Graded Challenge [3040007202]

This order set is designed to be utilized in accordance with the Penicillin Allergy Guidance Document published on the Antimicrobial Stewardship website.

Indications for graded challenge:
- History of IgE-mediated reaction with no previous tolerance to beta-lactam agents, and reaction occurred more than 10 years ago
- History of IgE-mediated reaction and previously tolerated beta-lactam agent, but a different beta-lactam is now required for treatment

NOT intended for use in patients who are pregnant or have a history of life-threatening immunotoxicity reactions (e.g., vasculitis, TEN, SJS, DRESS, AGEP, or severe cytopenias).

Patients on beta-blockers (eg, metoprolol, carvedilol, propranolol, atenolol, labetalol, etc.) may have a diminished response to epinephrine if needed for the management of a severe allergic reaction. If a patient is on a beta blocker, schedule the graded challenge for the following morning and reschedule the next dose of the beta blocker to occur following the graded challenge. A pharmacist consult order is available in this order set to assist with beta blocker timing if applicable.

Penicillin Allergy Guidance

General
Nursing Assessment/Interventions

- Continuous telemetry
- Vital signs
- Pulse oximetry
- If patient has a beta blocker ordered (eg, metoprolol, carvedilol, propranolol, atenolol, labetalol, etc.), confirm patient did not take beta blocker prior to graded challenge that day. If beta blocker was taken, please notify ordering provider
- Ensure patient took scheduled respiratory medications prior to procedure

Routine, Continuous
Telemetry indication? Drug monitoring
Discontinue 60 minutes after last dose if patient does not have another indication for telemetry monitoring

Routine, Every 4 hours, Monitor prior to each dose and every 30 minutes x 2 (for 60 minutes) after final dose
Include breathing sounds for bronchospasms and stridor

Routine, Continuous, Pulse oximetry every 30 minutes during infusion and one hour post-infusion

Routine, Once For 1 Occurrences
Medication information included? Yes
If patient has a beta blocker ordered (eg, metoprolol, carvedilol, propranolol, atenolol, labetalol, etc.), confirm patient did not take beta blocker prior to graded challenge that day. If beta blocker was taken, please notify ordering provider

Routine, Once For 1 Occurrences
Medication information included? Yes
Ensure patient took scheduled respiratory medications prior to procedure
Confirmed patient has functioning IV line placed

Notify physician if any signs or symptoms of allergic reaction: hypotension, tachycardia, chest tightness, respiratory distress, wheezing, stridor, nausea, vomiting, abdominal pain, diarrhea, itching, rash, hives, facial edema, sneezing, rhinorrhea, or watery eyes

For mild reaction (patchy macular and/or papular rash, hives or itching), administer diphenhydramine PO or IV as directed by prescriber.

For severe reaction (hypotension, tachycardia, wheezing, chest tightness, respiratory distress, angioedema, and/or emesis and diarrhea), immediately administer Epinephrine IM and diphenhydramine IV then notify MD.

Update allergy section within electronic medical record. If patient tolerated graded challenge, document the agent and date tolerated within the comments section of the penicillin allergy. If patient failed graded challenge, add antibiotic allergy and reaction.

Consults

Consults

Inpatient consult to pharmacist-other

Inpatient consult to case management

Medications

Antibiotic Administration

- Ceftriaxone - 1000 mg
  - CefTRIAXone (ROCEPHIN) in sodium chloride 0.9 % 10 mL IV syringe

- CefTRIAXone (ROCEPHIN) in sodium chloride 0.9 % 10 mL IV syringe

- CefTRIAXone (ROCEPHIN) IV

- Ceftriaxone - 2000 mg
  - CefTRIAXone (ROCEPHIN) in sodium chloride 0.9 % 10 mL IV syringe

"Followed by" Linked Panel

10 mg, Intravenous, for 5 Minutes, Once, Starting H, For 1 Doses
Administer as a slow IV push at bedside.

[cefTRIAXone] Suspected Pathogen:
100 mg, Intravenous, for 5 Minutes, Once, Starting H+30 Minutes
Administer as a slow IV push at bedside.

[cefTRIAXone] Suspected Pathogen:
1,000 mg, Intravenous, Every 24 hours, Starting H+60 Minutes
Suspected Pathogen:

"Followed by" Linked Panel

20 mg, Intravenous, for 5 Minutes, Once, Starting H, For 1 Doses
Administer as a slow IV push at bedside.

[cefTRIAXone] Suspected Pathogen:
**cefTRIAXone (ROCEPHIN) in sodium chloride 0.9 % 10 mL IV syringe**
200 mg, Intravenous, for 5 Minutes, Once, Starting H+30 Minutes, For 1 Doses
Administer as a slow IV push at bedside.

