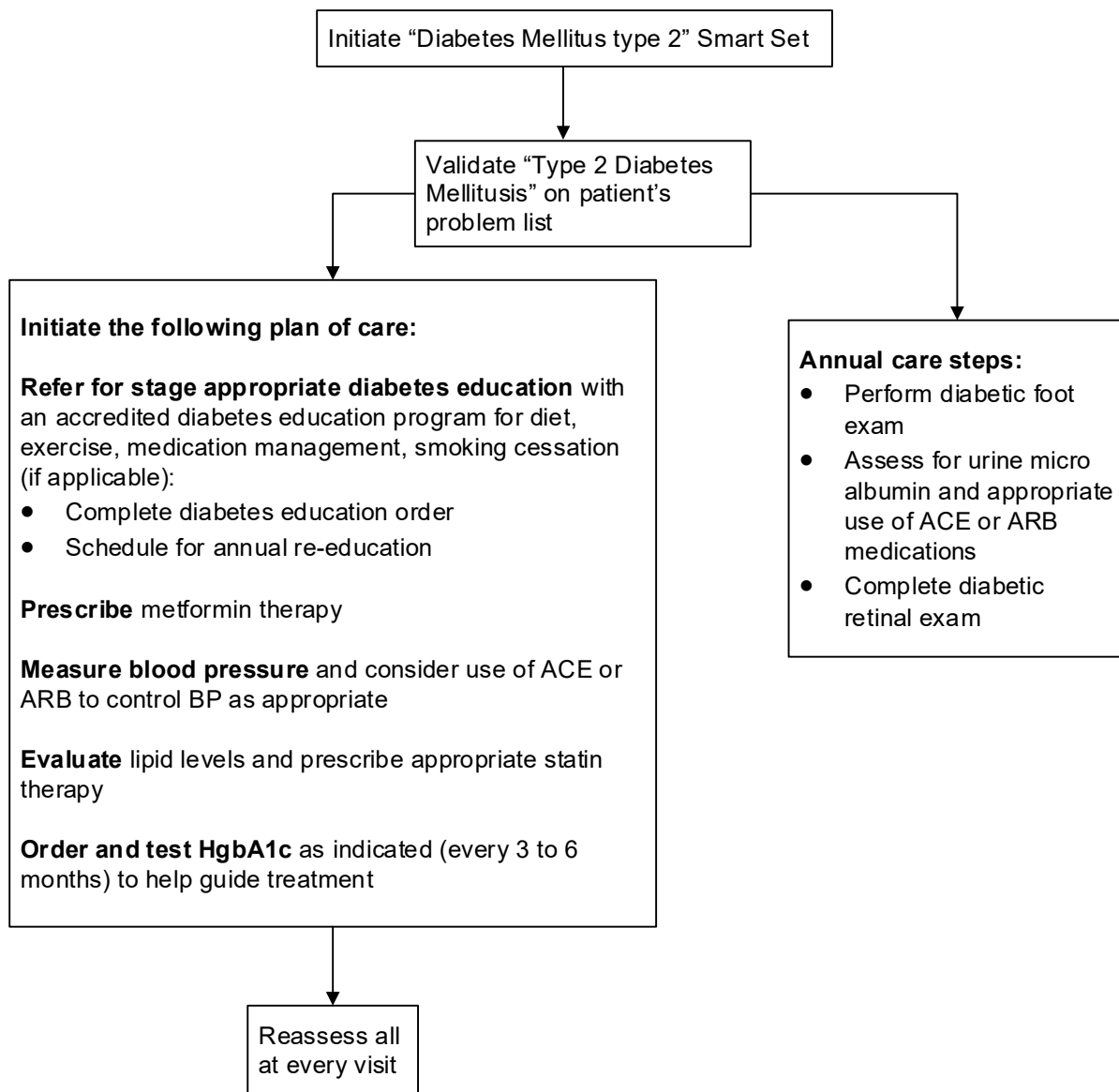# Clinical Pathway: Diabetes, Type 2 Basic Management – Outpatient

Updated: October 2, 2020

## Clinical algorithm:

Initiate "Diabetes Mellitus type 2" Smart Set

↓

Validate "Type 2 Diabetes Mellitusis" on patient's problem list

**Initiate the following plan of care:**

**Refer for stage appropriate diabetes education** with an accredited diabetes education program for diet, exercise, medication management, smoking cessation (if applicable):
- Complete diabetes education order
- Schedule for annual re-education

**Prescribe** metformin therapy

**Measure blood pressure** and consider use of ACE or ARB to control BP as appropriate

**Evaluate** lipid levels and prescribe appropriate statin therapy

**Order and test HgbA1c** as indicated (every 3 to 6 months) to help guide treatment

**Annual care steps:**
- Perform diabetic foot exam
- Assess for urine micro albumin and appropriate use of ACE or ARB medications
- Complete diabetic retinal exam

Reassess all at every visit

# Clinical Pathway Summary

**CLINICAL PATHWAY NAME:** Basic Management of Uncomplicated Type 2 Diabetes Mellitus

**PATIENT POPULATION AND DIAGNOSIS:** New or existing diagnosis of diabetes (Diabetes Type 2 on the problem list), excluding patients with secondary complications

**BRIEF DESCRIPTION:** Basic care of patients with new or existing uncomplicated Type 2 Diabetes Mellitus with a goal of preventing disease progression. (Diabetes Type 2 on the problem list, excluding patients with secondary complications) Core elements of care pathway include the "Diabetes Mellitus type 2" Smart set which initiates: Diabetes Education, A1c, Urine Microalbumin, Metformin Therapy, Statin Therapy and Diabetic Foot Exam.

