

# Duplex Ultrasound Surveillance Following Revascularisation for Lower Limb Peripheral Arterial Disease (PAD): A Systematic Review and Meta-Analysis



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## ABSTRACT

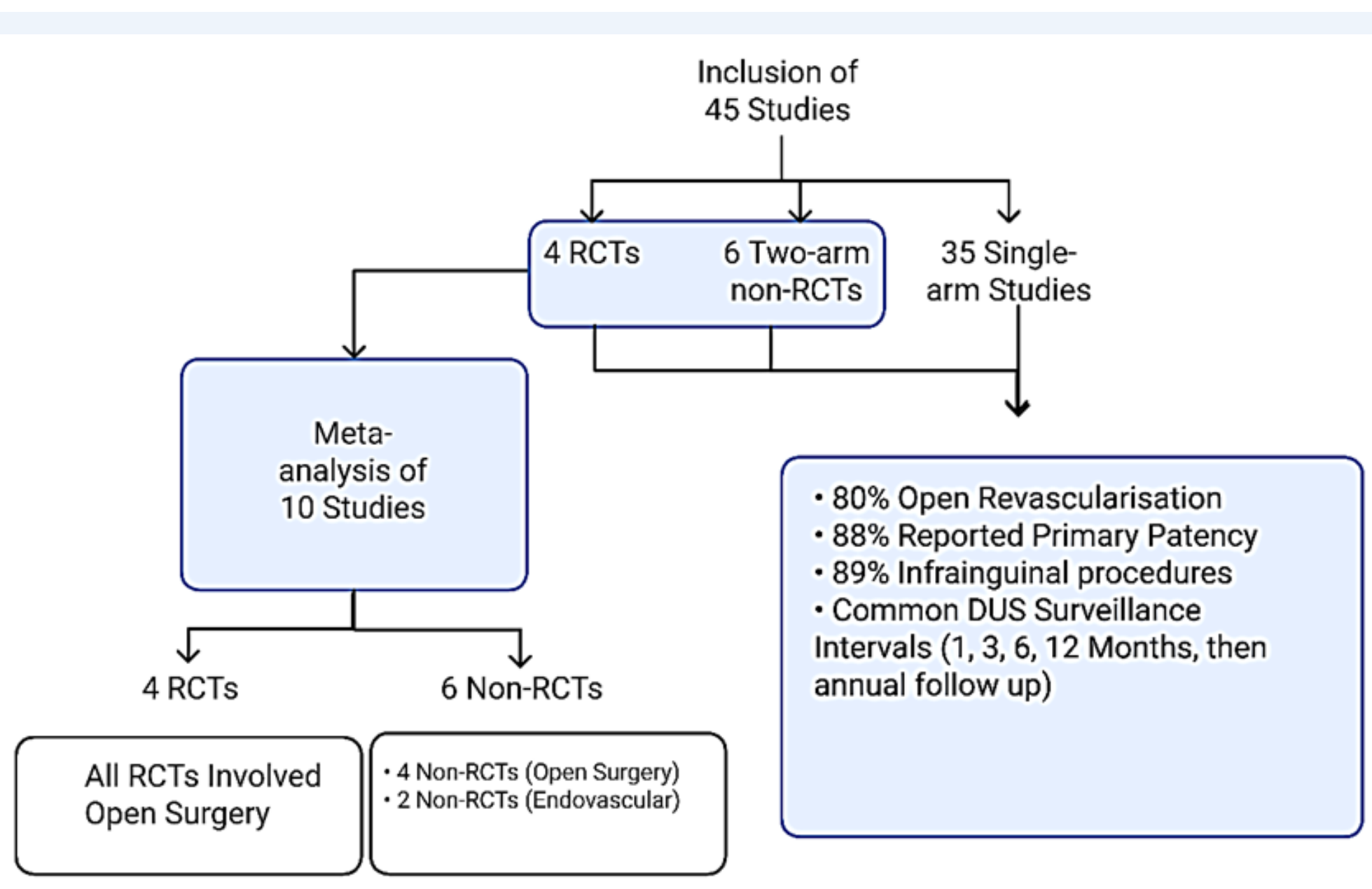
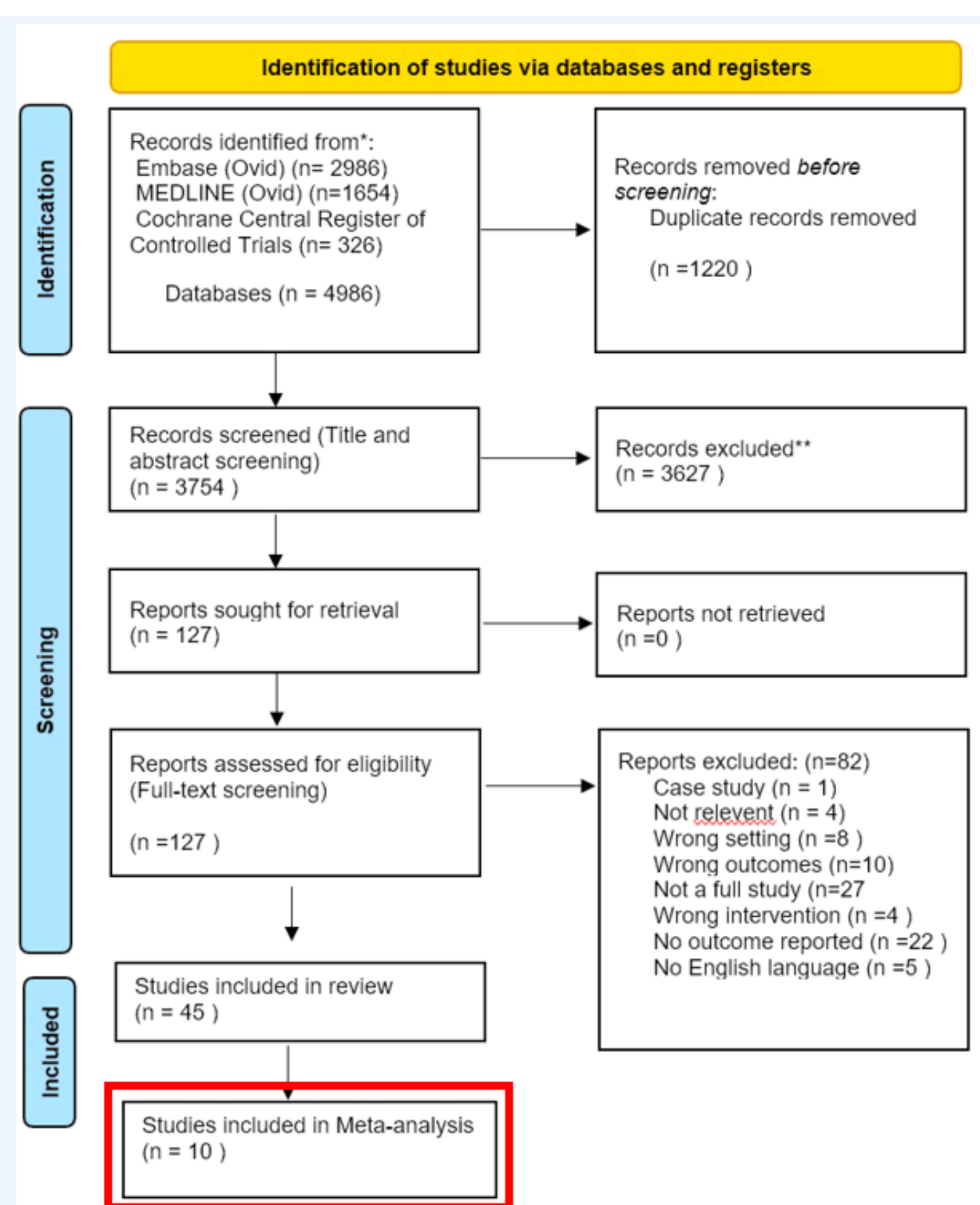
Duplex ultrasound (DUS) is the main guideline-recommended surveillance method, yet its effectiveness remains unclear.

