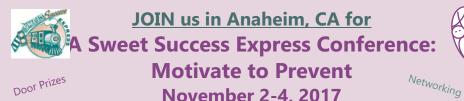
SSEP Update

(Sweet Success Extension Program)

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Course Description: Motivate to Prevent

SSEP envisions a health-oriented society in which evidenced-based management interventions and policies are continuously applied to improve the short and longterm health and well-being for women with diabetes during pregnancy and their off spring. We are excited to host this conference which provides a unique opportunity to advance this vision.

Expert speakers will present a method for motivating change as well as evidence-based preventive interventions across the life stages, particularly in high risk demographics. The interventions target women at highest risk to develop diabetes during pregnancy or later in life, particularly indigenous populations, culturally and linguistically diverse communities and economically disadvantaged groups.

National and International speakers will address current published and unpublished research, address controversial topics in keeping with the program theme, and provide Poster Presentations. The program will address concepts of prevention, intervention, self-management education and treatment modalities. The expanded specialty field of diabetes and reproductive health includes the future health of both mothers and off spring with the focus on efforts to prevent future obesity and type 2 diabetes for both. Additionally, opportunities will be provided to network and collaborate with experts and peers.

We will again offer Pre-Conference Workshop Options with returning guest speakers by demand: Workshop #1: Susan Dopart, MS, RD, CDE Facilitating Behavior Change in a way that really works: Learning Motivational Interviewing to enhance your practice Workshop #2: Maribeth Inturrisi, RN, MS, CNS, CDE Insulin Therapy Workshop: Multiple Daily Injections & Continuous Subcutaneous insulin infusion

Location: Embassy Suites Anaheim South 11767 Harbor Blvd. Garden Grove, CA

21st Annual Research Conference Choose from two Pre Conference Workshops Registration discount for SSEP members Discount tickets to Disneyland available

In this issue: LIPOHYPERTROPHY & ACOG Practice Bulletin: GDM

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SSEP Update GOAL is to publish useful information and/or tools to help team members provide quality diabetes and pregnancy care.

<u>SSEP Mission:</u> Our mission is to improve pregnancy outcomes and long-term quality of life for women with diabetes and their offspring, which extends beyond birth for both mother and child. We work with provider groups to increase their knowledge and delivery of c care by:

Supporting multidisciplinary health care teams as they take a proactive approach, focused on healthy lifestyles.

Encouraging providers to involve the entire health care system, community and patient at all levels in supporting lifestyle changes that foster improved long-t term health and quality of life.

SSEP Contact Information

www.SweetSuccessExpress.org cindy@proedcenter.com - ssep1@verizon.net -

Upcoming Conferences

Sweet Success Express 2017: Embassy Suites Anaheim South, CA, 11/2-4/2017

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LIPOHYPERTROPHY: Our Responsibility as Health Care Providers Donna L. Jornsay, MS, BSN, CPNP, CDE, CDTC, BC-ADM

Definition:

Lipohypertrophy (or "lipo") is a common complication of diabetes injections. It typically appears as a thickened, rubbery swelling of the tissue into which insulin or other diabetes medications were injected. It can vary significantly in texture from soft to firm, and in the amount of area affected.

Risk Factors:

There are several factors which increase the risk for lipohypertrophy. These include the duration of insulin therapy (p < 0.001), the presence





of an incorrect injection technique or lack of site rotation (p < 0.001) and needle re-use (p = 0.02) (Frid, Kreugel, Grassi, et al, 2016). It also appears to occur more often in people taking a greater number of daily injections and in those using insulin pumps.

SUSPECTING LIPOHYPERTROPHY Clinical Implications:

Lipohypertrophy has significant clinical implications, including: *P*Erratic insulin absorption. In a euglycemic clamp study of 13 people with type 1 diabetes which compared insulin injections into lipohypertrophied versus normal tissue, they found a 34% reduction in insulin absorption when injecting into lipohypertrophied tissue (p < 0.002) (Famulia, et al, 2016). In concrete terms, this means that if the patient injected 10 units of insulin, they would only receive the benefit of 6.6 units!

 \mathscr{P} ·Postprandial glucose levels were 26% higher when insulin was injected into lipo (p < 0.05).

 $\mathscr{P}\cdot 0.55\%$ higher A1cs were found with those injecting in lipo (Frid, 2016).

