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BRINGING CLINICIANS TOGETHER TO DISCUSS CURRENT DRUG THERAPY

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The following succinct analysis appeared in *Pharmacist's Letter*. Based on vol. 34. No. 6

DIABETES

Experts will debate how often patients with type 2 diabetes should check their blood glucose.

We know that type 2 patients on multiple daily insulin doses should routinely monitor glucose.

But evidence is mixed about whether routine checks improve A1C or reduce hypoglycemia in other patients with type 2 diabetes.

Plus testing can be costly...and results often go unused.

On the other hand, advocates say studies have flaws...and monitoring can help patients see the impact of meds and lifestyle changes.

Use a "common sense" approach...since monitoring is more art than science. Consider glycemic control, risk of hypoglycemia, etc.

As a rule of thumb, advise routine monitoring only if the results will be used to make treatment changes.

For example, in type 2 patients with poor glycemic control, advise checking glucose 3 to 4 times a week to see if med changes are making headway...or checking daily when titrating basal insulin.

But less frequent checks are often okay for patients at or close to A1C goal...along with checking for hypoglycemia symptoms or acute illness.

Generally suggest fasting checks. But if fasting results are normal and A1C is high, occasional postprandial monitoring can show if sugars after meals are driving up A1C...and can educate about the impact of diet.

Train patients how to use their meter...troubleshoot problems...and track and share results. Also teach target ranges... 80 to 130 mg/dL before meals or less than 180 mg/dL after meals.

Get more tips in our chart, *Self-Monitoring of Blood Glucose in Type 2 Diabetes*, and see our chart, *Continuous Glucose Monitoring FAQs*, for CGM advice. Also share our handout, *Understanding Blood Sugar Numbers.*

(For more on this topic, see Clinical Resource #340604 at PharmacistsLetter.com.)

Primary Reference – Young LA, Buse JB, Weaver MA, et al. Glucose self-monitoring in non-insulin-treated patients with type 2 diabetes in primary care settings: a randomized trial. JAMA Intern Med 2017;177:920-9.

See LEADER NOTES for answers to discussion questions.

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DISCUSSION QUESTIONS

OVERVIEW OF CURRENT THERAPY

1. **What is known about self-monitoring of blood glucose (SMBG) and how it affects patient outcomes?**

ANALYSIS OF NEW STUDY

2. **What type of study was this? How were the patients selected for inclusion?**

3. **How were the study groups defined?**

4. **How were the outcomes evaluated?**

5. **What were the outcomes of this trial?**

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6. **What were the strengths and weaknesses of this study?**

7. **Were the results expressed in terms we care about and can use?**

HOW SHOULD THE NEW FINDINGS CHANGE CURRENT THERAPY?

8. **Do the results change your practice? How?**

APPLY THE NEW FINDINGS TO THE FOLLOWING CASE

H.S. is a 61-year-old Caucasian female with a past medical history of obesity and hypertension that's well controlled on amlodipine 10 mg daily. She's in clinic today to follow-up on lab work from her last visit, which was notable for a glucose of 247 mg/dL. Although H.S. doesn't have symptoms of diabetes, she is concerned about her elevated glucose result, since her husband has diabetes and is on insulin therapy.

You obtain a point-of-care A1C on H.S. and it returns at 10.1%. You explain to H.S. that she does have diabetes and discuss treatment options. She does not want to be on insulin if it can be avoided, as she has seen her husband have to check his blood sugar many times per day, deal with multiple injections, and also combat episodes of hypoglycemia.

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9. What treatment should you consider first-line to treat H.S.'s diabetes? What other medications should be considered for patients with type 2 diabetes?

You discuss diet and exercise modifications and also start H.S. on metformin 500mg daily, with the plan to titrate up to 1,000 mg twice daily over the next four weeks. You also discuss starting H.S. on atorvastatin 80 mg daily, since her estimated ten-year CV risk is above 7.5%. However, you hold off on recommending low-dose aspirin for primary CV prevention, since the net benefit for H.S. is likely small. You continue H.S.'s amlodipine since her hypertension is well-controlled.

H.S. agrees to start metformin and atorvastatin. She also asks how often she should check her blood sugar, since she is used to seeing her husband check frequently.

10. How often should patients with type 2 diabetes check their glucose? How should you advise H.S.?

You advise H.S. to check her glucose three to four times a week in the morning before she has eaten. You ask H.S. to record her results, and to bring them with her to clinic visits.

H.S. returns in 1 month for follow-up and brings a log of her fasting sugars. She has successfully titrated metformin to 1000mg twice daily, has changed her dietary habits, and is walking 20 to 30 minutes daily. She has lost 8 pounds since her last visit and is pleased with her progress. You note that her blood sugar log shows a decrease in her fasting sugars over the last month, with results generally160 to 180 mg/dL.

11. Should you consider medication changes for H.S. at this time?

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Additional Pharmacist's Letter Resources available at PharmacistsLetter.com

Chart, Comparison of Blood Glucose Meters. Pharmacist's Letter/Prescriber's Letter. February 2018.
Chart, Lancets and Lancing Devices. Pharmacist's Letter/Prescriber's Letter. February 2018.
Chart, Diabetes Medications and Cardiovascular Impact. Pharmacist's Letter/Prescriber's Letter. January 2018.
Chart, Comparison of Insulins. Pharmacist's Letter/Prescriber's Letter. December 2017.
Chart, Insulin Analogs vs Human Insulin. Pharmacist's Letter/Prescriber's Letter. September 2017.
Chart, Pharmacotherapy of Neuropathic Pain. Pharmacist's Letter/Prescriber's Letter. September 2017.
Chart, Drugs for Type 2 Diabetes. Pharmacist's Letter/Prescriber's Letter. July 2017.
PL Voices, Choosing Metformin Add-Ons. Pharmacist's Letter/Prescriber's Letter. February 2017.
Algorithm, Initiation and Adjustment of Insulin Regimens for Type 2 Diabetes. Pharmacist's Letter/Prescriber's Letter. February 2017.
Toolbox, Improving Diabetes Outcomes. Pharmacist's Letter/Prescriber's Letter. January 2017.
Chart, Comparison of GLP-1 Agonists. Pharmacist's Letter/Prescriber's Letter. January 2017.
Chart, How to Switch Insulin Products. Pharmacist's Letter/Prescriber's Letter. November 2016.
PL Voices, Treatment of Newly-Diagnosed Type 2 Diabetes. Pharmacist's Letter/Prescriber's Letter. September 2016.
PL Voices: Cardiovascular Effects of Diabetes Medications. Pharmacist's Letter/Prescriber's Letter. August 2016.
PL Voices: Renal Effects of Diabetes Medications. Pharmacist's Letter/Prescriber's Letter. August 2016.
Chart, Management of Microalbuminuria: Focus on Pharmacotherapy. Pharmacist's Letter/Prescriber's Letter. July 2016.
Chart, Diabetic Foot Infections. Pharmacist's Letter/Prescriber's Letter. April 2016.
Chart, Insulin Pumps: What You Need to Know. Pharmacist's Letter/Prescriber's Letter. April 2016.
Chart, Tips to Improve Insulin Safety. Pharmacist's Letter/Prescriber's Letter. March 2016.

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