



# **DCRM Multispecialty Practice Recommendations for Management of Diabetes, Cardiorenal, and Metabolic Diseases**



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# Elements of Lifestyle Therapy—Any Effort Is Worthwhile

- Screen for diabetes distress, mood disorders, substance abuse, psychosocial limitations, food insecurity, etc.
- Encourage:
  - Positive practices (eg, mindfulness)
  - Involvement in social-support networks
- Refer to mental health counseling as needed



## Mental Health

- Avoid all inhaled smoke, including passive exposure
- Avoid all nicotine-containing products



## Smoking

- Limit alcoholic drinks to  $\leq 1-2$  per day
- Avoid alcohol if TG elevated



## Alcohol

- Encourage whole grains, legumes, vegetables, and fruits
- Avoid refined sugar, salt, saturated fat, and trans fats
- Limit low-fiber, fried, and processed foods
- Limit calories for 5-10% weight reduction if overweight or obesity
- Consider CGM to learn effects of diet on BG



## Nutrition

- Goal: 150-300 minutes/week of aerobic + resistance activity
- Include core-strengthening and balance exercise to prevent falls
- Any/all activity beneficial; avoid prolonged sitting
- Encourage use of apps to monitor and motivate activity
- Consider CGM to learn effects of activity on BG



## Physical Activity

- Recommend  $>7$  hours/night
- Screen for sleep quality and sleep apnea
- Refer for sleep disorder therapy as needed
- Avoid sleeping pills



## Sleep

# Technology for Management of Diabetes, Cardiorenal, and Metabolic Diseases

	Technology	Recommendation
General	Validated apps, wearables	All patients wishing to track weight, calorie intake, nutritional quality, physical activity, BP, heart rate, arrhythmia (eg, atrial fibrillation), sleep quality, etc.
	Fitness tracker	All patients wishing to monitor cardiometabolic fitness
	Ambulatory BP monitor	Patients with known or suspected hypertension
Diabetes	CGM	All patients on intensive insulin regimens <sup>a</sup> Patients with known or suspected hypoglycemia unawareness <sup>a</sup> Consider: <ul style="list-style-type: none"> <li>• Episodic CGM as an “audit” of glycemic patterns in in any patient with diabetes taking any medication</li> <li>• Episodic or ongoing CGM for patients desiring information on impact of diet and physical activity</li> </ul>
	Structured <sup>b</sup> SMBG	All patients using insulin or oral agents who lack access to CGM
	CSII	All patients on intensive insulin regimens <ul style="list-style-type: none"> <li>• Integrated CSII and CGM systems with hypoglycemia safety mechanism preferred</li> </ul>
	Smart pens	All patients on intensive insulin regimens who lack access to CSII

<sup>a</sup> Ongoing CGM preferred over episodic CGM.

<sup>b</sup> SMBG that is recorded and used for clinical decision making.

BP = blood pressure; CGM = continuous glucose monitoring; CSII = continuous subcutaneous insulin infusion; SMBG = self-monitored blood glucose.

# Management of Lipids in Diabetes, Cardiorenal, and Metabolic Diseases

Monitor Lipids Every 6-12 Weeks Until Individual Target Is Achieved

## LDL-C Goal—Reduce LDL-C by $\geq 50\%$ or Reach Risk-Based Goal, Whichever Is Lower

<100	<b>High</b>	$\geq 2$ RF + 10-y risk 10-20% <b>or</b> diabetes or CKD $\geq 3$ , no other RF
<70	<b>Very high</b>	ASCVD, ACS, PAD, or 10-y risk $>20\%$ Diabetes + $\geq 1$ RF CKD $\geq 3$ with albuminuria HeFH
<55	<b>Extreme</b>	Progressive ASCVD despite LDL-C $<70$ mg/dL ASCVD + diabetes or CKD $\geq 3$ or HeFH Premature ASCVD ( $<55$ years, male; $<65$ years, female)
<40 mg/dL	<b>Extreme-plus</b>	Extreme risk plus second event in 2 years

### Expected Decrease in LDL-C

Statin ↓ ~30-60%	PCSK9i ↓ ~60%	Eze ↓ ~20%	Eze + BA ↓ ~38%	BA ↓ ~20%	BAS ↓ ~20%
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- Initial combination therapy when LDL-C is  $>50\%$  higher than goal
- Add treatments every 6-12 weeks until goal is achieved

## Management of Hypertriglyceridemia

### Reduce risk of ASCVD

#### All patients with elevated TG

Low-fat, moderate-CHO diet and other lifestyle + max-tolerated statin

Patients with TG 135-499 mg/dL + ASCVD or diabetes + 2 RF

Add IPE

Others with TG  $<500$  mg/dL

Consider adding fibrate, OM3,<sup>a</sup> or niacin

### Reduce risk of pancreatitis

#### All patients with TG $>500$ mg/dL

Low-fat, moderate-CHO diet and other lifestyle + max-tolerated statin

Add fibrate, OM3,<sup>a</sup> or niacin

Patients with insulin resistance

Consider adding pioglitazone

Patients with acute, severe hypertriglyceridemia

Consider insulin

### Expected Decrease in TG

Statin ↓ ~20-30%	Fibrate ↓ ~30-50%	OM3 <sup>a</sup> ↓ ~30-40%	Niacin ↓ ~20-30%	Pio ↓ ~10-15%
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Proven ASCVD benefits in CVOTs

