CARDI·OH

Ohio Cardiovascular and Diabetes Health Collaborative

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Ohio Department of Medicaid

Project ECHO®

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Cardi-OH ECHO Tackling Type 2 Diabetes

Thursday, September 17, 2020

Disclosure Statements

- The following planners, speakers, moderators, and/or panelists of the CME activity have financial relationships with commercial interests to disclose:
  - Kathleen Dungan, MD, MPH receives consulting fees from Eli Lilly and Tolerion, institutional research fees from Eli Lilly, Novo Nordisk, and Sanofi Aventis, and presentation honoraria from Nova Biomedical, Integritas, and Uptodate.
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  - Jackson T. Wright, Jr., MD, PhD reports research support from the NIH and Ohio Department of Medicaid and consulting with NIH, AHA, and ACC.
  - These financial relationships are outside the presented work.
- All other planners, speakers, moderators, and/or panelists of the CME activity have no financial relationships with commercial interests to disclose.

Overview of 2020 Standards of Medical Care in Diabetes

Kathleen Dungan, MD, MPH

Professor, Associate Director Clinical Services,

Division of Endocrinology, Diabetes & Metabolism

The Ohio State University

Objectives

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- List and describe a minimum of 3 changes for recommendations in the 2020 guidelines compared to previously published guidelines.
- List criteria for screening and diagnosis of type 2 diabetes in adults
- Describe a step-wise progression in management of new onset type 2 diabetes which incorporates lifestyle changes and pharmacotherapy

New in 2020

- **Lifestyle:** "Lifestyle Management" was changed to "Facilitating Behavior Change and Well-being to Improve Health Outcomes" to emphasize effective behavior management and psychological well-being.
- **Diagnosis:** HbA1c and fasting glucose measured in a single blood sample provide adequate confirmation for diagnosis of diabetes. If discordant, it can be repeated for confirmation.
- **Ambulatory Glucose Profile (AGP):** New recommendations were added on use of the AGP report and time in range (TIR) for assessment of glycemic management.
- **GLP-1 RA and SGLT2i:** latest trial findings…these drugs should be considered for patients when atherosclerotic cardiovascular disease (ASCVD), heart failure, or chronic kidney disease predominates independent of A1C.
- **Hypoglycemia:** In patients taking medication that can lead to hypoglycemia, investigate, screen, and assess risk for or occurrence of unrecognized hypoglycemia, considering that patients may have hypoglycemia unawareness.
- **Early Combination:** New recommendation added on early combination therapy to extend the time to treatment failure based on the VERIFY trial.
- **Insulin:** Access to analog insulins and multiple approaches to insulin treatment, with the goal of avoiding DKA and significant hypo- or hyperglycemia

- Discussed elsewhere in ECHO
- Key change, discussed elsewhere
- Discussed today

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Diabetes Care 2020;43(S1):S1-S212

Who to screen?

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- >45 years old

Or

Overweight or obese adults with 1or more risk factors:

- High risk ethnicity
- 1st degree relative with DM
- CVD
- GDM or baby > 9#
- HTN
- HDL <35 mg/dl
- TG >250 mg/dl
- PCOS
- Physical inactivity
- Condition associated with insulin resistance (acanthosis nigricans)
- Gestational Diabetes

- *Repeat screen*
  - *every 3 years if normal*
  - *annually if prediabetes*

How Should we Screen?