**Suspected Pathogen:**

- **cefTRIAXone**

**Cefepime - 1000 mg**

- **ceFEPime (MAXIPIME) in sodium chloride 0.9 % 50 mL IV syringe**
10 mg, Intravenous, for 5 Minutes, Once, Starting H, For 1 Doses
Administer as a slow IV push at bedside

**Suspected Pathogen:**

- **ceFEPime**

**Cefepime - 2000 mg**

- **ceFEPime (MAXIPIME) in sodium chloride 0.9 % 50 mL IV syringe**
20 mg, Intravenous, for 5 Minutes, Once, Starting H
Administer as a slow IV push at bedside

**Suspected Pathogen:**

- **ceFEPime**

**Meropenem - 500 mg**

- **meropenem (MERREM) in sodium chloride 0.9 % 50 mL IV syringe**
5 mg, Intravenous, for 5 Minutes, Once, Starting H
Administer as a slow IV push at bedside

**Suspected Pathogen:**

- **meropenem**

**Meropenem - 2000 mg**

- **meropenem (MERREM) in sodium chloride 0.9 % 50 mL IV syringe**
20 mg, Intravenous, for 5 Minutes, Once, Starting H
Administer as a slow IV push at bedside

**Suspected Pathogen:**

- **meropenem**

**Ertapenem - 1000 mg**

- **ertapenem (INVanz) in sodium chloride 0.9 % 50 mL IV syringe**
10 mg, Intravenous, for 5 Minutes, Once, Starting H
Administer as a slow IV push at bedside

"Followed by" Linked Panel

**Meropenem - 500 mg**

- **meropenem (MERREM) in sodium chloride 0.9 % 50 mL IV syringe**
50 mg, Intravenous, for 5 Minutes, Once, Starting H+30 Minutes
Administer as a slow IV push at bedside

**Suspected Pathogen:**

- **meropenem**

**Meropenem - 2000 mg**

- **meropenem (MERREM) in sodium chloride 0.9 % 50 mL IV syringe**
200 mg, Intravenous, for 5 Minutes, Once, Starting H+30 Minutes
Administer as a slow IV push at bedside

**Suspected Pathogen:**

- **meropenem**

"Followed by" Linked Panel

**Meropenem - 2000 mg**

- **meropenem (MERREM) in sodium chloride 0.9 % 50 mL IV syringe**
2000 mg, Intravenous, Every 8 hours, Starting H+60 Minutes
Administer as a slow IV push at bedside

"Followed by" Linked Panel

**Ertapenem - 1000 mg**

- **ertapenem (INVanz) in sodium chloride 0.9 % 50 mL IV syringe**
10 mg, Intravenous, for 5 Minutes, Once, Starting H
Administer as a slow IV push at bedtime
<table>
<thead>
<tr>
<th>Medications</th>
<th>Dosage</th>
<th>Administration</th>
<th>Suspected Pathogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>ertapenem (INVanz) in sodium chloride 0.9 % 50 mL IV syringe</td>
<td>100 mg, Intravenous, for 5 Minutes, Once, Starting H+30 Minutes</td>
<td>Administer as a slow IV push at bedside</td>
<td>Ceftolozane/Tazobactam - 1500 mg</td>
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<tr>
<td>ertapenem (INVANZ) IV</td>
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<tr>
<td>Ceftolozane/Tazobactam - 1500 mg</td>
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<tr>
<td>ceftolozane-tazobactam (ZERBAXA) in sodium chloride 0.9 % 50 mL IV syringe</td>
<td>15 mg, Intravenous, for 5 Minutes, Once, Starting H</td>
<td>Administer as a slow IV push at bedside</td>
<td>Ceftolozane/Tazobactam</td>
</tr>
<tr>
<td>ceftolozane-tazobactam (ZERBAXA) in sodium chloride 0.9 % 50 mL IV syringe</td>
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<tr>
<td>ceftolozane-tazobactam (ZERBAXA) 1,500 mg in sodium chloride 0.9 % 100 mL IV</td>
<td>1,500 mg, Intravenous, Every 8 hours, Starting H+60 Minutes</td>
<td>Administer as a slow IV push at bedside</td>
<td>Ceftolozane-Tazobactam</td>
</tr>
</tbody>
</table>

**Medications for Allergic Reaction**

**Mild Allergic Reaction**
- 0.9% NaCl continuous infusion
- albuterol (PROVENTIL HFA; VENTOLIN HFA) inhaler
- diphenhydrAMINE (SOMINEX) tablet

**Severe Allergic Reaction**
- diphenhydrAMINE (BENADRYL) injection
- EPINEPHrine INJECTABLE ALLERGY ORDERABLE
- hydrocortisone sod succ (PF) (Solu-CORTEF) injection
- ranitidine (ZANTAC) IV

**Intravenous, Continuous PRN, Allergic Reaction**
- 2 puff, Inhalation, Every 20 minutes PRN, Wheezing, Shortness of Breath

**Management:**
- 50 mg, Oral, Every 2 hours PRN, Mild allergic reaction
- Daily maximum of 400mg

**Intravenous, Every 2 hours PRN, Allergies,**
- Mild or Severe allergic reaction
- Daily maximum of 400mg

**0.3 mg, Intramuscular, Every 10 minutes PRN,**
- Severe allergic reaction, For 2 Doses
- Maximum number of doses: 2

**100 mg, Intravenous, Once PRN, Severe allergic reaction,**
- For 1 Doses
- Severe allergic reaction

**50 mg, Intravenous, Once PRN, Severe allergic reaction,**
- For 1 Doses
- Please contact pharmacy for dose if needed.

Patient/Family Signature(Date & Time) _________________________________ __________