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Gestational Diabetes

GDM: Introduction (2016)

Guideline Overview

Guideline Title

Gestational Diabetes (2016) Evidence-Based Nutrition Practice Guideline

Guideline Narrative Overview

The focus of this guideline is on nutrition practice during the treatment of women with [gestational diabetes mellitus](#) (GDM). According to the American Diabetes Association (ADA), "GDM is diabetes diagnosed in the second or third trimester of pregnancy that is not clearly either type 1 or type 2 diabetes (ADA, 2016)." All pregnant women are generally tested for GDM between 24-28 weeks of gestation, [American College of Obstetricians and Gynecologists (ACOG), 2013] if they have not previously been diagnosed with overt diabetes. Screening and diagnosis of GDM may be made by one of two strategies at 24-28 weeks of gestation:

One-step strategy

Perform a 75g oral glucose tolerance test (OGTT), with plasma glucose measurement when patient is fasting and at 1 and 2 hours. The OGTT should be performed in the morning after an overnight fast of at least 8 hours. A GDM diagnosis is made when any of the following plasma glucose values are met or exceeded:

Time	Criteria
Fasting	92 mg/dL (5.1 mmol/L)
1 h	180 mg/dL (10.0 mmol/L)
2 h	153 mg/dL (8.5 mmol/L)

Two-step strategy

Step 1: Perform a 50g glucose load test (GLT) (nonfasting), with plasma glucose measurement at 1 hour. If the plasma glucose level measured 1 hour after the load is ≥ 140 mg/dL* (7.8 mmol/L), proceed to a 100g OGTT. [**Note:** *The ACOG recommends 135mg/dL (7.5mmol/L) in high-risk ethnic populations with higher prevalence of GDM; some experts also recommend 130mg/dL (7.2 mmol/L).]

Step 2: The 100g OGTT should be performed when the patient is fasting. A GDM diagnosis is made if at least two of the following four plasma glucose levels (measured fasting and 1 h, 2 h, 3 h after the OGTT) are met or exceeded:

Time	Carpenter/Coustan		National Diabetes Data Group
Fasting	95 mg/dL (5.3 mmol/L)	OR	105 mg/dL (5.8 mmol/L)
1 h	180 mg/dL (10.0 mmol/L)	OR	190 mg/dL (10.6 mmol/L)
2 h	155 mg/dL (8.6 mmol/L)	OR	165 mg/dL (9.2 mmol/L)
3 h	140 mg/dL (7.8 mmol/L)	OR	145 mg/dL (8.0 mmol/L)

The above One-Step and Two-Step Strategies were adapted from Table 2.5—Screening for and diagnosis of GDM (ADA, 2016). Refer to ADA, 2016 for more information on diagnosis of GDM.

Pregnant women who have risk factors for GDM (e.g., prior history of GDM, [obesity](#), known impaired glucose metabolism) are screened earlier in the pregnancy for undiagnosed type 2 diabetes (ACOG, 2013; ADA, 2016).

Pregnant women with GDM are at increased risk for maternal and fetal complications, including preeclampsia, fetal [macrosomia](#) (which can cause shoulder dystocia and birth injury), and neonatal hypoglycemia. In addition, women are at increased risk of maternal diabetes after delivery (ADA, 2016).

Lifestyle modification through [medical nutrition therapy](#) (MNT) and [physical activity](#) are cornerstones of GDM treatment. Often weight management (in women who are [overweight](#) or [obese](#) at conception), and pharmacologic therapy are also indicated (ADA, 2016).

"It is the position of the Academy of Nutrition and Dietetics that women of childbearing age should adopt a lifestyle optimizing [health](#) and reducing risk of birth defects, suboptimal fetal development, and chronic health problems in both mother and child. Components leading to healthy pregnancy outcome include healthy prepregnancy weight, appropriate weight gain and [physical activity](#) during pregnancy, consumption of a wide variety of foods, appropriate vitamin and mineral supplementation, avoidance of [alcohol](#) and other harmful substances, and safe food handling (Kaiser & Campbell, 2014)."

It is within this context of nutrition and lifestyle for a healthy pregnancy outcome, that a more delicate balance is needed for women with GDM, in order to achieve and maintain blood glucose targets, weight gain targets, and prevent adverse maternal and fetal outcomes. The individualization of the composition of the diet, in terms of calories and amount, type, and distribution of macronutrients plays a critical role in this balance, as the research demonstrates that a variety of dietary interventions/patterns may be beneficial in the treatment of GDM. There is no "one size fits all" approach to diet for every woman with GDM.