**Aim:** To evaluate the clinical effectiveness of Duplex ultrasound surveillance following revascularisation.

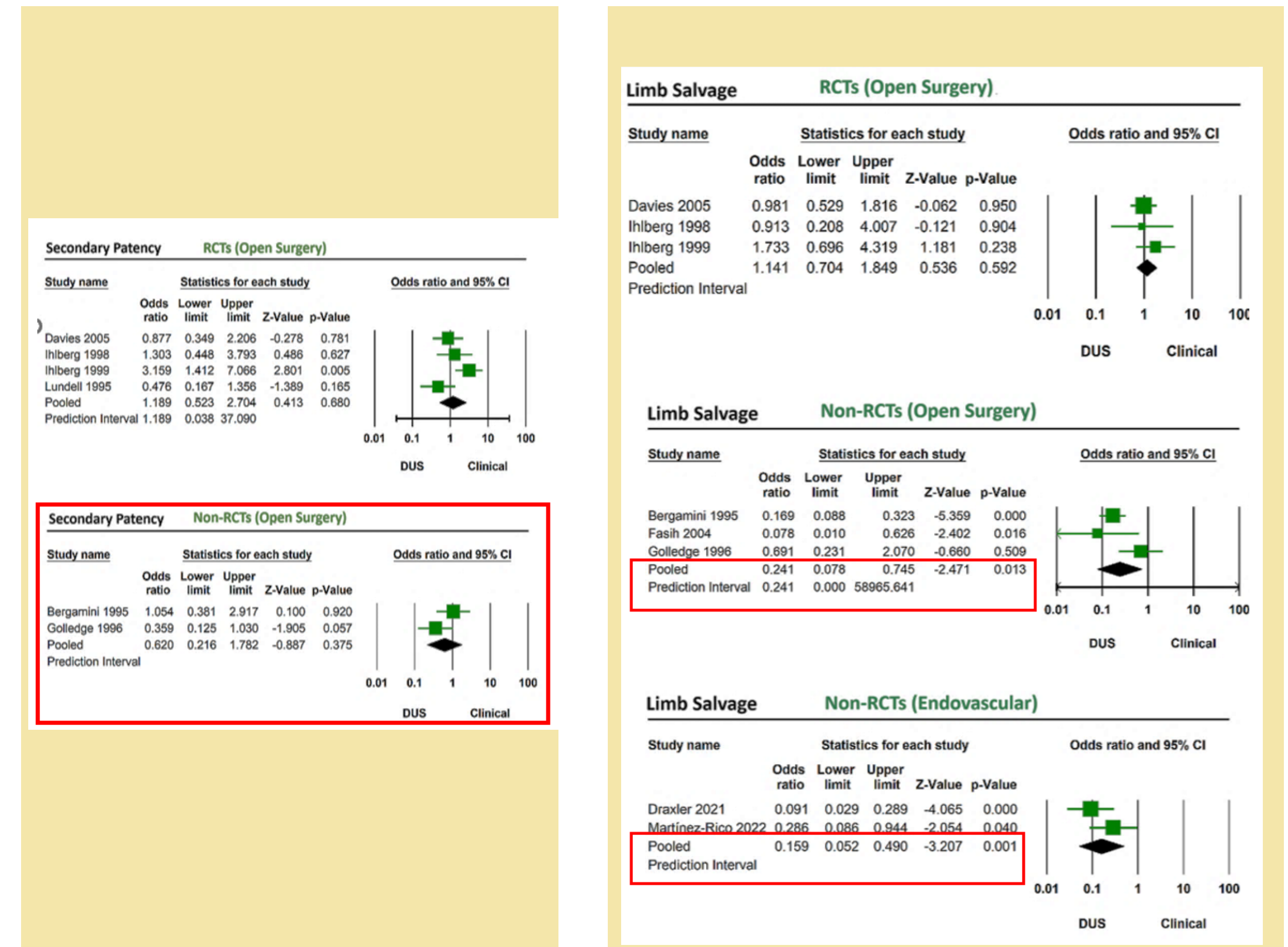
## METHODOLOGY

- PRISMA guidelines
- PROSPERO (CRD42024496313)
- MEDLINE, Embase, and CENTRAL (1947–2025)
- Outcomes: primary patency, primary assisted patency, secondary patency, limb salvage (12-month period)
- Quality assessment: ROB2 for RCTs and ROBINS-I for non-RCTs.
- Meta-Analysis: random-effects model

## FINDINGS

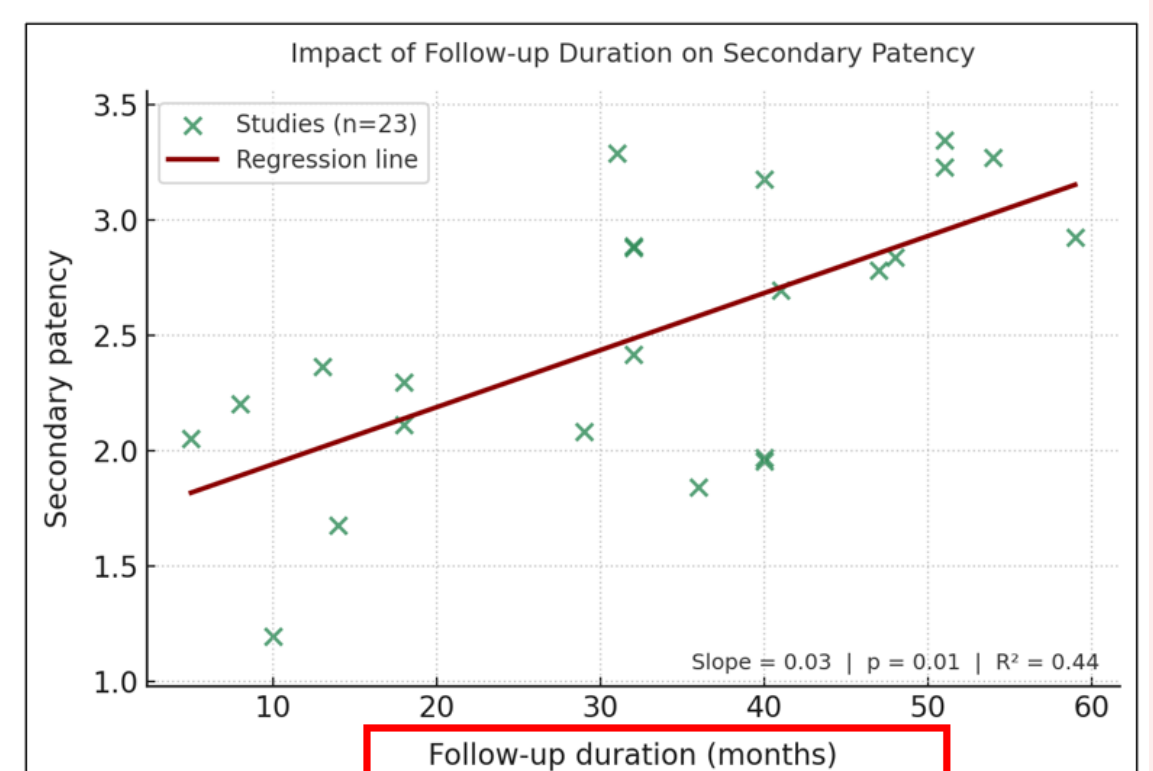
