DIABETES CARE PATHWAY: TRENTON, NJ

Developed by the Capital City Diabetes Collaborative

This Care Pathway was developed by the Trenton Health Team’s Community-wide Clinical Care Coordination Team and is based on guidelines from the American Diabetes Association and the American Association of Clinical Endocrinologists to summarize the best practices in the diagnosis and treatment of Diabetes.

KEY POINTS

- Patient Education
- Self-Management Support
- Social Needs Referrals
- Lifestyle Change
- Blood Sugar Testing
- Lipid Testing
- HbA1c Testing
- Neuropathy Testing
- Retinopathy Testing
- Nephropathy Testing

TIMELY COLLABORATIVE WITH PATIENTS

INDIVIDUALIZED TREATMENT

INDIVIDUALIZED TO PATIENTS’ PREFERENCES, PROGNOSIS, AND COMORBIDITIES

EVIDENCE-BASED
### Diabetes Diagnostic Criteria
- Fasting Glucose ≥126
- Random Glucose ≥200
- A1C ≥6.5%
- 2 Hour GTT ≥200
- Results to be confirmed by repeat testing in the absence of unequivocal hyperglycemia

### Testing and Monitoring

#### Glycemic Control:

**HbA1c Testing:**
Bi-annually in patients who are meeting treatment goals and have stable glycemic control OR every 3 months for changed therapeutic regimen or not meeting treatment goals

**Goals:**
- General goal between 7% and 8% for most patients.
- Personalize goal for patients.
- Consider de-intensifying pharmacologic therapy in patients who achieve HbA1c levels <6.5%

**Approach to Management of Hyperglycemia**

**Treatment Options:** (Appendix A and Appendix B)
- If entry A1C is <7.5%, consider monotherapy
- If entry A1C is ≥7.5%, consider dual therapy.

**Self-monitoring of Blood Glucose:**
- Pre-prandial Goal: 80-130*
- Two Hours Post-prandial Goal: <180*
  *More or less stringent glycemic goals may be appropriate for individual patients (e.g. elderly).

### Vaccinations Treatment

Routine vaccinations for children and adults with diabetes according to age-related recommendations
- Annual vaccination against influenza for all persons with diabetes ≥6 months of age
- Vaccination against pneumonia for all people with type 2 diabetes through 64 years of age with PPSV23. At age ≥65 years, administer the PCV13 at least 1 year after vaccination with PPSV23, followed by another dose of PPSV23 at least 1 year after PCV13 and at least 5 years after the last dose of PPSV23.
- Administer 3-dose series of hepatitis B vaccine to unvaccinated adults with diabetes who are 19-59 years
- Consider administering 3-dose series of hepatitis B vaccine to unvaccinated adults with diabetes who are age ≥60 years

**RECOMMENDATIONS FOR STATIN AND COMBINATION TREATMENT**

Take ASCVD risk score and consider appropriate intensity of statin.

<table>
<thead>
<tr>
<th>Age</th>
<th>ASCVD or 10-year ASCVD risk &gt;20%</th>
<th>Recommended statin intensity* and combination treatment^</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;40 years</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Moderate-intensity statin may be considered based on risk-benefit profile and presence of ASCVD risk factors. 😄</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• In patients with ASCVD, if LDL cholesterol ≥70 mg/dL despite maximally tolerated statin dose, consider adding additional LDL-lowering therapy (such as ezetimibe or PCSK9 inhibitor) ✧</td>
</tr>
<tr>
<td>≥40 years</td>
<td>No</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• High-intensity statin may be considered based on risk-benefit profile and presence of ASCVD risk factors. 😄</td>
</tr>
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</tr>
</tbody>
</table>


* For patients who do not tolerate the intended intensity of statin, the maximally tolerated statin dose should be used.
^ In addition to lifestyle therapy.

✄ ASCVD risk factors include LDL cholesterol ≥100 mg/dL (2.6 mmol/L), high blood pressure, smoking, chronic kidney disease, albuminuria, and family history of premature ASCVD.