References:

American Diabetes Association (ADA). Classification and diagnosis of diabetes. Sec. 2. In Standards of Medical Care in Diabetes 2016. *Diabetes Care* 2016; 39 (Suppl. 1): S13-S22.

American College of Obstetricians and Gynecologists (ACOG). Committee on Practice Bulletins--Obstetrics. Practice Bulletin No. 137: Gestational diabetes mellitus. *Obstet Gynecol*. 2013 Aug;122 (2 Pt 1):406-416. doi: 10.1097/01.AOG.0000433006.09219.f1. PMID: 23969827.

Kaiser LL, Campbell CG; Academy Positions Committee Workgroup. Practice paper of the Academy of Nutrition and Dietetics abstract: nutrition and lifestyle for a healthy pregnancy outcome. *J Acad Nutr Diet*. 2014 Sep;114 (9):1, 447. PMID: 25699300.

Guideline Development

The recommendations in this guideline were based upon a [systematic review](#) of the literature and the work performed by the Academy of Nutrition and Dietetics Expert Work Group on GDM. In addition, recommendations were supplemented by two external guidelines, whose methodology was approved the Academy's Evidence-Based Practice Committee (EBPC). These include guidelines from:

- American Diabetes Association
- The Endocrine Society.

To view the guideline development and review process, see **Guideline Methods**.

The recommendations provide a framework for the registered dietitian nutritionist (RDN) to successfully integrate individualized [medical nutrition therapy](#) (MNT) into the overall medical management of women with GDM. Topics include:

- Referral to an [RDN](#)
- Nutrition Assessment
- MNT
- Calories
- Macronutrients
- Vitamins and Minerals
- Meal and Snack Distribution
- High-Intensity Sweeteners
- Alcohol
- Physical Activity
- Nutrition Monitoring and Evaluation.

Contributors

Expand the **Project Team** to see the list of expert workgroup members, analysts, and contributors for this project.

Medical Nutrition Therapy and Gestational Diabetes Mellitus

Scientific evidence supports the importance of the [RDN](#) providing [MNT](#) to women with [GDM](#) and is integral to the interdisciplinary health care team caring for women with GDM.

The RDN designs the optimal nutrition care plan and prescription that complements [physical activity](#), self-management, and pharmacologic therapy, if needed. Based on the patient's clinical status, plan for treatment, and comorbidities, the RDN monitors and evaluates the effectiveness of the nutrition care plan in promoting the patient's nutrition and [health](#) outcomes. The RDN adjusts the nutrition care plan as necessary to achieve desired outcomes.

Populations to Whom This Guideline May Apply

This guideline applies to adult pregnant women with GDM.

Other Guideline Overview Material

For more details on the guideline components, select the topics below from the introduction in the left navigation bar:

- Scope of Guideline
- Statement of Intent and Patient Preference
- Guideline Methods
- Implementation of the Guideline
- Benefits and Harms of Implementing the Recommendations.

Contraindications

This guideline was developed for adult women, who are diagnosed with GDM. This guideline is not intended for pregnant women with pre-existing diabetes (type 1 or 2), undiagnosed type 2 diabetes, or women who are at risk for developing GDM (without diagnosis of GDM). Therefore, clinical judgment is crucial in the application of these guidelines for individuals other than adult women with GDM.

This guideline is not intended:

- For interventions typically within the scope of practice of a certified exercise physiologist or other professional, for which, adequate training in [physical activity](#) interventions and other therapies is necessary.
- As a replacement for interventions typically within the scope of practice of an athletic trainer or behavioral or psychological professional, for which adequate training in physical activity interventions or behavioral therapy is necessary.
- Preconception nutrition guidance for prevention of GDM
- For postpartum prevention of diabetes
- To address factors influencing recurrence of GDM or progression to type 2 diabetes

The reader may explore other EAL Guidelines such as Diabetes 1 and 2, Prevention of Type 2 Diabetes or Adult Weight Management or [systematic review](#) projects, such as Breastfeeding, Nutrition Counseling, or Obesity, Reproduction, and Pregnancy for further information on treatment beyond this guideline.

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GDM: Scope of Guideline (2016)

Guideline Scope Characteristics

Below you will find a list of characteristics that describe the Scope of this Guideline.