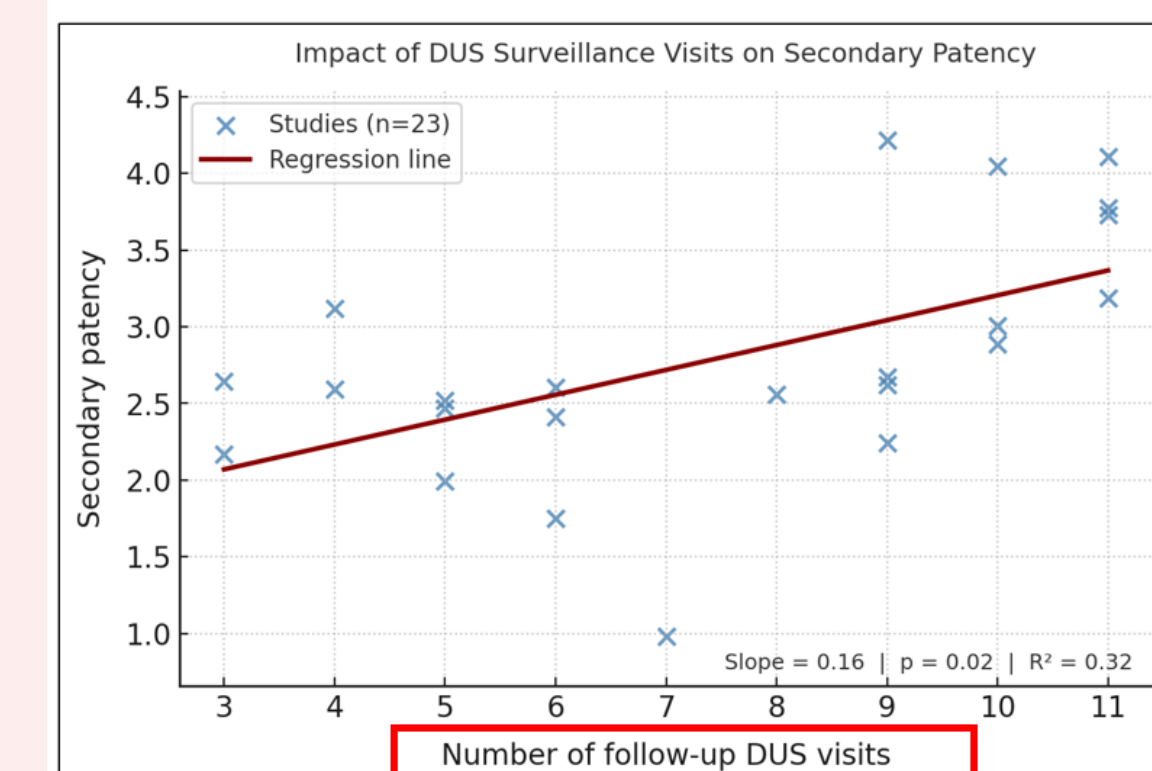


## Meta-Analysis and Regression



**DUS improved secondary patency in non-RCTs.**

**DUS improved limb salvage in non-RCTs.**



**More frequent visits and longer follow-up were associated with better secondary patency**

## DISCUSSION

- Guidelines recommend DUS → evidence weak
- No clear benefit in RCTs
- Possible benefit in non-RCTs
- Surveillance intensity matters
- Need for a definitive trial (EVT)

## REFERENCES

1. Venermo, M. *et al.* Follow-up of patients after revascularisation for peripheral arterial diseases: a consensus document from the European Society of Cardiology Working Group on Aorta and Peripheral Vascular Diseases and the European Society for Vascular Surgery. *European Journal of Preventive Cardiology* **26**, 1971–1984 (2019).
2. Zierler, R. E. *et al.* The Society for Vascular Surgery practice guidelines on follow-up after vascular surgery arterial procedures. *J. Vasc. Surg.* **68**, 256–284 (2018).