

## SUPPLEMENTAL MATERIALS

### Abbreviations:

LVO, large vessel occlusion; IQR, interquartile range; NIHSS, National Institutes of Health Stroke Scale; CTA, computed tomographic angiography. PLR, positive likelihood ratio; NLR, negative likelihood ratio; PPV, positive predictive value; NPV, negative predictive value; AUC, area under the receiver operating curve; TP, true positives; FN, false negatives; FP, false positives; TN, true negatives; AAW, Asymmetric Arm Weakness; +, positive; CPSS, Cincinnati Prehospital Stroke Scale; C-STAT, Cincinnati Stroke Triage Assessment Tool; FAST-ED, Field Assessment Stroke Triage for Emergency Destination; G-FAST, Gaze-Face-Arm-Speech-Time; mNIHSS, Modified National Institutes of Health Stroke Scale; PASS, Prehospital Acute Stroke Severity; RACE, Rapid Arterial Occlusion Evaluation; SAVE, Speech Arm Vision Eyes; VAN, Vision Aphasia Neglect; ICA, internal carotid artery; M1, first division of the middle cerebral artery; M2, second division of the middle cerebral artery.

### Supplemental Results:

The proportions of clinical characteristics were generally similar between the prevalence study and the diagnostic performance study. This may be due to the lower likelihood of NIHSS subitem documentation among intubated patients, which would lead to exclusion from the diagnostic study. Median age and sex were similar between the final diagnosis categories. Hypertension was more common in patients with non-LVO stroke, and atrial fibrillation was more common in LVO stroke patients. None of the LVO stroke patients had a known history of seizures or a seizure at presentation despite its prevalence of 10% in the diagnostic performance study and 11.4% in the prevalence study. A known history of prior ischemic stroke at the presentation evaluation was more common in the non-LVO stroke patients and mimics than LVO or intracranial hemorrhage patients. The median NIHSS was one point higher in the prevalence study (8 vs 7) though interquartile ranges were similar [4-14 vs 3-14]. Seventy-five out of 184 patients in the diagnostic performance study (41%) had an arrival NIHSS scores < 6, including four out of 29 LVOs (14%), five of 19 intracranial hemorrhages (26%), 17 of the 43 non-LVO ischemic strokes (40%), and 49 of the 93 mimics (53%). A total of 46 patients in the diagnostic performance study received intravenous alteplase. Twenty-one patients received it prior to CTA (46%). Among these patients, alteplase was given a median of 6 minutes before CTA (IQR 3-8 minutes). Intubated patients comprised 5% of the prevalence study compared to 2% of the diagnostic performance study.

**Supplemental Table 1.** Diagnoses in the prevalence and diagnostic performance studies.

<b>Final Diagnoses</b>	<b>Prevalence study (n = 220)</b>	<b>Diagnostic performance study subset of patients (n = 184)</b>
LVO stroke, n (%)	30 (13.6)	29 (15.8)
Intracranial hemorrhage, n (%)	35 (15.9)	19 (10.3)
ICH ≥ 30mL, n	8	4
Non-LVO ischemic stroke, n (%)	45 (20.5)	43 (23.4)
Mimics, n (%)	110 (50)	93 (50.5)
Seizure without status epilepticus	22	20
Systemic infection	11	7
Metabolic	8	7
Illicit drug use	8	7
Ethanol intoxication	7	5
Psychiatric disease	4	3
Syncope	4	4
Transient neurological symptoms	4	4
Fall	4	4
Malignancy in the CNS	4	4
Trauma	4	3
Status epilepticus	3	3
Migraine	3	3
Transient ischemic attack	3	3
Functional disorder	3	3
Bell's palsy	3	2
Recrudescence with systemic illness	3	3
Hypertensive emergency	2	2
CNS infection	2	1
Encephalopathy unspecified	2	1
CRAO	1	1
TGA	1	1
CSVT	1	1
Spine disease	1	1
Generalized weakness	1	0
Worsening of chronic arm spasticity	1	0

LVO, large vessel occlusion; ICH, intracerebral hemorrhage; CNS, central nervous system; CRAO, central retinal artery occlusion; TGA, transient global amnesia; CSVT, cerebral sinus venous thrombosis.

**Supplemental Table 2.** Diagnostic performance statistics for the reference standard of LVO stroke excluding M2s (ICA, M1, or basilar occlusions) including standard and alternative scale thresholds that meet PPV and NPV goals.

Prevalence % (95% CI): 9.8 (6-15)

LVO stroke excluding M2s	PPV % (95% CI)	NPV % (95% CI)	Sensitivity % (95% CI)	Specificity % (95% CI)	PLR (95% CI)	NLR (95% CI)
<b>Standard Thresholds</b>						
<b>AAW +</b>	18 (11-27)	99 (94-100)	94 (73-100)	52 (45-60)	2.0 (1.6-2.4)	0.11 (0.02-0.72)
<b>CPSS = 3</b>	23 (13-36)	97 (92-99)	78 (52-94)	72 (65-79)	2.8 (2.0-4.0)	0.31 (0.13-0.73)
<b>C-STAT ≥ 2</b>	23 (13-36)	96 (91-99)	72 (47-90)	74 (67-81)	2.8 (1.9-4.1)	0.38 (0.18-0.79)
<b>FAST-ED ≥ 4</b>	31 (19-45)	99 (96-100)	94 (93-100)	77 (70-83)	4.1 (3.1-5.6)	0.07 (0.01-0.49)
<b>G-FAST ≥ 3</b>	21 (12-31)	98 (93-100)	89 (65-99)	63 (55-70)	2.4 (1.8-3.1)	0.18 (0.05-0.66)
<b>mNIHSS ≥ 6</b>	19 (11-28)	99 (94-100)	95 (73-100)	55 (48-63)	2.2 (1.7-2.6)	0.10 (0.01-0.68)
<b>NIHSS ≥ 6</b>	16 (09-24)	99 (93-100)	95 (73-100)	45 (37-53)	1.7 (1.4-2.0)	0.13 (0.02-0.84)
<b>NIHSS ≥ 10</b>	27 (14-35)	99 (95-100)	94 (73-100)	67 (59-74)	2.9 (2.2-3.6)	0.08 (0.01-0.56)
<b>PASS ≥ 2</b>	17 (10-28)	95 (90-99)	72 (47-90)	63 (55-70)	1.9 (1.4-2.7)	0.44 (0.21-0.94)
<b>RACE ≥ 5</b>	32 (19-47)	98 (94-100)	83 (59-96)	81 (74-86)	4.3 (3.0-6.3)	0.21 (0.07-0.58)
<b>SAVE ≥ 2</b>	19 (11-28)	99 (94-100)	94 (73-100)	55 (47-63)	2.1 (1.7-2.6)	0.10 (0.02-0.68)
<b>VAN +</b>	21 (12-31)	99 (95-100)	94 (73-100)	60 (52-68)	2.4 (1.9-3.0)	0.09 (0.01-0.62)
<b>PPV ≥ 80% with highest simultaneous NPV</b>						
<b>None</b>						