Disease/Condition(s)

The purpose of this guideline is to provide the most current evidence-based summary of recommendations for nutrition practice in the management of gestational diabetes mellitus (GDM) in pregnant women. Nutrition and lifestyle recommendations have been formulated for GDM within the context of the nutrition care process and should be used to provide individualized nutrition care. Other modifications or adjunct therapies such as pharmacologic therapy, while important in the management and treatment of GDM, were outside the scope of this project. In addition, two subtopics that were included in the systematic review were not included in the guideline. The evidence analysis for MNT intervention for the prevention of GDM was outside the scope of this guideline. The evidence analysis for the impact of the type of dietary fat for women with GDM yielded very limited evidence (one study). The conclusion statements for these topics can be found in the systematic review.

This guideline is primarily intended for use by registered dietitian nutritionists (RDNs) involved in the management and treatment of women with GDM. It may also be a valuable resource for other health care professionals involved in the care and treatment of women with GDM. In addition, other stakeholders (e.g., public health and nutrition program and policy planners, and hospital and community outreach workers) may find the information in this guideline helpful to assess effective practice in the nutrition management of GDM or for consumer education purposes.

Practitioners interested in more specific information beyond nutrition and lifestyle modifications (e.g., screening women for GDM, blood glucose goals, special populations, insulin or oral medications) during pregnancy are encouraged to review GDM resources from other organizations, such as the American Diabetes Association (ADA), the American College of Obstetricians and Gynecologists (ACOG), and The Endocrine Society.

Guideline Category

Assessment of Therapeutic Effectiveness, Counseling, Evaluation, Management, Screening, Treatment

Clinical Specialty

Endocrinology, Family Practice, Nursing, Nutrition, Obstetrics and Gynecology

Intended Users

Registered Dietitians, Advanced Practice Nurses, Health Care Providers, Nurses, Nurse Midwives, Pharmacists, Physician Assistants, Physicians, Students

Guideline Objective(s)

Overall Objective

- To provide evidence-based medical nutrition therapy (MNT) recommendations for management of GDM that assist in achieving and maintaining glycemia, promote appropriate maternal weight gain and optimal fetal growth and development, and reduce the risk of adverse maternal and neonatal outcomes.

Specific Objectives

- To define evidence-based recommendations for RDNs that are carried out in collaboration with other healthcare providers
- To guide practice decisions that integrate medical and lifestyle interventions (nutrition, physical activity and behavioral elements)
- To reduce variations in practice among RDNs and other health professionals who may use these guidelines
- To promote self-management strategies that empower the patient to take responsibility for day-to-day management and to provide the RDN with data to make recommendations to adjust MNT or recommend other therapies to achieve clinical outcomes
- To enhance the quality of life for the patient, utilizing customized strategies based on the individual's preferences, lifestyle and goals
- To develop content for intervention that can be tested for impact on clinical outcomes
- To define the highest quality of care within cost constraints of the current healthcare environment.

Target Population

Adult (19 to 44 years), Female

Target Population Description

Adult pregnant women with GDM.

Interventions and Practices Considered

The GDM Evidence-Based Nutrition Practice Guideline is based on the Academy of Nutrition and Dietetics' Nutrition Care Process and Model, which involves the following steps. Terms relevant to the treatment of women

with GDM come from the Nutrition Terminology Reference Manual (eNCPT, 2016).

- [Nutrition Assessment](#)
- [Nutrition Diagnosis](#)
- [Nutrition Intervention](#)
- [Nutrition Monitoring and Evaluation](#).

This guideline addresses topics that correspond to the following areas of the Nutrition Care Process.

- I. Referral to a Registered Dietitian Nutritionist
- II. Medical Nutrition Therapy.

Reference:

Academy of Nutrition and Dietetics. Nutrition Terminology Reference Manual (eNCPT): Dietetics Language for Nutrition Care. 2016 edition. Accessed Nov 16, 2016: <http://ncpt.webauthor.com>.

Future Research Needs

The GDM Expert Work Group identified several areas for future research based on their review of the literature and subsequent evidence analysis. Suggestions regarding research methodology and reporting of outcomes was also made.

