioned rolled oats	243 grams
1 cup almonds	130 grams
1/2 cup sunflower seeds	70 grams
1/2 cup pumpkin seeds	59 grams
1/2 cup mini semi-sweet chocolate chips	85 grams

Directions

1. Line a 9x13-inch baking dish with parchment paper.
2. Place dates, peanut butter, applesauce, cinnamon, salt, and vanilla extract in a food processor or blender and process until a smooth thick paste forms. Scrape down ingredients and add water only as needed.
3. Combine oats, almonds, sunflower seeds, pumpkin seeds, and chocolate chips in a large bowl. Add date paste and mix with your hands, until fully incorporated.
4. Press mixture into the baking dish. Cover with another piece of parchment paper and press down evenly. You may use a can or jar as a roller for help. Freeze for 1 hour.
5. Once firm, lift parchment paper out of baking dish and place on a cutting board. Cut into 24 squares.
6. Store in an airtight container in the refrigerator for up to 7 days or in the freezer for up to 2 months.

Chocolate Chip No-Bake Granola Bars

Nutrition Facts

Serving Size	1 Bar (52 grams)	
Amount Per Serving		
Calories	194.9	
		% Daily Value*
Total Fat	10 g	13 %
Saturated Fat	1.9 g	10 %
Trans Fat	0 g	
Cholesterol	0 mg	0 %
Sodium	27.2 mg	1 %
Total Carbohydrate	23.7 g	9 %
Dietary Fiber	3.7 g	13 %
Total Sugars	12.6 g	
Added Sugars	0.4 g	1 %
Protein	5.5 g	
Vitamin D	0 mcg	0 %
Calcium	42.3 mg	3 %
Iron	1.5 mg	8 %
Potassium	248.4 mg	5 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

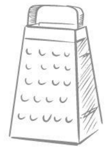
Full info at cronometer.com </>

THRIVE ON TYPE 1

SNACKS

TZATZIKI DIP WITH A TWIST

For those days you just want a savory snack!



Servings: 6 | Prep Time: 20 minutes

Ingredients

1 English cucumber, with peel, grated	300 grams
16 ounces nonfat plain Greek yogurt	454 grams
1 tablespoon garlic, chopped	8 grams
1/2 cup black olives, chopped	80 grams
2 tablespoons olive oil	27 grams

Directions

1. Squeeze grated cucumbers to remove excess water.
2. Mix yogurt, garlic, olives, and olive oil in a medium bowl. Add cucumbers and mix well.
3. Chill at least 30 minutes and up to 2 hours before serving.

Tzatziki Dip with a Twist

Nutrition Facts

Serving Size	1 × 1/2 Cup (145 grams)	
Amount Per Serving		
Calories	110	
		% Daily Value*
Total Fat	6.3 g	8 %
Saturated Fat	1 g	5 %
Trans Fat	0 g	
Cholesterol	3.8 mg	1 %
Sodium	126.9 mg	6 %
Total Carbohydrate	5.9 g	2 %
Dietary Fiber	0.8 g	3 %
Total Sugars	3.4 g	
Added Sugars	0 g	0 %
Protein	8.3 g	
Vitamin D	0 mcg	0 %
Calcium	106 mg	8 %
Iron	1.1 mg	6 %
Potassium	191.3 mg	4 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at cronometer.com </>

SERVING SUGGESTIONS:
Serve with whole grain crackers, a whole grain pita pocket, or sliced veggies!

THRIVE ON TYPE 1

SNACKS

CHOCOLATE HUMMUS

No one will be able to tell there are chickpeas in the mix!

Servings: 4 | Prep Time: 5 minutes

Ingredients

1 can of low-sodium chickpeas, drained and rinsed	228 grams
3 1/2 tablespoons unsweetened cocoa powder	19 grams
3 tablespoons maple syrup	59 grams
2 tablespoons almond butter	31 grams
1 teaspon vanilla extract	5 mL
1 pinch of salt	0.8 gram
2 tablespoons water (as needed)	30 grams

Directions

1. Combine all ingredients, except water, in a food processor and blend until smooth. Scraping the sides and add water as needed.
2. Store refrigerated in an airtight container for 4-5 days.

Chocolate Hummus

Nutrition Facts

Serving Size	1 × 1/3 Cup (80 grams)	
Amount Per Serving		
Calories	165	
		% Daily Value*
Total Fat	6.4 g	8 %
Saturated Fat	0.8 g	4 %
Trans Fat	0 g	
Cholesterol	0 mg	0 %
Sodium	197.3 mg	9 %
Total Carbohydrate	23.7 g	9 %
Dietary Fiber	6.2 g	22 %
Total Sugars	8.8 g	
Added Sugars	6 g	12 %
Protein	6.5 g	
Vitamin D	0 mcg	0 %
Calcium	68.1 mg	5 %
Iron	1.5 mg	8 %
Potassium	212.8 mg	5 %

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Full info at cronometer.com </>

SERVING SUGGESTION:
Strawberries! 'Nuff said.

THRIVE ON TYPE 1

During Production:
- Remind families to clean as they go and manage their time efficiently
- Be aware of families who may need help from staff
- Make best use of teaching moments to restate kitchen safety guidelines, nutrition tidbits, and culinary skills

Suggested Serving Display Plating: Each family should prepare a proper portion of the assigned snack according to the serving size on the recipe to reiterate importance of portioning out for accurate portion and carb control.

Sample Plating: Participants will prepare sample servings as indicated in the recipes to share with other participants. The name of the recipe and carb information for the sample serving will be written on the individual blackboard.

Serving: Each participant will grab a sample of each of the foods they're willing to try, helping the child keep track of the carb counts. RD's and dietetic interns will be available to assist in carb counting (5 minutes).

Time for Taste Testing: 15 minutes

Discussion: (25 min) Instructor will invite a representative from each group (preferably the child with T1DM) to share details about the assigned recipe, including what the recipe is, how easy or difficult to prepare they found it to be, and skills learned in class they utilized in the preparation. Instructor will then provide a brief discussion of the nutritional characteristics of the specific snack and what makes it a good option for children with diabetes, highlighting amount of carbs provided in a serving, fiber, protein, healthy fats.

Closing discussion: Instructor will invite participants to share their opinion on the different snacks and ask whether they would consider preparing this snack at home.

After Meal:
Scrape plates and put into tubs.
Collect name tags and binders and keep for following session.

Clean-up with Volunteers