

NOVEMBER

2004

FORMULARY ADDITIONS

Mepivacaine HCl (Carbocaine®) 0.5%, 1%, 1.5% 2% Injection

Mepivacaine addition to the formulary was requested for use in peripheral nerve blocks. Addition of mepivacaine will reduce reliance on ropivacaine, a more costly alternative whose use has increased in the last three months.

Other indications include the production of local or regional analgesia and anesthesia by local infiltration and central neural techniques including epidural and caudal blocks.

Mepivacaine blocks the generation and the conduction of nerve impulses, presumably by increasing the threshold for electrical excitation in the nerve, by slowing the propagation of the nerve impulse, and by reducing the rate of rise of the action potential.

The time to onset for sensory block ranges from 3 to 20 minutes depending on anesthetic technique, type of block, concentration of solution, and individual patient. Compared to similar agents, onset is rapid. The degree of motor block is dependent on the concentration of solution; 0.5% will be effective in small superficial nerve blocks, 1% will block sensory and sympathetic conduction without loss of motor function, 1.5% will provide extensive and often complete motor block, and 2% will produce complete sensory and motor block of any nerve group.

A dilute concentration of epinephrine (1:200,000 or 5 mcg/mL) reduces the rate of absorption and plasma concentration of mepivacaine. However, vasoconstrictors in conjunction with mepivacaine do not significantly prolong anesthesia.

The half-life of mepivacaine is 1.9 to 3.2 hours for adults and 8.7 to 9 hours for neonates. It is rapidly metabolized; 5 to 10% excreted unchanged in the urine and greater than 50% metabolized by the liver and excreted in the bile. Most of the anesthetic and its metabolites are eliminated within 30 hours.

There are no adequate and well-controlled studies in pregnant women. Mepivacaine is pregnancy category C. It is not known whether or not local anesthetic drugs are excreted in human milk; caution should be exercised when local anesthetics are administered to nursing women.

DRUG AND FOOD INTERACTIONS

The manufacturer's prescribing information lists no food/drug interactions.

DOSAGE AND ADMINISTRATION

Doses of mepivacaine should be reduced for the elderly, debilitated and patients with cardiac and/or liver disease. A rapid injection of a large volume of local anesthetic should be avoided and fractional doses should be used instead.

The recommended single adult dose (or the total of a series of doses given in 1 procedure) for an unsedated, healthy, normal-sized patient should not exceed 400 mg. Maximum doses of 7 mg/kg (550 g) are not recommended, except in exceptional circumstances. The administration should not be repeated in intervals less than 1 and half hours. The total 24-hour dose should not exceed 1,000 mg.

Pediatric doses should be carefully measured as a percentage of the total adult dose based on weight. The doses should not exceed 5 mg/kg to 6 mg/kg (2.5 mg/lb to 3 mg/lb); especially for those weighing less than 30 lb. In patients less than 3 years of age or weighing less than 30 lb, concentrations less than 2% should be administered.

THERAPEUTIC EXCHANGE**ARB Substitution Update**

The ARB substitution policy, passed at an earlier P&T Committee meeting, was updated to account for the recent addition of valsartan (Diovan) to the formulary. Candesartan (Atacand) and olmesartan (Benicar) will now be therapeutically substituted for valsartan. Erposartan (Teveten), irbesartan (Avapro) and telmisartan (Micardis) will still be therapeutically substituted for losartan (Cozaar).

Medication Ordered	Brand Name	Available Dosages	Equivalent Dose	Frequency	Formulary Medication	Equivalent Dose	Frequency
Eprosartan	Teveten	400 mg, 600 mg	600 mg	Daily	Losartan (Cozaar)	50 mg	Daily
Irbesartan	Avapro	75 mg, 150 mg, 300 mg	150 mg	Daily		50 mg	Daily
Telmisartan	Micardis	20 mg, 40 mg, 80 mg	40 mg	Daily		50 mg	Daily

Conversion data obtained from Micromedex, Stoysich et al, and Saffel et al.