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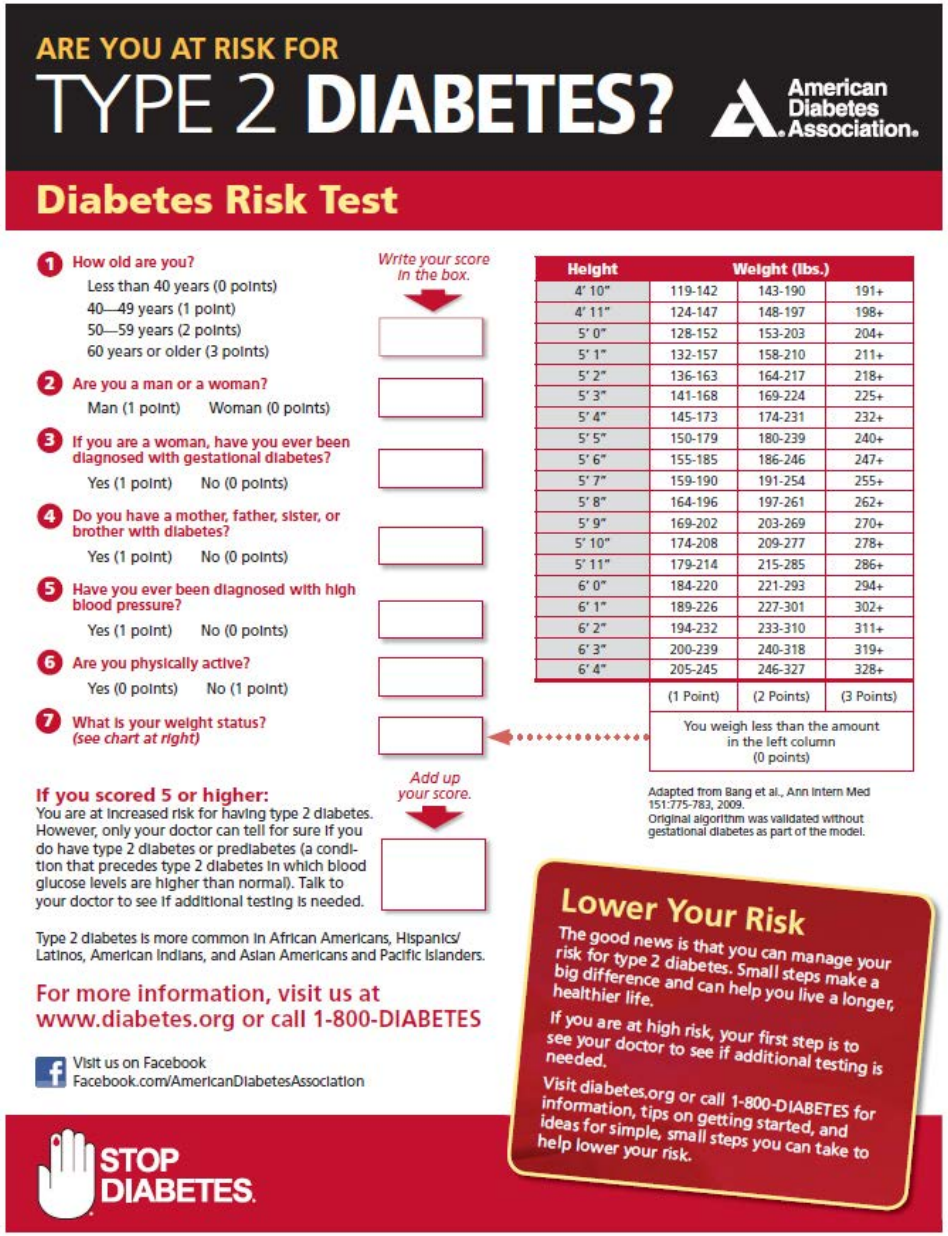
Method	Normal	Prediabetes	Diabetes
Fasting BG*	<100 mg/dl	100-125 mg/dl	≥126 mg/dl
2 hr OGTT (75 gm)#	<140 mg/dl	140-199 mg/dl	≥200 mg/dl
HbA1c	<5.7%	5.7-6.4%	≥6.5%
Random BG	-	-	Symptoms of DM & random serum BG ≥ 200 mg/dl

*In the absence of unequivocal hyperglycemia, diagnosis requires two abnormal test results (eg. fasting glucose + HbA1c) from the same sample or in two separate test samples.

Refer people with prediabetes and overweight/obesity to an intensive lifestyle intervention program such as the Diabetes Prevention Program (DPP) and/or to individualized MNT.



ARE YOU AT RISK FOR

TYPE 2 DIABETES?

American Diabetes Association.