✧ Adults aged <40 years with prevalent ASCVD were not well represented in clinical trials of non-statin-based LDL reduction. Before initiating combination lipid-lowering therapy, consider the potential for further ASCVD risk reduction, drug-specific adverse effects, and patient preferences.

Source: American Diabetes Association Standards of Medical Care in Diabetes 2020

**SCREENINGS FOR COMPLICATIONS**

**BLOOD PRESSURE**

Every Visit
- Individualized to patients
- General recommendation :<140/90 mmHg for most patients
- <130/90 mmHg for patients at high-risk of cardiovascular disease (See Appendix C for Recommendations for the Treatment of Confirmed Hypertension in People with Diabetes)

**RENEAL FUNCTION**

Annual
- Urine microalbumin to creatinine ratio, eGFR, serum creatinine, and spot testing as warranted
EYE SCREENING
At time of diagnosis and annually if retinopathy present, every 1-2 years if not present and glycemia well controlled
- Dilated and comprehensive eye exam by Optometrist or Ophthalmologist
  - Image capture by primary care team if Digital Retinal Exam equipment available

COMPREHENSIVE FOOT EXAMINATION
Annual
- 10-g monofilament exam by Medical Assistant or Nurse
- Visual inspection (skin integrity, callus formation, foot deformity, ulcer, toenails) by PCP
- Screen for PAD (pedal pulses, refer for ABI if diminished) by PCP
- Determination of temperature, vibration or pinprick sensation by PCP

Every Visit
- General inspection of skin integrity and musculoskeletal deformities

DENTAL EXAM
Every six months

DIABETES IN PREGNANCY

PRECONCEPTION COUNSELING
- Incorporate into routine diabetes care for all girls of childbearing potential starting at puberty up to women 50 years old.
- Discuss family planning and encourage use of effective contraception until woman is ready to conceive.

GOALS:
- <6 to 7% (individualized to patient) to reduce risk of congenital anomalies

TARGETS:
- Fasting < 95 mg/dL (5.3 mmol/L)
- AND at least one of the following:
  - One-hour postprandial < 140 mg/dL (7.8 mmol/L)
  - Two-hour postprandial < 120 mg/dL (6.7 mmol/L)

CONTINUOUS GLUCOSE MONITORING

Professional and Personal Continuous Glucose Monitoring for Patients with Medicaid

Professional: Providers may contact Libre representative to receive a continuous glucose monitor for office use. The provider places the glucose sensor on a patient’s arm to collect continuous readings over a set number of days. Results are read on office monitor upon return. Providers may bill Medicaid for placement of glucose sensor and interpretation of results. This method does not require patient to be on insulin or insurance preauthorization and will not give patients real-time glucose results. Benefits include: Identification of extremes in blood glucose levels and Time in Range targets as well as assessment of nocturnal glucose patterns and success of treatment regimen.

Personal: To qualify for personal continuous glucose monitoring, a patient must be prescribed at least three injections of insulin a day. The patient must check and log blood sugar four times a day for 8 weeks. Providers then submit a prior authorization and copy of glucose log to the managed care organization, typically by fax. Once CGM is approved, it is supplied through the patients Durable Medical Equipment (DME) (i.e. Edgepark), not through a local pharmacy. This process may take a few weeks to complete.
When to Consider Personal Continuous Glucose Monitoring
- If patient administers three or more injections per day
- If patient’s glucose readings fluctuate between extreme highs and lows
- If patient wants to decrease the number of times he/she has to manually check his/her blood glucose

SOCIAL NEEDS ASSESSMENT AND REFERRALS
- Assess social context, including potential food insecurity, housing stability, and financial barriers, and apply that information to treatment decisions.
- Use the Trenton Social Determinants of Health Screening Tool (Appendix B) in NowPow.
- Refer patients to local community resources when available using the NowPow platform to match community resources to patients’ social needs and geography.
- Provide patients with self-management support from lay health coaches, navigators, or community health workers when available.

