

**HENDRICKS REGIONAL HEALTH
NURSING DEPARTMENT**

TITLE: **U500 HUMULIN R INSULIN ADMINISTRATION**

FOR: Nursing Department

PURPOSE: To promote safe ordering and administration of U-500 insulin doses, and to avoid calculation errors in converting doses from units to volume.

POLICY: **U500 Humulin R®** insulin preparation contains 500 units of insulin in each milliliter. Extreme caution will be observed in the measurement of the dosage and a designated order set will be used. Inadvertent overdose may result in irreversible and serious consequences because of U500 Humulin R's concentration. U500 Humulin R® Insulin is a high alert medication that has great potential to cause significant patient harm if given inappropriately.

- **K.P. = Key Point**

PROCEDURE:

K.P.

- **U- 500 Humulin R® insulin action profile has both prandial and basal characteristics. Specifically, it takes effect within 30 minutes, has a peak similar to U-100 regular insulin, and has a relatively long duration of action (up to 24 hours).**

I. General Requirements/Ordering

- A. U-500 insulin is limited to patients who would be receiving greater than 200 units (total units, all insulin types) per day as an inpatient unless they are receiving insulin via an insulin pump.
- B. U-500 insulin will only be utilized in the hospital when endocrinology is consulted or directly involved.
- C. The use of a patient's home supply of U-500 insulin is not allowed. U-500 insulin vials are stocked and stored only by the pharmacy.
- D. U-500 insulin dose will be clearly marked in a TB syringe as containing U-500 Humulin R insulin. (See II.B below for pharmacy preparation)
- E. Consider a dose reduction of 25 to 50% of the home dose when the inpatient's diet is expected to be markedly different from the routine home diet. Further dose reduction should be implemented when patient is NPO and/or not eating.
- F. Prescribers must complete the order using the order set (form 9230) that specifies the Concentrated Insulin U-500 units in both dosage (units) and volume of milliliters (e.g. 300 units, 0.6 ml) of U-500 insulin. Nursing associates may locate the U-500 conversion chart attached to the order set.
- G. If the scheduled dose of U-500 insulin is changed (decreased or increased) the dose dispensed is returned to the pharmacy and a new dose is prepared and dispensed.

II. Preparing/Dispensing

- A. All U-500 insulin doses are prepared by the pharmacy in ready to administer syringes. Two pharmacists are to conduct an independent verification of medication, dose, volume, concentration, route, time, and patient identity prior to dispensing each dose from the pharmacy. In a situation where only one pharmacist is on duty, another licensed health care professional may perform the independent verification.
- B. **Doses will be dispensed in a 1 ml TB syringe for use with a 27 gauge safety needle.** The syringe is labeled with the patient's name, drug name, dose and volume to administered, dose time, and expiration date. Doses are dispensed to unit medication refrigerator daily and stored in an upright position for administration.
- K.P.**
- **Doses are NOT dispensed in a U-100 insulin syringe.**
 - **U-500 doses are not dispensed via the pneumatic tube system.**

III. Administration

- A. Two nurses to perform an independent verification of medication, dose, volume, concentration, route, time, and patient identity prior to administration.
- B. Completion of the independent verification is documented in eMAR (via Nurse Witness). In the absence of electronic documentation, use established paper forms for all documentation.

Originated: 8/11

Revised: 5/12

Electronic Signatures on file for: Vice President, Nursing Services
Chief of Medical Staff
Director, Pharmacy

HRH Policy Cross-References:

Medication Use Process

REFERENCES

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