



Position Statement

Diabetes Management in Detention Facilities

American Diabetes Association

October 2021

At any given time, the American criminal justice system contains over 2.1 million people in state and federal prisons, local jails, juvenile detention facilities, Indian Country jails, military prisons, immigration detention facilities, and civil commitment centers in the U.S (1). In addition, many more people pass through the corrections system each year. In 2019 alone, over 600,000 people were released from state or federal detention authorities to the community (2). It is estimated that 9% of the incarcerated population has diagnosed diabetes (3), which is slightly lower than the general population rate of 10.5% (4). However, the prevalence of diabetes and its related comorbidities and complications will continue to increase in the detained population as the incarcerated population ages, and the incidence of diabetes in young people continues to increase. Furthermore, the detained population continues to include a disproportionate number of racial minorities (5) who are also disproportionately likely to have diabetes (4).

People with diabetes in detention facilities should receive care that meets national standards as published in the American Diabetes Association (ADA) *Standards of Medical Care in Diabetes*. Detention facilities have unique circumstances that need to be considered so that all standards of care may be achieved (6). Detention facilities should have written policies and procedures for the management of diabetes and for training of medical and security staff in diabetes care practices. These policies must take into consideration issues such as security needs, transfer from one facility to another, and access to medical personnel and equipment when needed so that detainees have timely access to necessary treatment at all appropriate levels of care. These policies should encourage and allow patients to self-manage their diabetes, consistent with security levels. Ultimately, diabetes management is dependent upon having access to needed medical personnel, diagnostic and monitoring, equipment, and appropriate medications. Ongoing and reliable diabetes therapy is important in order to reduce the risk of acute complications including life-threatening hyper- and hypoglycemia (high and low blood sugar), as well as later complications, including cardiovascular events, visual loss, renal failure, and amputation. Early identification and intervention for people with diabetes will reduce medical complications requiring transfer out of the facility, which has important implications for security and cost.

This document provides guidelines for diabetes care in detention facilities. It is not designed to be a general diabetes management manual. More detailed information on the management of diabetes and related disorders can be found in the ADA *Standards of Medical Care in Diabetes* (7). This discussion will focus on those areas where the processes for delivery of care to people with diabetes in detention facilities may differ from those in the community, and specific recommendations are made at the end of each section.

I. INTAKE MEDICAL ASSESSMENT

Reception Screening

Reception screening should emphasize patient safety. In particular, rapid identification of all insulin-treated persons with diabetes is essential in order to identify those at highest risk for hypo- and hyperglycemia and diabetic ketoacidosis (DKA). All patients treated with insulin or sulfonylureas should have a capillary blood glucose (CBG) determination within 1–2 hours of arrival. Signs and symptoms of hypo- or hyperglycemia can often be confused with intoxication or withdrawal from drugs or alcohol. Individuals with diabetes exhibiting signs and symptoms consistent with hypoglycemia, particularly altered mental status, agitation, combativeness, and diaphoresis (excessive perspiration/sweating), should have CBG levels measured immediately.

Intake Screening

Patients with a diagnosis of diabetes should have a complete medical history and physical examination by a qualified health care provider with prescriptive authority in a timely manner. (SOC Table 4.1) If one is not available on site, one should be consulted by those performing reception screening. The purpose of this history and physical examination is to determine the type of diabetes, current therapy, the risk of diabetes-related emergencies, alcohol use, and behavioral health issues, as well as to screen for the presence of diabetes-related complications. It is critically important to determine if an individual has type 1 diabetes because the omission of insulin for as little as 24 hours can result in severe metabolic decompensation, including diabetic ketoacidosis. In addition, people with type 1 diabetes are at higher risk for severe hypoglycemia due to the presence of hypoglycemia unawareness and therefore need more frequent glucose monitoring to detect impending severe hypoglycemia. It should be assumed that any insulin treated patient has type 1 diabetes until there is a thorough evaluation by a qualified health care provider. The evaluation should review the previous treatment and the history of both glycemic control and diabetes complications. It is essential that medication and nutritional goals be continued without interruption upon entry into the detention system, as a hiatus in either medication or appropriate nutrition may lead to either severe hypo- or hyperglycemia that can rapidly progress to irreversible complications, even death.

Intake Physical Examination and Laboratory

All potential elements of the initial medical evaluation are included in Table 4.17 of the ADA's *Standards of Medical Care in Diabetes (7)*. The essential components of the initial history and physical examination are detailed in Fig. 1. Referrals should be made immediately if the patient with diabetes is pregnant.

Recommendations

- Patients with a diagnosis of diabetes should have a complete medical history and undergo a comprehensive intake physical examination in a timely manner, completed by a qualified health care professional with appropriate experience and training in diabetes care and management. (see SOC table 4.1)
- Particular attention should be paid to neurovascular examinations of skin integrity, sensory function, and pedal pulses.
- Insulin-treated patients treated with insulin or sulfonylureas should have a CBG determination within 1–2 hours of arrival.
- Medications and nutritional goals should be continued without interruption upon entry into the detention setting.

II. SCREENING FOR DIABETES

Consistent with the *Standards of Care*, all patients should be evaluated for diabetes risk factors at the intake physical and at appropriate times thereafter. Those who are at high risk should be considered for blood glucose screening. If pregnant, a risk assessment for gestational diabetes mellitus (GDM) should be undertaken at the first prenatal visit. For more detailed information on screening for both type 2 and gestational diabetes, see the ADA's *Standards of Medical Care in Diabetes* (7).

III. MANAGEMENT PLAN

Glycemic control is fundamental to the management of diabetes.