PATIENT READINESS: MOTIVATIONAL INTERVIEWING AND PATIENT ACTIVATION MEASURE (PAM)
- Ask open-ended questions, make affirmations, use reflections and summarizing to understand patient motivations and if he or she is willing and ready to make changes in his or her health.
- PAM is a survey tool that helps us: Identify/target patients that need more support, customize an action plan that meets patients where they are, provide information the patient needs to help them reach their potential and track progress
  - The survey produces a PAM Score (0-100) and a Level of Activation (1-4) that are predictive of future utilization and outcomes

©2018 Insignia Health. Patient Activation Measure® (PAM®) Survey Levels. All rights reserved.

For access to the PAM survey tool, please contact Renee Kraus: rkraus@trentonhealthteam.org
### Nephrology
- **At least one of the following:**
  - Uncertainty about etiology of kidney disease
  - Difficult management issues: anemia, resistant hypertension, electrolyte disturbances
  - Advanced kidney disease (eGFR <30 mL/min/17.3 m2) requiring discussion of renal replacement therapy or ESRD

### Endocrinology
- **All of the following:**
  - Patient’s A1c persistently ≥ 9.0% despite triple therapy
  - Clinical pharmacy care OR intensive treatment in office for at least 6 months
  - Total insulin exceeds 200 units/day
  - **Assess patient's motivation & consider:**
    - Unmanaged psychiatric disorder, polysubstance abuse, or non-compliance present

### Podiatry
- **At least one of the following:**
  - Symptoms of claudication or decreased or absent pedal pulses should be referred for ankle-brachial index and further vascular assessment
  - Cigarette smokers
  - History of prior lower extremity complications, loss of protective sensation, structural abnormalities, or peripheral arterial disease

### Ophthalmology
- **At least one of the following:**
  - Patients with any level of macular edema, severe nonproliferative diabetic retinopathy, or any proliferative diabetic retinopathy
  - All patients with type 2 diabetes should receive a comprehensive eye exam and dilated eye exam at time of diagnosis and every 1-2 if retinopathy is not present

### Clinical Pharmacy
- **At least one of the following:**
  - Suspected medication non-compliance or non-adherence – conjunction with BH and SW
  - Need for medication reconciliation (patient on multiple medications and/or multiple comorbidities present)
  - Patient not meeting a1c goal

### Behavioral Health
- **Both of the following:**
  - Diagnosable mental health issue
  - Patient is interested in treatment

### Nutrition
- **At least one of the following:**
  - Newly diagnosed
  - HgbA1c >8
  - BMI ≥30
  - Triglycerides over 200
  - Experiencing regular episodes of hypo (<70) or hyperglycemia (>200), even if at goal for hgbA1c
  - Patient request
  - Provider discretion

### Care Management
- **At least one of the following:**
  - New diabetes diagnosis
  - A1c ≥9
  - Provider discretion
Appendix A: Glycemic Control Algorithm

Glycemic Control: Trenton, NJ

Individualize Goals and Therapy

Entry A1C < 7.5%

MONOTHERAPY

Metformin

- GLP-1 RA
  - Exenatide
  - Liraglutide
  - Dulaglutide or Lixisenatide
  - Semaglutide
- SGLT-2i
  - Empagliflozin
  - Ertugliflozin
- DPP-4i
  - Alogliptin
  - Sitagliptin
- TZD
  - Pioglitazone
  - Rosiglitazone
- AGi
  - Acarbose
  - Miglitol
- SU
  - Glipizide, Glimepiride, Glyburide
- GLN
  - Repaglinide
  - Nateglinide

If not at goal in 3 months, proceed to Dual Therapy

Entry A1C ≥ 7.5%

DUAL THERAPY

Metformin +

- GLP-1 RA
  - Exenatide
  - Liraglutide
  - Dulaglutide or Lixisenatide
  - Semaglutide
- SGLT-2i
  - Empagliflozin
  - Ertugliflozin
- DPP-4i
  - Alogliptin
  - Sitagliptin
- TZD
  - Pioglitazone
  - Rosiglitazone
- Insulin
  - Basaglar Kwikpen
- DZA
  - Bromocriptine QR
- AGi
  - Acarbose
  - Miglitol
- SU
  - Glipizide, Glimepiride, Glyburide
- GLN
  - Repaglinide
  - Nateglinide

