

MULTIDRUG-RESISTANT GRAM-NEGATIVE MUSCULOSKELETAL INFECTION: HIGH SURGICAL BURDEN WITH FAVOURABLE REMISSION IN A SPECIALIST BONE INFECTION UNIT

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50

MDR-GNB infections

92%

ESBL-producing

56%

≥2 surgeries

86%

remission at 12mo

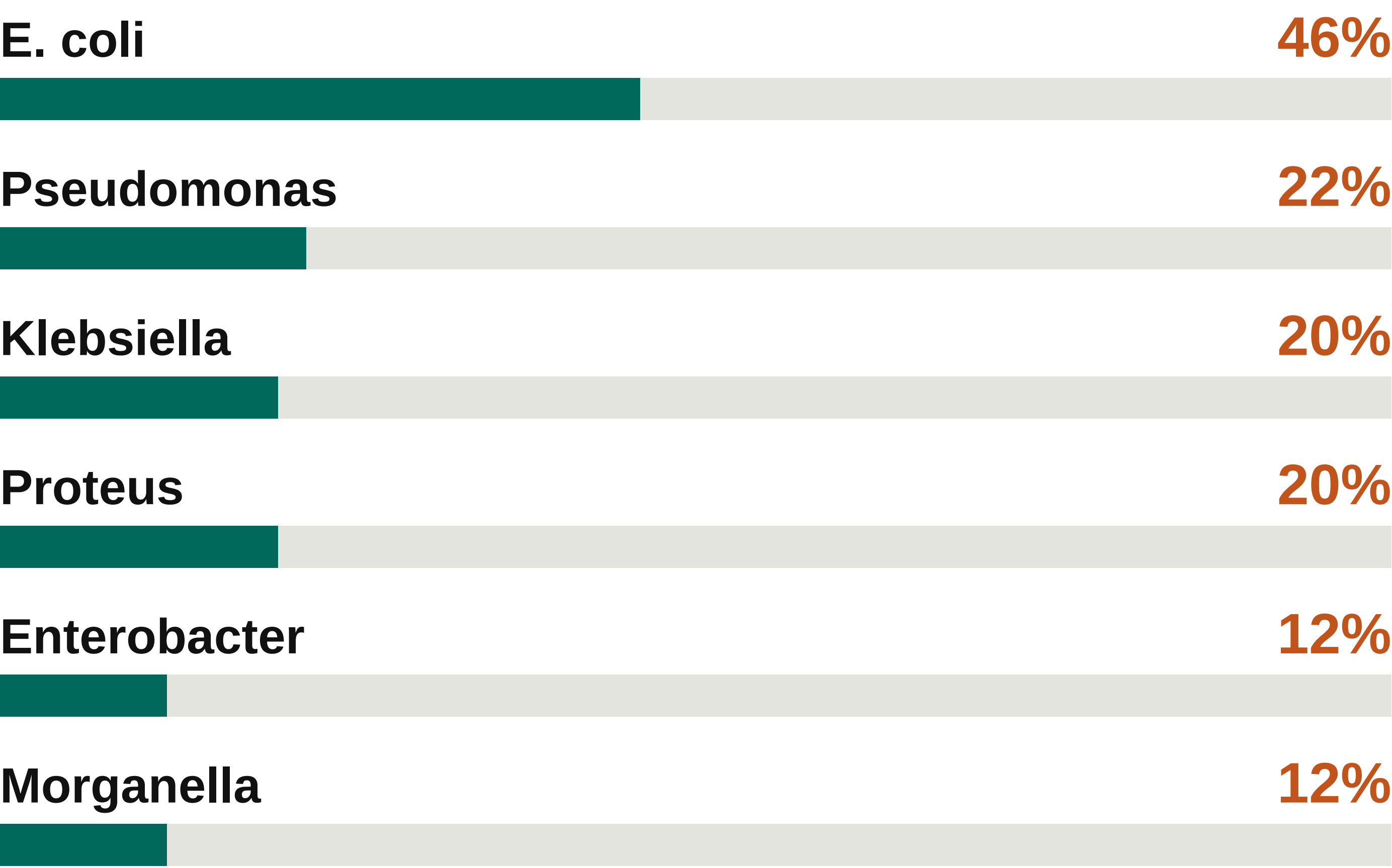
INTRODUCTION

- MDR Gram-negatives (MDR-GNB): a rising threat in musculoskeletal infection
- Limited antibiotics · repeat surgery · risk to limb and life
- Aim:** infection spectrum, resistance burden, surgical burden and outcomes in a specialist bone infection unit

METHODS

- Prospective cohort · **May 2023–Apr 2025**
- Culture-confirmed GNB: ESBL / carbapenem-resistant / CCRE / MDR non-fermenters
- Minimum **12-month** follow-up