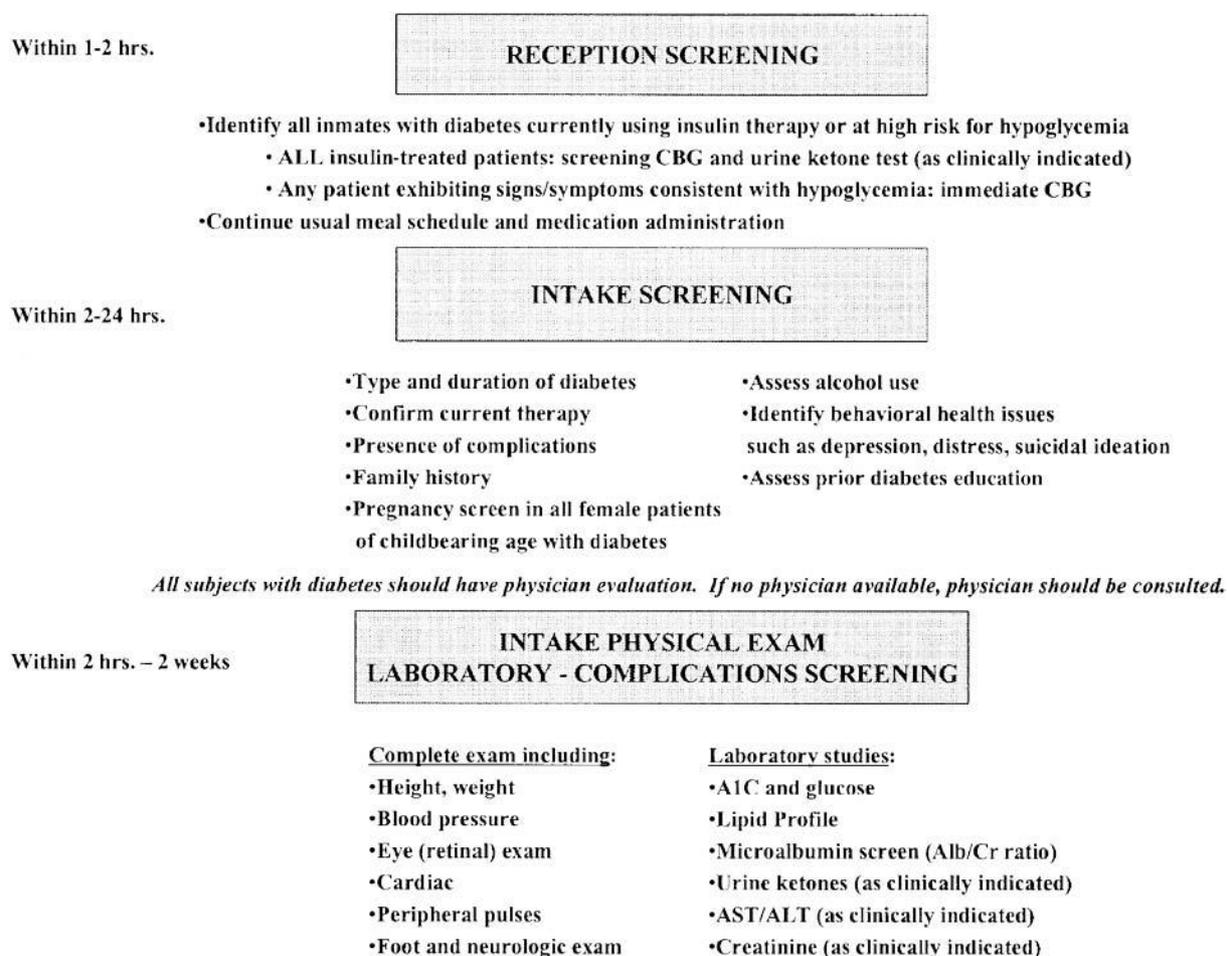


Figure 1—Essential components of the initial history and physical examination. Alb/Cr ratio, albumin-to-creatinine ratio; ALT, alanine aminotransferase; AST, aspartate aminotransferase.

A management plan to achieve normal or near normal glycemia with an A1C goal of < 7% should be developed at the time of initial medical evaluation. Goals should be individualized (7), and less stringent treatment goals may be appropriate for patients with a history of severe hypoglycemia, patients with limited life expectancies, the elderly, and individuals with certain comorbid conditions (7). This plan should be documented in the patient's record and communicated to all persons involved in his/her care, including security staff.

People with diabetes should receive medical care from a physician-coordinated team. Such teams include, but are not limited to physicians, nurses, registered dietitian nutritionists (RDNs), pharmacists, and mental health professionals with expertise and a special interest in diabetes. Diabetes self-management education is an integral component of care and individuals with diabetes should play an active role in their own treatment. If possible, a patient should be permitted to continue all or parts of their self-management regimen under supervision.

When a detention facility medical program has a chronic care program that includes diabetes, the interval of patient visits should be fixed only when the patient is in good control. When a patient's diabetes control is less than adequate, the interval of visits should be reduced proportionate to the degree of control so as to achieve better control.

It may be helpful to house insulin-treated patients in a common unit, if this is possible, safe, and consistent with providing access to programs at the detention facility that would otherwise be available to them. Use of such a unit should not result in any patient being held in a more restrictive setting than would otherwise be appropriate. Common housing not only can facilitate mealtimes and medication administration, but also provides an opportunity for diabetes self-management education to be reinforced by fellow patients.

IV. NUTRITION AND FOOD SERVICES

Facilities should institute a heart-healthy diet that is not dominated by refined carbohydrates as the master menu. The diet in the detention setting should, to the extent possible, have consistent carbohydrate content at each meal and means to identify the carbohydrate content of each food selection and meal. Providing carbohydrate content of food selections and/or providing education in assessing carbohydrate content enables patients to meet the requirements of their individual nutritional goals.