If not at goal in 3 months, proceed to Triple Therapy

Entry A1C ≥ 9.5%

TRIPLE THERAPY

Metformin +

Dual Therapy Medication

Additional Dual Therapy Medication

If not at goal in 3 months, proceed to Insulin

Symptoms

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUAL Therapy</td>
<td>INSULIN ± Other Agents</td>
</tr>
<tr>
<td>TRIPLE Therapy</td>
<td>ADD OR INTENSIFY INSULIN</td>
</tr>
</tbody>
</table>

Refer to Insulin Algorithm

Key
- Horizon NJ Health
- UnitedHealthcare NJ FamilyCare
- Aetna Better Health of New Jersey
- Amerigroup RealSolutions
- Wellcare
Appendix B: Insulin

Adding/Intensifying Insulin: Trenton, NJ

START BASAL (long-acting insulin)

- A1C < 8%
  - TDD 0.1-0.2 U/kg
- A1C > 8%
  - TDD 0.2-0.3 U/kg

Insulin titration every 2-3 days to reach glycemic goal

- Fixed: increase TDD by 2 U
- Adjustable: 10-15% or 2-4 units once or twice weekly to reach FBG target

Consider discontinuing or reducing sulfonylurea after starting basal insulin

INTENSIFY (prandial control)

- ADD GLP-1 RA
  - Or SGLT-2i
  - Or DPP-4i
- Add Prandial Insulin
  - Basal Plus 1, Plus 2, Plus 3
  - Basal Bolus

Begin prandial insulin before largest meal

- If not at goal, progress to injections before 2 or 3 meals
- 50% Basal / 50% Prandial TFF 0.3-0.5 U/kg

Insulin titration every 2-3 days to reach glycemic goal

- Increase prandial dose by 10% or 1-2 units if 2-h postprandial or next premeal glucose consistently >140 mg/dL
- If hypoglycemia, reduce TDD basal and/or prandial insulin by:
  - BG consistently <70 mg/dL; 10%-20%
  - Severe hypoglycemia (requiring assistance from another person) or BG <40 mg/dL; 20%-40%

*Glycemic Control

- <7% for most patients with T2DM; fasting and premeal BG <120 mg/dL; absence of hypoglycemia
- A1C and FBG targets may be adjusted based on patient’s age, duration of diabetes, comorbidities, complications, and hypoglycemic risk.
Appendix C: Recommendations for the Treatment of Confirmed Hypertension in People with Diabetes

American Diabetes Association Standards of Medical Care in Diabetes 2020

Recommendations for the Treatment of Confirmed Hypertension in People With Diabetes

Initial BP between 140/90 mmHg and 160/100 mmHg
- Start one agent
  - Lifestyle management
  - Albuminuria*

No
- Start one drug:
  - ACEI
  - ARB
  - CCB***
  - Diuretic**

Yes
- Start:
  - ACEI or ARB

Initial BP ≥ 160/100 mmHg
- Start two agents
  - Lifestyle management
  - Albuminuria*

No
- Start drug from 2 of 3 options:
  - ACEI or ARB
  - CCB***
  - Diuretic**

Yes
- Start:
  - ACEI or ARB and
  - CCB*** or Diuretic**

Assess BP Control and Adverse Effects

Treatment tolerated and target achieved
- Continue therapy

Not meeting target or adverse effects
- Add agent from complementary drug class:
  - ACEI or ARB
  - CCB***
  - Diuretic**

Assess BP Control and Adverse Effects

Not meeting target or adverse effects using a drug from each of three classes
- Consider Addition of Mineralocorticoid Receptor Antagonist; Refer to Specialist With Expertise in BP Management
# Appendix D: Trenton Social Determinants of Health Screening Tool

Developed by Trenton Health Team, St. Francis Medical Center, Capital Health System, Henry J. Austin Health Center, and Catholic Charities