Additional research is needed in women with GDM to clarify or determine the effect of the following on neonatal/fetal and maternal outcomes:

- MNT intervention, including the frequency and duration of visits provided by an RDN (or international equivalent) in women with GDM and those at risk for GDM
- MNT in the treatment of GDM in a variety of patient ethnicities, cultures, and populations
- Calorie consumption (reported as kcal/kg pre-pregnancy body weight)
- Amount and type of each macronutrient (carbohydrate, protein and fat) consumed (both independently and in combination)
- Amount and type of each macronutrient consumed at the breakfast meal, including specific foods (i.e., fruit, milk)
- Various meal and snack distributions
- Dietary patterns: 1) Dietary Approaches to Stop Hypertension (DASH); 2) Low glycemic index; 3) Mediterranean; 4) Paleo; 5) Very low carbohydrate

Research methodology and outcomes reporting:

- High-quality randomized controlled trials comparing MNT interventions provided by RDNs (or international equivalent) vs. standard care are needed.
- Accepted guidelines should be used for determining a diagnosis of GDM; these include: American Diabetes Association, American College of Obstetricians and Gynecologists, The Endocrine Society
- In addition to describing planned diet interventions, mean actual intake for each study arm should be reported.
 - Descriptions of planned diet interventions and actual intake should include energy intake, all macronutrients, relevant micronutrients, and dietary fiber. Type of fat (mono-, poly-, etc.) and type of fiber (soluble, insoluble) should be reported.
- Inclusion of studies in meta-analysis is an important goal for GDM researchers, as meta-analyses are key components in the development of quality evidence-based guidelines.
 - Outcomes chosen, as well as the form in which outcomes are reported, should be carefully considered. At a minimum, outcomes reported should include pre and post-intervention: Fasting and post-meal blood glucose, birth weight (large-for-gestational-age, small-for-gestational-age), maternal weight gain, rate of neonatal hypoglycemia, and need for medication
- At a minimum, outcomes for each study arm should be reported as: mean, standard deviation, 95% confidence interval, in order to facilitate subsequent meta-analysis.
- Research is needed in US populations, within US health systems, with RDNs leading or providing the MNT component of treatment.

The Academy of Nutrition and Dietetics supports and encourages member participation in nutrition research. Contribution to nutrition research is essential to improve the effectiveness of nutrition interventions and thus, patient care.

The Academy has [two main resources](#) for data collection, which is free to Academy members:

- **Dietetics Practice Based Research Network (DPBRN)** is a network of RDNs who are members of the Academy and are interested in research. DPBRN provides education resources and opportunities for members to participate in research.
- **Academy of Nutrition and Dietetics Health Informatics Infrastructure (ANDHII)** provides tools for RDNs to collect outcomes. Dietitians can collect outcomes for their own research project and add anonymous data to the national Dietetics Outcomes Registry, contributing to the evidence supporting nutrition practice and helping ensure high-quality patient care.

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GDM: Statement of Intent (2016)

Statement of Intent

Evidence-based nutrition practice guidelines are developed to help dietetic practitioners, patients and consumers make shared decisions about health care choices in specific clinical circumstances. If properly developed, communicated and implemented, guidelines can improve care.

While they represent a statement of best practice based on the latest available evidence at the time of publishing, they are not intended to overrule professional judgment. Rather, they may be viewed as a relative constraint on individual clinician discretion in a particular clinical circumstance. The independent skill and judgment of the health care provider must always dictate treatment decisions. These nutrition practice guidelines are provided with the express understanding that they do not establish or specify particular standards of care, whether legal, medical or other.

The Role of Patient Preference

This guideline recognizes the role of patient preferences for possible outcomes of care, when the appropriateness of a clinical intervention involves a substantial element of personal choice or values. With regard to types of evidence that are associated with particular outcomes, Shaughnessy and Slawson (1-3) describe two major classes. Patient-oriented evidence that matters (POEM) deals with outcomes of importance to patients, such as changes in morbidity, mortality or quality of life. Disease-oriented evidence (DOE) deals with surrogate end-points, such as changes in laboratory values or other measures of response. Although the results of DOE sometimes parallel the results of POEM, they do not always correspond.

When possible, A.N.D. recommends using POEM-type evidence rather than DOE. When DOE is the only guidance available, the guideline indicates that key clinical recommendations lack the support of outcomes evidence.

