Beverly Hospital
A member of Lahey Health

85 Herrick Street
Beverly, MA 01915

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beverlyhospital.org

Physician Orientation to Beverly Hospital Pharmacy Department

Hours of Operation
Hours: 24/7

Medication Ordering

- Physician order management (computerized order entry)
- Electronic MAR
- Include indication for use on prn orders
- Select indication for antibiotic order entry
- MRSA screen order for Vancomycin orders.
- Automatic stop orders/medication renewal policy

IV fluids (24 hours), TNA (24hours), narcotics (7 days except meperidine which is 48 hours), ketorolac (5 days). Rewrite orders post-op, in/out of ICU/CCU and telemetry

- Pharmacy and Therapeutics Committee approved Therapeutic interchange program
  e.g. extended Zosyn 4 hour infusion
- TPN ordered before 1:00 p.m.

Clinical Services
Unit-based pharmacist stations on J2, J4, J6 and CCU (Mon – Fri)
Drug information x2610
Adverse Drug Reaction hot line x 6677
Pharmacist rounds in CCU, multi-disciplinary rounds on Johnson units
Antimicrobial Stewardship Program
Patient medication discharge counseling

NIC- Pharmacy Intranet Access

- **Forms**
  Formulary addition request form, TPN order sheet/guidelines
- **News/References**
  Pharmacy newsletter, ISMP newsletter, antibiogram (pocket size available)

Medication Safety
Prohibited abbreviations- acceptable abbreviations as per ISMP guidelines
Restricted ID approved antimicrobials
Standard high alert IV infusion mix

Others
Non-formulary meds/ preferred drug list
Request for formulary additions

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Insulin Types and Actions

Rapid Acting

Brand / Generic Name	Onset	Peak	Duration
Humalog / Insulin Lispro	**<15 min**	**1-2 hr**	**3-4 hr**
Apidra / Insulin Glulisine	*<15 min*	*1-2 hr*	*3-4 hr*
Novolog / Insulin Aspart	<15 min	1-2 hr	3-4 hr

Short Acting

Brand / Generic Name	Onset	Peak	Duration
Novolin R Insulin Regular	**½ - 1 hr**	**2-3 hr**	**3-6 hr**

Intermediate Acting

Brand / Generic Name	Onset	Peak	Duration
Novolin N Insulin NPH	**2-4 hr**	**4-10 hr**	**10-16 hr**

Long Acting

Brand / Generic Name	Onset	Peak	Duration
Levemir / Insulin Detemir	**¾ - 2 hr**	**Mini-mal Peak**	**Up To 24 hr**
Lantus / Insulin Glargine	*2-4 hr*	*No Peak*	*20-24 hr*

Concentrated Insulin – High Alert

Contains 500 units/ml. Usually dosed BID or TID and is used as a basal insulin due to prolonged duration of action. Not interchangeable with U-100 insulin. See Policy.

Brand / Generic Name	Onset	Peak	Duration
Humulin R U-500 / Regular U-500	**30 min**	**1-3 hr**	**8-24 hr**

Mixed Insulins

Mixed Insulins are usually dosed BID and provide meal coverage for breakfast and dinner

Brand / Generic Name	Onset	Peak	Duration
Humulin 70/30 NPH/Regular	**30 min**	**2-12 hr**	**18-24 hr**
Humalog 75/25 Lispro Protamine / Lispro	**15-30 min**	**1-6.5 hr**	**14-24 hr**
Novolog 70/30 Aspart Protamine / Aspart	**15 min**	**1-4 hr**	**18-24 hr**

Highlighted / Bold Insulin = Formulary

Approved Hold Acknowledges

- Administration time change on antibiotics when more than one antibiotic is to be given at the same time.
- Adjust start times of SCIP protocol antibiotics
- Adjust start times of Post-Op Ketorolac and Acetaminophen IV orders. **Hold acknowledge to Pharmacy should include time of first dose given.**
- CIWA and DETOX Protocols. **Hold acknowledge to Pharmacy should include time of first dose given.**
- Adjust times of medications to reflect patient's regular medication schedule from home if necessary.
- Adjust times on Maternity Ketorolac orders.

Approved Oral Solid to Liquid Dosage Conversion for Nursing

(Nursing can interchange the following oral solid and liquid medications as dictated by patient needs via POM)

Medication	Strength	Note
Acetaminophen	160 mg/ 5 ml	10ml (320mg) = 1 Tablet (325mg)
Ibuprofen	200 mg/ 10 ml	
Amantadine	100 mg/ 10 ml	
Diphenhydramine	12.5 mg/ 5 ml	
Docusate	100 mg/10 ml	
Ferrous Sulfate	300 mg/5 ml	5ml (300mg) = 1 Tablet (325mg)
Fluoxetine	20 mg/5 ml	
Haloperidol	10 mg/5 ml	
Megestrol Acetate	400 mg/10 ml	
Metoclopramide	5 mg/5 ml	
Multivitamins	5 ml	5ml = 1 Tablet
Ondansetron	4 mg/5 ml	
Potassium Chloride	20 mEq/15 ml	Conversion Not To Exceed 40 mEq
Sennosides	8.8 mg/5 ml	5ml (8.8mg) = 1 Tablet (8.6mg)
Sucralfate	1 g/10 ml	

Herbal Policy

All herbal medications / dietary supplements are not permitted for patient use during hospitalization per P&T committee approval. These medications may be resumed at the time of discharge under the physician's discretion.