Nutrition counseling and menu planning are an integral part of the multidisciplinary approach to diabetes management in detention facilities. A combination of education, interdisciplinary communication, and monitoring food intake aids patients in understanding their medical nutritional needs and can facilitate diabetes control during and after incarceration.

Nutrition counseling for patients with diabetes is considered an essential component of diabetes self-management. People with diabetes should receive individualized nutritional goals as needed to achieve treatment goals, preferably provided by a RDN experienced with nutritional planning for persons with diabetes.

Educating the patient, individually or in a group setting, about how carbohydrates and food choices directly affect diabetes control is the first step in facilitating self-management. This education enables the patient to identify better food selections from those available in the dining hall and commissary. Such an approach is more realistic in a facility where the patient can make food choices. Even if food choice selections are not an option such as in jail, segregation or where there is blind feeding, patients should still have the option to not consume all of the food offered on their tray and to limit their portions.

The use of insulin or oral medications may necessitate snacks in order to avoid hypoglycemia. These snacks with fast-acting carbohydrates must be part of such patients' medical treatment plans, should be prescribed by medical staff, and should be readily accessible to patients. It is critical that access to commissaries not be impeded for patients with diabetes, as a source of rapidly acting carbohydrate must be consumed quickly to prevent a medical emergency such as seizure or coma. Commissaries should also help in nutrition management by offering healthier options and listing the carbohydrate content of foods.

Timing of meals and snacks must be coordinated with medication administration as needed to minimize the risk of hypoglycemia, as discussed more fully in the MEDICATION section of this document. This is particularly important for patients treated with rapid-acting pre-meal insulin, for whom fingerstick glucose testing and insulin dosing should precede the scheduled meal by no more than 15 minutes. Where such timing is not feasible, an alternative plan to mitigate the risk of hypoglycemia should be implemented, in consultation with a qualified health care professional who has appropriate diabetes experience and training. Meal timing should be adjusted as needed to encourage and promote adherence to prescribed insulin. For further information, see the ADA Position Statement *Nutrition Therapy Recommendations for the Management of Adults with Diabetes* (8).

V. URGENT AND EMERGENCY ISSUES

All patients must have access to prompt treatment for hypo- and hyperglycemia. Facility staff should be trained in the recognition and treatment of hypo- and hyperglycemia, and appropriate staff should be trained to administer glucagon. After such emergency care, patients should be referred for appropriate medical care to minimize the risk of future decompensation.

Institutions should implement a policy requiring staff to notify a physician of all CBG results outside of a specified range, as determined by the treating physician (e.g., < 50 or > 350 mg/dL, < 2.8 or > 19.4 mmol/L).

Hyperglycemia

Severe hyperglycemia in a person with diabetes may be the result of intercurrent illness, missed or inadequate medication, or corticosteroid therapy. Detention facilities should have systems in place to identify and refer to medical staff all patients with consistently elevated blood glucose, particularly in the setting of intercurrent illness.

The stress of illness in those with diabetes frequently aggravates glycemic control and necessitates more frequent monitoring of blood glucose (e.g., every 4–6 hours for people with type 1 diabetes). Marked hyperglycemia requires temporary adjustment of the treatment program and, if accompanied by ketosis, interaction with the diabetes care team. Adequate fluid and caloric intake must be ensured. Nausea or vomiting accompanied by hyperglycemia may indicate diabetic ketoacidosis (DKA), a life-threatening condition that requires immediate medical care to prevent complications and death. Detention facilities should identify patients with type 1 diabetes who are at risk for DKA, particularly those with a prior history of frequent episodes of DKA. For further information see “Hyperglycemic Crisis in Diabetes” (9). Any patient with insulin-treated diabetes who becomes ill, runs a fever, complains of abdominal pain, nausea, vomiting or other unusual symptoms should be tested for ketonuria or ketonemia, regardless of the blood glucose level. It is important to note that patients with type 2 diabetes who are treated with Sodium Glucose Co-transport Inhibitors (SGLT2i) (e.g., Invokana, Jardiance, Farxiga, Steglatro, or related generic drugs) may develop DKA with normal or minimally elevated glucose levels.

Hypoglycemia

Hypoglycemia is defined as a blood glucose level < 70 mg/dL (3.9 mmol/L). Individuals with blood glucose levels between 50 and 70 mg/dL may experience hunger, agitation, diaphoresis (excessive perspiration/sweating), and tremulousness. Blood glucose levels below 50 mg/dL can be associated with more severe signs and symptoms, including cognitive change, confusion, combativeness, seizure, or coma.

Severe hypoglycemia is a medical emergency defined as hypoglycemia requiring assistance of a third party and is often associated with mental status changes that may include confusion, incoherence, combativeness, somnolence, lethargy, seizures, or coma. Signs and symptoms of severe hypoglycemia can be confused with intoxication, drug withdrawal, or behavioral “acting out”. Individuals with diabetes exhibiting signs and symptoms consistent with hypoglycemia, particularly altered mental status, agitation, and diaphoresis, should have their CBG levels checked immediately.

Security staff who supervise patients at risk for hypoglycemia (i.e., those on insulin, sulfonylureas or glinides) should be educated in the emergency response protocol for recognition and treatment of hypoglycemia. Whenever possible, low blood glucose should be documented by CBG before treatment. Hypoglycemia can generally be self-treated by the patient with oral carbohydrates, such as glucose tablets, fruit juice, or other glucose containing foods, and at-risk patients need to have ready access to these items. Staff members should also have ready access to glucose tablets or equivalent. In general, 15–20 g oral glucose will be adequate to treat hypoglycemic events. CBG and treatment should be repeated at 15-min intervals until blood glucose levels return to normal (>70 mg/dL, 3.9 mmol/L).

