Yukon-Kuskokwim HEALTH CORPORATION

Clinical Guideline

Type 2 Diabetes Mellitus

Disclaimer: Diabetes is a complex disease; however, the management of diabetes is considered an essential skill of ambulatory care. Please be familiar with the ADA guidelines for treatment **here**, and the abbreviated version **here**.

Diagnostic Criteria

Unequivocal symptoms of hyperglycemia (thirst, polyuria, weight loss, and blurry vision) and either any one of the following OR any two of the following. (Take confirmatory test as close as possible to initial lab value to avoid treatment delays.)

- FPG* ≥ 126mg/dl
- 2 hour PG ≥ 200mg/dl during OGTT
- Hgb A1c ≥ 6.5
- RPG ≥ 200mg/dl and symptoms of hyperglycemia or hyperglycemic crisis

Note: Fasting is defined as no caloric intake for at least 8 hours.

Causal Factors

- Dietary pattern: liquid calories, processed foods/carbohydrates, to lesser extent fat intake.
- Physical inactivity.
- Excessive cortisol: usually past trauma or chronic stress.
- Iatrogenic: psychiatric meds or corticosteroids.

Lifestyle Management

- Self-care through sleep hygiene, mindfulness, nature, and similar efficacious stress reduction techniques.
- Advise developing a positive, supportive social network.
- Use patient centered SMART goals, including consideration of individualized targets, impact on weight, hypoglycemia risk, side effect profile of medications, and complexity of regimen. Choose regimen to optimize adherence and persistence.
- Exercise is medicine: Titrate to 150 min/week minimum.
- Advise 7-10% weight loss if obese.
- Recommend traditional Alaska Native diet with emphasis on maximizing plants and high fiber foods.

Screen all overweight or obese adults with one or more other **risk factors** and all adults >45 years for type 2 diabetes mellitus.

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See diagnostic criteria.

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Confirm diagnosis and add to problem list in RAVEN.

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- Refer all new diagnoses of diabetes or prediabetes to the Diabetes Department.
- In RAVEN, order "Refer to Diabetes Program Internal" and select appropriate reason. Add additional comments/ questions/requests.
- Call 543-6133 for same-day counseling appointments.

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Schedule follow up appointment for 2-4 weeks and coordinate with diabetes department if possible.

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At initial and annual diabetes visits:

- Perform health measures (see box).
- Discuss and educate on pathophysiology in patient centered terms.
- Identify and quantify causal factors (see box).
- Initiate lifestyle management (see box).
- Set **A1c target** based on age and risk factors or complication risk.
- Set BG Monitoring goals and methods.
- Risk stratify patient by comorbidities and ASCVD risk (see box).
- Refer to appropriate diabetes resources (see box). Refer to Diabetes Department for all new diagnoses and annually (or more frequently) if not meeting A1c or lifestyle goals.

Comorbidities and ASCVD Risk

Comorbidities must be evaluated before medication initiation and at least annually. Document in chart and address in visit Assessment and Plan where appropriate. May use the 10 year ASCVD **Risk Calculator**.

- Heart failure
- CKD: classified based on cause, GFR, and albuminuria. See **link**.
- Hypertension
- Obesity
- Obstructive sleep apnea

Health Measures

- Review Health Maintenance in RAVEN.
- Give diabetes-related and dosed immunizations if due.
- Foot exam.
- Mental health screen (refer to BH if needed).
- Sexual health screen and family planning discussion.
- Labs if not already done: A1c, lipids, CMP, urine microalbumin.
- Refer to optometry.
- Refer to dental.

Remember: language matters.
See this **ADA resource**.

