Hospital: **U-500 Regular Insulin Administration**

Reference #: RX479

<table>
<thead>
<tr>
<th>Effective Date:</th>
<th>11/28/2011</th>
<th>Revision Date:</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reviewed Date:</td>
<td>N/A</td>
<td>Origination Date:</td>
<td>07/2011</td>
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</tbody>
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**Approved by:**
- Inpatient Glycemic Control Team
- Pharmacy and Therapeutics Committee
- Patient Care Committee
- Medical Executive Committee

**Policy Owner:** Director of Pharmacy

**Information Resource:** Inpatient Glycemic Control Committee

**Stakeholder Groups**
- Pharmacy Department
- Nursing
- Endocrinology
- Glycemic Control Committee

**SCOPE: Applicable to:**

<table>
<thead>
<tr>
<th>Departments, Divisions, Operational Areas</th>
<th>People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacy</td>
<td>Inpatient Areas</td>
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**POLICY STATEMENT:**

- U-500 regular insulin will not be administered intravenously.
- U-500 regular insulin will not be newly initiated in the hospitalized patients.
- U-500 regular insulin administered subcutaneously via intermittent injections will be prepared in pharmacy for administration.
- **Pharmacy stocking:** U-500 regular insulin will be stored in a locked refrigerator separate from U 100 insulin. Pharmacy staff will refer to the U 500 Regular insulin Pharmacy Department Tip Sheet (located next to the drug in the dispensing area) prior to dispensing.
- **Nursing stocking:** U-500 regular insulin vials will not be stored on the unit. Nurses will discard unused U-500 regular insulin in the pharmaceutical waste bin when refilling patient continuous subcutaneous pumps.
- Patients will not be allowed to use their own supply of U-500 regular insulin unless patients come in on their own subcutaneous pump. Care and maintenance of the pump will be in accordance with [MS0010: Continuous Subcutaneous Insulin Infusion (CS II) Pump – Care of the Patient](#).
- Re-supply of U-500 regular insulin for subcutaneous pumps will come from the inpatient pharmacy
- Patients receiving U-500 regular insulin will be seen by the diabetes educator during their hospital admission.
- All doses of U-500 regular insulin will require an independent double check by two nurses prior to administration.
DEFINITIONS: N/A

PROCEDURES:

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Action:</th>
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</thead>
<tbody>
<tr>
<td>Physician</td>
<td>1. If patient is on a <strong>subcutaneous insulin pump</strong> from home: Order Regular insulin U-500 by using the Continuous Self-Administered Subcutaneous Insulin Pump Orderset (#33038)</td>
</tr>
<tr>
<td></td>
<td>If patient is on <strong>intermittent regular</strong> U-500 insulin subcutaneous doses from home: Order as normal. Pharmacy to prepare individual doses.</td>
</tr>
<tr>
<td>Pharmacy staff (order verification)</td>
<td>2. If patient is on a <strong>subcutaneous insulin pump</strong> from home: Verify against home U-500 insulin usage and confirm a dose was ordered using Continuous Self-Administered Insulin Pump Orderset (#33038)</td>
</tr>
<tr>
<td></td>
<td>If patient is on <strong>intermittent regular</strong> U-500 insulin subcutaneous doses from home: Verify the dose has a dispense code of ‘extempo’ for pharmacy department preparation before verification.</td>
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</tbody>
</table>
| Pharmacy staff (dispensing medication) | 3. a. Locate regular U-500 regular insulin vials in the locked refrigerator separate from the U-100 insulin stock.  
       b. Locate TB syringes to draw up product  
       c. Draw product up to the prescribed dose as indicated on the label  
       d. Label product with a ‘high risk’ sticker  
       e. Before dispensing drug, follow instructions in Pharmacy U-500 regular insulin pharmacy department tip sheet |
| RN                            | 4. a. If not previously done, review MS0010: Continuous Subcutaneous Insulin Infusion (CS II) Pump – Care of the Patient for assessment of patient ability to use own pump during hospitalization. If patient does not meet criteria for use of their own subcutaneous pump, contact physician for orders.  
       b. If applicable, patient to complete Consent for Patient on an Insulin Pump.  
       Perform an independent double check of U500 insulin vial prior to patient filling of cartridge or reservoir per RX450: High Risk or High Alert Drugs and MS0010: Continuous Subcutaneous Insulin Infusion (CS II) Pump – Care of the Patient. Note: RNs are NOT responsible for filling of the insulin pump cartridge.  
       Perform an independent double check of U500 injections individually prepared by pharmacy per RX450: High Risk or High Alert Drugs |

PROTOCOL: N/A

FORMS:
- Order set (33038) Continuous Self-Administered Subcutaneous Insulin Pump
**ALGORITHM:** N/A

**ADDENDA:** N/A

**FAQs:**
- Pharmacy U-500 regular insulin pharmacy department tip sheet

**REFERENCES:**
1) American Journal of Health-System Pharmacy, Vol. 67, Issue 18, 1526-1535 Use of concentrated regular insulin (U-500) for patients with diabetes
2) American Journal of Health-System Pharmacy, Vol. 68, Issue 1, 63-68 Addressing Safety concerns about U-500 insulin in a hospital setting
3) Regular Insulin U-500 package insert, Lilly pharmaceuticals
4) http://www.ismp.org/newsletters/ambulatory/archives/200708_2.asp
5) http://www.uspharmacist.com/content/s/126/c/20822/

**Related Regulations and Laws:** N/A

**Additional Search Terms:** u500

**Related Policies:**

<table>
<thead>
<tr>
<th>Name of Policy</th>
<th>Content ID</th>
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</thead>
<tbody>
<tr>
<td>Continuous Subcutaneous Insulin Infusion (CS II) Pump – Care of the Patient</td>
<td>MS0010</td>
</tr>
<tr>
<td>High Risk and High Alert Drugs</td>
<td>RX450</td>
</tr>
<tr>
<td>Medication Ordering, Administration, and Documentation</td>
<td>RX417</td>
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</tbody>
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**Policies Replacing:** N/A