Staff should have glucagon for intramuscular injection or intranasal spray, available to treat severe hypoglycemia without requiring transport of the hypoglycemic patient to an outside facility. Any episode of severe hypoglycemia or recurrent episodes of mild to moderate hypoglycemia require reevaluation of the diabetes management plan by the medical staff. In certain cases of unexplained or recurrent severe hypoglycemia, it may be appropriate to admit the patient to the medical unit for observation and stabilization of diabetes management.

Detention facilities should have systems in place to identify the patients at greater risk for hypoglycemia (i.e., those on insulin or sulfonylurea therapy) and to ensure early detection and treatment of hypoglycemia. If possible, patients at greater risk of severe hypoglycemia (e.g., those with a prior episode of severe hypoglycemia) may be housed in units closer to the medical unit in order to minimize delays in treatment.

Recommendations

- Train facility staff in the recognition, treatment, and appropriate referral for hypo- and hyperglycemia.
- Train appropriate staff to administer glucagon.
- Train staff to recognize symptoms and signs of serious metabolic decompensation, and immediately refer the patient for appropriate medical care.
- Develop and implement a policy requiring staff to notify a physician of all CBG results outside of a specified range, as determined by the treating physician (e.g., < 50 or > 350 mg/dL, < 2.8 or > 19.4 mmol/L).
- Identify patients with type 1 diabetes who are at high risk for DKA.
- Urine ketones should be measured in patients with type 1 diabetes and persistent hyperglycemia (CBG > 300 for 24 hours). Presence of “moderate” or “large” urinary ketones requires urgent medical evaluation and treatment.

VI. MEDICATION

Medications for diabetes should be initiated and adjusted by health care providers with expertise in diabetes management. Formularies should provide access to usual and customary oral and injectable medications, including insulin, that are necessary to treat diabetes. Procedures must be in place to obtain an individual’s diabetes medications immediately upon entry into the facility. Patients at all levels of custody should have access to medication at dosing frequencies that are consistent with their treatment plan and medical direction. If feasible and consistent with security concerns, patients on multiple doses of short-acting oral medications should be placed in a “keep on person” program.

Type 1 diabetes: All patients with type 1 diabetes require daily treatment with insulin. Patients with type 1 diabetes should be treated with a daily injection of long-acting basal insulin plus rapid acting prandial insulin at mealtimes. The dose of pre-meal insulin should be varied based on meal carbohydrate content and blood glucose levels. However, sole reliance on “sliding scale” insulin is inappropriate and can lead to dangerous hypo or hyperglycemia. Telemedicine consultations may be appropriate when treatment by a diabetes specialist (endocrinologist, physician with training/expertise in diabetology, or advanced practice nurse/certified diabetes care & education specialist is needed.

Type 2 diabetes: Selection of medications for treatment of type 2 diabetes should be in accordance with current ADA *Standards of Care* with preferential use of medications with demonstrated cardiovascular disease and/or renal benefits for high-risk patients. In addition, the use of medications with low potential for hypoglycemia (biguanides, DPP4 inhibitors, GLP-1RA and SGLT2i) is recommended due to the limited access to glucose monitoring in many settings. Some patients with type 2 diabetes will require insulin treatment, alone or in combination with other diabetes medications.

Insulin therapy (type 1 and type 2 diabetes): At a minimum, a long-acting basal insulin (e.g., glargine, levemir, degludec) and a rapid-acting prandial insulin (e.g., aspart, lispro, glulisine) should be available on the institution’s formulary. The timing of prandial insulin injections is critically important and should be immediately before or after (within 10 minutes) the meal. Basal insulin should be administered at the same time each day. Reliance on insulin “sliding scales” is ineffective and potentially dangerous and is strongly discouraged. Much preferred is periodic review of glucose monitoring results, with pro-active adjustment of standing insulin doses. The safe use of any insulin regimen requires daily glucose monitoring by fingerstick - once daily for patients on basal insulin only, before meals and at bedtime/hours of sleep for those on prandial insulin or insulin pump. If available, the use of a continuous glucose monitor (CGM) is a helpful tool for patients on multiple daily insulin injections.

Insulin treated patients should be permitted to self-inject when consistent with security needs. Medical department nurses should determine whether patients have the necessary skill and responsible behavior to be allowed self-administration and the degree of supervision necessary. When needed, this skill should be a part of patient education. Disposable single use syringe systems should be established.

Recommendations

- The sole use of sliding scale insulin is strongly discouraged.
- Formularies should provide access to usual and customary oral and injectable medications, including insulins to treat diabetes and related conditions.
- Patients should have access to continuous subcutaneous insulin infusion (CSII – insulin pump therapy) and CGMs if they were using these modalities before incarceration or deemed eligible for their use, unless there is a specific safety/security risk identified based on an individualized assessment of the patient and circumstances.
- Patients should have access to medication at dosing frequencies that are consistent with their treatment plan and medical direction.
- Detention facilities should implement policies and procedures to diminish the risk of and treat episodes of hypo- and hyperglycemia during off-site travel (e.g., court appearances).

VII. TECHNOLOGY

Patients who were using CSII or a CGM prior to incarceration should be allowed to continue if they are capable of safely managing the device and have access to necessary supplies and appropriate medical supervision.

Insulin Pumps: Insulin pump therapy should be considered as an option for all adults and youth with type 1 diabetes who are able to safely manage the device.

CSII and CGMs can be effective means of implementing intensive diabetes management with the goal of achieving near-normal levels of blood glucose (10). While the use of these modalities may be difficult in detention facilities, every effort should be made to continue CSII and CGM in people who were using these therapies before incarceration or to institute these therapies in order to achieve blood glucose targets.