<b>PPV ≥ 50% with highest simultaneous NPV</b>						
<b>FAST-ED ≥ 7</b>	50 (12-88)	92 (87-95)	17 (04-41)	98 (95-100)	9.2 (2.0-42.4)	0.85 (0.70-1.04)
<b>NPV ≥ 95% with highest simultaneous PPV</b>						
<b>CPSS = 3</b>	23 (13-36)	97 (92-99)	78 (52-94)	72 (65-79)	2.8 (2.0-4.0)	0.31 (0.13-0.73)
<b>C-STAT ≥ 3</b>	29 (15-46)	95 (90-98)	61 (36-83)	84 (77-89)	3.8 (2.8-6.2)	0.46 (0.26-0.83)
<b>FAST-ED ≥ 5</b>	36 (21-54)	97 (92-99)	72 (47-90)	86 (80-91)	5.1 (3.2-8.4)	0.32 (0.15-0.68)
<b>G-FAST ≥ 3</b>	21 (12-31)	98 (93-100)	89 (65-99)	63 (55-70)	2.4 (1.8-3.1)	0.18 (0.05-0.66)
<b>mNIHSS ≥ 14</b>	30 (16-49)	95 (90-98)	56 (31-79)	86 (80-91)	4.0 (2.3-7.0)	0.52 (0.31-0.87)
<b>NIHSS ≥ 17</b>	31 (16-50)	95 (90-98)	56 (31-79)	87 (81-92)	4.3 (3.4-7.4)	0.51 (0.31-0.86)
<b>PASS = 3</b>	36 (19-56)	95 (90-98)	56 (31-79)	89 (83-93)	5.1 (2.8-9.3)	0.50 (0.30-0.84)
<b>RACE ≥ 7</b>	46 (24-68)	95 (91-98)	56 (31-79)	93 (88-96)	7.7 (3.9-15.2)	0.48 (0.29-0.80)
<b>SAVE ≥ 3</b>	28 (16-43)	96 (92-99)	72 (47-90)	80 (73-85)	3.5 (2.3-5.3)	0.35 (0.17-0.74)
<b>VAN +</b>	21 (12-31)	99 (95-100)	94 (73-100)	60 (52-68)	2.4 (1.9-3.0)	0.09 (0.01-0.62)

**Supplemental Table 3.** Diagnostic performance statistics for the reference standard of either LVO stroke excluding M2s (ICA, M1, or basilar occlusions) or intracranial hemorrhage including standard and alternative scale thresholds that meet PPV and NPV goals.

Prevalence % (95% CI): 20.1 (15-27)

<b>LVO stroke (excluding M2s) or intracranial hemorrhage</b>	<b>PPV % (95% CI)</b>	<b>NPV % (95% CI)</b>	<b>Sensitivity % (95% CI)</b>	<b>Specificity % (95% CI)</b>	<b>PLR (95% CI)</b>	<b>NLR (95% CI)</b>
<b>Standard Thresholds</b>						
<b>AAW +</b>	34 (25-45)	96 (89-99)	89 (75-97)	57 (49-65)	2.1 (1.7-2.6)	0.19 (0.07-0.48)
<b>CPSS = 3</b>	43 (31-57)	91 (85-96)	70 (53-84)	77 (69-83)	3.0 (2.1-4.4)	0.39 (0.23-0.64)
<b>C-STAT ≥ 2</b>	41 (28-55)	89 (82-94)	62 (45-78)	78 (70-84)	2.8 (1.9-4.1)	0.49 (0.32-0.74)
<b>FAST-ED ≥ 4</b>	47 (34-61)	92 (85-96)	70 (53-84)	80 (73-86)	3.6 (2.4-.53)	0.37 (0.22-0.61)
<b>G-FAST ≥ 3</b>	38 (27-49)	93 (86-97)	78 (62-90)	67 (58-74)	2.4 (1.8-3.1)	0.32 (0.17-0.61)
<b>mNIHSS ≥ 6</b>	31 (22-41)	90 (82-96)	76 (59-88)	57 (49-65)	1.8 (1.4-2.3)	0.43 (0.24-0.76)
<b>NIHSS ≥ 6</b>	28 (20-38)	92 (83-97)	84 (68-94)	47 (39-55)	1.6 (1.3-1.9)	0.35 (0.16-0.73)
<b>NIHSS ≥ 10</b>	35 (24-47)	89 (82-94)	68 (50-82)	68 (60-76)	2.1 (1.5-2.9)	0.48 (0.30-0.77)
<b>PASS ≥ 2</b>	32 (22-44)	88 (81-94)	65 (48-80)	65 (57-73)	1.9 (1.4-2.6)	0.54 (0.34-0.85)
<b>RACE ≥ 5</b>	49 (34-64)	90 (83-94)	62 (45-76)	84 (77-89)	3.8 (2.4-5.9)	0.45 (0.30-0.69)
<b>SAVE ≥ 2</b>	33 (23-43)	92 (85-97)	81 (65-92)	58 (49-66)	1.9 (1.5-2.5)	0.33 (0.17-0.65)
<b>VAN +</b>	34 (24-45)	91 (84-96)	84 (68-94)	47 (39-55)	1.6 (1.3-1.9)	0.35 (0.16-0.73)
<b>PPV ≥ 80% with highest simultaneous NPV</b>						
<b>None</b>						
<b>PPV ≥ 50% with highest simultaneous NPV</b>						

<b>FAST-ED <math>\geq</math> 5</b>	53 (36-70)	88 (82-93)	51 (34-68)	88 (82-93)	4.4 (2.6-7.7)	0.55 (0.39-0.77)
<b>PASS = 3</b>	54 (34-73)	86 (79-91)	41 (25-58)	91 (85-95)	4.6 (2.4-8.8)	0.65 (0.50-0.86)
<b>RACE <math>\geq</math> 6</b>	51 (34-69)	87 (81-92)	49 (32-66)	88 (82-93)	4.2 (2.4-7.3)	0.58 (0.42-0.80)
<b>SAVE = 4</b>	50 (29-71)	84 (78-90)	32 (18-50)	92 (86-96)	4.0 (1.9-8.1)	0.74 (0.59-0.92)
<b>NPV <math>\geq</math> 95% with highest simultaneous PPV</b>						
<b>AAW +</b>	34 (25-45)	96 (89-99)	89 (75-97)	57 (49-65)	2.1 (1.7-2.6)	0.19 (0.07-0.48)
<b>FAST-ED <math>\geq</math> 1</b>	26 (19-34)	100 (91-100)	100 (91-100)	27 (20-35)	1.4 (1.2-1.5)	0
<b>G-FAST <math>\geq</math> 2</b>	28 (20-36)	95 (86-99)	92 (78-98)	40 (32-48)	1.5 (1.3-1.8)	0.21 (0.07-0.62)
<b>NIHSS <math>\geq</math> 4</b>	26 (19-34)	96 (86-100)	95 (82-99)	32 (25-40)	1.4 (1.2-1.6)	0.17 (0.04-0.66)
<b>PASS <math>\geq</math> 1</b>	25 (18-33)	98 (87-100)	97 (86-100)	27 (20-35)	1.3 (1.2-1.5)	0.10 (0.01-0.70)
<b>SAVE <math>\geq</math> 1</b>	23 (17-31)	100 (87-100)	100 (91-100)	18 (12-25)	1.2 (1.1-1.3)	0

**Supplemental Table 4.** Diagnostic performance statistics for the reference standard of either LVO stroke (ICA, M1, M2, or basilar occlusions) or intracranial hemorrhage including standard and alternative scale thresholds that meet PPV and NPV goals.