Medication Ordered	Brand Name	Available Dosages	Equivalent Dose	Frequency	Formulary Medication	Equivalent Dose	Frequency
Candesartan	Atacand	4 mg, 8 mg, 16 mg, 32 mg	16 mg	Daily	Valsartan (Diovan)	80 mg	Daily
Olmesartan	Benicar	5 mg, 20 mg, 40 mg	10 mg	Daily		80 mg	Daily

Conversion data obtained from Micromedex, Stoysich et al, and Saffel et al

Loratadine Substitution Update

Second generation antihistamine therapeutic substitution policy, passed at an earlier P&T meeting, was updated to account for new antihistamine formulations that are currently on the market. Loratadine rapidly disintegrating tablets (Claritin Reditabs) desloratadine (Clarinex) and desloratadine rapidly disintegrating tablets (Clarinex Reditabs) will be therapeutically substituted for formulary loratadine. Loratadine/pseudoephedrine 24 hour (Claritin-D 24 Hours) will be therapeutically substituted for formulary loratadine/pseudoephedrine 12 hour (Claritin-D 12 hours).

Medication Ordered	Brand Name	Available Dosages	Frequency	Formulary Medication	Equivalent Dose	Frequency	Exception
Loratadine- rapidly disintegrating tablets	Claritin Reditabs	10 mg	Daily	Loratadine (Claritin)	10 mg	Daily	Loratadine, Desloratadine syrup for pediatric patients
Desloratadine	Clarinex	5mg	Daily		10 mg	Daily	
Desloratadine- rapidly disintegrating tablets	Clarinex Reditabs	5 mg	Daily		10 mg	Daily	
Loratadine/ Pseudoephedrine	Claritin-D 24 Hour	10/240 mg	Daily	Loratadine/ Pseudoephedrine (Claritin-D 12 Hour)	5/120 mg	BID	

Felodipine (Plendil) Substitution to Amlodipine (Norvasc)

The P&T Committee has approved a therapeutic exchange of felodipine to amlodipine. The dosing conversion from felodipine to amlodipine is 1:1.

Amlodipine has a longer duration of action than felodipine. Peak plasma concentrations of amlodipine and felodipine are observed 6 to 12 and 2.5 to 5 hours after administration, respectively. The longer duration of action of amlodipine may have therapeutic implications for the prevention of BP increases in the morning hours in patients at high risk for cardiovascular events.

Amlodipine undergoes hepatic metabolism and has an absolute bioavailability of 64 to 90%, which is not altered by food. Felodipine conversely, is almost completely absorbed and undergoes extensive first pass metabolism. It has a systemic bioavailability of 20%, which is altered by the presence of food; a high fat or carbohydrate diet increases the Cmax by approximately 60% and grapefruit juice increases the bioavailability 2-fold. The terminal half-life (in hypertensive patients) of amlodipine is biphasic and 30 to 50 hours compared to felodipine, which is 20 to 25 hours.

AUTOMATIC STOP POLICY

The automatic stop policy involves the use of medications with limited recommended time period to avoid undesirable effects. Pharmacists will process orders to automatically include the approved stop date. Currently the policy includes ketorolac (Toradol, max 5 days) and oxymetazoline (Afrin, max 3 days). The policy will formalize current clinical practice and avoid delays due to routine confirmations. Maximum lengths are derived from manufacturer's label. Physicians may opt out of the policy by writing an order to continue past automatic stop times. (FORM 1)



EFFECTIVE DATE:	DEPARTMENT OF PHARMACY POLICY & PROCEDURE	SECTION:
REVISION DATE:		Page 4 of 1
Automatic Stop Date		

Definitions

Medications Approved for Automatic Stop Times: The use of these medications is recommended for limited time periods to avoid undesirable effects. The manufacturer of each drug states the maximum length of therapy on product labeling. Medications and their associated automatic stop date are subject to approval by the Pharmacy and Therapeutics Committee.

Policy

The Pharmacy and Therapeutics Committee and the Executive Committee of the Medical Staff will establish automatic stop times for certain medications. Medications with limitations on length of therapy will be identified and added to the *Medications Approved for Automatic Stop Times* list. The medication will automatically be discontinued when length of therapy exceeds the recommended duration.

Procedure:

1. When an order is received for a medication that appears on the *Medications Approved for Automatic Stop Times* list, the pharmacist will process the order to automatically include the approved stop date. The pharmacy computer system will link assigned stop dates to specified medications. Both scheduled and prn orders are included in this procedure.
2. A physician may choose to opt out of this policy by writing an order to continue the medication beyond the automatic stop times.