VIII. SPECIALTY REFERRAL

Many detention facilities have physicians providing diabetes care who do not have primary care or diabetes care training. When a physician is unable to assist the patient attain control of their diabetes after repeated clinic visits or when a physician feels unable to manage the patient's diabetes, the detention facility should have a mechanism to refer the patient to a physician with expertise in diabetes either in person or via telemedicine.

IX. TELE-MEDICINE

Advances in diabetes technology have facilitated patient care and education via telemedicine in the general diabetes population, and more recently, in the detention setting (11, 12). CGM and newer insulin pumps are able to send data directly over the internet. Diabetes health care professionals, including physicians, dietitian nutritionists, educators, podiatrists, and others can fulfill many of the educational and medical needs of the incarcerated population via web-based communication (7). Routine follow-up via tele-medicine has been shown to improve glycemic control and can replace most one-on-one visits for diabetes education and management.

X. ROUTINE SCREENING FOR AND MANAGEMENT OF DIABETES COMPLICATIONS

All patients with a diagnosis of diabetes should receive routine screening for diabetes-related complications, as detailed in the *Standards of Care* (7). Interval chronic disease clinics for persons with diabetes provide an efficient mechanism to monitor patients for complications of diabetes. In this way, appropriate referrals to consultant specialists, such as optometrists/ophthalmologists, nephrologists, and cardiologists, can be made on an as-needed basis and interval laboratory testing can be done.

The following complications should be considered:

- **Foot care:** Recommendations for foot care for patients with diabetes and no history of an open foot lesion are described in the *Standards of Care*. An annual comprehensive foot examination is recommended for all patients with diabetes to identify risk factors predictive of ulcers and amputations. Persons with an at-risk (peripheral neuropathy, peripheral vascular disease, foot deformity) should have feet examined at every medical visit. Persons with an insensate foot, an open foot lesion, foot deformity, or a history of such a lesion should be referred for evaluation by an appropriate qualified health care professional (e.g., podiatrist or vascular surgeon). Persons with diabetes and a foot ulcer or impending foot ulcer should be off-loaded (*i.e.*, provided therapeutic shoes designed to provide pressure redistribution). In a detention setting, this means that the patient needs protected housing in an infirmary or similarly protected housing so that the need for them to walk is minimized.
- Persons with a history of amputation are at particular risk for the development of new lesions and further amputation. Special shoes should be provided as recommended by qualified health care professionals to aid healing of foot lesions and to prevent the development of new lesions. Choosing shoes for the at-risk population without active lesions should take into consideration the risk of excessive friction causing blisters, callus, or fresh ulceration. For example, heavy work boots that may be appropriate for the general detention facility population may cause pressure and friction related lesions that can lead to infection and amputation.

- Retinopathy: All patients with type 2 diabetes and those with type 1 for 5 or more years should have annual retinal examinations by a qualified eye care professional, as recommended in the *Standards of Care*. Retinal photography with remote reading by experts has great potential to provide screening services in situations where qualified eye care professionals are not readily available (7). Visual changes that cannot be accounted for by acute changes in glycemic control require prompt evaluation by an eye care professional.
- Nephropathy: An annual spot urine test for determination of microalbumin-to-creatinine ratio should be performed. The use of ACE inhibitors, or angiotensin receptor blockers, or an SGLT2i is recommended for all patients with albuminuria. Blood pressure should be controlled to < 140/80 mmHg.
- Cardiovascular Disease: People with type 2 diabetes are at a particularly high risk for cardiovascular disease (CVD), including coronary artery disease and stroke. CVD risk factor management is of demonstrated benefit in reducing this complication in patients with diabetes.
- Blood pressure should be measured at every routine diabetes visit. HMG-CoA reductase inhibitor (statin) treatment is indicated for most adult patients (age > 40) with diabetes reference *Standards of Care*.
- Use aspirin therapy (75 – 162 mg/day) in all adult patients with diabetes and cardiovascular risk factors or known macrovascular disease and consider for those with multiple CVD risk factors. Consider use of a SGLT2i or GLP1-RA for patients with CVD or multiple cardiovascular risk factors. Consider SGLT2i patients with congestive heart failure. Current national standards for adults with diabetes call for treatment of blood pressure to a level of < 140/80 mmHg.
- In adults not taking statins or other lipid-lowering therapy, it is reasonable to obtain a lipid profile at the time of diabetes diagnosis, at an initial medical evaluation, and every five years thereafter if under the age of 40 years, or more frequently if indicated.
- Obtain a lipid profile at initiation of statins or other lipid-lowering therapy, 4–12 weeks after initiation or a change in dose, and annually thereafter to monitor the response to therapy and inform medication adherence.

XI. MONITORING/TESTS OF GLYCEMIA

Monitoring capillary blood glucose (CBG) allows caregivers and people with diabetes to evaluate diabetes management regimens. The frequency of monitoring will vary by patients' glycemic control and diabetes regimens. Patients with type 1 diabetes are at risk for hypoglycemia and should have their CBG monitored three or more times daily or have access to CGM technology. Glucose should be monitored prior to meals, at bedtime, prior to exercise, when low blood glucose is suspected, and after treating low blood glucose. Patients with type 2 diabetes on insulin should monitor at least once daily, and more frequently based on their medical plan. Patients treated with oral agents should have CBG monitored with sufficient frequency to facilitate the goals of glycemic control, assuming that there is a program for ongoing medical review of these data to drive changes in medications. Patients whose diabetes is poorly controlled or whose therapy is changing should have more frequent monitoring. Unexplained hyperglycemia in a patient with diabetes may suggest impending illness, DKA or nonketotic hyperglycemic hyperosmolar state; the patient should be evaluated by a health care professional, and testing urine ketones should be performed. (See Urgent and Emergency Issues Section).