Diabetes Risk Test

1. **How old are you?**
   Less than 40 years (0 points)
   40—49 years (1 point)
   50—59 years (2 points)
   60 years or older (3 points)

2. **Are you a man or a woman?**
   Man (1 point) Woman (0 points)

3. **If you are a woman, have you ever been diagnosed with gestational diabetes?**
   Yes (1 point) No (0 points)

4. **Do you have a mother, father, sister, or brother with diabetes?**
   Yes (1 point) No (0 points)

5. **Have you ever been diagnosed with high blood pressure?**
   Yes (1 point) No (0 points)

6. **Are you physically active?**
   Yes (0 points) No (1 point)

7. **What is your weight status?** *(see chart at right)*

Write your score in the box.

Add up your score.

If you scored 5 or higher:
You are at increased risk for having type 2 diabetes. However, only your doctor can tell for sure if you do have type 2 diabetes or prediabetes (a condition that precedes type 2 diabetes in which blood glucose levels are higher than normal). Talk to your doctor to see if additional testing is needed.

Type 2 diabetes is more common in African Americans, Hispanics/Latinos, American Indians, and Asian Americans and Pacific Islanders.

For more information, visit us at www.diabetes.org or call 1-800-DIABETES

Visit us on Facebook
Facebook.com/AmericanDiabetesAssociation

Height	Weight (lbs.)		
4' 10"	119-142	143-190	191+
4' 11"	124-147	148-197	198+
5' 0"	128-152	153-203	204+
5' 1"	132-157	158-210	211+
5' 2"	136-163	164-217	218+
5' 3"	141-168	169-224	225+
5' 4"	145-173	174-231	232+
5' 5"	150-179	180-239	240+
5' 6"	155-185	186-246	247+
5' 7"	159-190	191-254	255+
5' 8"	164-196	197-261	262+
5' 9"	169-202	203-269	270+
5' 10"	174-208	209-277	278+
5' 11"	179-214	215-285	286+
6' 0"	184-220	221-293	294+
6' 1"	189-226	227-301	302+
6' 2"	194-232	233-310	311+
6' 3"	200-239	240-318	319+
6' 4"	205-245	246-327	328+
	(1 Point)	(2 Points)	(3 Points)

You weigh less than the amount in the left column (0 points)

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009.
Original algorithm was validated without gestational diabetes as part of the model.

Lower Your Risk

The good news is that you can manage your risk for type 2 diabetes. Small steps make a big difference and can help you live a longer, healthier life.

If you are at high risk, your first step is to see your doctor to see if additional testing is needed.

Visit diabetes.org or call 1-800-DIABETES for information, tips on getting started, and ideas for simple, small steps you can take to help lower your risk.

STOP DIABETES.

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http://www.diabetes.org/diabetes-basics/prevention/diabetes-risk-test/