Prevalence % (95% CI): 26.1 (20-33)

<b>LVO stroke or intracranial hemorrhage</b>	<b>PPV % (95% CI)</b>	<b>NPV % (95% CI)</b>	<b>Sensitivity % (95% CI)</b>	<b>Specificity % (95% CI)</b>	<b>PLR (95% CI)</b>	<b>NLR (95% CI)</b>
<b>Standard Thresholds</b>						
<b>AAW +</b>	41 (31-51)	90 (82-95)	81 (67-91)	58 (49-67)	1.9 (1.5-2.5)	0.32 (0.18-0.59)
<b>CPSS = 3</b>	50 (37-63)	86 (78-91)	63 (47-76)	78 (70-85)	2.8 (1.9-4.2)	0.48 (0.33-0.70)
<b>C-STAT ≥ 2</b>	50 (36-64)	84 (77-90)	58 (43-72)	79 (72-86)	2.8 (1.9-4.3)	0.53 (0.38-0.74)
<b>FAST-ED ≥ 4</b>	58 (44-71)	88 (81-93)	68 (52-80)	83 (76-89)	3.9 (2.6-6.0)	0.40 (0.27-0.60)
<b>G-FAST ≥ 3</b>	46 (35-58)	89 (81-94)	75 (60-86)	69 (61-77)	2.4 (1.8-3.3)	0.36 (0.22-0.60)
<b>mNIHSS ≥ 6</b>	37 (27-48)	85 (76-92)	71 (56-83)	58 (49-67)	1.7 (1.3-2.2)	0.50 (0.32-0.80)
<b>NIHSS ≥ 6</b>	36 (27-46)	88 (78-94)	81 (67-91)	49 (40-57)	1.6 (1.3-2.0)	0.39 (0.21-0.71)
<b>NIHSS ≥ 10</b>	43 (31-55)	85 (77-91)	65 (50-78)	70 (61-77)	2.1 (1.5-3.0)	0.51 (0.34-0.76)
<b>PASS ≥ 2</b>	40 (29-52)	84 (75-90)	63 (48-76)	67 (58-75)	1.9 (1.4-2.6)	0.56 (0.38-0.82)
<b>RACE ≥ 5</b>	53 (38-68)	83 (76-89)	52 (37-67)	84 (77-90)	3.2 (2.0-5.2)	0.57 (0.42-0.78)
<b>SAVE ≥ 2</b>	41 (31-52)	89 (81-95)	79 (65-90)	60 (52-69)	2.0 (1.6-2.6)	0.35 (0.20-0.61)
<b>VAN +</b>	42 (31-54)	87 (79-93)	73 (58-85)	65 (56-73)	2.1 (1.6-2.8)	0.42 (0.26-0.68)
<b>PPV ≥ 80% with highest simultaneous NPV</b>						
<b>FAST-ED ≥ 7</b>	83 (36-100)	76 (69-82)	10 (03-23)	99 (96-100)	14 (1.7-118.0)	0.90 (0.82-1.0)
<b>PPV ≥ 50% with highest simultaneous NPV</b>						

<b>CPSS = 3</b>	50 (37-63)	86 (78-91)	63 (47-76)	78 (70-85)	2.8 (1.9-4.2)	0.48 (0.33-0.70)
<b>C-STAT ≥ 2</b>	50 (36-64)	84 (77-90)	58 (43-72)	79 (72-86)	2.8 (1.9-4.3)	0.53 (0.38-0.74)
<b>FAST-ED ≥ 4</b>	58 (44-71)	88 (81-93)	68 (52-80)	83 (76-89)	3.9 (2.6-6.0)	0.40 (0.27-0.60)
<b>G-FAST = 4</b>	58 (39-76)	80 (73-86)	38 (24-53)	90 (84-95)	3.9 (2.1-7.4)	0.69 (0.55-0.87)
<b>mNIHSS ≥ 13</b>	51 (34-69)	80 (73-86)	38 (24-53)	88 (80-93)	3.0 (1.7-5.3)	0.71 (0.57-0.90)
<b>NIHSS ≥ 14</b>	54 (39-69)	84 (77-90)	54 (39-69)	84 (77-90)	3.4 (2.1-5.3)	0.55 (0.40-0.75)
<b>PASS = 3</b>	68 (48-84)	81 (74-87)	40 (26-55)	93 (88-97)	6.0 (2.9-12.3)	0.65 (0.51-0.82)
<b>RACE ≥ 5</b>	53 (38-68)	83 (76-89)	52 (37-67)	84 (77-90)	3.2 (2.0-5.2)	
<b>SAVE ≥ 3</b>	55 (40-70)	84 (77-90)	54 (39-69)	85 (77-90)	3.5 (2.2-5.6)	0.54 (0.40-0.74)
<b>NPV ≥ 95% with highest simultaneous PPV</b>						
<b>CPSS ≥ 1</b>	30 (23-38)	96 (80-100)	98 (89-100)	18 (12-26)	1.2 (1.1-1.3)	0.11 (0.02-0.81)
<b>FAST-ED ≥ 1</b>	33 (25-41)	98 (87-100)	98 (89-100)	29 (21-37)	1.4 (1.2-1.5)	0.07 (0.01-0.51)
<b>G-FAST ≥ 1</b>	29 (22-37)	96 (79-100)	98 (89-100)	17 (11-24)	1.2 (1.1-1.3)	0.12 (0.02-0.89)
<b>NIHSS ≥ 3</b>	31 (23-38)	97 (83-100)	98 (89-100)	21 (15-29)	1.2 (1.1-1.4)	0.10 (0.01-0.70)
<b>SAVE ≥ 1</b>	30 (23-38)	100 (87-100)	100 (93-100)	19 (13-27)	1.2 (1.1-1.3)	0



**Supplemental Table 5.** Diagnostic statistics for the reference standard of LVO stroke excluding M2s (ICA, M1, or basilar occlusions).

Prevalence % (95% CI): 9.8 (6-15).