A1C is a measure of long-term (two to three months) glycemic control. Perform the A1C test at least two times a year in patients who are meeting treatment goals (and who have stable glycemic

control) and quarterly in patients whose therapy has changed or who are not meeting glycemic goals. Discrepancies between CBG monitoring results and A1C may indicate further need for evaluation.

In the detention setting, policies and procedures need to be developed and implemented regarding CBG monitoring that address the following:

- Infection control, including single use lancing devices
- Education of staff and patients
- Proper choice of meter
- Disposal of testing lancets
- Quality control programs
- Access to health services
- Size adequacy of the blood sample
- Patient performance skills
- Documentation and interpretation of test results
- Availability of test results for the health care provider (13)

Recommendations

- In the detention setting, policies and procedures need to be developed and implemented to enable CBG monitoring to occur at the frequency necessitated by the individual patient's glycemic control and diabetes regimen.
- A1C should be checked every three to six months.

XII. SELF-MANAGEMENT EDUCATION

Self-management education is the cornerstone of treatment for all people with diabetes. The health staff must advocate for patients to participate in self-management as much as possible. Individuals with diabetes who learn self-management skills and make lifestyle changes can more effectively manage their diabetes and avoid or delay complications associated with diabetes. This premise has been demonstrated in the detention setting (14). In the development of a diabetes self-management education program in the detention setting, the unique circumstances of the patient should be considered while still providing, to the greatest extent possible, the elements of the "National Standards for Diabetes Self-Management Education and Support" (14). A staged approach may be used depending on the needs assessment and the length of incarceration. Table 1 sets out the major components of diabetes self-management education. Survival skills should be addressed as soon as possible; other aspects of education may be provided as part of an ongoing education program.

Self-management education should be, where possible, coordinated by a certified diabetes care and education specialist educator who works with the facility to develop policies, procedures, and protocols to ensure that nationally recognized education guidelines are implemented. The educator is also able to identify patients who need diabetes self-management education, including an assessment of the patients' medical, social, and diabetes histories; diabetes knowledge, skills, and behaviors; and readiness to change.

Table 1—Major components of diabetes self-management education

Survival skills

- hypo-/hyperglycemia
- sick day management
- medication
- monitoring
- foot care

Daily management issues

- disease process
- nutritional management
- physical activity
- Medications
- Monitoring
- acute complications
- risk reduction
- goal setting/problem solving
- psychosocial adjustment
- preconception care/pregnancy/gestational diabetes management

XIII. STAFF EDUCATION

Policies and procedures should be implemented to ensure that the health care staff has adequate knowledge and skills to direct the management and education of persons with diabetes. The health care staff needs to be involved in the development of the officers' training program. The staff education program should be at a lay level. Training should be offered at least biannually, and the curriculum should cover the following:

- What diabetes is
- Signs and symptoms of diabetes
- Risk factors
- Signs and symptoms of, and emergency response to, hypo- and hyperglycemia
- Glucose monitoring
- Medications
- Exercise
- Nutrition issues including timing of meals and access to snacks
- It is recommended to include diabetes in custodial/security staff education programs.

XIV. ALCOHOL AND DRUGS

Patients with diabetes who are withdrawing from drugs and alcohol need special consideration. Alcohol, opioids, cocaine, amphetamine, psychostimulants and other drugs of abuse can have complex interactions with glucose regulation (17). This issue particularly affects initial police custody and jails. At an intake facility, proper initial identification and assessment of these patients are critical, and a careful history of chronic or recent exposure to drugs should be obtained. The presence of diabetes may complicate detoxification. Patients in need of complicated detoxification should be referred to a facility equipped to deal with high-risk detoxification. Patients with diabetes should be educated in the risks involved with smoking. All inmates should be advised not to smoke. Assistance in smoking cessation should be provided as practical.

XV. TRANSFER AND DISCHARGE

Patients in jails may be housed for a short period of time before being transferred or released, because it is not unusual for patients in a prison or other detention system to be transferred within the system several times during their incarceration. One of the many challenges that health care providers face working in the detention system is how to best collect and communicate important health care information in a timely manner when a patient is in initial police custody, is detained for a short period, or is transferred from one facility to another. The importance of this communication is critical when the patient has a chronic illness such as diabetes, as a delayed or missed dose of insulin or meal can have serious consequences.

Transferring a patient with diabetes from one detention facility to another requires a coordinated effort. To facilitate a thorough review of medical information and completion of a transfer summary, it is critical for custody personnel to provide medical staff with sufficient notice before the movement of the patient.

Before the transfer, the health care staff should review the patient's medical record and complete a medical transfer summary that includes the patient's current health care issues. At a minimum, the summary should include the following:

- The patient's diagnosis
- The patient's current medication schedule and dosages
- The date and time of the last medication administration
- Any recent monitoring results (e.g., CBG and a1c)
- Other factors that indicate a need for immediate treatment or management at the receiving facility (e.g., recent episodes of hypoglycemia, history of severe hypoglycemia or frequent DKA, concurrent illnesses, presence of diabetes complications)
- Information on scheduled treatment/ appointments if the receiving facility is responsible for transporting the patient to that appointment
- Name, telephone/fax number, and email if available of a contact person at the transferring facility who can provide additional information, if needed

The medical transfer summary, which acts as a quick medical reference for the receiving facility, should be transferred along with the patient. To supplement the flow of information and to increase the probability that medications are correctly identified at the receiving institution, sending institutions are encouraged to provide each patient with a medication card to be carried by the patient that contains information concerning diagnoses, medication names, dosages, and frequency. Diabetes supplies, including diabetes medication, should accompany the patient.