## Part 1: Social Determinants of Health

<table>
<thead>
<tr>
<th>Category</th>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Insecurity</td>
<td>In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Utility Needs</td>
<td>In the last 90 days, has your utility company threatened to shut off your service for not paying your bills?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Housing Insecurity</td>
<td>Are you worried that in the next 2 months, you may not have stable housing that you own, rent or stay in as part of a household?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Housing Quality</td>
<td>Think about the place where you are living right now. Do you have problems with any of the following?</td>
<td>Y  N</td>
</tr>
<tr>
<td></td>
<td>- Pests such as bugs, ants, or mice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Mold</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Lead paint or pipes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Lack of heat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Oven or stove not working</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Smoke detectors missing or not working</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Water leaks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- None of the above</td>
<td></td>
</tr>
<tr>
<td>Child Care Needs</td>
<td>Do problems getting child care make it difficult for you to work or study?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Transportation Needs</td>
<td>Do you put off or neglect going to the doctor because of distance or transportation?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Financial Resource Strain</td>
<td>In the last 12 months, did you skip medications to save money?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Literacy</td>
<td>Do you ever need help reading hospital materials?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Exposure to Violence</td>
<td>Are you afraid you might be hurt in your apartment building or house?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Legal</td>
<td>Do you have any legal issues?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Employment</td>
<td>During the last 4 weeks, have you been actively looking for work?</td>
<td>Y  N</td>
</tr>
<tr>
<td>Medical Home</td>
<td>Who is your family doctor?</td>
<td>Dr/NP</td>
</tr>
<tr>
<td></td>
<td>- I don’t have one</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- I need a new one</td>
<td></td>
</tr>
</tbody>
</table>
### Part 2: Substance Abuse and Behavioral Health

<table>
<thead>
<tr>
<th>Category</th>
<th>Question</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance Abuse</td>
<td>How many times in the past month have you used an illegal drug or used a prescription medication for non-medical reasons?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol Abuse</td>
<td>How many times in the past month have you had 5 or more drinks in a day?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Health</td>
<td>Over the last 2 weeks, have you had little interest or pleasure in doing things?</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Over the last 2 weeks, have you been feeling down, depressed or hopeless?</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Over the last 2 weeks, have you been feeling nervous, anxious or on edge?</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Tobacco</td>
<td>Do you smoke tobacco on a daily basis?</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>
Appendix E: Comprehensive Diabetic Foot Exam

**Foot exam components**
Preformed Q3-6 months by Providers, RN, or MA

- Visual inspection
  - skin integrity
  - callus formation
  - foot deformity
  - ulcer
  - toenails
- General inspection of skin integrity and musculoskeletal deformities
  - temperature
  - vibration or pinprick sensation
  - range of motion
  - pedal pulses
- 10-g monofilament exam

1. Apply the monofilament to the inner wrist so the patient knows what to expect.
2. Apply sufficient force to cause the filament to bend or buckle (about 1 cm) with the total duration (approach, skin contact, and departure) of the filament being approximately 2 seconds.
3. Press the filament to the skin such that it buckles at one or two times as you say "time one" or "time two."
4. Have patients identify at which time they were touched. Randomizing the sequence of applying the filament throughout the examination. The site can be repeated to ensure accuracy.
5. Test the 12 designated sites, see documentation.

**IMPORTANT**
Do NOT apply the filament on ulcers, calluses, scars, or necrotic tissue.
Do NOT allow the filament to slide across the skin or make repetitive contact at the test site.

**Within Normal Limits?**
- Yes → PCP to review chart
- No → PCP to examine foot

**Older than 50* AND last ABI >12 months?**
- Yes → Refer patient to Podiatry
- No → Follow-up in 6-12 months

**Edema? At risk for ulceration? Weak pedal pulses? Last ABI >12 months?**
- Yes → Refer patient to Podiatry
- No → PCP to examine foot

*Or per provider discretion
**If any of the following
References


American Academy of Diabetes Educators


This project was supported by a grant from the Merck Foundation.