LVO (excluding M2s) scale threshold	Sensitivity (95% CI)	Specificity (95% CI)	PLR (95% CI)	NLR (95% CI)	PPV (95% CI)	NPV (95% CI)	AUC	TP	FN	FP	TN	Total
AAW							0.73					
+	94 (73-100)	52 (45-60)	2.0 (1.6-2.4)	0.11 (0.02-0.72)	18 (11-27)	99 (94-100)		17	1	79	87	184
CPSS							0.78					
≥ 1	100 (82-100)	16 (11-22)	1.2 (1.1-1.3)	0	11 (07-17)	100 (87-100)		18	0	140	26	184
≥ 2	94 (73-100)	41 (33-49)	1.6 (1.4-1.9)	0.14 (0.02-0.92)	15 (09-23)	99 (92-100)		17	1	98	68	184
= 3	78 (52-94)	72 (65-79)	2.8 (2.0-4.0)	0.31 (0.13-0.73)	23 (13-36)	97 (92-99)		14	4	46	120	184
C-STAT							0.79					
≥ 1	89 (65-99)	49 (42-57)	1.8 (1.4-2.2)	0.23 (0.06-0.84)	16 (09-25)	98 (92-100)		16	2	84	82	184
≥ 2	72 (47-90)	74 (67-81)	2.8 (1.9-4.1)	0.38 (0.18-0.79)	23 (13-36)	96 (91-99)		13	5	43	123	184
≥ 3	61 (36-83)	84 (77-89)	3.8 (2.8-6.2)	0.46 (0.26-0.83)	29 (15-46)	95 (90-98)		11	7	27	139	184
= 4	39 (17-64)	93 (88-96)	5.4 (2.4-11.9)	0.66 (0.46-0.96)	37 (16-62)	93 (88-97)		7	11	12	154	184
FAST-ED							0.88					
≥ 1	100 (82-100)	24 (18-31)	1.3 (1.2-1.4)	0	13 (8-19)	100 (91-100)		18	0	126	40	184
≥ 2	94 (73-100)	47 (39-55)	1.8 (1.5-2.1)	0.12 (0.02-0.80)	16 (10-25)	99 (93-100)		17	1	88	78	184
≥ 3	94 (73-100)	65 (57-72)	2.7 (2.1-3.4)	0.09 (0.01-0.58)	23 (14-34)	99 (95-100)		17	1	58	108	184
≥ 4	94 (93-100)	77 (70-83)	4.1 (3.1-5.6)	0.07 (0.01-0.49)	31 (19-45)	99 (96-100)		17	1	38	128	184
≥ 5	72 (47-90)	86 (80-91)	5.1 (3.2-8.4)	0.32 (0.15-0.68)	36 (21-54)	97 (92-99)		13	5	23	143	184
≥ 6	33 (13-59)	95 (90-98)	6.2 (2.5-15.2)	0.71 (0.51-0.98)	40 (16-68)	93 (88-96)		6	12	9	157	184
≥ 7	17 (04-41)	98 (95-100)	9.2 (2.0-42.4)	0.85 (0.70-1.04)	50 (12-88)	92 (87-95)		3	15	3	163	184
≥ 8	0	100 (98-100)*	-	1.00	-	90 (90-90)*		0	18	0	166	184
= 9	0	100 (98-100)*	-	1.00	-	90 (90-90)*		0	18	0	166	184
G-FAST							0.81					
≥ 1	100 (82-100)	15 (09-21)	1.2 (1.1-1.2)	0	11 (07-17)	100 (86-100)		18	0	142	24	184
≥ 2	100 (82-100)	37 (29-45)	1.6 (1.4-1.8)	0	15 (09-22)	100 (94-100)		18	0	105	61	184
≥ 3	89 (65-99)	63 (55-70)	2.4 (1.8-3.1)	0.18 (0.05-0.66)	21 (12-31)	98 (93-100)		16	2	62	104	184
= 4	50 (26-74)	87 (81-92)	3.8 (2.1-6.9)	0.58 (0.36-0.92)	29 (14-48)	94 (89-97)		9	9	22	144	184
mNIHSS							0.81					
≥ 2	100 (82-100)	22 (16-29)	1.3 (1.2-1.4)	0	12 (7-19)	100 (90-100)		18	0	130	36	184
≥ 3	94 (73-100)	32 (25-40)	1.4 (1.2-1.6)	0.17 (0.03-1.18)	13 (8-20)	98 (90-100)		17	1	113	53	184
≥ 4	94 (73-100)	41 (33-49)	1.6 (1.4-1.9)	0.14 (0.02-0.92)	15 (9-27)	99 (92-100)		17	1	98	68	184
≥ 5	94 (73-100)	47 (39-55)	1.8 (1.5-2.1)	0.12 (0.02-0.80)	16 (10-25)	99 (92-100)		17	1	88	78	184
≥ 6	95 (73-100)	55 (48-63)	2.2 (1.7-2.6)	0.10 (0.01-0.68)	19 (11-28)	99 (94-100)		17	1	74	92	184
≥ 7	89 (65-99)	60 (52-67)	2.2 (1.7-2.8)	0.19 (0.05-0.69)	19 (11-29)	98 (93-100)		16	2	67	99	184
≥ 8	89 (65-99)	66 (58-73)	2.6 (2.0-3.4)	0.17 (0.05-0.63)	22 (13-33)	98 (93-100)		16	2	57	109	184
≥ 9	89 (65-98)	71 (64-78)	3.1 (2.3-4.1)	0.16 (0.04-0.58)	25 (15-37)	98 (94-100)		16	2	48	118	184
≥ 10	83 (59-96)	75 (68-82)	3.4 (2.4-4.7)	0.22 (0.08-0.62)	27 (16-40)	98 (93-100)		15	3	41	125	184
≥ 14	56 (31-79)	86 (80-91)	4.0 (2.3-7.0)	0.52 (0.31-0.87)	30 (16-49)	95 (90-98)		10	8	23	143	184
≥ 15	44 (22-69)	88 (82-93)	3.7 (1.9-7.1)	0.63 (0.42-0.96)	29 (13-49)	94 (89-97)		8	10	20	146	184
NIHSS							0.83					
≥ 2	100 (82-100)	11 (7-17)	1.1 (1.0-1.2)	0	11 (7-17)	100 (82-100)		18	0	147	19	184
≥ 3	100 (82-100)	18 (13-25)	1.2 (1.1-1.3)	0	12 (7-18)	100 (88-100)		18	0	136	30	184

≥ 4	94 (73-100)	29 (22-36)	1.3 (1.2-1.5)	0.19 (0.03-1.31)	13 (8-19)	98 (89-100)	17	1	118	48	184
≥ 5	94 (73-100)	36 (28-43)	1.5 (1.3-1.7)	0.16 (0.23-1.06)	14 (8-21)	98 (91-100)	17	1	107	59	184
≥ 6	95 (73-100)	45 (37-53)	1.7 (1.4-2.0)	0.13 (0.02-0.84)	16 (9-24)	99 (93-100)	17	1	92	74	184
≥ 7	94 (73-100)	53 (45-61)	2.0 (1.7-2.5)	0.11 (0.02-0.71)	18 (11-27)	99 (94-100)	17	1	78	88	184
≥ 8	94 (73-100)	55 (48-63)	2.1 (1.7-2.6)	0.10 (0.01-0.68)	19 (11-28)	99 (94-100)	17	1	74	92	184
≥ 9	94 (73-100)	59 (51-67)	2.3 (1.9-2.9)	0.09 (0.01-0.64)	20 (12-30)	99 (95-100)	17	1	68	98	184
≥ 10	94 (73-100)	67 (59-74)	2.9 (2.2-3.6)	0.08 (0.01-0.56)	27 (14-35)	99 (95-100)	17	1	55	111	184
≥ 17	56 (31-79)	87 (81-92)	4.3 (3.4-7.4)	0.51 (0.31-0.86)	31 (16-50)	95 (90-98)	10	8	22	144	184
≥ 18	50 (26-74)	88 (82-93)	4.2 (2.2-7.7)	0.57 (0.36-0.91)	31 (15-51)	94 (89-97)	9	9	20	146	184
PASS							0.77				
≥ 1	100 (82-100)	25 (18-32)	1.3 (1.2-1.5)	0	13 (8-19)	100 (91-100)	18	0	125	41	184
≥ 2	72 (47-90)	63 (55-70)	1.9 (1.4-2.7)	0.44 (0.21-0.94)	17 (10-28)	95 (90-99)	13	5	62	104	184
= 3	56 (31-79)	89 (83-93)	5.1 (2.8-9.3)	0.50 (0.30-0.84)	36 (19-56)	95 (90-98)	10	8	18	148	184
RACE							0.86				
≥ 1	94 (73-100)	29 (22-36)	1.3 (1.2-1.5)	0.19 (0.03-1.31)	13 (8-19)	98 (89-100)	17	1	118	48	184
≥ 2	94 (73-100)	46 (38-54)	1.7 (1.5-2.1)	0.12 (0.02-0.82)	16 (10-24)	99 (93-100)	17	1	90	76	184
≥ 3	94 (73-100)	62 (54-70)	2.5 (2.0-3.1)	0.09 (0.01-0.60)	21 (13-32)	99 (95-100)	17	1	63	103	184
≥ 4	94 (73-100)	69 (61-76)	3.0 (2.3-3.9)	0.08 (0.01-0.55)	25 (15-37)	99 (95-100)	17	1	52	114	184
≥ 5	83 (59-96)	81 (74-86)	4.3 (3.0-6.3)	0.21 (0.07-0.58)	32 (19-47)	98 (94-100)	15	3	32	134	184
≥ 6	72 (47-90)	87 (81-92)	5.5 (3.7-8.8)	0.32 (0.15-0.68)	37 (22-55)	97 (93-99)	13	5	22	144	184
≥ 7	56 (31-79)	93 (88-96)	7.7 (3.9-15.2)	0.48 (0.29-0.80)	46 (24-68)	95 (91-98)	10	8	12	154	184
≥ 8	17 (04-41)	96 (92-98)	4.0 (1.1-14.0)	0.87 (0.71-1.07)	30 (07-65)	92 (86-95)	3	15	7	159	184
= 9	06 (00-27)	98 (95-100)	3.1 (0.3-28.0)	0.96 (0.86-1.08)	25 (01-81)	91 (85-94)	1	17	3	163	184
SAVE							0.83				
≥ 1	100 (82-100)	16 (11-22)	1.2 (1.1-1.3)	0	11 (7-17)	100 (87-100)	18	0	140	26	184
≥ 2	94 (73-100)	55 (47-63)	2.1 (1.7-2.6)	0.10 (0.02-0.68)	19 (11-28)	99 (94-100)	17	1	75	91	184
≥ 3	72 (47-90)	80 (73-85)	3.5 (2.3-5.3)	0.35 (0.17-0.74)	28 (16-43)	96 (92-99)	13	5	34	132	184
= 4	44 (22-69)	90 (85-94)	4.6 (2.3-9.2)	0.62 (0.41-0.93)	33 (16-55)	94 (89-97)	8	10	16	150	184
VAN							0.77				
+	94 (73-100)	60 (52-68)	2.4 (1.9-3.0)	0.09 (0.01-0.62)	21 (12-31)	99 (95-100)	17	1	66	100	184

\*NPV for thresholds with zero positive cases is 1-prevalence. Specificity and NPV CIs from [https://www.medcalc.org/calc/diagnostic\\_test.php](https://www.medcalc.org/calc/diagnostic_test.php)

**Supplemental Table 6.** Diagnostic statistics for the reference standard of LVO stroke (ICA, M1, M2, or basilar occlusions).