The sending facility must be mindful of the transfer time in order to provide the patient with medication and food if needed. The transfer summary or medical record should be reviewed by a health care provider upon arrival at the receiving institution.

Planning for patients' discharge from detention settings should include instruction in the long-term complications of diabetes, the necessary lifestyle changes and examinations required to prevent these complications, and, if possible, where patients may obtain regular follow-up medical care. A quarterly meeting to educate patients with upcoming discharges about community resources can be valuable. Inviting community agencies to speak at these meetings and/or provide written materials can help strengthen the community link for patients discharging from detention facilities.

Discharge planning for patients with diabetes should begin at least 1 month before discharge. During this time, applications for appropriate entitlements should be initiated. Any gaps in the patient's knowledge of diabetes care need to be identified and addressed. The detention facility's discharge planning team should provide the patient a list of community resources and assist in securing an appointment for follow-up care with a community provider. A supply of medication adequate to last until the first post release medical appointment should be provided to the patient upon release. The patient should be provided with a written summary of his/her current health care issues, including medications and doses, recent A1C values, etc.

XVI. BRIEF TRANSFERS

It is essential that the transport of patients from jails, prisons, or other detention settings to off-site appointments, such as medical visits or court appearances, does not cause significant disruption in the timing of insulin and meals. Detention facilities and police “lock-ups” should implement policies and procedures to diminish the risk of hypo- and hyperglycemia by, for example, providing carry-along meals and medication for patients traveling to off-site appointments or changing the insulin regimen for that day. The availability of prefilled insulin “pens” provides an alternative for off-site insulin delivery.

Recommendations

- For all interinstitutional transfers, complete a medical transfer summary to be transferred with the patient.
- Diabetes supplies and medication should accompany the patient during transfer.
- Begin discharge planning with adequate lead time to ensure continuity of care and facilitate entry into community diabetes care.

XVII. SHARING OF MEDICAL INFORMATION AND RECORDS

Practical considerations may prohibit obtaining medical records from providers who treated the patient before arrest. Intake facilities should implement policies that 1) define the circumstances under which prior medical records are obtained (e.g., for patients who have an extensive history of treatment for complications); 2) identify person(s) responsible for contacting the prior provider; and 3) establish procedures for tracking requests.

Facilities that use outside medical providers should implement policies and procedures for ensuring that key information (e.g., test results, diagnoses, physicians’ orders, appointment dates) is received from the provider and incorporated into the patient’s medical chart after each outside appointment. The procedure should include, at a minimum, a means to highlight when key information has not been received and the designation of a person responsible for contacting the outside provider for this information. All medical charts should contain CBG test results in a specified, readily accessible section and should be reviewed on a regular basis.

XVIII. CHILDREN AND ADOLESCENTS WITH DIABETES

Children and adolescents with diabetes, in particular type 1, present special problems in disease management, even outside the setting of a detention facility. Children and adolescents with diabetes should have initial and follow-up care with physicians who are experienced in their care. Confinement increases the difficulty in managing diabetes in children and adolescents, as it does in adults with diabetes. Detention facility authorities also have different legal obligations for children and adolescents.

Nutrition and Activity

Growing children and adolescents have greater caloric/nutritional needs than adults. In youth with type 1 diabetes, insulin dosing based on carbohydrate amounts is of particular importance. The provision of adequate calories and nutrients appropriate for children and adolescents is critical to maintaining healthy growth and development. Physical activity should be provided at the same time each day. If increased physical activity occurs, additional CBG monitoring is necessary and additional carbohydrate snacks may be required to avoid or respond to hypoglycemia.

Medical Management and Follow-up

Children and adolescents who are incarcerated for extended periods should have follow-up visits at least every three months with individuals who are experienced in the care of children and adolescents with diabetes. Thyroid function tests and fasting lipid and microalbumin measurements

should be performed according to recognized standards for children and adolescents (16) in order to monitor for autoimmune thyroid disease and complications and comorbidities of diabetes.

Children and adolescents with diabetes exhibiting unusual behavior should have their CBG checked at that time. Because children and adolescents are reported to have higher rates of nocturnal hypoglycemia (17), consideration should be given regarding the use of episodic overnight blood glucose monitoring in these patients. In particular, this should be considered in children and adolescents who have recently had their overnight insulin dose changed.

XIX. PREGNANCY

Pregnancy in a woman with diabetes is by definition a high-risk pregnancy. Every effort should be made to ensure that treatment of the pregnant woman with diabetes meets accepted standards (18,19). It should be noted that glycemic standards are more stringent, the details of dietary management are more complex and exacting, insulin is the only antidiabetic agent approved for use in pregnancy, and several medications used in the management of diabetic comorbidities are known to increase the risk for birth defects and must be discontinued in the setting of pregnancy.

XX. SUMMARY AND KEY POINTS

People with diabetes should receive care that meets national standards. Being incarcerated does not change these standards. Patients must have access to medication, supplies for testing and daily management, and nutrition as needed to manage their disease. In patients who do not meet treatment targets, medical and behavioral plans should be adjusted by health care professionals in collaboration with the detention facility staff. It is critical for detention facilities to identify particularly high-risk patients in need of more intensive evaluation and therapy, including pregnant women, patients with advanced complications, a history of repeated severe hypoglycemia, or recurrent DKA.

In the detention setting environment, there are a number of reasonable accommodations that may be necessary and appropriate for people with diabetes, including modified meal times, special dietary regimen, access to diabetes care supplies, access to food/drink to prevent/treat hypoglycemia, modified schedules/arrangements allowing participation in jobs or other programming, use of assistive devices or other items to accommodate diabetes-related management needs (e.g. insulin pump) and medical complications (e.g. specialized shoes), and more.