References

1. Slawson DC, Shaughnessy AF. Becoming an information master: using POEMs to change practice with confidence. Patient-Oriented Evidence that Matters. *J Fam Pract.* 2000 Jan;49(1):63-7. Erratum in: *J Fam Pract* 2000 Mar;49(3):276.
2. Slawson DC, Shaughnessy AF, Ebell MH, Barry HC. Mastering medical information and the role of POEMs--Patient-Oriented Evidence that Matters. *J Fam Pract.* 1997 Sep;45(3):195-6.
3. Shaughnessy AF, Slawson DC. POEMs: patient-oriented evidence that matters. *Ann Intern Med.* 1997 Apr 15;126(8):667.

- [Gestational Diabetes](#)
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GDM: Guideline Methods and Stakeholders (2016)

Evidence-based Nutrition Practice Guideline Methods and Stakeholder Involvement

Evidence-based Nutrition Practice Guidelines (EBNPGs) and their supporting systematic reviews (SR) are developed by a multidisciplinary team, with oversight by the Academy of Nutrition and Dietetics' Evidence-Based Practice Committee (EBPC). The multidisciplinary team includes a volunteer expert workgroup, a project manager, lead analyst, and librarian, several analysts, and an Academy staff member. The expert workgroup is composed of health practitioners and researchers with extensive experience working with the population of interest. The expert workgroup represents the views and concerns of the target population throughout the development of the SR and EBNPG.

After conducting a needs assessment and evaluation of existing guidelines on the topic under investigation, the expert workgroup develops the scope of the guideline. The rationale, background, and objectives of the topic and the outcomes of interest to both the practitioners and the targeted population, form the framework for conducting the SR. The team implements the steps in the SR process as follows:

- 1) Formulate Question
- 2) Gather and Classify Research
- 3) Critically Appraise each Article (Risk of Bias)
- 4) Summarize the Evidence
- 5) Develop Conclusion Statement and Grade Strength of the Evidence.

The team develops the EBNPG recommendations based on support of the EAL conclusion statements and strength of the evidence. An EBNPG may also be supplemented with recommendations based on either EBPC-approved external guidelines or on expert opinion (consensus). References, including those used in the SR, external guidelines, and other credible sources are included at the bottom of each recommendation. See the **Full Recommendations and Supporting Evidence tab** for links to each recommendation.

The completed EBNPG draft undergoes appraisal by an interdisciplinary group of external reviewers. The external reviewers are solicited through Academy communications, via email and social media. Those reviewers with experience in guideline methodology and/or experience with the target population complete the comprehensive AGREE II survey. Survey results are then considered by the expert workgroup and incorporated into revisions of the EBNPG, before submission for final approval and publication by the EBPC.

Development of an Academy EBNPG is a rigorous and transparent process, critically evaluating the latest scientific evidence and consensus to inform RDN practice. Stakeholder input and involvement is integral to the development of EBNPGs. The Academy continues to make strides in ensuring that the target population's views and concerns are taken into consideration during the development of EAL guidelines and supporting SRs. Currently, the EAL is piloting patient advocate participation on the COPD Guideline Update.

More Information

For a full description of the EAL systematic review and guideline development process, see the **Policy and Process tab** in the main navigation bar (green) at the top of the page.

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GDM: Implementation of the Guideline (2016)

Implementation of the Guideline

The publication of this guideline is an integral part of the plans for disseminating the Academy of Nutrition and Dietetics evidence-based recommendations on gestational diabetes mellitus (GDM) to all dietetics practitioners engaged in, teaching about or researching GDM, as quickly as possible. National implementation workshops at various sites around the country and during the Academy Food Nutrition Conference Expo (FNCE) are planned. Additionally, there are recommended dissemination and adoption strategies for local use of the Academy GDM Evidence-Based Nutrition Practice Guideline.

The guideline development team recommended multi-faceted strategies to disseminate the guideline and encourage its implementation. Management support and learning through social influence are likely to be effective in implementing guidelines in dietetic practice. However, additional interventions may be needed to achieve real change in practice routines.

Implementation of the GDM Guideline will be achieved by announcement at professional events, presentations and training. Some strategies include:

- *National and local events:* State dietetic association meetings and media coverage will help launch the guideline
- *Local feedback adaptation:* Presentation by members of the work group at peer review meetings and opportunities for CEUs for courses will be provided
- *Education initiatives:* The guideline and supplementary resources will be freely available for use in the education and training of dietetic interns and students in approved Accreditation Council for Education in Nutrition and Dietetics (ACEND) programs
- *Champions:* Local champions will be identified and expert members of the guideline team will prepare articles for publications. Resources will be provided that include PowerPoint presentations, full guidelines and pre-prepared case studies

Specific distribution strategies include:

- *Publication in full:* The guideline will be available electronically at the Academy Evidence Analysis Library website (www.anddeal.org) and will be announced to all the dietetic practice groups. The Academy Evidence Analysis Library will also provide downloadable supporting information.

