Guidelines to Treatment of Hyperglycemia in the SICU

Hyperglycemia:

- The preferred route to control hyperglycemia in critically-ill patients is intravenous (IV) insulin infusion. The current UCH protocols are well known to the nursing staff and should be followed.
- Glycemic targets are around 140 mg/dl in order to avoid hypoglycemia (> 70 and < 180)
    - *Epic: Order Sets ->Adult Insulin Infusion*
- Patients with complete insulin deficiency (Type 1 diabetes or total pancreatectomy), are at highest risk for diabetic ketoacidosis and should *never* be left without insulin.
    - Long acting insulin (i.e. Lantus or Glargine) should be administered 2 hours before IV insulin is stopped.

Enteral Nutrition:

- The safest treatment is use of 70/30 insulin dosed every 8 hours with continuous tube feeding or at the initiation of cyclic tube feeding (+\- a dose at midway point).
- Corrections with rapid acting insulin, Lispro, every 4 to 8 hours can be used to achieve glycemic targets.
- Avoid use of Lantus insulin as tube feeding may be interrupted intentionally or unintentionally.
- Use D10% IV infusion if tube feeding is stopped in patients with insulin on board. This is built in to all the order sets as a PRN order.
- Blood glucose targets while patients are receiving enteral nutrition is 140-180 mg/dL.
    - *Epic: Order Sets ->Glucose Management Team Orders for Subcutaneous Insulin for Patient Receiving Continuous TF or PN (70/30 – TID dosing)*
    - *Or*
    - *Epic: Order Sets ->UCH Subcut Insulin: Continuous TF or TPN (70/30 – BID dosing)*

Parental Nutrition:

- The preferred and safest way of administering insulin is in the TPN bag.
- Blood glucose targets are also 140-180 mg/dL
- Patients **with known diabetes** should be started on 1 unit of insulin for 10-15 g of dextrose in the bag.
- Patients with hyperglycemia but **without known diabetes** may be started on 1 unit of insulin for 20-25 g of Dextrose in the bag.
- For all patients, correctional doses of Lispro every 4 to 6 hours will be needed.
- If unable to add insulin to TPN, recommend starting insulin therapy per the Enteral Feeding guideline above.

Steroids:

- Diabetic or hyperglycemic patients should be given NPH at the time of steroid administration in addition to other insulin the patient is receiving, depending on factors such as sensitivity to insulin, previous NPH doses, dose of steroids, etc.
- A suggested start in a patient who did **NOT** receive NPH with previous steroid is 5-7 Units in an insulin-sensitive patient and 10-20 Units in an insulin-resistant patient if a dose of steroids is under 60 mg of prednisone or equivalent.
- In most hyperglycemic patients, NPH should be given with every administration of steroids.

The Glucose Management Team is available to assist 24/7. Contact information can be found on AMION.