Diabetes Resources

- Diabetes Self-Management Education and Support (DSMES)
- Medical Nutrition Therapy (MNT)
- Continuous Glucose Monitor (CGM): usually for those with A1c >9, those on insulin, or those not achieving A1c goals. See **ADA paper**.
- Other (DM support group, exercise physiology for exercise Rx)

Abbreviations/Acronyms

ADA = American Diabetes Association
ASCVD = Arteriosclerotic cardiovascular disease
BH = Behavioral Health
CKD = chronic kidney disease
CMP = Complete Metabolic Profile
DM = Diabetes mellitus
FPG = Fasting Plasma Glucose
Hgb A1c or A1c for short = Hemoglobin A1c or glycosylated hemoglobin
HTN = Hypertension
OGTT = Oral Glucose Tolerance Test
OSA = Obstructive sleep apnea
PG = Plasma Glucose
RPG = Random Plasma Glucose
SMART = Specific, Measurable, Achievable, Realistic, Time-limited

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.
Approved by MSEC 9/2/20.
If comments about this guideline, please contact Elizabeth_Tressler@ykhc.org.

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Type 2 Diabetes Mellitus Management

Abbreviations

- DPP-4i = dipeptidyl peptidase 4 inhibitor or gliptins. YKHC formulary saxagliptin (Onglyza).
- GLP-1 RA = glucagon-like peptide-1 receptor agonist. YKHC formulary liraglutide (Victoza).
- SGLT2i = sodium-glucose co-transporter-2 inhibitor. YKHC formulary empagliflozin (Jardiance).
- SU = sulfonylureas. YKHC formulary glipizide.
- TZD = thiazolidinedione. YKHC formulary pioglitazone.

Medication selection is based on comorbidities and patient centered goals.

Always begin with lifestyle interventions. These are essential as medication response is often dependent on lifestyle measures.

Metformin: always first-line unless true allergy. If not tolerated, allow patient a break and then re-try.

Indicators of high-risk for ASCVD or established ASCVD, CKD, or HF?

Yes

Consider using a SGLT2i or GLP-1 RA independent of baseline A1c or A1c target. SGLT2i for CKD or HF and GLP-1 RA if ASCVD predominates.

No

Using shared decision making with patient, choose from any of the four classes: GLP-1 RA, SGLT2i, DPP-4i, TZD
Use GLP-1 RA or SGLT2i if weight loss/maintenance a goal.

Follow-up in 1-3 months.

If not achieving targets, continue to add classes of medications
GLP-1 RA or SGLT2i
+
DPP-4i (do not combine with GLP-1 RA) or TZD (do not use if HF present)
+
SU or basal Insulin
(Always maximize non-insulin medications first, including injectable GLP-1 RA unless the patient has significant hyperglycemia and weight loss. Then add insulin early.)

Follow up visits at least every three months until lifestyle and A1c goals achieved.

If not achieving A1c goals, consider using CGM, revise SMART goals, utilize DSMES, DM support group, screen for Diabetes Distress or other psychosocial issues.

- If not achieving A1c goals and on four classes of medication including basal insulin, consider referral to ANMC Diabetes program and/or multidisciplinary discussion with diabetes team.
- Add prandial insulin as needed and ensure insulin teaching, self-management goals, and that patient is performing appropriate monitoring
- Continue to utilize a patient centered approach with shared decision making. Revisit lifestyle behaviors, patient specific motivators, psychosocial factors, and address medical comorbidities.

Lifestyle Management

- Self-care through sleep hygiene, mindfulness, nature, and similar efficacious stress reduction techniques.
- Advise developing a positive, supportive social network.
- Use patient centered SMART goals, including consideration of individualized targets, impact on weight, hypoglycemia risk, side effect profile of medications, and complexity of regimen. Choose regimen to optimize adherence and persistence.
- Exercise is medicine: Titrate to 150 min/week minimum.
- Advise 7-10% weight loss if obese.
- Recommend traditional Alaska Native diet with emphasis on maximizing plants and high fiber foods.

Shared decision making includes an educated and informed patient and their family/caregiver, patient preference, motivational interviewing, goal setting, ensuring access to DSMES, and empowering the patient.

Diabetes Distress refers to negative psychological reactions to the emotional burden and patient worries specific to their experience of managing a complicated and demanding chronic disease. See ADA **position statement**.

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