Prevalence % (95% CI): 15.8 (11-22).

LVO scale threshold	Sensitivity (95% CI)	Specificity (95% CI)	PLR (95% CI)	NLR (95% CI)	PPV (95% CI)	NPV (95% CI)	AUC	TP	FN	FP	TN	Total
AAW							0.66					
+	79 (60-92)	53 (45-61)	1.7 (1.3-2.2)	0.39 (0.19-0.81)	24 (16-34)	93 (86-98)		23	6	73	82	184
CPSS							0.72					
≥ 1	97 (82-100)	16 (11-23)	1.2 (1.0-1.3)	0.21 (0.03-1.52)	18 (12-25)	96 (80-100)		28	1	130	25	184
≥ 2	90 (73-98)	43 (35-51)	1.6 (1.3-1.9)	0.24 (0.08-0.72)	23 (15-31)	96 (88-99)		26	3	89	66	184
= 3	62 (42-79)	73 (65-80)	2.3 (1.6-3.4)	0.52 (0.32-0.84)	30 (19-43)	91 (85-96)		18	11	42	113	184
C-STAT							0.72					
≥ 1	76 (57-90)	50 (42-58)	1.5 (1.2-2.0)	0.49 (0.25-0.94)	22 (14-31)	92 (84-97)		22	7	78	77	184
≥ 2	62 (42-79)	76 (68-82)	2.5 (1.7-3.8)	0.50 (0.31-0.81)	32 (20-46)	91 (85-96)		18	11	38	117	184
≥ 3	55 (35-74)	86 (79-91)	3.9 (2.3-6.5)	0.52 (0.35-0.79)	42 (26-59)	91 (85-95)		16	13	22	133	184
= 4	31 (15-51)	94 (89-97)	4.8 (2.1-10.8)	0.74 (0.58-0.94)	47 (24-71)	88 (82-92)		9	20	10	145	184
FAST-ED							0.83					
≥ 1	97 (82-100)	25 (19-33)	1.3 (1.2-1.5)	0.14 (0.02-0.96)	19 (13-27)	98 (87-100)		28	1	116	39	184
≥ 2	90 (73-98)	49 (41-57)	1.8 (1.4-2.1)	0.21 (0.07-0.62)	25 (17-34)	96 (89-99)		26	3	79	76	184
≥ 3	86 (68-96)	68 (60-75)	2.7 (2.0-3.5)	0.20 (0.08-0.51)	33 (23-45)	96 (91-99)		25	4	50	105	184
≥ 4	79 (60-92)	79 (72-85)	3.8 (2.7-5.5)	0.26 (0.13-0.53)	42 (29-56)	95 (90-98)		23	6	32	123	184
≥ 5	59 (39-77)	88 (82-93)	4.8 (2.8-8.1)	0.47 (0.31-0.73)	47 (30-65)	92 (86-96)		17	12	19	136	184
≥ 6	28 (13-47)	96 (91-98)	6.1 (2.4-15.5)	0.76 (0.60-0.95)	53 (27-79)	88 (82-92)		8	21	7	148	184
≥ 7	17 (06-36)	99 (97-100)	27 (3.2-220.0)	0.83 (0.71-0.98)	83 (36-100)	87 (81-91)		5	24	1	154	184
≥ 8	0	100 (98-100)*	-	1.0	-	84 (84-84)*		0	29	0	155	184
= 9	0	100 (98-100)*	-	1.0	-	84 (84-84)*		0	29	0	155	184
G-FAST							0.76					
≥ 1	97 (82-100)	15 (10-21)	1.1 (1.0-1.3)	0.23 (0.03-1.65)	18 (12-24)	96 (79-100)		28	1	132	23	184
≥ 2	93 (77-99)	38 (30-46)	1.5 (1.3-1.8)	0.18 (0.05-0.70)	22 (15-30)	97 (89-99)		27	2	96	59	184
≥ 3	79 (60-92)	65 (56-72)	2.2 (1.7-3.0)	0.32 (0.16-0.66)	30 (20-41)	94 (88-98)		23	6	55	100	184
= 4	41 (24-61)	88 (82-93)	3.4 (1.8-6.2)	0.67 (0.49-0.91)	39 (22-58)	89 (83-93)		12	17	19	136	184
mNIHSS							0.74					
≥ 2	100 (88-100)	23 (17-31)	1.3 (1.2-1.4)	0	20 (14-27)	100 (90-100)		29	0	119	36	184
≥ 3	90 (73-98)	33 (26-41)	1.3 (1.1-1.6)	0.31 (0.11-0.94)	20 (14-28)	94 (85-99)		26	3	104	51	184
≥ 4	83 (64-94)	41 (34-50)	1.4 (1.1-1.7)	0.42 (0.18-0.94)	21 (14-29)	93 (84-98)		24	5	91	64	184
≥ 5	83 (64-94)	48 (40-56)	1.6 (1.3-2.0)	0.36 (0.16-0.82)	23 (15-32)	94 (86-98)		24	5	81	74	184
≥ 6	79 (60-92)	56 (48-64)	1.8 (1.4-2.3)	0.37 (0.18-0.76)	25 (17-36)	94 (87-98)		23	6	68	87	184
≥ 7	76 (57-90)	61 (53-68)	1.9 (1.5-2.6)	0.40 (0.21-0.77)	27 (17-37)	93 (86-97)		22	7	61	94	184
≥ 8	76 (57-90)	67 (59-74)	2.3 (1.7-3.1)	0.36 (0.19-0.69)	30 (20-42)	94 (87-97)		22	7	51	104	184
≥ 9	69 (49-85)	72 (64-79)	2.4 (1.7-3.5)	0.43 (0.25-0.75)	31 (20-44)	93 (86-97)		20	9	44	111	184
≥ 10	66 (46-82)	76 (69-83)	2.7 (1.9-4.0)	0.45 (0.27-0.75)	34 (22-48)	92 (86-96)		19	10	37	118	184
≥ 13	45 (26-64)	86 (79-91)	3.2 (1.8-5.5)	0.64 (0.46-0.90)	37 (22-55)	89 (83-94)		13	16	22	133	184
NIHSS							0.76					
≥ 2	100 (88-100)	12 (08-19)	1.1 (1.1-1.2)	0	18 (12-24)	100 (82-100)		29	0	136	19	184
≥ 3	97 (82-100)	19 (13-26)	1.2 (1.1-1.3)	0.18 (0.03-1.3)	18 (12-25)	97 (83-100)		28	1	126	29	184
≥ 4	90 (73-98)	30 (23-38)	1.3 (1.1-1.5)	0.35 (0.12-1.1)	19 (13-27)	94 (83-99)		26	3	109	46	184
≥ 5	90 (73-98)	37 (29-45)	1.4 (1.2-1.7)	0.28 (0.10-0.84)	21 (14-29)	95 (86-99)		26	3	98	57	184