A comprehensive, multidisciplinary approach to the care of people with diabetes can be an effective mechanism to improve overall health and delay, and to prevent the acute and chronic complications of this disease.

ACKNOWLEDGEMENTS

The following members of the American Diabetes Association/National Commission on Correctional Health Care Joint Working Group on Diabetes Guidelines for Correctional Institutions contributed to the revision of this document in 2008: Daniel L. Lorber, MD, FACP, CDE (chair); R. Scott Chavez, MPA, PA-C; Joanne Dorman, RN, CDE, CCHP-A; Lynda K. Fisher, MD; Stephanie Guerken, RD, CDE; Linda B. Haas, CDE, RN; Joan V. Hill, CDE, RD; David Kendall, MD; Michael Puisis, DO; Kathy Salomone, CDE, MSW, APRN; Ronald M. Shansky, MD, MPH; and Barbara Wakeen, RD, LD.

The following members of the American Diabetes Association/National Commission on Correctional Health Care Joint Working Group on Diabetes Guidelines for Correctional Institutions contributed to the revision of this document in 2020 and 2021: Daniel L. Lorber, MD, FACP, CDE (chair); Michael Puisis, DO; Jill Crandall, MD; Sarah Fech-Baughman, JD; Barbara Wakeen, MA, RDN, LD, CD, CCFP, CCHP; Jo Jo Dantone, MS, RDN, LDN, CDCES, FAND; Robin Hunter-Buskey, DHSc, CPHQ, CCHP, CDE, PA-C, CAPT; Kenneth Moritsugu, MD, MPH, FACPM, FADCES (hon), CCHP; Emily Wang, MD; Marissa Desimone, MD; Ruth Weinstock, MD, PhD; Aaron Fischer, JD; Gabe Eber, JD, MPH; and William Shefelman.

REFERENCES

1. Maruschak L, & Minton T. Correctional Populations in the United States, 2017-2018. Bureau of Justice Statistics. August 2020.
2. Carson E. A. Prisoners in 2019. Bureau of Justice Statistics. October 2020.
3. Maruschak L, & Berzofsky M. Medical Problems of State and Federal Prisoners and Jail Inmates, 2011–12. Bureau of Justice Statistics. February 2015. Revised, October 2016.
4. Centers for Disease Control and Prevention. National Diabetes Statistics Report, 2020. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services; 2020.
5. Bureau of Justice Statistics, US Department of Justice. Prison statistics, summary findings (Oct. 2020). Available at: https://bjs.ojp.gov/content/pub/pdf/p19_sum.pdf, accessed Oct. 17, 2021.
6. Puisis M. Challenges of improving quality in the correctional setting. In *Clinical Practice in Correctional Medicine*. St. Louis, MO, Mosby-Yearbook, 1998, p. 16–18.
7. American Diabetes Association. Standards of medical care in diabetes 2021 (Position Statement). *Diabetes Care* 37 (Suppl. 1): S14–S80232, 202114.
8. American Diabetes Association. Nutrition therapy recommendations for the management of adults with diabetes (Position Statement). *Diabetes Care* 37 (Suppl. 1): S120–S143, 2014.
9. American Diabetes Association. Hyperglycemic crisis in diabetes (Position Statement). *Diabetes Care* 27 (Suppl. 1): S94–S102, 2004.
10. American Diabetes Association. Continuous subcutaneous insulin infusion (Position Statement). *Diabetes Care* 27 (Suppl. 1): S110, 2004.
11. Kassir K, Roe C, Desimone M. Use of Telemedicine for Management of Diabetes in Correctional Facilities. *Telemedicine and e-Health: vol 23.mo 1:55*, 2017.
12. Jameson BC, Zygmunt SV, Newman N, Weinstock R. Use of Telemedicine to Improve Glycemic Management in Correctional Institutions: *Journal of Correctional Health Care* vol 14: 197, 2008.
13. American Diabetes Association. Tests of glycemia in diabetes (Position Statement). *Diabetes Care* 27 (Suppl. 1): S91–S93, 2004.
14. Haas L, Maryniuk M, Beck J, Cox CE, Duker P, Edwards L, Fisher EB, Hanson L, Kent D, Kolb L, McLaughlin S, Orzeck E, Piette JD, Rhinehart AS, Rothman R, Sklaroff S, Tomky D, Youssef G, on behalf of the 2012 Standards Revision Task Force: National standards for diabetes self-management education and support. *Diabetes Care* 37 (Suppl. 1): S144–S153, 2014.
15. Dagogo-Jack S. 2016. *Diabetes Risks from Prescription and Nonprescription Drugs: Mechanisms and Approaches to Risk Reduction*. Alexandria, VA, American Diabetes Association, 2016.
16. International Society for Pediatric and Adolescent Diabetes. Consensus Guidelines 2000: ISPAD Consensus Guidelines for the Management of Type 1 Diabetes Mellitus in Children and Adolescents. Zeist, Netherlands, Medical Forum International, 2000, p. 116, 118.
17. Kaufman FR, Austin J, Neinstein A, Jeng L, Halyorson M, Devoe DJ, Pitukcheewanont P. Nocturnal hypoglycemia detected with the continuous glucose monitoring system in pediatric patients with type 1 diabetes. *J Pediatr* 141:625–630, 2002.

18. American Diabetes Association. Gestational diabetes mellitus (Position Statement). *Diabetes Care* 27 (Suppl. 1): S88–S90, 2004.

19. Jovanovic L. *Medical Management of Pregnancy Complicated by Diabetes*. 4th ed. Alexandria, VA, American Diabetes Association, 2009.