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DRUG AND THERAPEUTICS NEWSLETTER

A publication of the CSU Pharmaceutical Sciences
Vancouver General Hospital, UBC Hospital, GF Strong

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In This Issue...

All formulary changes and policy/procedure updates have been approved by the Drugs and Therapeutics (D&T) Committee and Medical Advisory Council (MAC).

This and other Drug and Therapeutics Newsletters are on the Web at **www.vhpharmsci.com**

Changes to Formulary

Additions

1. Insulin aspart 100 units/mL injection (NovoRapid®)
- Rapid-acting insulin
- Restricted to patients on this insulin prior to admission or Endocrinology Service
- See page 3 for review and comparison to other insulins

2. Insulin glargine 100 units/mL injection (Lantus®)
- Long-acting Insulin
- Restricted to patients on this insulin prior to admission or Endocrinology Service
- See page 3 for review and comparison to other insulins

3. Bortezomib 3.5mg/vial (Velcade®)
- Cytotoxic agent, non-vesicant
- Indicated for treatment of refractory multiple myeloma
- Restricted to approval by BCCA

4. Ferrous Fumarate 300mg tablet (Palafer®)
- Contains 100mg elemental iron per tablet
- To replace Iron polysaccharide 150mg (Triferexx®)
- Each order for Triferexx® 150mg (150mg Fe^{++}) will be automatically interchanged to ferrous fumarate 300mg (100mg Fe^{++}).

Deletions

1. Iron polysaccharide 150mg (Triferexx®)
- Alternative: Ferrous Fumurate 300mg

2. Mivacurium injection (Mivacron®)
- Discontinued by manufacturer
- Alternative: Rocuronium

3. Promethazine injection, oral (Phenergan®)
- Minimal to no usage at Vancouver Acute
- The Institute for Safe Medicine Practices (ISMP) issued a safety alert in August/06 concerning a potential risk of severe, tragic, local injuries after infiltration of inadvertent intra-arterial injection. As an option, ISMP is recommending deletion from formularies.
- Alternatives: Prochlorperazine (Stemetil®), Metoclopramide

4. Insulin Lente and Ultralente
- Discontinued by manufacturer
- Alternatives: Insulin NPH and Glargine
- See Insulin Review, page 3

Any comments, questions or concerns with the content of the newsletter should be directed to the editors. Write to CSU Pharmaceutical Sciences Vancouver General Hospital, 855 W12th Ave, Vancouver BC V5Z 1M9, send a FAX to 604-875-5267 or email karen.shalansky@vch.ca

Updated Policies

1. PHARMACEUTICAL INDUSTRY REPRESENTATIVES PRECEPTORSHIP

The following amendment to the pharmaceutical industry representatives (PIR) policy at Vancouver Acute was made to allow PIRs who participate in preceptorship (mentorship) programs to be present in patient care areas. In general, a mentorship program provides the PIR a guided tour of the patient care area (and may include educational sessions regarding treatment regimens) in exchange for honoraria or grant.

"Preceptorship, mentoring or similar activities with PIR are permitted in patient care areas provided that all activities meet the following requirements:

- *The medical staff host is responsible for the PIR and must make every reasonable effort to ensure that patient confidentiality is maintained throughout the activities. No patient information may be disclosed to the PIR, either directly or indirectly, without expressed patient consent.*
- *Direct patient or patient family contact is prohibited in all activities involving, or in close proximity to the PIR.*
- *The medical staff host must avoid any actual or perceived conflict of interest.*
- *The PIR and medical staff host must complete and sign the Protection of Patient Privacy and Confidentiality Acknowledgement Form prior to the start of the activity. Forms can be obtained from the Pharmacy D&T Secretary at 604-875-4077. Completed forms will be submitted and maintained by the Pharmacy administrative office.*
- *Violations of this policy will result in the termination or suspension of the preceptorship program and the notification of both the VCH Information Privacy Office and the Medical Advisory Committee."*

2. NEW PICC PLACEMENT ORDERS

The VA Infusion Program has developed a pre-printed order (PPO) for peripherally inserted central catheter (PICC) insertions, effective Sept 12, 2006. This PPO must be completed and signed for all PICC placement requests, for legal purposes. Please contact the Infusion Program with any questions/concerns at pager 604-872-9847.

3. HEALTH PROFESSIONS ACT: NURSING SCOPE AND PRACTICE STANDARDS

The Health Professions Act (HPA) is a regulatory framework for Health Professionals. An increase in the scope of practice for Registered Nurses was enacted in July 1, 2006 via the HPA. The changes expand nursing scope and practice standards, allowing nursing to initiate certain patient care activities without a doctor's order. Examples of these nursing initiated activities (NIA) include: management of hypoglycemia following an approved protocol, providing wound care and oxygen therapy, inserting urinary catheters and initiating acetaminophen therapy. Each NIA is being introduced individually at health institutions and/or health authorities within the province. The target date to complete implementation of all the HPA initiatives is August 2007. The first NIA within Vancouver Acute will be a revised hypoglycemia management protocol (see Patient Care Guideline D-1 on the intranet). This revised protocol has been piloted on T4, T6A and T11A. GF Strong and T9 staff will be piloting the protocol next. Once staff on these units have been in-serviced, the revised protocol within the HPA context will take effect; this is anticipated to occur at the end of January 2007. Nurses on those units will then be able to initiate glucagon subcutaneously, intravenous D10W or D50W, and dextrosol chewable tablets, without a doctor's order.