≥ 6	86 (68-96)	46 (38-54)	1.6 (1.3-2.0)	0.30 (0.12-0.76)	23 (15-32)	95 (87-99)	25	4	84	71	184
≥ 7	83 (64-94)	54 (46-62)	1.8 (1.4-2.3)	0.32 (0.14-0.72)	26 (17-36)	94 (88-98)	24	5	71	84	184
≥ 8	83 (64-94)	57 (49-65)	1.9 (1.5-2.5)	0.30 (0.14-0.68)	26 (18-37)	95 (88-98)	24	5	67	88	184
≥ 9	83 (64-94)	61 (53-68)	2.1 (1.6-2.7)	0.28 (0.13-0.64)	28 (19-39)	95 (89-98)	24	5	61	94	184
≥ 10	79 (60-92)	68 (60-76)	2.5 (1.9-3.4)	0.30 (0.15-0.62)	32 (21-44)	95 (89-98)	23	6	49	106	184
≥ 16	48 (29-68)	86 (79-91)	3.4 (2.0-5.8)	0.60 (0.42-0.86)	39 (34-57)	90 (84-94)	14	15	22	133	184
PASS							0.73				
≥ 1	93 (77-99)	25 (19-33)	1.2 (1.1-1.4)	0.27 (0.07-1.1)	19 (13-26)	95 (84-99)	27	2	116	39	184
≥ 2	66 (46-82)	64 (56-71)	1.8 (1.3-2.5)	0.54 (0.32-0.90)	25 (16-37)	91 (84-96)	19	10	56	99	184
= 3	48 (29-68)	91 (85-95)	5.3 (2.9-9.9)	0.57 (0.40-0.81)	50 (31-69)	90 (85-95)	14	15	14	141	184
RACE							0.77				
≥ 1	90 (73-98)	30 (23-38)	1.3 (1.1-1.5)	0.35 (0.12-1.1)	19 (13-27)	94 (83-99)	26	3	109	46	184
≥ 2	86 (68-96)	47 (39-55)	1.6 (1.3-2.0)	0.29 (0.12-0.74)	23 (16-33)	95 (87-99)	25	4	82	73	184
≥ 3	83 (64-94)	64 (56-71)	2.3 (1.8-3.0)	0.27 (0.12-0.60)	30 (20-41)	95 (89-98)	24	5	56	99	184
≥ 4	72 (53-87)	69 (61-76)	2.3 (1.6-3.2)	0.40 (0.22-0.73)	30 (20-43)	93 (87-97)	21	8	48	107	184
≥ 5	59 (39-77)	81 (74-87)	3.0 (1.9-4.7)	0.51 (0.33-0.80)	36 (23-52)	91 (85-95)	17	12	30	125	184
≥ 6	52 (33-71)	87 (81-92)	4.0 (2.3-6.9)	0.55 (0.38-0.81)	43 (26-61)	91 (85-95)	15	14	20	135	184
≥ 7	41 (24-61)	94 (89-97)	6.4 (3.1-13.4)	0.63 (0.46-0.85)	55 (32-76)	90 (84-94)	12	17	10	145	184
≥ 8	14 (04-32)	96 (92-99)	3.6 (1.1-11.8)	0.90 (0.77-1.04)	40 (12-74)	86 (80-91)	4	25	6	149	184
= 9	03 (01-18)	98 (94-100)	1.8 (0.2-16.5)	0.99 (0.19-1.06)	25 (53-81)	84 (78-89)	1	28	3	152	184
SAVE							0.79				
≥ 1	100 (88-100)	17 (11-24)	1.2 (1.1-1.3)	0	18 (13-25)	100 (87-100)	29	0	129	26	184
≥ 2	86 (68-96)	57 (49-65)	2.0 (1.6-2.5)	0.24 (0.10-0.61)	27 (18-37)	96 (89-99)	25	4	67	88	184
≥ 3	62 (42-79)	81 (74-87)	3.3 (2.2-5.1)	0.47 (0.29-0.75)	38 (25-54)	92 (86-96)	18	11	29	126	184
= 4	38 (21-58)	92 (86-96)	4.5 (2.3-9.1)	0.68 (0.51-0.91)	46 (26-67)	89 (83-93)	11	18	13	142	184
VAN							0.72				
+	83 (64-94)	62 (54-70)	2.2 (1.7-2.8)	0.28 (0.12-0.52)	29 (20-40)	95 (89-98)	24	5	59	96	184

\*NPV for thresholds with zero positive cases is 1-prevalence. Specificity and NPV CIs from [https://www.medcalc.org/calc/diagnostic\\_test.php](https://www.medcalc.org/calc/diagnostic_test.php)

**Supplemental Table 7.** Diagnostic statistics for the reference standard of either LVO stroke excluding M2s (ICA, M1, or basilar occlusions) or intracranial hemorrhage. Prevalence % (95% CI): 20.1 (15-27).

LVO (excluding M2s) or intracranial hemorrhage scale threshold	Sensitivity (95% CI)	Specificity (95% CI)	PLR (95% CI)	NLR (95% CI)	PPV (95% CI)	NPV (95% CI)	AUC	TP	FN	FP	TN	Total
AAW							0.73					
+	89 (75-97)	57 (49-65)	2.1 (1.7-2.6)	0.19 (0.07-0.48)	34 (25-45)	96 (89-99)		33	4	63	84	184
CPSS							0.77					
≥ 1	100 (91-100)	18 (12-25)	1.2 (1.1-1.3)	0	23 (17-31)	100 (87-100)		37	0	121	26	184
≥ 2	89 (75-97)	44 (36-53)	1.6 (1.3-1.9)	0.24 (0.10-0.63)	29 (21-38)	94 (86-98)		33	4	82	65	184
= 3	70 (53-84)	77 (69-83)	3.0 (2.1-4.4)	0.39 (0.23-0.64)	43 (31-57)	91 (85-96)		26	11	34	113	184
C-STAT							0.71					
≥ 1	76 (59-88)	51 (43-59)	1.6 (1.2-2.0)	0.48 (0.27-0.86)	28 (20-38)	89 (81-95)		28	9	72	75	184
≥ 2	62 (45-78)	78 (70-84)	2.8 (1.9-4.1)	0.49 (0.32-0.74)	41 (28-55)	89 (82-94)		23	14	33	114	184
≥ 3	43 (27-61)	85 (78-90)	2.9 (1.7-4.9)	0.67 (0.50-0.89)	42 (26-59)	86 (79-91)		16	21	22	125	184
= 4	27 (14-44)	94 (89-97)	4.4 (1.9-10.1)	0.78 (0.64-0.95)	53 (29-76)	84 (77-89)		10	27	9	138	184
FAST-ED							0.78					
≥ 1	100 (91-100)	27 (20-35)	1.4 (1.2-1.5)	0	26 (19-34)	100 (91-100)		37	0	107	40	184
≥ 2	81 (65-92)	49 (41-57)	1.6 (1.3-2.0)	0	29 (20-38)	91 (83-96)		30	7	75	72	184
≥ 3	73 (56-86)	67 (59-75)	2.3 (1.7-3.0)	0.40 (0.23-0.69)	36 (25-48)	91 (84-96)		27	10	48	99	184
≥ 4	70 (53-84)	80 (73-86)	3.6 (2.4-5.3)	0.37 (0.22-0.61)	47 (34-61)	92 (85-96)		26	11	29	118	184
≥ 5	51 (34-68)	88 (82-93)	4.4 (2.6-7.7)	0.55 (0.39-0.77)	53 (36-70)	88 (82-93)		19	18	17	130	184
≥ 6	22 (10-38)	95 (90-98)	4.5 (1.8-11.7)	0.82 (0.69-0.98)	53 (27-79)	83 (76-88)		8	29	7	140	184
≥ 7	08 (02-22)	98 (94-100)	4.0 (0.8-19.0)	0.94 (0.85-1.04)	50 (11-88)	81 (74-86)		3	34	3	144	184
≥ 8	0	100 (98-100)*	-	1.0	-	80 (80-80)*		0	37	0	147	184
= 9	0	100 (98-100)*	-	1.0	-	80 (80-80)*		0	37	0	147	184
G-FAST							0.77					
≥ 1	100 (91-100)	16 (11-23)	1.2 (1.1-1.3)	0	23 (17-30)	100 (86-100)		37	0	123	24	184
≥ 2	92 (78-98)	40 (32-48)	1.5 (1.3-1.8)	0.21 (0.07-0.62)	28 (20-36)	95 (86-99)		34	3	89	58	184
≥ 3	78 (62-90)	67 (58-74)	2.4 (1.8-3.1)	0.32 (0.17-0.61)	38 (27-49)	93 (86-97)		29	8	49	98	184
= 4	41 (25-58)	89 (83-94)	3.7 (2.0-6.8)	0.67 (0.52-0.88)	48 (30-67)	86 (79-91)		15	22	16	131	184
mNIHSS							0.72					
≥ 2	95 (82-99)	23 (17-31)	1.2 (1.1-1.4)	0.23 (0.06-0.93)	24 (17-31)	94 (81-99)		35	2	113	34	184
≥ 3	89 (75-97)	34 (26-42)	1.4 (1.2-1.6)	0.32 (0.12-0.82)	25 (18-34)	93 (82-98)		33	4	97	50	184
≥ 4	81 (65-92)	42 (34-51)	1.4 (1.1-1.7)	0.45 (0.22-0.90)	26 (18-35)	90 (80-96)		30	7	85	62	184
≥ 5	81 (65-92)	49 (41-57)	1.6 (1.3-2.0)	0.39 (0.19-0.77)	29 (20-38)	91 (83-96)		30	7	75	72	184
≥ 6	76 (59-88)	57 (49-65)	1.8 (1.4-2.3)	0.43 (0.24-0.76)	31 (22-41)	90 (82-96)		28	9	63	84	184
≥ 7	68 (50-82)	61 (52-69)	1.7 (1.3-2.3)	0.54 (0.33-0.87)	30 (21-41)	88 (80-94)		25	12	58	89	184
≥ 8	68 (50-82)	67 (59-75)	2.1 (1.5-2.9)	0.48 (0.30-0.78)	34 (24-46)	89 (82-94)		25	12	48	99	184
≥ 9	65 (48-80)	73 (65-80)	2.4 (1.7-3.4)	0.48 (0.31-0.76)	38 (26-51)	89 (82-94)		24	13	40	107	184
≥ 10	62 (45-78)	78 (70-84)	2.8 (1.9-4.1)	0.49 (0.32-0.74)	41 (28-55)	89 (82-94)		23	14	33	114	184
≥ 13	41 (25-58)	86 (80-92)	3.0 (1.7-5.2)	0.69 (0.52-0.91)	43 (26-61)	85 (79-91)		15	22	20	127	184
NIHSS							0.75					
≥ 2	100 (91-100)	13 (8-19)	1.2 (1.1-1.2)	0	22 (16-30)	100 (82-100)		37	0	128	19	184

