Glycemic Control Algorithm For Type 2 Diabetes Mellitus In Children And Adults

TEXAS DIABETES COUNCIL

Revised 10/25/07

Goals
A1C≤6.0%[1]
Fasting SMBG ≤100 mg/dL
2-hr PP SMBG ≤140 mg/dL
Avoid hypoglycemia; i.e. glucose <60 mg/dL or <70 mg/dL if IHD/CAD

Initial Intervention[2]
1. Diabetes Education *and*
2. SMBG *and*
3. Medical Nutrition, Weight Control, Exercise[3] *and*
4. Dual Therapy or Consider Monotherapy if A1C <6.5%

Options for Dual/Combination Therapy [4]

Metformin[5]	+ TZD
Metformin or TZD	+ DPP-4 or SU*[6] or Meglitinide
Metformin + TZD or SU*	+ Exenatide or DPP-4 or AGI
Metformin + TZD, AGI or SU*	+ Insulin

*SU is not recommended if A1C < 6.5%

Goals not met after 3 months

Add additional oral agent or exenatide[7] if A1C less than 1% above goal
Otherwise add Insulin as third agent (see Insulin Algorithm)

Goals Achieved

Continue Therapy
A1C every 3-6 months

Goals not met after 3 Months

Add insulin (see Insulin Algorithm)
Consider referral to endocrinologist

Abbreviations

AGI	Alpha-Glucosidase Inhibitors
CAD	Coronary Artery Disease
DPP-4	Dipeptidyl peptidase-4 Inhibitor
IHD	Ischemic Heart Disease
PP	Postprandial
SMBG	Self-monitored Blood Glucose
SU	Sulfonylurea
TZD	Thiazolidinedione

Footnotes:

1. Goals must be individualized. A1C ≤6% is the goal if possible *without significant hypoglycemia*. Less stringent treatment goals may be appropriate for patients with a history of severe hypoglycemia, patients with limited life expectancies, very young children and individuals with comorbid conditions. A1C is referenced to a non-diabetic range of 4-6% using a DCCT-based assay. ADA Clinical Practice Recommendations. *Diabetes Care* 2007;30(suppl 1):S9-10
2. If initial presentation is hyperglycemia PLUS weight loss, use insulin, with or without oral agents, as the initial intervention (see Insulin Algorithm). Other agents may be introduced as glycemic control improves.
3. These interventions should be maintained life-long; (see Medical Nutrition, Weight Loss, and Exercise Algorithms).
4. Consider stopping/reducing dose of SU as a component of therapy due to risk of hypoglycemia as A1C approaches goal.
5. Metformin is the only FDA-approved oral antidiabetic agent in children (≥ age 10); other agents may be used at the discretion of the clinician.
6. If a SU is selected, low dose glipizide ER or glimepiride are recommended because they have a lower incidence of hypoglycemia than glyburide.
7. DPP-4 inhibitor should not be used in combination with Exenatide.

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See web site http://www.texasdiabetescouncil.org
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