Approach to new diagnosis

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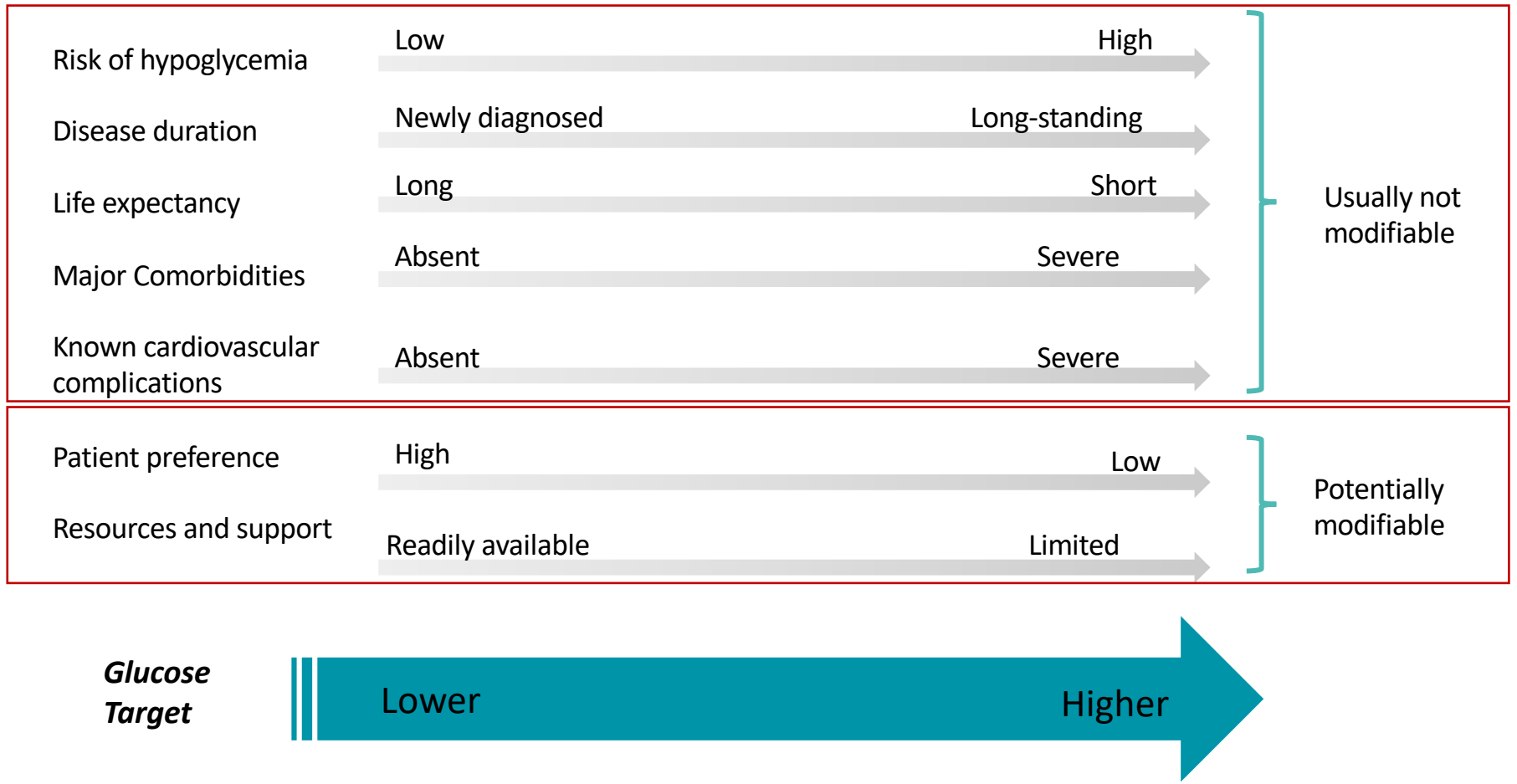
ADA Approach to A1c Targets

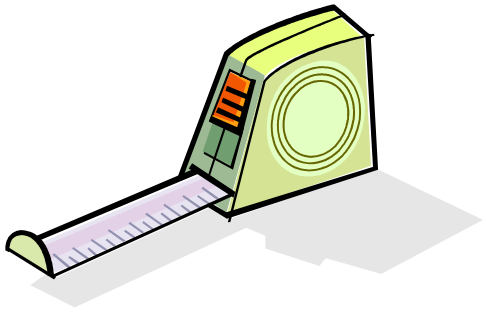


Diabetes Care 2020;43(S1):S1-S212

Measuring Success

Health status	A1c	Fasting/premeal	Peak Postprandial	HS
General Population				
Healthy*	7.0	80-130	180	*
Older Adults				
Healthy	7.5	90-130	*	90-150
Intermediate	8.0	90-150		100-180
Poor	8.5	100-180		110--200

*Goals should be individualized



	Chronic illness	Cognitive Impairment	ADL
Healthy	Few	Intact	intact
Intermediate	Multiple	Mild-moderate	2+ instrumental ADL impairment
Poor	End-stage	Moderate-severe	2+ ADL dependency, Long-term care

Diabetes Care 2020;43(S1):S1-S212

Classification of Hypoglycemia

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Level	Criteria
1	Glucose 54-70
2	Glucose <54
3	Severe event characterized by altered mental and/or physical status requiring assistance

- Individuals at risk for hypoglycemia should be asked about symptomatic and asymptomatic hypoglycemia at each encounter.
- Hypoglycemia symptom threshold
- Frequency
- Temporal patterns: meals, activity, sleep, menses