Medications Approved for Automatic Stop Times

Medication	Length of Therapy	Comments
Ketorolac Tromethamine (Toradol)	5 Days	IV, PO, and combined IV+PO; Black box warning; GI effects, bleeding, nephrotoxicity
Oxymetazoline Hydrochloride (Afrin)	3 Days	Intranasal; rebound congestion

DIRECTOR OF PHARMACY

REVIEW:

CHAIR OF PHARMACY & THERAPEUTICS COMMITTEE

_____/_____/_____
INITIAL & DATE

Formulary Additions and Deletions (January 1, 2004 - Present)					
Generic Name	Trade Name	Therapeutic Class	Action	Date	Comments
Abarelix	Plenaxis	Palliative Agent	Added	9/28/04	
Acetylcysteine	Acetadote	Antidote	Added	10/25/04	
Atomoxetine	Strattera	Non-stimulant ADHD medication	Added	9/28/04	
BCNU Wafers	Gliadel	Chemotherapeutic	Added	2/26/04	
Benzylpenicilloyl polylysine	Pre-Pen	Diagnostic Agent	Deleted	11/03/04	
Brompheniramine	N/A	Antihistamine	Deleted	3/19/04	
Brompheniramine/ Phenylpropanolamine	N/A	Antihistamine/ Decongestant	Deleted	3/19/04	
Darbepoetin Alfa	Aranesp	Hematopoietic Agent	Deleted	06/24/04	
DTaP, Hep B (Recombinant), and IPV Combined	Pediarix	Vaccine	Added	5/27/04	
Doxorubicin HCl Liposomal	Doxil	Chemotherapeutic	Added	5/27/04	
Guaifenesin/ Codeine	N/A	Expectorant	Added	1/22/04	
Halothane	N/A	Inhalational Anesthetic	Deleted	3/25/04	
Insulin	Humalog 75/25	Antidiabetic	Deleted	9/28/04	Autosubstitution to Novolog 70/30
Insulin	Humulin	Antidiabetic	Deleted	7/27/04	See Sept Pharmacy Key
Insulin	Lente	Antidiabetic	Deleted	9/28/04	Autosubstitution to Lantus
Insulin	Novolin	Antidiabetic	Added	7/27/04	See Sept Pharmacy Key
Insulin	Novolin 70/30	Antidiabetic	Added	9/28/04	Autosubstitution for Humalog75/25
Insulin	Ultralente	Antidiabetic	Deleted	9/28/04	Autosubstitution to Lantus
Lansoprazole IV	Prevacid	Proton Pump Inhibitor	Added	7/27/04	See guidelines for use
Lidocaine 5%	Lidoderm	Local Anesthetic	Added	8/28/03	
Magnesium Sulfate Inj	Magnesium Sulfate Solution	Anticonvulsant	Added	11/08/04	Line item extention
Mepivacaine	Carbocaine	Peripheral Nerve Blocker	Added	10/26/04	See Nov Pharmacy Key
Metaraminol Bitartrate	Aramine	Alpha-1 Agonist	Deleted	10/14/04	
Mivacurium	Mivacron	Neuromuscular Blocker	Added	2/26/04	
Morphine Extended Release	Avinza	Narcotic Analgesic	Added	4/29/04	See guidelines for use
Moxifloxacin	Avelox	Antibiotic	Deleted	6/24/04	
Nateglinide	Starlix	Antidiabetic	Added	4/29/04	
Olanzapine for Injection	Zyprexa IntraMuscular	Antipsychotic	Added	6/24/04	See guidelines for use
Oseltamivir	Tamiflu	Antiviral	Added	3/25/04	
Pantoprazole IV	Protonix	Proton Pump Inhibitor	Deleted	07/27/04	See guidelines for use
Papain/Urea	Accuzyme	Topical Enzyme Combination	Added	10/14/04	
Papain/Urea/Chlorophyllin	Panafil	Topical Enzyme Combination	Added	10/14/04	
Pravastatin	Pravahol	HMG-CoA Reductase Inhibitor	Added	07/27/04	See Sept Pharmacy Key
Risperidone Long-Acting	Risperdal Consta	Antipsychotic	Added	2/26/04	See guidelines for use
Rofecoxib	Vioxx	COX-2 Inhibitor	Deleted	9/30/04	Taken off the market
Tiotropium	Spiriva	Anticholinergic	Added	07/27/04	
Valsartan	Diovan	Angiotensin Receptor Blocker	Added	09/28/04	
Zonisamide	Zonegran	Antiepileptic	Added	2/26/04	