Beverly Hospital
A member of Lahey Health

Addison Gilbert Hospital
A member of Lahey Health

BayRidge Hospital
A member of Lahey Health Behavioral Services

Department of Pharmacy

General Medication Use Guidelines

Hours of Operation
24 hours a day
7 days a week
x2610

For POM related issues, please call IS at x2600

Discharge Medication Counseling Performed By Floor Pharmacist
Monday – Friday 7:30-3:30

Parenteral Nutrition

- TPNs must be ordered prior to 1 p.m. in order to be infused that same day
- TPNs are out sourced to Central Admixtures Pharmacy Services

Medication Safety Issues

Look Alike / Sound Alike Meds

Examples

Mucomyst vs Mucinex
Clonidine vs Klonopin
Novolin 70/30 vs Novolog mix 70/30
Cerebyx vs Celebrex
Risperidone vs Ropinirole

Targeted High-Alert Medications

Opiates/Narcotics
Oral Anticoagulants
Parenteral Anticoagulants
Insulin
Oncologic Agents
Injectable Potassium Concentrate
Sodium Chloride Solutions >0.9%

Restricted Antibiotics (Require ID Approval)

Ceftaroline (Teflaro)
Clindamycin (Cleocin)
Daptomycin (Cubicin)
Ertapenem (Invanz)
Linezolid (Zyvox)
Meropenem (Merrem)
Micafungin (Mycamine)
Piperacillin/Tazobactam (Zosyn)
Telavancin (Vibativ)
Tigecycline (Tygacil)
Voriconazole (Vfend)

KCl IV Administration Policy

Never administer IV push
Must dilute in D5W or NS as IV infusion

CENTRAL LINE ADMINISTRATION

- Cardiac monitored patients
  Maximum rate 40 mEq/hr
  Maximum concentration 40 mEq/100 ml
- Unmonitored patients
  Maximum rate 20 mEq/hr
  Maximum concentration 20 mEq/250 ml

PERIPHERAL LINE ADMINISTRATION

- Maximum infusion rate 10 mEq/hr
- Maximum concentration 80 mEq/1000 ml (20 mEq/250 ml, 40 mEq/500 ml)

Opioid Equianalgesic Conversion Table (Adults)

Drug	Oral (mg)	Parenteral (mg)
Morphine	30	10
Hydromorphone	7.5	1.5
Oxycodone	20	N/A
Fentanyl	N/A	0.1

Lexicomp 2013

Glucocorticoid Equivalencies, Potencies, and Half-Life

Glucocorticoid	Equivalent Potency Dose (mg)	Anti-Inflammatory Potency	Sodium Retaining Potency	Half-Life Plasma (min)
Short Acting				
Cortisone	25	0.8	2	30
Hydrocortisone	20	1	2	80-118
Intermediate Acting				
Prednisone	5	4	1	60
Prednisolone	5	4	1	115-212
Triamcinolone	4	5	0	200+
Methylprednisolone	4	5	0	78-188
Long Acting				
Dexamethasone	0.75	20-30	0	110-210
Betamethasone	0.6-0.75	20-30	0	300+

Lovenox / Arixtra Prescribing Restrictions

Enoxaparin (Lovenox)	Fondaparinux (Arixtra)
Hypersensitivity to enoxaparin, heparin, pork	Hypersensitivity to fondaparinux
Active major bleeding	Active major bleeding
Thrombocytopenia	Thrombocytopenia
	Bacterial endocarditis
	Contraindicated for prophylaxis in patients weighing <50 kg
Renal Dose Adjustment recommended with CrCl <30 ml/min	**Contraindicated with CrCl<30 ml/min**

New Oral Anticoagulant Comparison Chart

Medication	Pharmacotherapy Pearls
Dabigatran (Pradaxa)	•Renal dose adjustment required •Use not recommended in CrCl<15 ml/min •Caution >80 years old
Rivaroxaban (Xarelto)	•Doses ≥15 mg/day must be administered with food •Renal dose adjustment required in nonvalvular atrial fibrillation •Avoid use in CrCl<30 ml/min for DVT, PE, reduction of the risk of recurrent DVT/PE, postoperative thromboprophylaxis •Avoid use in CrCl <15 ml/min for non-valvular atrial fibrillation
Apixiban (Eliquis)	•Nonvalvular atrial fibrillation dose is 2.5mg twice daily if serum ceatinine ≥1.5 mg/dL **and** *either* age ≥80 years or body weight ≤60 kg

Concomitant therapy with Warfarin, Heparin, Lovenox, and Arixtra is contraindicated.
These oral anticoagulants are not interchangeable amongst each other.

Preferred Formulary List

Proton Pump Inhibitor – Omeprazole

H2-Antagonist – Famotidine

Statins – Atorvastatin, Simvastatin