Diabetes Care 2020;43(S1):S1-S212

Glucose Monitoring

	SMBG	CGM
Non-insulin therapy	Structured (varied times of day) as needed to • Inform or monitor treatment adjustment • Inform lifestyle choices • During illness • Monitoring hypoglycemia (SU or glinide)	Consider short-term/professional CGM if not meeting targets
Basal insulin	1-3+ times/day (especially FBG)	Consider if cost is not a barrier
MDI	3+ times per day • Meals • Exercise • Driving • Hypoglycemia • Occ. Postprandial (dose titration)	• If not meeting A1c target • Real-time alert preferred for people with frequent hypoglycemia, severe events, or hypoglycemia unawareness

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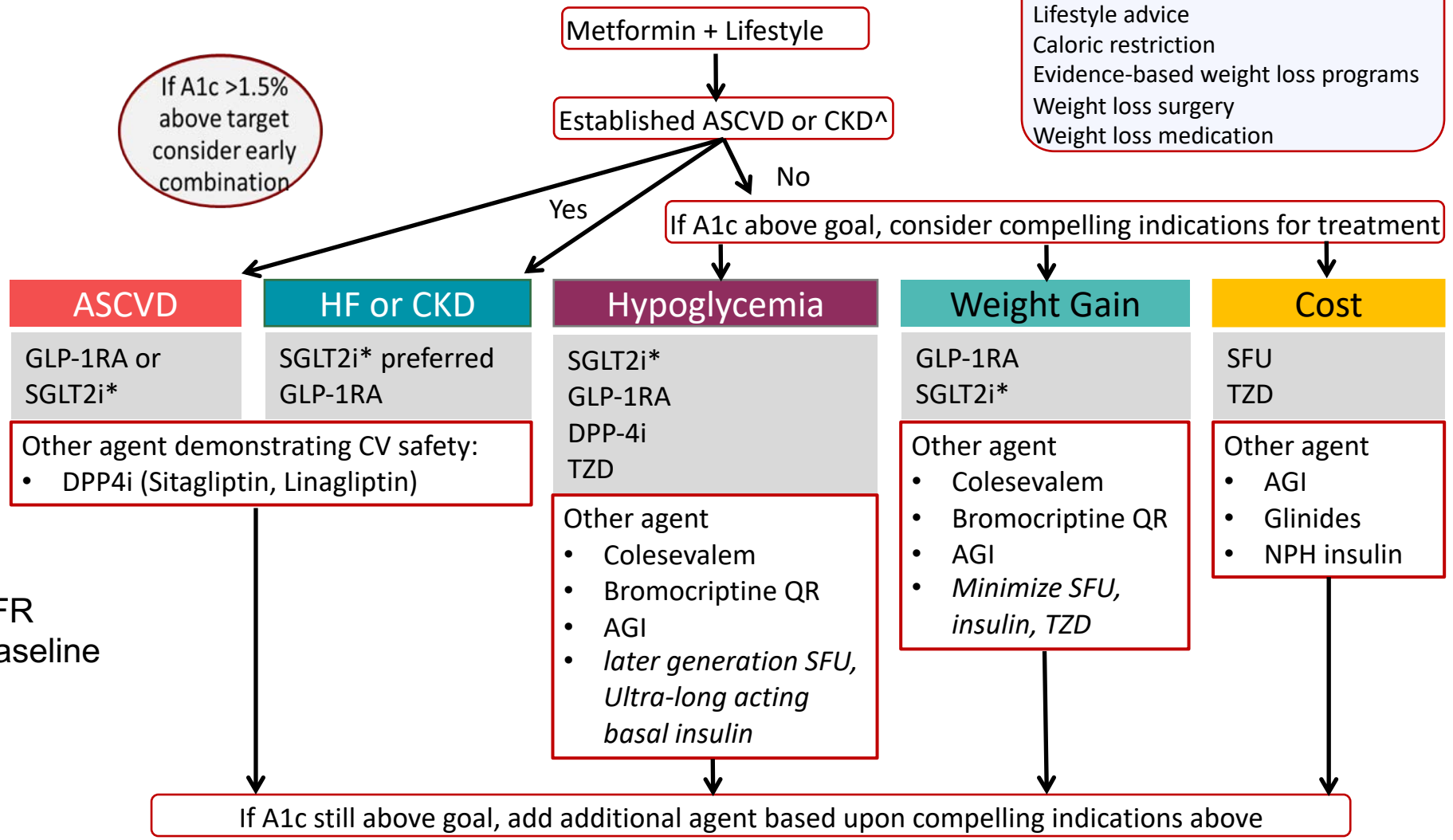
Diabetes Care 2020;43(S1):S1-S212

