Change in preferred anti-pseudomonal agent from piperacillin-tazobactam to cefepime or ceftazidime when used concomitantly with vancomycin

<table>
<thead>
<tr>
<th>Situation</th>
<th>Emerging data shows that concomitant vancomycin with piperacillin-tazobactam (P/T) independently increases the risk of acute kidney injury (AKI) in patients compared to vancomycin alone or vancomycin with another β-lactam (e.g. cefepime or a carbapenem).</th>
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<tr>
<td>Background</td>
<td>A systematic review and meta-analyses of 3,549 patients found a more than 3-fold increased risk of AKI in the vancomycin and P/T arm,(^1) while another involving over 24,000 patients found a 22.2% rate of AKI vs.12.9% (NNH =11) for comparators (vancomycin alone ± β-lactams or carbapenem).(^2) The median onset of AKI was reported at 3 to 5 days in those who received vancomycin with P/T.(^3,4)</td>
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<tr>
<td>Assessment</td>
<td>To limit the risk of AKI, this combination should be avoided if suitable alternatives exist. Epic changes are planned this fall.</td>
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</table>
| Recommendation | - If anti-pseudomonal coverage is indicated, **use cefepime or ceftazidime** in place of piperacillin-tazobactam for patients receiving vancomycin  
  o If anaerobic coverage is indicated, supplement with metronidazole  
- **Reassess** if empiric anti-pseudomonal, anti-MRSA coverage is warranted.  
  o Use of P/T is frequently inappropriate in most cases of community-acquired pneumonia and cellulitis  
- **De-escalate early.** Perform a formal antibiotic time-out at 48-72 hours in conjunction with daily reassessments of the initial empiric regimen |

**Resources:**
1. SHC sepsis guide ([internal link](http://example.com)) ([external link](http://example.com))
2. SHC antibiogram - [link](http://example.com)
3. Antibiotic Stewardship website ([internal link](http://example.com)) ([external link](http://example.com))

**References:**

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