# Table of Contents

**Introduction**  
v
**Approaches to Glycemic Control**  
- First-Generation Sulfonylureas  
- Second-Generation Sulfonylureas  
- Nonsulfonylurea-Secretagogues  
- Biguanides  
- Thiazolidinediones  
- Alpha-Glucosidase Inhibitors  
- Ergot Derivatives  
- Amylin Analog  
- Bile Acid Sequestrants  
- DPP-4 Inhibitors  
- Incretins  
- SGLT2 Inhibitors  
- Fixed-Dose Combinations  

**Insulin**  
- Insulin Available in the US  
- Comparison of Human Insulin Preparations and Analogs  
- Guidelines for Mixing Insulin and Pre-filling Syringes  
- Rapid-Acting Inhaled Insulin  
- Starting Insulin in Adults with Type 1 Diabetes  
- Starting Insulin in Children with Type 1 Diabetes  
- Starting Insulin in Adults with Type 2 Diabetes  

**Blood Pressure Control**  
- Recommendations for Blood Pressure Control in Patients with Diabetes  
- ACE Inhibitors  
- Angiotensin Receptor Blockers  
- Diuretics  
- Beta-Blockers  
- Calcium Channel Blockers (Non-Dihydropyridine)  
- Calcium Channel Blockers (Dihydropyridine)  
- Vasodilators
Cholesterol Management       41

Recommendations for Cholesterol Management in Patients with Diabetes 41
HMG-CoA Reductase Inhibitors “statins” 44
Statin Dose Limitations with HIV Drugs 45
Simvastatin Dose Limitations 46
Relative LDL-lowering Efficacy of Statin and Statin-based Therapies 47
Fibric Acid Derivatives “fibrates” 48
Absorption Inhibitor 48
Bile Acid Sequestrants 49
Nicotinic Acid 50

Omega-3 Fatty Acids 51
Proprotein Convertase Subtilisin Kexin type 9 (PCSK9) Inhibitors 52

Miscellaneous Topics       53

Common Agents for Obesity Management in Patients with Diabetes 53
Treatment of Hypoglycemic Emergency 55
Complementary and Alternative Medicine (CAM) Patient Use Guidelines 57
Commonly Used Complementary and Alternative Medicine (CAM) in Diabetes 58

References       63
Introduction

For the majority of people with diabetes, treatment to lower blood glucose requires pharmacologic intervention. Over 80% of people with type 2 diabetes require oral glucose-lowering medications, insulin, or both to reach glycemic goals.¹

In addition to oral medications, pharmacologic therapies for patients with diabetes often include other agents to treat the various associated co-morbid conditions or complications of diabetes. Healthcare professionals must be cognizant of the total range of therapies available for comprehensive diabetes care, not just those used to improve glycemic control. Educators should also be ready to advise patients about the effects of non-diabetes drug therapy on blood glucose levels, diabetes complications, and other aspects of self-management.
Approaches to Glycemic Control for Patients with Type 2 Diabetes

The American Diabetes Association (ADA) and the American Association of Clinical Endocrinologists (AACE) recently produced complementary treatment approaches for patients with type 2 diabetes. The ADA recommendation emphasizes patient-centeredness and considers several factors to individualize treatment plans, while the AACE algorithm primarily focuses on A1C level at entry. The foundation of both recommendations remains healthy eating, weight control and increased physical activity.

Glycemic Targets

<table>
<thead>
<tr>
<th></th>
<th>American Diabetes Association 2018</th>
<th>American Association of Clinical Endocrinologists 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1C goal</td>
<td>A1C goal &lt;7% for most patients</td>
<td>A1C goal &lt;6.5% considered optimal if achieved in a safe and affordable manner</td>
</tr>
<tr>
<td>Alternative goals</td>
<td>A1C &lt;6.5%; Short duration of diabetes, long life expectancy, and treated with lifestyle or metformin only</td>
<td>Higher targets may be appropriate for certain individuals and may change for an individual over time</td>
</tr>
<tr>
<td></td>
<td>A1C &lt;7.5%; Older adults with long life expectancy, few chronic illnesses, and good functional status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A1C &lt;8%; History of hypoglycemia, limited life expectancy, advanced micro- or macrovascular complications</td>
<td></td>
</tr>
<tr>
<td>Considerations</td>
<td>Individualize therapy based on patient needs including: (1) patient attitude and expected treatment efforts (2) risks potentially associated with hypoglycemia or other adverse events (3) disease duration (4) life expectancy (5) important comorbidities (6) established vascular complications (7) resources, support system</td>
<td></td>
</tr>
</tbody>
</table>