ADA Standards of Care 2020



*if adequate eGFR
^regardless of baseline HbA1c

ASCVD=atherosclerotic cardiovascular disease, CKD=chronic kidney disease, GLP-1RA=glucagon-like peptide-1 receptor agonist, SGLT28i=sodium-glucose cotransporter-2 inhibitor, AGI=alpha-glucosidase inhibitor, SFU=sulfonylurea, TZD=thiazolidinedione

Diabetes Care 2020;43(S1):S1-S212

Therapeutic Considerations in T2DM

In addition to lifestyle changes

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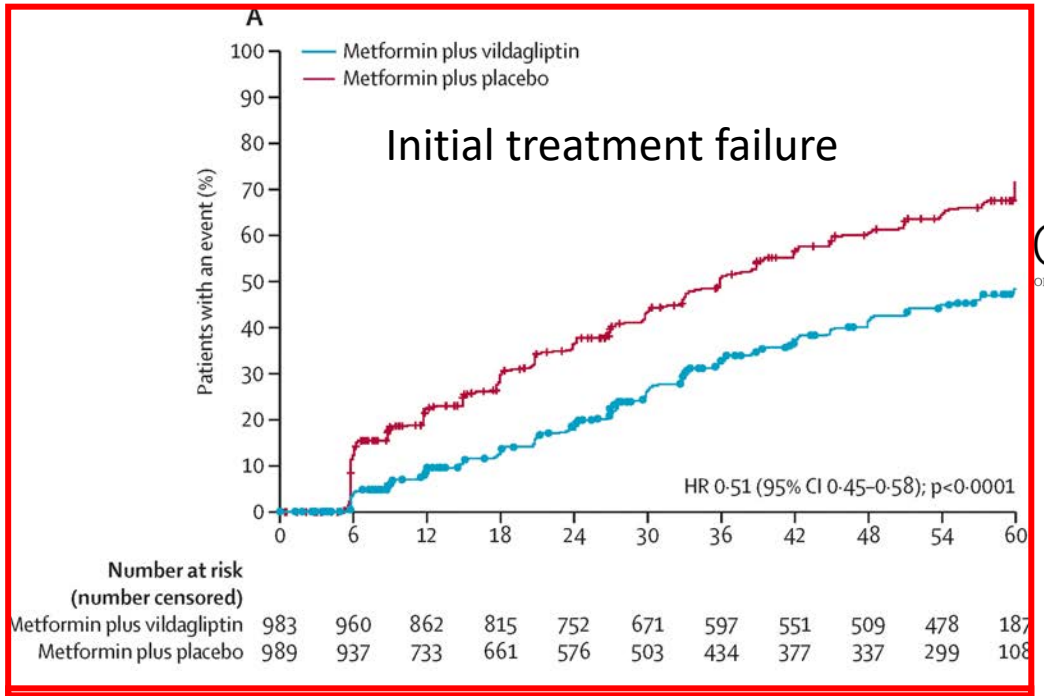
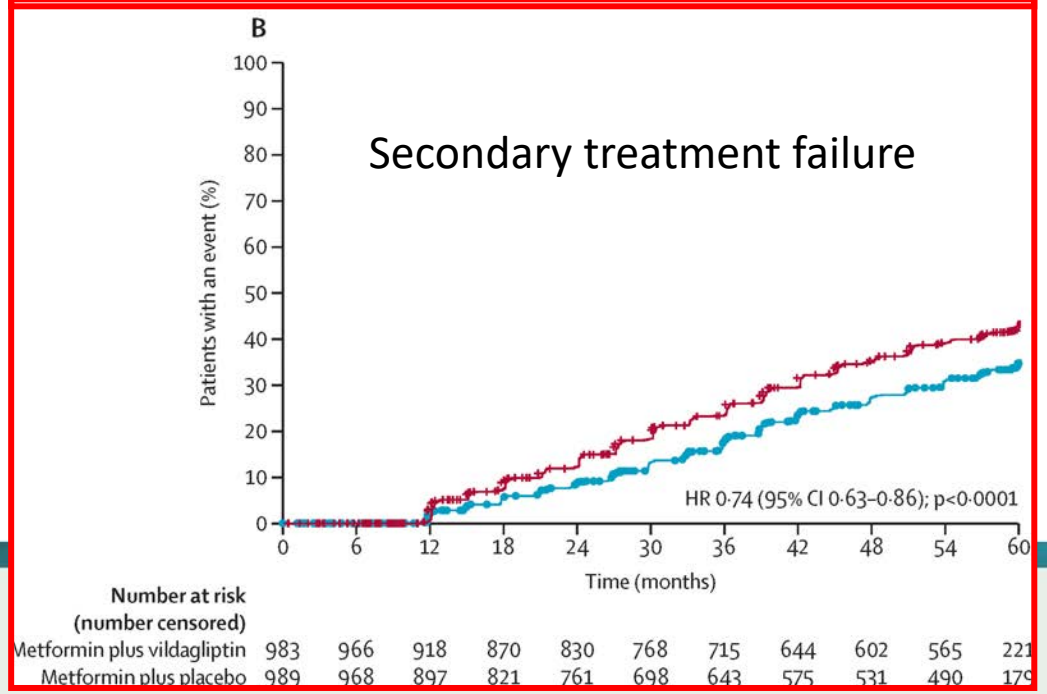
	Metformin	SFU	TZD	DPP4i	SGLT2i	GLP-1RA	Insulin
Efficacy	++	++	++	+	+	+++	+++
Hypoglycemia	-	+	-	-	-	-	+
Weight	-	↑	↑	-	↓	↓↓	↑
Side Effect	GI, lactic acidosis	Hypoglycemia	Edema, HF, Frx	Rare	GU, dehydration, DKA, frx	GI	hypoglycemia
CV benefit	?	-	?	-	+	+	-
Cost	↓	↓	↓	↑	↑	↑	↑

