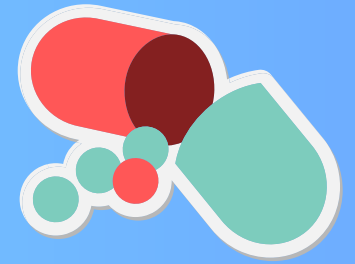


# Cephalosporins



## Beta-lactam antibiotics

- **Mechanism of action**
  - Inhibition of cell wall synthesis
- **Cephalosporin antibiotics**

	1 <sup>st</sup> generation	2 <sup>nd</sup> generation	3 <sup>rd</sup> generation	4 <sup>th</sup> generation	5 <sup>th</sup> generation
Antibiotics	<ul style="list-style-type: none"> <li>• Cephalexin (PO)</li> <li>• Cefazolin</li> <li>• Cefadroxil (PO)</li> </ul>	<ul style="list-style-type: none"> <li>• Cefaclor (PO)</li> <li>• Cefprozil</li> <li>• Cefuroxime (PO)</li> <li>• Cefotetan</li> <li>• Cefoxitin</li> </ul>	<ul style="list-style-type: none"> <li>• Cefdinir (PO)</li> <li>• Cefixime (PO)</li> <li>• Ceftriaxone</li> <li>• Ceftazidime</li> <li>• Ceftaxime</li> </ul>	<ul style="list-style-type: none"> <li>• Cefepime</li> </ul>	<ul style="list-style-type: none"> <li>• Ceftaroline</li> </ul>
Spectrum of coverage / indications	<ul style="list-style-type: none"> <li>• Gram + bacteria</li> <li>• Staph and Strep (Non MRSA)</li> <li>• Gram – bacteria</li> <li>• Proteus, E.coli, Klebsiella</li> <li>• Cefazolin – surgical prophylaxis</li> </ul>	<ul style="list-style-type: none"> <li>• Same Gram + as 1<sup>st</sup> gen with more Gram – coverage</li> <li>• H. influenza</li> <li>• Serratia Marcescens</li> <li>• Enterobacter</li> </ul>	<ul style="list-style-type: none"> <li>• Broad spectrum</li> <li>• Improved gram – coverage with decreased gram + coverage</li> <li>• Ceftazidime covers Pseudomonas</li> </ul>	<ul style="list-style-type: none"> <li>• Equal to 3rd generation for Gram neg and same as 1<sup>st</sup> gen for Gram + organisms</li> <li>• Covers Pseudomonas</li> </ul>	<ul style="list-style-type: none"> <li>• Broad spectrum</li> <li>• ONLY Cephalosporin to treat MRSA</li> </ul>

- **Adverse reactions**
  - IgE- mediated allergic responses
  - Dermatologic reactions (most commonly Morbilliform drug reaction - maculopapular rash)
  - GI reactions
  - Hematologic reactions
  - Renal issues (Glomerulonephritis, renal toxicity)
- **Other classes of Beta-lactam antibiotics**
  - Penicillins
  - Carbapenems
  - Monobactams
  - Beta-lactamase inhibitor combination drugs