

# Improving the Compliance of Intraoperative Antibiotic Redosing Among Colorectal Cases

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## Objectives

- Describe the importance of adequate antimicrobial coverage during the surgical procedure.
- Describe the importance of forming a multidisciplinary team for performance improvement projects.
- Implement strategies to improve antibiotic re-dosing for colorectal procedures in their facility.

## Background

Appropriate surgical antibiotic prophylaxis ensures the patient has antimicrobial coverage for the duration of the procedure, reducing their risk of surgical site infections. Lengthy surgeries often require intraoperative re-dosing based on the half-life of the antibiotic. The most commonly used antimicrobials for surgical prophylaxis in colorectal procedures include cefoxitin, with re-dosing every 2 hours, or a combination of metronidazole and cefazolin, with re-dosing cefazolin every 4 hours.

## Method

From July to December 2023, infection prevention identified an increase in missed intra-operative antibiotic redosing among colorectal procedures. Infection prevention collaborated with surgical services and anesthesiology to identify barriers. Lack of antibiotic re-dosing reminders to trigger the need for intraoperative antimicrobial re-dosing were identified as a main barrier.

In January and February 2024, the surgical services team implemented identification of re-dose information at the time of the pre-surgical time-out with all surgical team members present, as well as documentation of the expected re-dose time on the operating room whiteboards

## Results

Baseline compliance for intra-operative redosing in colorectal procedures performed from July to December 2023 was at 27% for the period from July to December 2023 (n=4/15). Antibiotic re-dosing compliance in the six-month post-implementation period increased to 85% (n=17/20). This increase in compliance was sustained through October 2024.

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## Conclusion

Engaging surgical staff, addressing barriers and executing a plan with continued evaluation can increase compliance with intraoperative antibiotic re-dosing. Connecting antibiotic re-dosing to existing processes already hardwired in the operating room workflow can ensure patients are more likely to receive adequate antibiotic coverage in lengthy procedures

## Public Health Significance

Prevention of Healthcare Associated Infection

## References

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