1. ADA Standards of Care. Dia Care 2020
2. Garber et al. AACE Consensus Statement. Endocr Pract 2019;25(1):69-100.

Early combination therapy

- 254 centers, 34 countries
- Blinded RCT, 5 year duration
- T2D <2 years, A1c 6.5-7.5
- Randomized to Vildagliptin +metformin vs. initial metformin
- Period
  1. Initial randomization
  2. 2 consecutive A1c >7% 13 weeks apart→combination
  3. basal insulin
- N=2001
- Primary outcome: initial failure
  - 44 vs. 62%
  - median 36 mo vs. estimated 62 mo
  - HR 0.51 (0.45-0.58)





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Matthews et al. Lancet. 2019;394(10208):1519-1529.

Patient-Centered Glycemic Management

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Assess key patient characteristics
- Lifestyle
- Comorbidities
- Age, A1c, weight
- Motivation
- Culture/socioeconomic context

Consider factors that impact choice of treatment
- Individualized A1c
- Weight, hypoglycemia
- Side effect
- Complexity, adherence
- Access, cost

Shared Decision Making
- Educated patient
- Seeks patient preference
- Motivational interview
- Goal setting
- DSMES

Agree on Management
SMART Goals
- Specific
- Measurable
- Achievable
- Realistic
- Time Limited

Implement Plan
- Follow-up
- Not at goal: Q3Mo
- At goal: Q6Mo
- DSMES: more frequent

Ongoing monitoring and support
- Well-being
- Tolerability
- Glucose control
- Biofeedback: weight, steps, BP, lipid

Review and agree on Management plan
- Review plan
- Mutual agreement
- Decision cycle repeated regularly to avoid inertia

Davies et al. Dia Care 2018;41:2669-2701

Thank you!

Questions/Discussion