

## Supplementary Table 1. Imaging core lab members

| Name                | Subspecialty                                   | Stroke imaging experience (yr) | Role in the imaging core lab   |
|---------------------|--|--------------------------------|--|
| Mayank Goyal        | Neuroradiology (diagnostic and interventional) | 24                             | Head of the imaging core lab<br>Reperfusion assessment (eTICI)<br>Follow-up infarct assessment<br>Decision in case of disagreement between two readers |
| Johanna Ospel       | General radiology                              | 4                              | Reperfusion assessment (eTICI) Follow-up infarct volume and hemorrhage volume assessment   |
| Manish Joshi        | Neuroradiology (diagnostic and interventional) | 15                             | Baseline imaging assessment (NCCT, CTA)  |
| Bijoy Menon         | Stroke neurology                               | 15                             | Baseline imaging assessment (NCCT, CTA)  |
| Mohammed Almekhlafi | Stroke neurology                               | 10                             | Reperfusion assessment (eTICI)   |
| Charlotte Zerna     | Stroke neurology                               | 6                              | Baseline imaging assessment (NCCT, CTA)  |
| Leon Rinkel         | Neurology                                      | 3                              | Follow-up infarct volume segmentations for inter-rater agreement assessment  |

NCCT, non-contrast computed tomography; eTICI, expanded Treatment in Cerebral Infarction Score; CTA, computed tomography angiography.

## Supplementary Table 2. Tissue imaging markers used in this analysis

| Imaging marker*             | Availability   | Methodology  |
|-----------------------------|--|--|
| Total infarct volume        | Patients with follow-up imaging (n=1,099)                          | Manual segmentation  |
| Grey matter infarct volume  | Patients with follow-up MRI (n=358)                                | Manual segmentation  |
| White matter infarct volume | Patients with follow-up MRI (n=358)                                | Calculated (total infarct volume minus grey matter infarct volume) |
| Hemorrhage volume           | Patients with appropriate follow-up imaging <sup>†</sup> (n=1,054) | Manual segmentation  |

MRI, magnetic resonance imaging.

## **Supplementary Table 3.** Variables included in the binary logistic regression models

| Quantitative imaging marker of interest* | Dependent variable | Adjustment variables  |
|--|--------------------|---|
| Total infarct volume                     | mRS 0-2 at 90 days | Patient age, sex, baseline NIHSS                              |
| Grey matter infarct volume               | mRS 0-2 at 90 days | Patient age, sex, baseline NIHSS, white matter infarct volume |
| White matter infarct volume              | mRS 0-2 at 90 days | Patient age, sex, baseline NIHSS, grey matter infarct volume  |
| Hemorrhage volume                        | mRS 0-2 at 90 days | Patient age, sex, baseline NIHSS, total infarct volume        |

mRS, modified Rankin Scale; NIHSS, National Institutes of Health Stroke Scale.

<sup>\*</sup>Unit for all variables is milliliters (mL); <sup>†</sup>Appropriate follow-up imaging: either non-contrast computed tomography or MRI with hemorrhage-sensitive sequences (gradient echo or susceptibility-weighted sequences).

<sup>\*</sup>Included as an independent variable in the model. Measurement unit for all quantitative imaging markers is milliliters (mL).