

Special Considerations in Choosing Diabetes Therapy



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KEYWORDS

- Diabetes treatment • Polypharmacy • Renal dosing • Special populations
- Weight neutral

KEY POINTS

- Treating diabetes across requires a different approach in pediatric and elderly patients.
- Patients with type 2 diabetes and renal insufficiency may require dose adjustment or discontinuation of medications as their renal function declines.
- Choosing medications to minimize weight gain is important for patients with type 2 diabetes who may already be struggling with weight issues.
- The risk of hypoglycemia can be minimized by careful medication choices.
- Polypharmacy can be decreased through the use of medication review tools that help to optimize treatment for patients.

INTRODUCTION

Choosing appropriate treatment for patients with diabetes can be difficult owing to the many types of insulins and several classes of noninsulin therapies available. Add into the mix a patient with a special circumstance that might affect their response to the medication, lead to a drug or disease interaction, or be an option that is too costly, and an already difficult task becomes nearly impossible. Fortunately, the variety of treatment options available means a provider can typically find a medication that suits patients' individual issues.

The American Diabetes Association (ADA) and the European Association for the Study of Diabetes listed particular areas of concern for optimizing pharmacotherapy in a 2012 position statement that recommended an individualized approach to diabetes management based on certain patient characteristics.¹ These special considerations include:

- Patient age and weight,
- Sex, racial, ethnic, genetic, and differences,

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- Comorbidities such as coronary artery disease, heart failure, chronic kidney disease (CKD), and liver dysfunction,
- Risk for hypoglycemia, and
- Cost of treatment.

Another important consideration is polypharmacy. Patients taking multiple medications are at greater risk of issues owing to adverse effects, drug interactions, and difficulty with adherence to their regimens. Type 2 diabetes is 1 condition where polypharmacy very often comes into play because patients may be taking multiple medications to meet hyperglycemic goals, not to mention the drugs they may be using to treat common comorbidities such as hypertension, hyperlipidemia, heart failure, and so on.

Consideration of each of these specific issues when prescribing for patients reinforces the patient-centered approach now recognized by the ADA and the European Association for the Study of Diabetes. Ideally, this will lead to better outcomes for patients in the long term.

CHOOSING THERAPY IN THE ELDERLY

The 2012 position statement from the ADA and the European Association for the Study of Diabetes offered providers a paradigm shift in recommendations regarding treatment of patients with diabetes.¹ Glycemic goals are now more personalized depending on patient characteristics. Life expectancy is a specific circumstance where recommendations for treatment goals changed dramatically. More stringent management is suggested in patients with a longer life expectancy, such as a pediatric patient, and less strict for those with a shorter life expectancy such as a frail, geriatric patient.¹ This recommendation was maintained in the 2015 update as well.² However, it can be difficult to predict life expectancy in elderly patients owing to the variety of ways in which diabetes presents. Many factors are at play, including duration of diabetes and complications, additional comorbidities, and overall functionality.³ Aside from life expectancy, elderly patients can be more difficult to manage owing to their medical complexity. The elderly often have a greater number of comorbidities leading to more complexities in prescribing and a greater risk of polypharmacy, as well as renal insufficiency owing to normal decreases with age, and the potential for social or economic concerns, such as caregiver issues and limited financial resources.¹

Complications of hypoglycemic episodes are more of a concern in the elderly owing to a greater risk of falls and the potential for risk in a patient with unstable cardiac status.¹ There is an association reported with cardiac events and death in patients who experience severe hypoglycemia.⁴ Requirements for strict management of hemoglobin A1c are relaxed from less than 7% for most diabetes patients to less than 7.5% to 8.5% for older adults to minimize the potential for hypoglycemia.³ The American Academy of Endocrinologists and American College of Endocrinologists in their joint 2016 guidelines also suggest individualizing A1c goals with less than or equal to 6.5% recommended for most patients, but the less stringent greater than 6.5% for patients with serious comorbidities and a greater risk for hypoglycemia.⁵

Sulfonylureas/glinides and insulin are commonly associated with hypoglycemia and should be monitored closely when used in elderly patients. Patients may need to test their blood glucose more frequently when using these agents to decrease the potential for complications owing to hypoglycemia. Older patients in long-term care are particularly vulnerable to hypoglycemia and should be monitored closely to ensure appropriate treatment.³ Glyburide (Micronase, DiaBeta, Glynase) specifically is recommended to be avoided in elderly patients owing to its long duration of action as

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