10.1 to 15.0 units higher insulin use (Blanco, 2013; Frid, 2016). This also translates into higher insulin copays and costs.

33% higher rates of unexplained hypoglycemia (Blanco, 2013). This last clinical implication is one with serious consequences and one which could be avoided by only injecting into healthy tissue. If the person with diabetes is experiencing a 34 % reduction in insulin absorption, and they subsequently increase their insulin doses and then one day inject into "virgin" territory, hypoglycemia is very likely.

Our responsibility:

As a health care provider/educator, how often do you look at your patients' injection sites? For women with gestational diabetes (GDM), this is unlikely to be a significant problem. But, please remember these women are at significantly increased risk for the development of type 2 diabetes in the five to ten years following their pregnancy with GDM and so need to be educated on the incidence of lipohypertrophy and how to avoid it. Blanco and colleagues (2013) identified that nearly two thirds (64.4%) of the 430 out-patient using insulin in their study as having lipohypertrophy.

For women with either type 1 or type 2 diabetes preceding pregnancy, lipohypertrophy is something that must be suspected and then carefully assessed to determine if it is present.

DETECTING LIPOHYPERTROPHY Assessing for lipohypertrophy:

Explain to your patient the importance of assessing their injection sites for lipo and how the presence of lipo could impact their diabetes management. Before you begin, obtain the patient's permission to examine their injection sites. Some patients may feel embarrassed by the presence of lipo and I have personally had many patients who have described this as "my fat" and not understood that this was a result of years of injecting insulin into the same sites. Explain what you are looking for and obviously, always maintain the patient's privacy. There are two parts to a complete lipo assessment: visual inspection and palpation. You want to visually inspect all injection sites, even those used less commonly. Directional lighting can help illuminate the lipohypertrophied tissue. You are looking for visible bumps, lumps, or indentations. The skin itself may appear pigmented, shiny or even textured. After doing a thorough visual inspection, spread ultrasound gel on the area to facilitate the exam. It may be easier to identify lipo by having the patient in different positions, both lying down and sitting. Ask the patient to relax her muscles. If you are examining the abdomen, it is best to have the patient lie on an exam table. Use two fingers (middle and index) and sweep around the injection site. I typically find using three fingers including my ring finger makes the exam easier for me but I have small hands. Use firm downward pressure pushing into the fat layer. You want to feel the difference in tissue structures. You can usually feel the edge of the lipo as a harder ridge. Define the total area in shape, size and texture. Describe the border of the lipo and normal tissue. It is important to quantify the area of lipo. **BD** has developed an **HCP Lipohypertrophy Assessment Tool** which includes a grid with 1 cm markings. want to put the grid on the lipohypertrophied area and measure



LIPOHYPERTROPHY: Our Responsibility as Health Care Providers Donna L. Jornsay, MS, BSN, CPNP, CDE, CDTC, BC-ADM

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the distance from the longest diameter and record this in the patient's chart. The **BD Lipo Assessment tool** will also include a skin-safe pen to mark off the area to be measured, and an individual packet of ultrasound gel to facilitate your palpation exam.

BD has also developed a Keeping Track of Your

Lipohypertrophy patient booklet to help patients track their lipo and identify healthy injection sites. Also the **BD** new **Getting Started-Take Home Kit** includes a helpful injection grid for the abdomen.

PROTECTING AGAINST THE DEVELOPMENT OR PROGRESSION OF LIPO

Protect patients who have lipo:

Once we have detected lipo, we need to instruct our patients to avoid injecting into the identified areas of lipohypertrophy. Because insulin injected into lipo was not all absorbed, the patient injecting into healthy tissue must be counseled regarding their risk for hypoglycemia. Patients typically require a reduction in their insulin dose. Doses will vary depending on the individual patient and the extent of their lipohypertrophy, but a 20% insulin reduction is a good starting point and some patients may require even greater decreases in insulin dosages. Review the signs and symptoms of hypoglycemia with your patient, and the Rule of 15 (15 grams of glucose, and wait 15 minutes to retest). Ask your patient to check blood glucose values more frequently. If they do not have a medical identification, provide them with a list of resources to obtain one.

