

There are 4 distinct types of DM that are significant underwriting perspective:

- Type 1
- Type 2
- Type 3-c (pancreatogenic)
- MODY – type 2 with onset under age 30

Type 1 DM is an autoimmune disorder characterized by the inability to manufacture insulin. It usually presents under age 30 and with symptoms.

Type 2 DM is induced by a combination of hereditary predisposition and acquired risk factors, most notably obesity. It results from progressive insulin insufficiency and is usually discovered by screening tests in middle-aged and older persons that are free of overt diabetic symptoms.

Type 3-c DM is also called pancreatogenic diabetes. It is strongly associated with chronic pancreatitis and there is a significant risk of pancreatic cancer, which may be present when type 3-c is diagnosed or arise subsequently. These individuals are prone to be underweight rather than obese, present with typical diabetic symptoms and their diabetic state is more difficult to control without resorting to insulin.

Most cases are initially misdiagnosed as type 2.

Maturity-onset diabetes of the young (MODY) is type 2 diabetes diagnosed in adolescents and young adults. Unlike most type 2 diabetics, these individuals have a higher risk of complications and worse mortality than type 1 diabetics of the same age.

The distinction between types 1 and 2 DM is less important in underwriting because insurability largely depends on the same issues in both cases: duration of disease, degree of control of blood sugar and presence of complications.

The diagnosis is usually with an oral glucose tolerance test or the glycosylated hemoglobin (HbA1-c). Glucose levels, however, wax and wane for many reasons.

In type 2, we see cases where a 50-year old meets the criteria for diabetes in January, for impaired fasting glucose (IFG, a so-called “prediabetic” state) in May and then is normoglycemia (no DM or IFG) in October!

The longer an applicant has been a diabetic, the greater the risk of complications. Underwriting manuals typically assign baseline debits on this basis for both type 1 and type 2 DM.

Adequate control of glucose levels is key to prevent many complications. Underwriters look at current and recent glycosylated hemoglobin (HbA1-c) readings to determine if the applicant’s control is excellent, good, fair or poor. Debits are assessed on this basis as well.

Type 1 diabetics are mainly treated with insulin. Type 2 diabetics are usually treated initially with a combination of diet and the drug metformin. There are over 20 additional primarily oral hypoglycemic agents also available to manage type 2 cases.

Increasing doses of insulin or resorting to insulin pumps, etc. are indicative of glucose control issues in type 1 whereas adding additional oral medications and/or resorting to insulin are benchmarks for fair/poor control in type 2.

Acute complications such as bouts of hypoglycemia are considered in underwriting but the main focus is on chronic complications that are often progressive over years, especially if treatment is inadequate or not adhered to by the patient.

The main chronic complications are microvascular and macrovascular. These are the key microvascular complications:

- Kidney disease, which may be diabetic nephropathy or non-diabetic renal conditions (which are also more common in diabetics) and may progress to end-stage renal disease (ESRD) requiring hemodialysis or kidney transplantation. While this contributes to excess mortality, it is not the driver of the risk.

- Neurological conditions that range from peripheral neuropathies to problems with food transit through the GI tract and autonomic neuropathies than can lead to dizziness/fainting, urinary problems, etc.
- Diabetic eye disease, consisting of background (early) and proliferative (late, vision-threatening) retinopathy, macular edema and various non-diabetic eye diseases than are also more prevalent in diabetics.
- Diabetic foot disease, caused by a combination of inadequate blood flow and neuropathy. Diabetic foot disease can lead to limb loss and has substantial mortality implications.

The macrovascular complications are accelerated development of atherosclerotic disease at various sites, most notably coronary artery disease and peripheral vascular disease.

These complications are the drivers of diabetic mortality.

Because of sensory neuropathies, diabetics are more likely to experience silent heart attacks (MIs) than nondiabetics. These are first identified by pathological Q waves on ECGs.

In virtually every study where diabetics and nondiabetics are matched in terms of known/suspected atherosclerotic disease, the diabetics have higher mortality after adjusting for all other risk factors.

We may accept some diabetics at “standard” rates but there are no legitimately standard diabetics based on how we have traditionally defined a standard risk. It goes without saying that “preferred diabetic” is an oxymoron, even over age 80.

KEY UNDERWRITING ISSUES

- Type of diabetes – especially T3-c or MODY
- Age at onset
- Duration
- Control of blood sugar based on HbA1-c
- Types of treatment
- Adherence to treatment including Rx, foot care, followup visits with MD and home glucose monitoring
- Blood pressure/coexisting hypertension
- Current abnormal lab findings, especially elevated glucose, HbA1-c and protein/albumin in urine
- Presence of complications, especially macrovascular, kidney and foot disease

QUESTIONS

- What type of diabetes does the applicant have?
- When was the applicant diagnosed and did they have any symptoms at that time?
- How is the applicant currently being treated; has their Rx changed in the past 2 years and if yes, what were the changes?
- Does the applicant monitor their blood sugar at home and if yes, what has been the trend in their readings over the past 12-24 months?
- How has the applicant's doctor characterized the control of their diabetes or blood sugar?
- How often does the applicant see their physician for followup related to their diabetes?
- Has the applicant had any kidney, eye, nervous system, foot or other complications due to their diabetes? If yes, full details.
- Has the applicant had any other problems related to their diabetes such as hypoglycemic attacks, fainting spells, etc.? If yes, full details.
- Has the applicant had any tests for circulatory disease such as treadmill ECGs, other cardiac tests or blood pressure measurement in the ankles or toes (ankle-brachial or toe-brachial index)? If yes, which tests and what were they told about results?