## UCONN SCHOOL OF PHARMACY

# Type 2 Diabetes, the Body, and Disaster Preparedness

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## **Background:**

- Disasters can impact those with chronic illnesses, such as diabetes
- People are often without electricity, refrigeration, or have limited access to medical facilities and medications
- Glycemic control may deteriorate after disasters
- It is important for healthcare providers to ensure their diabetic patients are always prepared

#### **Statistics:**

- Hemoglobin A1c values increased from 7.74 to 8.34% after the Kobe Earthquake in Japan
- During the Gulf War, hemoglobin A1c and weight increased in diabetic patients
- After Hurricane Charley:
  - 1/3 of households had at least one medical condition worsen
  - 9% of households reported at least one without access to prescription medications
- Only 9% of all chronic care medications were supplied after Hurricane Katrina



Be Aware of Diabetic Ketoacidosis Symptoms: • Excessive thirst, polyuria, elevated

- Excessive thirst, polyuria, elevater blood glucose, ketonuria
- Nausea, vomiting, abdominal pain
- Fruity breath
- Confusion
- Diabetes ketoacidosis can lead to coma

#### Sick Days:

- Urine ketone testing strips when:
  Blood glucose is over 240 mg/dL
- Vomiting
- $_{\circ}\,$  Symptoms of DKA
- Hydration is very important, drink plenty of sugar-free liquids

#### Food and Mealtime:

- Prepare nutritional and non-perishable options: crackers, peanut butter, fruit juice / sports drink, cans of tuna, low-sodium soup
- Erratic mealtimes and meal contents can cause fluctuations in blood glucose levels

#### Monitoring:

- Check blood glucose more frequently
- Watch expiration dates and stock of medications and supplies
- Opened insulin vials can be stored at room temperature for 28 days; in-use insulin pens-store at room temperature (do not refrigerate) for 10-42 days depending on brand and type

## Protect the Skin:

- Avoid outdoor activity if possible
  Wear protoctive light colored
- Wear protective, light colored clothing and sturdy shoes
- Check for slow healing wounds, blisters, and infections, especially on feet

#### Cardiovascular:

- Increased stress can lead to higher blood pressure, increasing the risk of CVD
- The risk of stroke for a diabetic is 2-4 times higher than a non-diabetic
- Excess glucose can cause restricted blood flow, damaging blood vessel

## 1.11

Things to Remember:

- Stress can raise blood glucoseExcessive work to repair damage
- can lower blood glucose levels
  Excessive exercise when blood glucose levels are over 250 mg/dL can result in even higher levels

Resources for Diabetic Patients and References:



### How to Prepare:

- Develop an Emergency Kit
  - Medications: Insulin (basal and bolus), oral and injectables, glucagon kit
  - o Medical alert bracelet
  - Supplies: testing strips, lancets, insulin syringes and pen needles, alcohol swabs, hard, plastic container for sharps
  - Lots of water, 1 week of non-perishable foods
- Batteries, blood glucose meter
- Health history, including allergies, providers' contact info, and emergency contacts
- Switching insulin usually requires medical supervision, but under emergency conditions, the following may be done:
  - Different brand can be substituted for the same type of insulin, on a unit by unit basis
    - e.g. rapid-acting with rapid-acting
  - Switching from intermediate to long-acting may be switched; add total daily intermediate dose / day and administer as a single dose of long acting, and may need to decrease by 20%
  - Switching from long-acting to intermediate-acting by halving the dose and administering twice a day, with breakfast and dinner. However, the onset, peak, duration, and hypoglycemia risk of NPH are different from long-acting insulins.



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