Diabetes in the Hospital

Whether your visit to the hospital is planned or unplanned, it's important to understand that life in the hospital is VERY different from life outside the hospital, and many of the things you know to be true about your diabetes at home might not apply in the hospital. Many factors related to your body are different. The environment you're in and the different medical procedures you might be going through can really wreak havoc on your blood sugar levels.

How a Hospital Stay Can Affect Your Body:

1. Whether you are in the hospital for an illness, trauma, surgery, a medical procedure, or even just as a visitor, the increased amount of stress (emotional or physical) your body is under can cause increases in your blood glucose level.
2. During stress, your body becomes resistant to the glucose-lowering effects of insulin and/or oral medications, thus increasing your blood sugar levels and your body's medication requirements.
3. The food in the hospital can also be very different than the food you eat at home. It can have more or less carbohydrate than you are used to eating, which can have a significant impact on your blood sugar levels.
4. The timing of meals can also be quite different. Many hospitals have set schedules for meals, which may or may not be what you are used to. Some have room service or meals on demand, but even then you may not be allowed to eat for long periods of time while awaiting a procedure or surgery.
5. Your activity level is also usually not what you're used to because you're often lying in bed or sitting in a chair for many hours during the day while healing.
6. Medications you receive in the hospital can also cause your blood sugar level to go up or down. It's the same for different IV fluids or nutritional supplements you might receive.
7. The hospital blood glucose targets are also often different from your home targets. Blood sugar levels between 100-180 mg/dL or even 140-180 mg/dL have been shown to be the safest range for healing while in the hospital. Common outpatient targets like 80-130 mg/dL are not necessary for the short period of time you are in the hospital, and given all of the different variables at play in the hospital, you need a little room for error to avoid severe hyper or hypoglycemia.
8. Your body also often goes through a lot of changes during your illness or injury and healing process. Your kidney function might change temporarily, or you might develop nausea, vomiting or poor appetite.

Given all of these changes, and because there are often temporary contraindications to many oral/non-insulin injectable medications in the hospital, most people are transitioned to insulin therapy during hospitalization, whether they were taking insulin prior to the hospital stay or not. Insulin treatment is the fastest and most flexible way to get (and hopefully keep) your blood sugars in the healing range during your hospitalization. This does not necessarily mean you will have to go home on insulin, but it is important to know and be aware, as it can be a big change for a lot of patients.

The Hospital Environment and Diabetes Devices:

In addition to the different food, timing of meals, activity levels, medications, etc., the hospital environment itself is very different from home, and all of your usual diabetes devices have not necessarily been tested and proven to be as effective as they are at home.

1. Glucose meter: the hospital glucose meters have been through extra testing in the hospital environment compared to home glucose meters, and are the preferred devices for monitoring blood glucose in the hospital.
2. Continuous Glucose Monitor: CGMs are not currently FDA approved for use in the hospital setting. They cannot replace glucose monitoring with the hospital meters, but many hospitals allow patients to continue to wear them for personal comfort. You will usually have to sign a consent form stating you are aware of these differences and will allow hospital staff to monitor your blood glucose using the hospital meter as well.
3. Insulin pumps: depending on the hospital you are going to and the level of diabetes expertise available, many will let you stay on your insulin pump during your hospital stay. However, understand that you will still be in charge of managing your pump throughout your stay, and if anything happens and you are not awake, alert, or able to manage the pump independently, the medical team might need to transition you to basal bolus or insulin infusion therapy in the short term.
4. Closed loop insulin pumps: because CGMs are not currently FDA approved for hospital use, and these closed loop systems rely on the CGM reading to dose insulin, the closed loop software technically should not be used in the hospital setting. This does not mean you are not able to wear your insulin pump, but rather that it might need to be switched to manual mode for the duration of your procedure or hospitalization.
5. Imaging or tools used during surgery can interfere with some of your diabetes devices, so if you are undergoing surgery or imaging, it is important to make sure the team knows you are wearing devices. Ensure they are out of the surgical or imaging field and have a plan to shield them if needed.

How To Be Prepared:

If your visit to the hospital is planned, try to find out as many details as possible regarding your upcoming stay, and be as prepared as possible for all of the changes in store for you.

1. If you are coming for a planned procedure, it is important to find out if/when you need to stop eating beforehand, and what diabetes medications should be taken, held, or adjusted prior to your procedure.
2. If you wear an insulin pump or CGM, find out if you will be allowed to keep it on during the procedure (it's usually ok for short procedures). Bring plenty of extra supplies including insulin, batteries, a charging cord, pump parts, sensors, etc. Devices usually have to come off for MRIs or be shielded for x-rays, CT scans, fluoro, etc., so it's a good idea to have extras just in case.
3. If you have type 1 diabetes, make sure you have basal insulin on board at all times either via insulin pump, IV insulin drip or long-acting subcutaneous insulin. Do NOT turn off your pump without having an insulin drip running or long-acting insulin on board so you do not go into DKA.

Final Thoughts:

During your stay, communicate clearly with your medical and surgical teams, be aware of your blood sugar values, and work with your team to discuss and address any questions or concerns you might have about your diabetes management before, during, and after your hospital visit.