- [Gestational Diabetes](#)
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GDM: Benefits and Risks/Harms of Implementation (2016)

Benefits and Risks/Harms of Implementing the Recommendations

Factors to consider when exploring treatment options include:

- Patient's age (advanced maternal age), gravida, socioeconomic status, cultural issues, psychosocial and mental health status, and other health history, and individual and health conditions
- Referral to a behavioral specialist if psychosocial issues are a concern [e.g., family and household strain, verbal/physical abuse, exposure to discrimination, major/catastrophic life events, and anxiety about the current pregnancy (Kaiser & Campbell, 2014)]
- Referral to social services to assist individuals with financial arrangements, if economic issues are a concern [e.g., food insecurity, unemployment, low resources (Kaiser & Campbell, 2014)]
- Women who are unwilling or unable to refrain from alcohol consumption during pregnancy (e.g., heavy drinker, alcohol dependency, binge drinker) should be referred for supportive services, such as counseling and possible treatment (O'Leary & Bower, 2012)
- Use clinical judgment when evaluating patients with co-morbid conditions, such as hypertension, obesity, and eating disorders
- Barriers that may hinder the application of these recommendations include health literacy and numeracy; barriers to attendance at MNT sessions may include inability to take time off work or school, lack of child care, and lack of transportation.
- Healthcare provider consultation is warranted/required prior to beginning any exercise program (ACOG, 2015).

Potential Benefits

When implementing these recommendations, consider the following general benefits:

- Improve the patient's ability to achieve optimal nutrition through healthful food choices and physically active lifestyle.
- Achieve blood glucose targets
- Achieve maternal weight gain targets
- Achieve fetal growth/development targets
- Prevent adverse maternal and fetal/neonatal outcomes.

Risk/Harm Considerations

Potential risks/harms to consider, when exploring treatment options include:

- Physical Activity:
 - High-intensity or prolonged exercise in excess of 45 mins can lead to hypoglycemia (ACOG, 2015)

- Pregnant women engaging in physical activity should be advised to ensure adequate caloric intake and to remain well hydrated (ACOG, 2015)
- Contact sports (ice hockey, boxing, soccer, basketball), activities with a high risk of falling (skiing surfing, off-road cycling, gymnastics, horseback riding), scuba diving, sky diving, and hot yoga or hot pilates should be avoided (ACOG, 2015).
- High-Intensity Sweeteners:
 - In a 1985 review of saccharin, the American Medical Association suggested pregnant women should consider avoiding saccharin due to limited epidemiological studies in pregnant women and children (Council on Scientific Affairs, 1985). To date, more than 30 human studies have found that saccharin is safe for human consumption (FDA, 2015). Saccharin is approved for use as a non-nutritive high intensity sweetener by the FDA (FDA, 2015).
- Micronutrients:
 - Some individuals may not tolerate vitamin and/or mineral supplementation
 - In general, pregnant women should seek medical consultation before or while taking a non-prescribed over-the-counter (OTC) micronutrient supplement that exceeds the Tolerable Upper Limits (UL) for a particular vitamin or mineral (Kaiser & Campbell, 2014), or if taking herbal supplements.

References:

American College of Obstetricians and Gynecologists. Physical activity and exercise during pregnancy and the postpartum period. Committee Opinion No. 650. American College of Obstetricians and Gynecologists. *Obstet Gynecol.* 2015;126: e135-142.

Council on Scientific Affairs, American Medical Association. Saccharin: Review of safety issues. *JAMA* 1985; 254(18): 2, 622-2, 624.

Food and Drug Administration. Additional Information about High-Intensity Sweeteners Permitted for use in Food in the United States. (2015, May 26). Retrieved September 12, 2016, from <http://www.fda.gov/food/ingredientspackaginglabeling/foodadditivesingredients/ucm397716.htm>

Kaiser LL, Campbell CG; Academy Positions Committee Workgroup. Practice paper of the Academy of Nutrition and Dietetics abstract: nutrition and lifestyle for a healthy pregnancy outcome. *J Acad Nutr Diet.* 2014 Sep; 114 (9): 1, 447. PMID: 25699300.