≥ 3	100 (91-100)	20 (14-28)	1.3 (1.2-1.4)	0	24 (18-32)	100 (88-100)	37	0	117	30	184
≥ 4	95 (82-99)	32 (25-40)	1.4 (1.2-1.6)	0.17 (0.04-0.66)	26 (19-34)	96 (86-100)	35	2	100	47	184
≥ 5	89 (75-97)	38 (30-47)	1.4 (1.2-1.7)	0.28 (0.11-0.73)	27 (19-35)	93 (84-98)	33	4	91	56	184
≥ 6	84 (68-94)	47 (39-55)	1.6 (1.3-1.9)	0.35 (0.16-0.73)	28 (20-38)	92 (83-97)	31	6	78	69	184
≥ 7	78 (62-90)	55 (47-63)	1.8 (1.4-2.2)	0.39 (0.21-0.74)	31 (22-41)	91 (83-96)	29	8	66	81	184
≥ 8	78 (62-90)	58 (49-66)	1.9 (1.4-2.4)	0.37 (0.20-0.70)	32 (23-43)	91 (84-96)	29	8	62	85	184
≥ 9	73 (56-86)	61 (52-69)	1.9 (1.4-2.5)	0.45 (0.26-0.77)	32 (22-43)	90 (82-95)	27	10	58	89	184
≥ 10	68 (50-82)	68 (60-76)	2.1 (1.5-2.9)	0.48 (0.30-0.77)	35 (24-47)	89 (82-94)	25	12	47	100	184
≥ 16	43 (27-61)	86 (80-92)	3.2 (1.8-5.5)	0.66 (0.49-0.88)	44 (28-62)	86 (79-91)	16	21	20	127	184
PASS							0.73				
≥ 1	97 (86-100)	27 (20-35)	1.3 (1.2-1.5)	0.10 (0.01-0.70)	25 (18-33)	98 (87-100)	36	1	107	40	184
≥ 2	65 (48-80)	65 (57-73)	1.9 (1.4-2.6)	0.54 (0.34-0.85)	32 (22-44)	88 (81-94)	24	13	51	96	184
= 3	41 (25-58)	91 (85-95)	4.6 (2.4-8.8)	0.65 (0.50-0.86)	54 (34-73)	86 (79-91)	15	22	13	134	184
RACE							0.78				
≥ 1	92 (78-98)	31 (24-40)	1.3 (1.2-1.6)	0.26 (0.09-0.79)	25 (18-33)	94 (83-99)	34	3	101	46	184
≥ 2	84 (68-94)	48 (40-57)	1.6 (1.3-2.0)	0.34 (0.16-0.71)	29 (21-39)	92 (84-97)	31	6	76	71	184
≥ 3	78 (62-90)	65 (57-73)	2.3 (1.7-3.0)	0.33 (0.18-0.62)	36 (26-48)	92 (85-96)	29	8	51	96	184
≥ 4	76 (59-88)	72 (64-79)	2.7 (2.0-3.7)	0.34 (0.19-0.60)	41 (29-53)	92 (86-96)	28	9	41	106	184
≥ 5	62 (45-76)	84 (77-89)	3.8 (2.4-5.9)	0.45 (0.30-0.69)	49 (34-64)	90 (83-94)	23	14	24	123	184
≥ 6	49 (32-66)	88 (82-93)	4.2 (2.4-7.3)	0.58 (0.42-0.80)	51 (34-69)	87 (81-92)	18	19	17	130	184
≥ 7	35 (20-53)	94 (89-97)	5.7 (2.6-12.4)	0.69 (0.54-0.88)	59 (36-79)	85 (79-90)	13	24	9	138	184
≥ 8	14 (5-29)	97 (92-99)	4.0 (1.2-13.0)	0.90 (0.79-1.02)	50 (19-81)	82 (75-88)	5	32	5	142	184
= 9	8 (2-22)	99 (96-100)	11.9 (1.3-111)	0.93 (0.84-1.02)	75 (19-99)	81 (75-87)	3	34	1	146	184
SAVE							0.76				
≥ 1	100 (91-100)	18 (12-25)	1.2 (1.1-1.3)	0	23 (17-31)	100 (87-100)	37	0	121	26	184
≥ 2	81 (65-92)	58 (49-66)	1.9 (1.5-2.5)	0.33 (0.17-0.65)	33 (23-43)	92 (85-97)	30	7	62	85	184
≥ 3	57 (40-73)	82 (75-88)	3.2 (2.1-5.0)	0.53 (0.36-0.77)	45 (30-60)	88 (82-93)	21	16	26	121	184
= 4	32 (18-50)	92 (86-96)	4.0 (1.9-8.1)	0.74 (0.59-0.92)	50 (29-71)	84 (78-90)	12	25	12	135	184
VAN							0.69				
+	76 (59-99)	63 (54-70)	2.0 (1.5-2.7)	0.39 (0.22-0.70)	34 (24-45)	91 (84-96)	28	9	55	92	184

\*NPV for thresholds with zero positive cases is 1-prevalence. Specificity and NPV CIs from [https://www.medcalc.org/calc/diagnostic\\_test.php](https://www.medcalc.org/calc/diagnostic_test.php)

**Supplemental Table 8.** Diagnostic statistics for the reference standard of either LVO stroke (ICA, M1, M2, or basilar occlusions) or intracranial hemorrhage  
Prevalence % (95% CI): 26.1 (20-33).