As per the recommendations of the Mayo Clinic Proceedings (2016) shorter needle lengths are recommended. This should be a 4mm pen needle or a 6 mm syringe. Not only are shorter needles more comfortable and less intimidating, they also decrease the frequency of unintended intramuscular injections. Patients should also be instructed to ALWAYS use a new needle for each injection. Reusing needles is highly associated with lipohypertrophy (Frid, 2016). The risk of lipohypertrophy also increases the more frequently the same needle is used, up to an 85% increase when a needle is used 6 or more times (Blanco, 2013).

For many years diabetes educators have told patients to rotate injection sites, but rarely have we given them a rotation map or specific instructions in how to do this. When using the abdomen for example, it is recommended to divide the abdomen into quadrants with the umbilicus at the center. Use one quadrant for a week, injecting a finger's width away from the previous injection, and then rotate to the next quadrant. Another method is using an M or W pattern for the injections in a single area before moving to another area. Lipohypertrophy usually regresses when injections into the affected area have ceased. Explain to patients that this process takes a minimum of 2 to 3 months, but frequently longer.

In conclusion, our mission is: SUSPECT-DETECT-PROTECT. Lipohypertrophy is a significant, and largely unrecognized, clinical problem which contributes to erratic blood glucose control, hypoglycemia and poor insulin absorption. As health care providers and educators we have the opportunity to provide our patient with education and greater opportunities to avoid this complication of injection therapy.

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ACOG releases updated Practice Bulletin on Gestational Diabetes Mellitus (July, 2017)

The American College of Obstetricians and Gynecologists released a new Practice Bulletin on GDM, #180, in July. This bulletin replaces #137 from August 2013. The stated purpose of the updated bulletin recognizes: that "debate continues to surround the diagnosis and treatment of GDM despite several recent large-scale studies addressing these issues. The purposes of this document are the following: 1) provide a brief overview of the understanding of GDM,

2) review management guidelines that have been validated by appropriately conducted clinical research

3) identify gaps in current knowledge toward which future research can be directed."

There was a recommendation from the U.S. Preventive Services Task Force in 2014 to screen all pregnant woman for GDM at or beyond 24 weeks gestation, and this is supported. The recommendation for earlier testing for undiagnosed Type II Diabetes is recommended based on BMI and risk factors adapted from the American Diabetes Association.

A complete review of the bulletin is advised for all practitioners caring for women in the peripartum period. Unfortunately, there continues to be a lack of national and expert consensus on diagnostic technique or cutoff values for diagnosis. The practice bulletin does stress the need for practitioners to establish criteria for their practice for consistency in communication and care, but does not state a preferred value. When making this decision, "factors such as community prevalence rates of GDM" should be considered. ACOG continues to recommend the two step approach to testing, recognizing that there are different cut-off standards for the 1 hour glucose challenge test, as well as for the cutoffs, and the number of abnormalities in the follow up 3hour OGTT values for diagnosis of GDM.

Summary of Recommendations and Conclusions

Again a full review of this practice bulletin is recommended. Review of the entire summary is restricted here by space. Recommendations based on Level A evidence are two: 1) "Women in whom GDM is diagnosed should receive nutrition and exercise counseling, and when this fails to adequately control glucose levels, medication should be used for maternal and fetal health."

2)"When pharmacologic treatment of GDM is indicated, insulin is considered the first-line treatment for diabetes in pregnancy."

Some conclusions and recommendations based on Level B evidence:

"In women who decline insulin therapy or for those women whom the obstetrician or obstetric care provider believes the patient will be unable to safely administer insulin, metformin is a reasonable second-line choice." Glyburide treatment should not be recommended as a first-line pharmacologic treatment because, in most studies, it does not yield equivalent outcomes to insulin."
 Women with GDM should be counseled regarding the risks and benefits of a scheduled cesarean delivery when the estimated fetal weight is 4,500 g or more."

Level C recommendations and conclusions included: "Once a woman with GDM begins nutrition therapy (dietary counseling), surveillance of blood glucose levels is required to confirm that glycemic control has been established."

"The timing of delivery in women with GDM that is controlled with only diet and exercise (A1GDM) should not be before 39 weeks of gestation, unless otherwise indicated. In such women, expectant management up to 40 6/7 weeks of gestation in the setting of indicated antepartum testing is generally appropriate."
"For women with GDM that is well controlled by medications (A2GDM), delivery is recommended at 39 0/7 to 39 6/7 weeks of gestation."

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