**OVERSIGHT TEAM LEADER(S):** Greg Deines and Phil Henderson

**OWNING EXPERT IMPROVEMENT TEAM (EIT):** Diabetes

**OTHER TEAM(S) IMPACTED (Examples: CPC's Nursing, anesthesia, radiology)**: Diabetes Education, Population Health

**MANAGING CLINICAL PRACTICE COUNCIL (CPC):** Primary Health

**IMPLEMENTATION DATE:** 6/23/2020

**LAST REVISED:** 6/5/2020

**FOR MORE INFORMATION, CONTACT:** Greg Deines

**LINK TO METRIC DASHBOARD:** [https://tableaugw.spectrum-health.org/#/site/Prototype/workbooks/22160/views](https://tableaugw.spectrum-health.org/#/site/Prototype/workbooks/22160/views)

# Clinical pathway clinical approach

**TREATMENT AND MANAGEMENT**:

**Diabetes Education**
Multi-model education refers to the use of written and non-written materials. The use of a multi-modal approach to patient education can improve health literacy and have significant impact on health outcomes. (Weiss, 2009) This is best achieved via a certified and accredited diabetes education program.

**A1c Testing**
The American Diabetes Association's guidelines recommend that hemoglobin A1c goals be adjusted based on patient risk. Using the risk levels defined above for those at low risk, an A1c goal of less than 7% is appropriate. (Grade 2 A) There is a 0.7% decline in retinopathy in patients who have an A1c less than 7 % vs. less than 8 %. There is limited risk in healthy individuals of having significant hypoglycemic events with blood sugars goals necessary to achieve an A1c less than 7%. We recommend those with no significant morbidity will is benefit

from tighter glucose goals. Moderate risk patients shall have an A1c goal of less than 8%. (Grade 1B) For those with decreased ADL's and comorbidities the risk of significant hypoglycemic complications is much higher. The benefits of the 0.7% improvement in retinopathy with tighter glucose control are outweighed by the risks of hypoglycemic complications hence the goal of less than 8. Finally, frail/end of life patients shall have an A1c goal of less than 8.5%. (Grade 1B) "Looser A1c targets above 8.5% (69 mmol/mol) are not recommended as they may expose patients to more frequent higher glucose values and the acute risks from glycosuria, dehydration, hyperglycemic hyperosmolar syndrome, and poor wound healing." (American Diabetes Association, 2016) (American Diabetes Association, 2016).

The ADA guidelines recommend performing A1c tests at least two times per year in patients who are meeting treatment goals (and who have stable glycemic control) (Grade 1C). Furthermore, they recommend the A1c test be performed quarterly in patients whose therapy has changed or who are not meeting glycemic goals. (Grade 1C) (American Diabetes Association, 2016) Observational studies looking at patients with type 2 diabetes from 23 different large medical organizations showed that 24.9% of patients with type 2 diabetes transition in and out of control over a 3-year period. 9.7% of patients will persist in an uncontrolled state and 65.4% will stay in control. Those that transition from in control (<8% in this study) to out of control were not going to stay that way (Arora, Rattelman, & Perry, 2016). Due to these findings the recommendation of the workgroup is to check A1C quarterly until the patient had a controlled A1c for 4 consecutive quarters at which time the A1c could be checked every 6 months. (Grade 1C).

**Urine Microalbumin**
Assess urinary albumin with a spot urinary albumin-to-creatinine ratio and eGFR at least annually in all patients with type 2 diabetes. (Grade 1B)

**Metformin Therapy**
Metformin is first line therapy in patients without a contraindication or intolerance to metformin. (Grade 1A)

**Statin Therapy**
Patients with type 2 diabetes have a 5% risk of MI or stroke annually. Those who are over the age of 50 and have concomitant hypertension are at increased risk for MI or stroke. The use of the medication bundle Thiazide, baby Aspirin, Lisinopril or other Ace Inhibitor or ARB, and Lipid lowering Statin (TALL) has been shown to significantly reduce the risk of MI. In patients taking this bundle there is a 75% relative risk reduction in MI, stroke, or death. For 70,000 patients with Cardiovascular disease (CVD) or diabetes and age greater than 55 years old the use of the medication bundle Aspirin, Lisinopril or other ACE/ARB, and Lipid lowering statin (ALL) showed a 60% reduction in 3 years of MI & strokes/1000 persons/year. This study showed even taking the regimen 1 day out of 5 had significant improvement in outcomes but 2/3 was shown to be much more effective. In patients with type 2 diabetes and over 40 years of age without hypertension and a ASCVD risk of greater than 7.5% the risk of CVD can be reduced by approximately 50% in 3 years using the medication bundle of baby Aspirin and Lipid lowering statin (AL). Finally, it is important to note that the cost of myocardial infarction and stroke complications in patients with diabetes is more than the cost of all other diabetes complications combined. (Dudl, 2016)

Per the ADA guidelines in addition to lifestyle changes, patients with confirmed office-based blood pressure > 140/90 mmHg shall have prompt initiation and timely subsequent titration of pharmacological therapy to achieve blood pressure goals. (Grade 1A). Patients with diabetes and hypertension shall be treated with either an Ace or ARB but not both. (Grade 1B) If one class is not tolerated it can be switched with the other. (Grade 1C) Multiple Drug Therapy, that includes a thiazide diuretic and ACE/ARB, is usually required to get blood pressure to goal. (Grade 1B) (American Diabetes Association, 2016)

**Diabetic Foot Exam**
A comprehensive foot exam shall be done annually to identify risk factors for ulcers and amputations. (Grade 1B) Foot examination shall include: inspection of the skin, assessment of foot deformities, 10-g monofilament testing, pinprick or vibration testing or assessment of ankle reflexes, vascular assessment including pulses in the legs and feet

**References:**

Grade 1AB, American Diabetes Association 2016, Arora, Rattelman, & Perry 2016, and Weiss, 2009