ACS = acute coronary syndrome; ASCVD = atherosclerotic cardiovascular disease; BA = bempedoic acid; BAS = bile acid sequestrant; CKD  $\geq 3$  = stage 3 chronic kidney disease; CVOT = cardiovascular outcome trial; DHA = docosahexaenoic acid; EPA = eicosapentaenoic acid; Eze = ezetimibe; HDL-C = high-density lipoprotein cholesterol; HeFH = heterozygous familial hypercholesterolemia; IPE = icosapent ethyl; LDL-C = low-density lipoprotein cholesterol; OM3 = prescription-strength omega-3 fatty acid; PAD = peripheral artery disease; PCSK9i = proprotein convertase subtilisin/kexin type 9 inhibitor; Pio = pioglitazone; RF = major risk factors (ie, advancing age, elevated non-HDL-C, elevated LDL-C, low HDL-C, diabetes, hypertension, CKD, cigarette smoking, family history of ASCVD); TG = triglyceride.

<sup>a</sup> IPE, EPA, or EPA+DHA.

# Management of Hypertension in Diabetes, Cardiorenal, and Metabolic Diseases

Goal BP<sup>a</sup>: <130/80 mm Hg

Assess BP at Home Weekly and in Office Every 3-12 Months<sup>b</sup>

Seated BP	Back supported, feet flat on ground with oscillometric device connected; let patient rest quietly for 2 minutes before checking BP twice, 1 min apart, followed by 1 orthostatic reading
Orthostatic BP <sup>c</sup>	Assess standing BP for evaluation of volume depletion and autonomic dysfunction <sup>d</sup>
Ambulatory BP	Train patient how to measure seated BP at home upon waking. Transmit BP data via Bluetooth or via fax to patient chart

Preferred BP-lowering Agents	Treatment Regimen
1. ARB or ACEi at maximum tolerated dose <sup>e</sup>	<ul style="list-style-type: none"><li>• Use initial combination therapy if BP &gt;20/10 mm Hg above goal</li><li>• Add medications as needed to reach goal<ul style="list-style-type: none"><li>• Use combination products to foster adherence</li></ul></li></ul>
2. Dihydropyridine CCB	
3. Thiazide-type diuretic	
4. Spironolactone for resistant hypertension <sup>f</sup>	

<sup>a</sup> Individualize based on patient characteristics. Maintain DBP >60 mm Hg in older adults with diabetes. <sup>b</sup> Check BP more frequently when starting or titrating therapy. <sup>c</sup> BP decrease of ≥20/10 mm Hg within 3 minutes of standing.

<sup>d</sup> Indicates higher risk of cardiovascular events and mortality. <sup>e</sup> Preferred for kidney and cardiovascular protection. <sup>f</sup> Other MRAs (i.e., finerenone and eplerenone) not shown to significantly reduce BP.

ACEi = angiotensin converting enzyme inhibitor; ARB = angiotensin II receptor blocker; BP = blood pressure; CCB = calcium channel blocker; DBP = diastolic blood pressure; MRA = mineralocorticoid receptor antagonist.

# Antihyperglycemic Therapy

Prevent CVD/CKD Events Regardless of Glycemic Status

Manage Glycemia to Individualized, Established Goals

## Lifestyle Therapy

### Reduce ASCVD and Kidney Risks Based on Comorbidities

CAD	HFrEF	HFpEF	CKD	Stroke/TIA
LA GLP1-RA	SGLT2i		SGLT2i	LA GLP1-RA
SGLT2i			LA GLP1-RA	Pio
Pio				



### Recommended Hierarchy

GLP1-RA
SGLT2i
Metformin
TZD
DPP4i
Insulin
SU

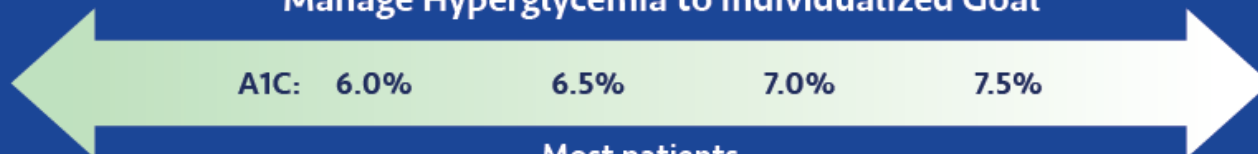
Preferred

Glinide
Colesevelam
AGI
Bromocriptine QR
Pramlintide

Less used

### Manage Hyperglycemia to Individualized Goal

Younger, healthier, at lower CV risk



Older, complex, more frail, at higher CV risk

Most patients

- Use initial combination therapy for patients with A1C >1-2% above goal
- Assess glucose control with A1C (3 months), CGM or SMBG (daily, weekly, or monthly), glycated albumin or fructosamine (3 weeks)
- Add agents with complementary MOA to maintain glucose control at goal<sup>a</sup>
- Choose agents according to recommended hierarchy, based on patient's individualized risks and benefits, preferences, and access to therapies
- Insulin is necessary for patients with diabetes symptoms



THANK YOU

