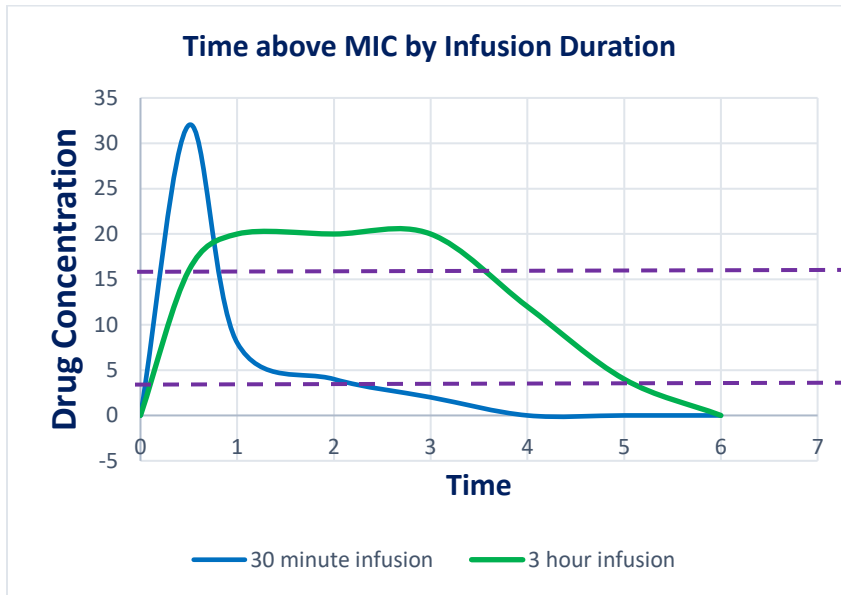


Why is this important for our patients?

Time above the minimum inhibitory concentration (MIC) is the most important factor for effectiveness of beta-lactam antibiotics. The longer the drug concentration is above the MIC, the better bacterial killing effect. With rising antimicrobial resistance, optimizing the effectiveness of antibiotics we have available in Canada is critical.



The **3-hour extended infusion (green line)** keeps the drug level above the **MIC (purple lines)** longer than the **30-minute infusion (blue line)**. This improves bacterial killing, particularly for more resistant bacteria.

MIC of a more resistant bacteria

MIC of a less resistant bacteria

Green (3hr infusion): time > MIC = 3-5 hrs
Blue (30min infusion): time > MIC = 0.5-1 hrs

NEW DOSING APPROACH

Meropenem

- 1) Initial dose: 1g x1 over 30 minutes
- 2) Subsequent doses: 1g IV Q8H over 3 hours, **starting 4 hours after initial dose** (interval adjusted for CrCl)

Piperacillin-Tazobactam

- 1) Initial dose: 4.5g x1 over 30 minutes
- 2) Subsequent doses: 4.5g IV Q6H over 3 hours, **starting 3 hours after initial dose** (interval adjusted for CrCl)

What is my role?

- ✓ Use **new order sets** in PowerChart (paper order set updated for ED).
- ✓ **Check ED MAR for initial doses.** Omit initial dose/reschedule doses accordingly.

When is it appropriate to reassess/change infusion duration?

- ✓ See **“De-escalation Guide”** on page 2.
- ✓ If changing infusion duration: Use **“Cancel/Re-order”** in PowerChart:

Remember to:

1. Change infuse over from **3** to **30**
2. Change unit from **hr** to **min**
3. Remove **MD NOTES** comment
4. Check timing of last dose on eMAR to ensure subsequent doses are scheduled at proper interval

De-escalation Guide:

