Table 20
Glucagon Preparations for Treatment of Severe Hypoglycemia

	Ready to use	Nasal	Injection	Stability
Glucagon nasal powder	✓	✓		Can be stored at temperature up to 86 °F
Dasiglucagon	✓		✓	0.6 mg – shelf life is 12 mo at room temperature from date of removal from refrigeration*
Glucagon prefilled syringe (Pen)	✓		✓	1 mg** – 30 mo at room temperature 20-25 °C
Glucagon emergency kit	Reconstitution required		✓4 manufacturers	Can be stored at room temperature from 18 to 36 mo, depending on manufacturer

The most common side effects of glucagon administration are nausea; vomiting; headache; runny nose; discomfort in nose; stuffy nose; redness in eyes; itchy nose, throat, and eyes; watery eyes
Refer to the full prescribing information for any prescribed glucagon formulation for the most current, US Food and Drug Administration–approved information.
* Do not return product to refrigerator after storing at room temperature.
** Dose for pediatric patients aged 2 to under 12 years of age who weigh <45 kg is 0.5 mg.

As soon as the individual is awake and able to swallow, they should receive a rapidly absorbed source of carbohydrate (eg, glucose tablets or dietary sugar like fruit juice) followed by a snack or meal containing both protein and carbohydrates (eg, cheese and crackers or a peanut butter sandwich).[1216,1217,1233,1239-1241]

Hypoglycemia is the primary limiting factor in the treatment of both T1D and T2D. It remains a significant barrier in terms of treatment adherence and achievement of glycemic goals.[1108] Long-term management of hypoglycemia depends on appropriate adjustment of therapy to prevent hypoglycemia or reduce its frequency and severity in persons prone to hypoglycemia (eg, the elderly and persons with T1D). In T2D, hypoglycemia typically occurs in association with use of exogenous insulin, SUs (especially glyburide),[1242] and glinides; symptoms may be mild, moderate, or severe. The risk of hypoglycemia may be further increased by the addition of other antihyperglycemic agents to SUs or insulin. Therefore, in adults with T2D, treatment strategies should emphasize the increased number of antihyperglycemic medication classes that are not associated with severe hypoglycemia (Table 16). Also, the role of hypoglycemia must be considered in determining ideal A1C goals for each patient.

BGM and especially CGM are important tactics to help persons prevent, identify, and document hypoglycemia, although it is essential that the glucose meter and CGM meet accuracy standards and that users are provided with education and support. CGM use is particularly important in persons with recurrent asymptomatic hypoglycemia (hypoglycemia unawareness, hypoglycemia-associated autonomic failure), recurrent hypoglycemia, and persons on regimens placing them at risk for hypoglycemia.[153,1198]

Persons with hypoglycemic unawareness are particularly susceptible to marked variations in glucose levels. Therapeutic approaches can minimize glycemic excursions and prevent hypoglycemia.[1243-1247] Also, CGM, especially when connected to insulin pumps and HCL devices, can reduce occurrence of hypoglycemia.[1248]

Question 15: How should DM be managed in the hospital?

Recommendation 15.1

All hospitalized persons should have laboratory glucose testing on admission. Persons with DM or with admission hyperglycemia >140 mg/dL should have glucose monitoring during hospitalization.
Grade B; BEL 1

Recommendation 15.2

To guide inpatient therapy and inform discharge planning, clinicians should measure A1C in all persons with DM, unless their A1C is known and was tested within the previous 3 months.
Grade B; BEL 2

Recommendation 15.3

Hospitalized persons with hyperglycemia but without known DM should have A1C measured to identify preexisting DM and inform discharge planning.
Grade B; BEL 2

Recommendation 15.4

Initiate bedside POC capillary glucose monitoring at an appropriately chosen schedule to guide therapy for hyperglycemia during hospitalization in all persons with DM, persons without prior DM who have hyperglycemia, and persons receiving therapies with a high risk of hyperglycemia, such as corticosteroids and enteral or parenteral nutrition.
Grade A; BEL 1

Recommendation 15.5

For hospitalized persons with DM eating on a regular schedule, check POC BG before each meal and at bedtime, if clinically indicated. In hospitalized persons who are not eating (eg, NPO [nothing by mouth] or continuous feeding), initially check POC BG at least every 4 to 6 hours. Additional checks may be warranted for those at higher risk of hypoglycemia. For those on IV insulin, POC BG should be obtained from every 30 minutes to every 2 hours.
Grade A; BEL 1

Recommendation 15.6

Although inpatient CGM has not received regulatory approval, CGM may be useful in inpatient settings, while complying with institutional policies and safety precautions. CGM may improve detection of severe hypoglycemic and hyperglycemic events, identify glucose trends and patterns, and improve satisfaction in persons with DM.
Grade C; BEL 2

Recommendation 15.7

CGM may be considered under special regulatory allowance during the time of COVID-19 to reduce staff exposure and use of personal protective equipment and assist with glycemic monitoring of persons in the hospital setting.
Grade C; BEL 2

Recommendation 15.8

Specialized inpatient DM teams and/or CDCES, if available, should be used to improve outcomes in hospitalized persons with