PREDOMINANT PATHOGENS



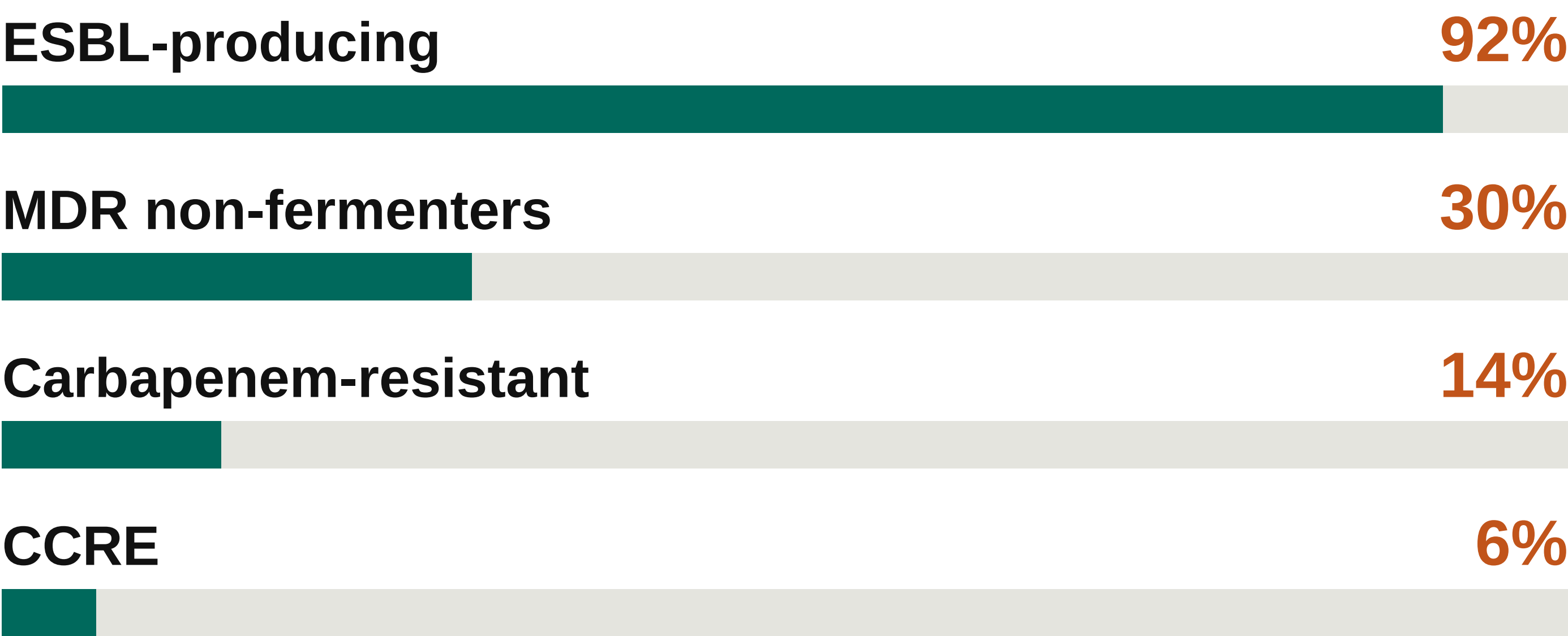
Percentages exceed 100% — polymicrobial infection common

REFERENCES

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- Metsemakers WJ, Morgenstern M, McNally MA, et al. Fracture-related infection: a consensus on definition from an international expert group. *Injury*. 2018;49(3):505–510.
- McNally M, Sousa R, Wouthuyzen-Bakker M, et al. The EBJIS definition of periprosthetic joint infection. *Bone Joint J*. 2021;103-B(1):18–25.

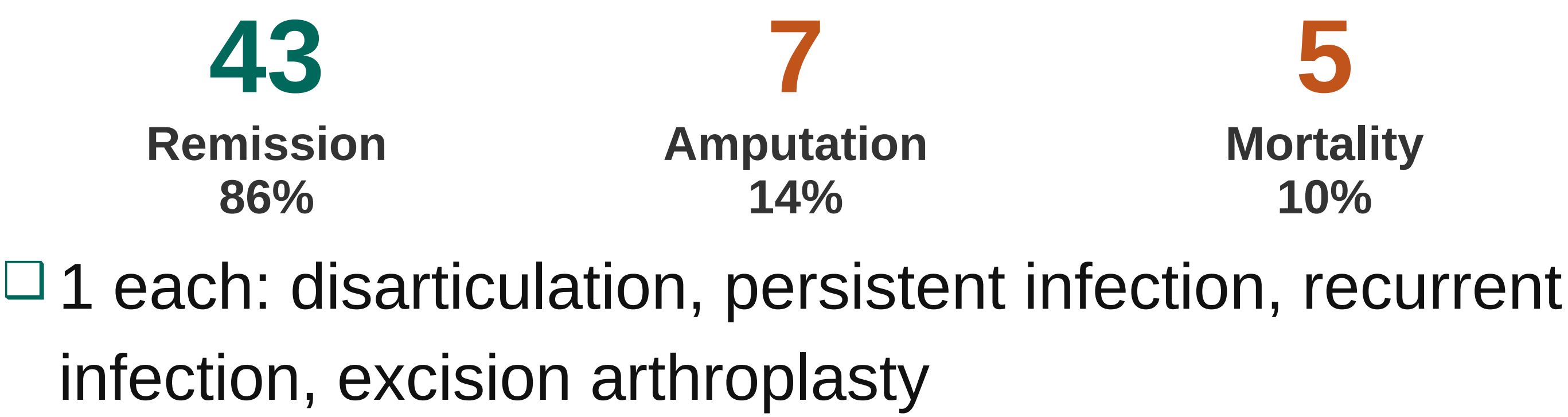
PRESENTATION & RESISTANCE

- Presentations: FRI **26%** · soft tissue **18%** · diabetic foot **16%** · osteomyelitis **12%** · PJI **6%**



- Surgery: **56%** needed ≥2 procedures — debridement, implant removal, staged reconstruction, salvage

OUTCOMES AT 12 MONTHS (N=50)



CONCLUSIONS

- High surgical burden — real risk of major adverse outcomes
- High remission **achievable** with specialist multidisciplinary care
- Early aggressive surgery + targeted antibiotics + referral pathways = key

TAKE-HOME MESSAGE

Early aggressive surgery + targeted antibiotics + referral pathways
— **86% remission** even against severe MDR-GNB resistance