O'Leary CM, Bower C. Guidelines for pregnancy: what's an acceptable risk, and how is the evidence (finally) shaping up? *Drug Alcohol Rev.* 2012 Mar;31(2):170-183. doi: 10.1111/j.1465-3362.2011.00331.x. Epub 2011 Sep 29. Review. PMID: 21955332.

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GDM: Background Information (2016)

Bibliographic Source

Academy of Nutrition and Dietetics. Academy of Nutrition and Dietetics Gestational Diabetes Mellitus Evidence-Based Nutrition Practice Guideline, Chicago (IL): Academy of Nutrition and Dietetics, 2016.

Adaptation

This guideline was not adapted from another source. Development of the guideline was conducted in accordance with the Appraisal of Guidelines Research and Evaluation critical appraisal instrument.

Date Released

2016

Guideline Developer

Professional Association

Guideline Status

This is the second edition of the Gestational Diabetes Mellitus Evidence-Based Nutrition Practice Guideline.

Guideline Availability

The Gestational Diabetes Mellitus Evidence-Based Nutrition Practice Guideline in its entirety is available to Academy members and Evidence Analysis Library (EAL) subscribers. The general public has access to only the Guideline Introduction and Executive Summary of Recommendations.

Copyright Statement

The Academy of Nutrition and Dietetics encourages the free exchange of evidence in nutrition practice guidelines and promotes the adaptation of the guidelines for local conditions. However, please note that guidelines are subject to copyright provisions. To replicate or reproduce this guideline, in part or in full, please obtain agreement from the Academy of Nutrition and Dietetics. Contact eal@andevidencelibrary.com for copyright permission.

When modifying the guidelines for local circumstances, significant departures from these comprehensive guidelines should be fully documented and the reasons for the differences explicitly detailed.

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Gestational Diabetes Mellitus Guideline 2016 Major Recommendation References

References used in this guideline are listed within each recommendation, see the **Major Recommendations** section.

To view references included and excluded from this evidence analysis, view the Criteria and Results for Specific Topics.

Gestational Diabetes Mellitus Evidence-Based Nutrition Practice Guideline

Screening and Referral

GDM: Referral to an RDN

None.

References not graded in the Academy's Evidence Analysis Process

American Diabetes Association (ADA). Classification and diagnosis of diabetes. Sec. 2. In Standards of Medical Care in Diabetes 2016. *Diabetes Care* 2016; 39 (Suppl. 1): S13–S22.

ADA. Management of diabetes in pregnancy. Sec.12. In Standards of Medical Care in Diabetes 2016. *Diabetes Care* 2016; 39 (Suppl. 1): S94–S98.

Blumer I, Hadar E, Hadden DR, Jovanovic L, Mestman JH, Murad MH, Yogeve Y. Diabetes and pregnancy: an endocrine society clinical practice guideline. *J Clin Endocrinol Metab.* 2013 Nov; 98(11): 4,227-4,249. doi: 10.1210/jc.2013-2465. PMID: 24194617.

Nutrition Assessment

GDM: Nutrition Assessment

None.

References not graded in the Academy's Evidence Analysis Process

Academy of Nutrition and Dietetics. *Nutrition Terminology Reference Manual (eNCPT): Dietetics Language for Nutrition Care.* 2016 edition. Accessed Nov 16, 2016: <http://ncpt.webauthor.com>.

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Procter SB, Campbell CG. Position of the Academy of Nutrition and Dietetics: nutrition and lifestyle for a healthy pregnancy outcome. *J Acad Nutr Diet.* 2014 Jul; 114 (7): 1,099-1,103. PMID: 24956993.

Shields, L and Tsay, GS. Editors, *California Diabetes and Pregnancy Program Sweet Success Guidelines for Care.* Developed with California Department of Public Health; Maternal Child and Adolescent Health Division; revised edition, updated September 2015. Accessed August 9, 2016: http://www.cdappsweetsuccess.org/Portals/0/2015Guidelines/2015_CDAPPSweetSuccessGuidelinesforCare.pdf.

Nutrition Diagnosis

None.

Nutrition Intervention

GDM: Medical Nutrition Therapy

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GDM Macronutrients

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