Phased expansion of this initiative to other areas of the hospital will take place once the pilot is complete. General HPA information sessions will be held for all VA staff on January 9, 16, 23, and 30, 2007 in the Lauener Room from 1430-1530h. All interested staff are welcome to attend.

A pre-printed insulin sliding scale has also been piloted on T4, T6A and T11A. Once data collection for the pilot is completed, the sliding scale will be available to be used hospital wide.

Please note that D10W and Dextrosol tablets are ordered through stores, whereas D50W and Glucagon will be available in the Omnicell machines or as wardstock in those areas that do not have Omnicell machines.

4. THERAPEUTIC INTERCHANGE REVISION: PROTON PUMP INHIBITORS

This TIP is used to convert oral non-formulary proton pump inhibitor (PPI) orders to formulary alternatives (i.e. rabeprazole tablets and omeprazole MUPs for NG use). An additional interchange included the conversion of rabeprazole doses greater than 20mg per day (e.g. 20mg po BID) to 20mg once daily. There is some concern that a clinical assessment is required rather than an automatic change in the dispensary to a lower dose. As such, effective November 24, 2006, the interchange of rabeprazole doses greater than 20mg per day has been removed and instead will be followed up by a clinical pharmacist for appropriateness.

New Drug/Drug Products

New Insulins: Insulin aspart, Insulin glargine
Anar Dossa, B.Sc. (Pharm), Certified Diabetic Educator

Insulin aspart (NovoRapid®)
Insulin aspart is a new recombinant human insulin analogue that has a more rapid onset and shorter duration of action compared to regular insulin (Table 1). It is similar in structure to regular insulin other than a substitution of the amino acid proline with aspartic acid at the B28 position. This substitution changes the shape of the insulin molecule resulting in a more rapid onset and shorter duration of action. Due to this shorter duration, insulin aspart may cause less post-meal hypoglycemia compared to regular insulin.[1]

Insulin aspart should be administered just before a meal (within 15 minutes of starting the meal). It comes as a clear 100 unit/mL solution that can be mixed with NPH insulin as long as both insulins are from the same manufacturer. If mixed with NPH, insulin aspart should be drawn into the syringe first followed by NPH, then injected immediately after mixing. Once punctured, the vial is stable for 28 days. Insulin aspart should only be given subcutaneously (SC).

Insulin aspart is considered a meal-time or prandial insulin. Most patients also require a basal insulin, such as NPH or glargine.

Insulin glargine (Lantus®)
Insulin glargine is a recombinant human insulin analogue that is long-acting (Table 1). After SC administration, it forms microprecipitates which then release glargine slowly over 24 hours. While glargine is intended for once daily administration, it may be given twice daily to obtain adequate blood glucose control. Insulin glargine is a basal (long-acting) insulin and should be administered at the same time every day. Compared to NPH insulin, insulin glargine is associated with a slightly lower incidence of nocturnal hypoglycemia.[1]

Insulin glargine is available as a clear 100 unit/mL solution that is stable for 28 days once punctured. **Insulin glargine cannot be mixed with any other insulins and can only be given SC.**

Table 1. Comparison of Formulary Insulins

Insulin	Onset (hrs)	Peak (hrs)	Duration (hours)	VA Cost per mL	Pharma-Care Benefit
Aspart	5-15 mins	1-2	3-5	$2.30	Partial*
Regular	0.5-1	2-4	6-8	$1.24	Yes
NPH	1-2	6-12	18-24	$1.24	Yes
Glargine	2-4	No peak	20-24	$5.51	No

*only covered up to price of regular insulin

Restrictions
Both insulin aspart and insulin glargine are restricted to 1) patients on these insulins prior to admission and 2) Endocrinology Service for use in patients with Type 1 diabetes who experience hypoglycemia and/or inadequate control with conventional insulins (ie. regular and NPH). Prior to initiating therapy, prescribers should ensure that patients have the ability to pay (or be reimbursed) for the product.

Reference

1. CDA 2003 Clinical Practice Guidelines. Can J Diabetes 2003;27 (Suppl 2):S32-S36.

Pharmacy Awards

The Canadian Society of Hospital Pharmacists has awarded the following research award to:

Kerry Wilbur, Pharm.D., in conjunction with Anna Liu and Roger Wong MD

- Pfizer Long Term Health Care Award for their research paper “Medication Assessment of Geriatric Inpatients by Clinical Pharmacists”.