

DATE/TIME	Meropenem Desensitization Protocol
	DO NOT USE: U, u, IU, MS, MSO₄, 1.0 (trailing zero), .5, QD, QOD, MgSO₄ INSTEAD USE: Unit, Morphine, 1, 0.5 (leading zero), Daily, Every other day, Magnesium
	1. Initiation of Protocol Requirements: <input checked="" type="checkbox"/> Admit patient to ICU: _____ <input checked="" type="checkbox"/> Patient MUST be full code for the desensitization procedure and thru the next full dose is administered. If patient is DNR/DNI, the primary team should discuss with the patient or legal guardian whether they are willing to reverse the status to FULL CODE for the duration of the procedure. <input type="checkbox"/> Consult UM Allergist <input type="checkbox"/> If patient is taking a beta blocker, HOLD beta blocker for 24 hours before protocol is administered.
	2. Monitoring Requirements: <input checked="" type="checkbox"/> Monitor and chart vital signs and oxygen saturation prior to the first dose and prior to each dose escalation (5min during dose and 10minutes after each dose = every 15 minutes). <input checked="" type="checkbox"/> Assess breath sounds prior to first dose, prior to each dose escalation, and upon complaints of respiratory symptoms including dyspnea or chest tightness. <input checked="" type="checkbox"/> Notify ICU fellow/attending or allergist at: _____ and hold subsequent doses until further orders if any of the following signs or symptoms occur: a. Oral: pruritus of lips, tongue, and palate, oral "tingling", edema of lips and tongue, metallic taste in the mouth. b. Skin: localized or generalized itching, flushing, hives, swelling (angioedema), morbilliform rash. c. GI: abdominal cramps or pain (colic), nausea, vomiting, diarrhea, loss of bowel control d. Respiratory: nasal congestion or sneezing, rhinorrhea, tightness in the throat, hoarseness, "barky" cough, difficulty swallowing, dyspnea, chest tightness, wheezing, stridor, drop in oxygen saturation, cyanosis, respiratory distress. e. Cardiovascular: tachycardia (increase >15 beats/min), dysrhythmia, mild hypotension, bradycardia, profound hypotension, cardiac arrest. f. Neurological: change in activity level, anxiety, "light headedness", feeling "impending doom", loss of consciousness <input checked="" type="checkbox"/> If allergic reaction occurs call physician at phone number listed above and administer the following agents in the listed sequence: a. Give 0.3mg (0.3mL) of 1:1000 epinephrine IM x1. May repeat Q5Min x2 as needed for allergic reaction. b. After epinephrine, Give 0.9% NaCl 1000mL IV bolus x 1 as needed for systemic reaction. c. After 0.9% NaCl, give Methylprednisolone 125mg IV x 1 dose PRN for systemic reaction. d. After Methylprednisolone, administer diphenhydramine 50mg IV X 1 PRN systemic reaction. e. After diphenhydramine, administer ranitidine 150mg IV x1 PRN systemic reaction.
	3. Drug Desensitization Procedures: <input checked="" type="checkbox"/> Start with bag labeled solution #1. <input checked="" type="checkbox"/> Give each dose over 5 minutes. Then, allow a 10 minute monitoring period for signs/symptoms of allergic reaction before giving the next dose. If tolerating, modify infusion rate and volume to be infused (VTBI) on the pump in an escalating manner per protocol. <input checked="" type="checkbox"/> Document each dose as "given" in eMAR <input checked="" type="checkbox"/> Monitor for 30 minutes after the final dose. If no reaction occurs, start the scheduled meropenem dose as follows 8 to 12 hours from the last desensitization dose as ordered by the treating physician: <div style="text-align: center;">Meropenem _____ IV Q _____ H</div> <input checked="" type="checkbox"/> If meropenem is held for more than 24 hours, notify allergist prior to re-administration of the drug.
	4. Pharmacy Compounding Instructions: <input checked="" type="checkbox"/> Pharmacist: Enter set named Meropenem Desensitization protocol <input checked="" type="checkbox"/> Technician: Make doses as follows: a. Solution #3: Meropenem 2000mg/100mL 0.9% NaCl for a concentration of 20mg/mL. Label as solution #3 b. Solution #2: Meropenem 100mg/50mL 0.9%NaCl for a concentration of 2mg/mL. Label as solution #2 c. Solution #1: Remove 2mL from a 100mL bag of 0.9% NaCl. Remove 2mL from Solution #2. Place in a 100mL bag of 0.9%NaCl to create a Meropenem concentration of 4mg/100mL (0.04mg/mL). Label as solution #1.
	Physician Name and Signature: _____ Date: _____ Physician contact phone number: _____



1400 NW 12th Avenue,
Miami, FL 33136

Patient Identification Sticker

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Dose #	Protocol Time	Actual Time Given	Rate (mL/hr)	VTBI (mL)	Infusion time	Dose (mg)	Cumulative Dose (mg)	Next Dose Due at (time)
Start with Solution Bag #1 (4mg/100mL)								
1	0:00		9	0.8	5 min	0.032	0.032	
2	0:15		19	1.6	5 min	0.064	0.096	
3	0:30		38	3.1	5 min	0.124	0.22	
4	0:45		75	6.3	5 min	0.252	0.48	
5	1hr		150	12.5	5 min	0.5	1	
Total bag infused: 24.3mL					Total bag to waste: 75.7mL			
Change to Solution Bag #2 (96mg/48mL)								
6	1:15		6	0.5	5 min	1	2	
7	1:30		12	1	5 min	2	4	
8	1:45		24	2	5 min	4	8	
9	2:00		48	4	5 min	8	16	
10	2:15		96	8	5 min	16	32	
11	2:30		192	16	5 min	32	64	
Total bag infused: 31.5mL					Total bag to waste: 16.5mL			
Change to Solution Bag #3 (2000mg/100mL)								
12	2:45		38	3.2	5 min	64	128	
13	3:00		75	6.3	5 min	125	256	
14	3:15		150	12.5	5 min	250	500	
15	3:30		300	25	5 min	500	1000	
16	3:45		300	50	10 min	1000	2000	
Total bag infused: 100mL					Total bag to waste: 0mL			
Total Time to Desensitize: 4 hours								
Total Cumulative Dose: 2000mg								

References:

1. Wilson DL, Owens RC Jr, Zuckerman JB. Successful meropenem desensitization in a patient with cystic fibrosis. *Ann Pharmacother* 2003;37:1424-8.
2. De Maria C, Lebel D, Desroches A, Gauvin F. Simple intravenous antimicrobial desensitization method for pediatric patients. *American Journal of Health-System Pharmacy*. 59(16):1532-1536, August 15, 2002.
3. Solensky R. Drug desensitization. *Immunology and Allergy Clinics of North America*. 24 (2004) 425-443.
4. Castells M. Desensitization for drug allergy. *Curr Opin Allergy Clin Immunol* 6:476-481, 2006.



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