

*Individualized MRI-Based Stroke Prediction Score
Using Plaque Vulnerability for Symptomatic Carotid
Artery Disease Patients*

IMPROVE

1

Recent (<30 days) TIA or minor stroke (mRS ≤ 3)

2

Ipsilateral stenosis
30–99%? (NASCET)

NO

EXCLUDED

YES

3

No exclusion
criteria? (see back)

NO

EXCLUDED

YES

4

Informed consent
obtained?

NO

EXCLUDED

YES

5

RANDOMISE

www.improve-trial.nl | CASTOR

IMPROVE ARM

IMPROVE risk score $\geq 10\%$:

→ Revascularisation + OMT

IMPROVE risk score $< 10\%$:

→ OMT only

The IMPROVE risk score in Castor:

*Detailed tutorial: www.improve-trial.nl
Visit for the instruction video on the
decision rule in Castor*

CARE AS USUAL ARM

Treatment is
determined
according to the
**hospital's current
clinical guidelines.**

⚠ Primary endpoint: any stroke/death within 44 days after randomization or ipsilateral ischaemic stroke during follow-up

⚠ ~50% of IMPROVE arm patients require an additional carotid MRI (MPRAGE, ~5–20 min)

Questions / SAE reporting: improve.trial@mumc.nl | Tel: 043 387 69 44 | NL-010345

✓ INCLUSION CRITERIA

- Mentally competent
- 18 years or older
- Recent (<30 days) stroke (modified Rankin scale ≤ 3) or TIA
- **Ipsilateral 30–99% atherosclerotic stenosis** at the carotid bifurcation, proximal internal carotid artery, or distal common carotid artery (NASCET criteria, non-invasive imaging).
- Life expectancy >5 years
- Patient and stenosis suitable for carotid revascularisation
- Patient willing to accept IMPROVE- or CAU-based selection for revascularisation

✗ EXCLUSION CRITERIA

- Cardiac source of embolism
- Carotid stenosis from non-atherosclerotic disease (dissection, fibromuscular disease, neck radiotherapy)
- MRI contra-indications
- Pregnancy

Patient randomization

Randomization tool in Castor (IMPROVE database):

Detailed instructions: www.improve-trial.nl

Visit for the tutorial video explaining patient registration and randomization, as well as the use of the IMPROVE decision rule tool in Castor.

Report (S)AEs immediately via Castor and to improve.trial@mumc.nl

CONTACT

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