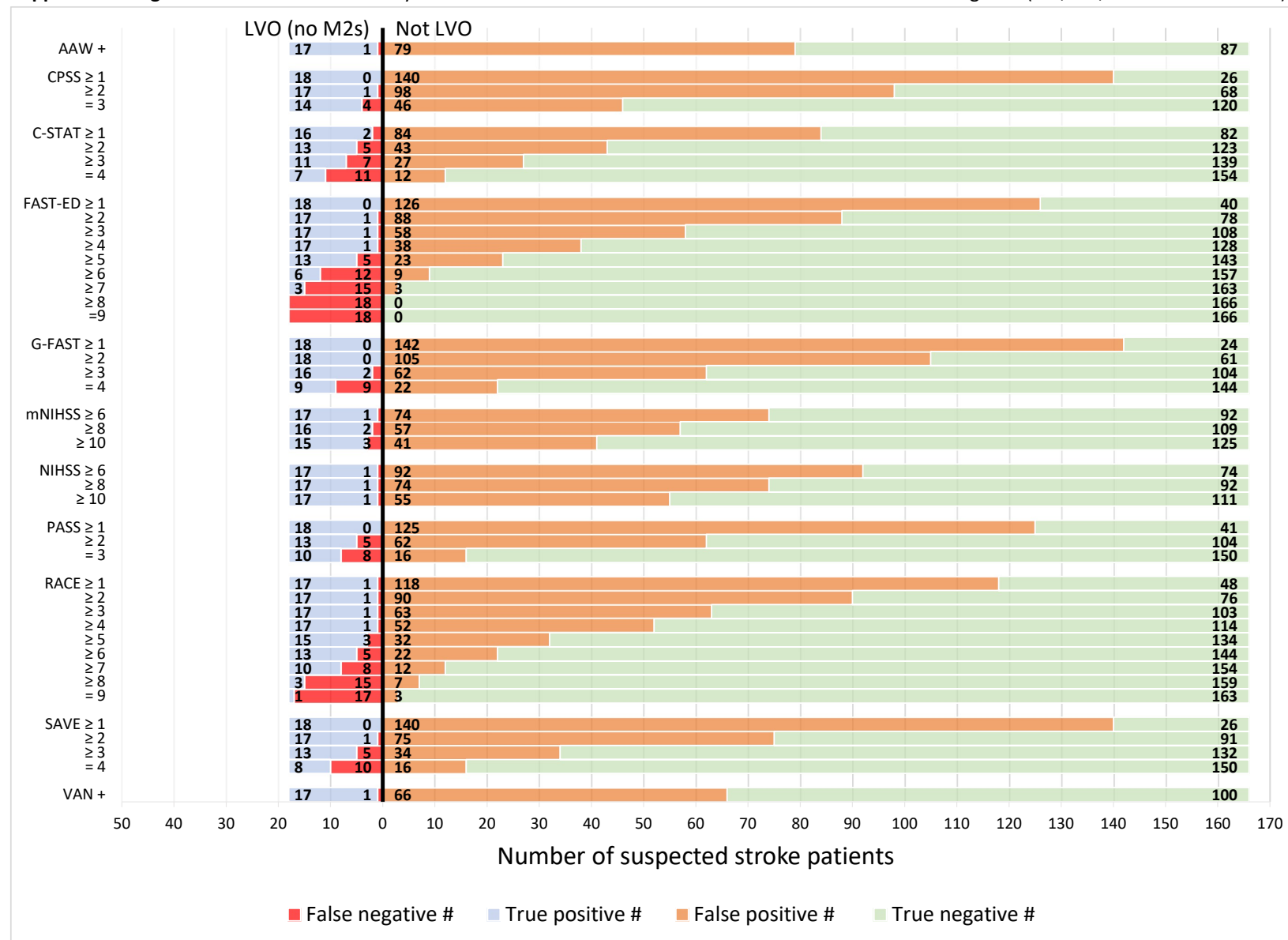
LVO or intracranial hemorrhage scale threshold	Sensitivity (95% CI)	Specificity (95% CI)	PLR (95% CI)	NLR (95% CI)	PPV (95% CI)	NPV (95% CI)	AUC	TP	FN	FP	TN	Total
AAW							0.70					
+	81 (67-91)	58 (49-67)	1.9 (1.5-2.5)	0.32 (0.18-0.59)	41 (31-51)	90 (82-95)		39	9	57	79	184
CPSS							0.75					
≥ 1	98 (89-100)	18 (12-26)	1.2 (1.1-1.3)	0.11 (0.02-0.81)	30 (23-38)	96 (80-100)		47	1	111	25	184
≥ 2	88 (75-95)	46 (38-55)	1.6 (1.4-2.0)	0.27 (0.13-0.58)	37 (28-46)	91 (82-97)		42	6	73	63	184
= 3	63 (47-76)	78 (70-85)	2.8 (1.9-4.2)	0.48 (0.33-0.70)	50 (37-63)	86 (78-91)		30	18	30	106	184
C-STAT							0.69					
≥ 1	71 (56-83)	52 (43-60)	1.5 (1.1-1.9)	0.57 (0.35-0.91)	34 (25-44)	83 (74-91)		34	14	66	70	184
≥ 2	58 (43-72)	79 (72-86)	2.8 (1.9-4.3)	0.53 (0.38-0.74)	50 (36-64)	84 (77-90)		28	20	28	108	184
≥ 3	44 (30-59)	88 (81-93)	3.5 (2.0-6.1)	0.64 (0.50-0.83)	55 (38-71)	82 (74-87)		21	27	17	119	184
= 4	25 (14-40)	95 (90-98)	4.9 (2.0-11.6)	0.79 (0.67-0.94)	63 (38-84)	78 (71-84)		12	36	7	129	184
FAST-ED							0.79					
≥ 1	98 (89-100)	29 (21-37)	1.4 (1.2-1.5)	0.07 (0.01-0.51)	33 (25-41)	98 (87-100)		47	1	97	39	184
≥ 2	81 (68-91)	52 (43-60)	1.7 (1.3-2.1)	0.36 (0.20-0.67)	37 (28-47)	89 (80-95)		39	9	66	70	184
≥ 3	73 (58-85)	71 (62-78)	2.5 (1.8-3.4)	0.38 (0.24-0.62)	47 (35-59)	88 (81-94)		35	13	40	96	184
≥ 4	68 (52-80)	83 (76-89)	3.9 (2.6-6.0)	0.40 (0.27-0.60)	58 (44-71)	88 (81-93)		32	16	23	113	184
≥ 5	48 (33-63)	90 (84-95)	5.0 (2.8-9.1)	0.58 (0.44-0.76)	64 (46-79)	83 (76-89)		23	25	13	123	184
≥ 6	21 (11-35)	97 (92-99)	5.7 (2.0-15.7)	0.82 (0.71-0.95)	67 (38-88)	78 (71-84)		10	38	5	131	184
≥ 7	10 (03-23)	99 (96-100)	14 (1.7-118.0)	0.90 (0.82-1.0)	83 (36-100)	76 (69-82)		5	43	1	135	184
≥ 8	0	100 (97-100)*	-	1.0	-	74 (74-74)*		0	48	0	136	184
= 9	0	100 (97-100)*	-	1.0	-	74 (74-74)*		0	48	0	136	184
G-FAST							0.76					
≥ 1	98 (89-100)	17 (11-24)	1.2 (1.1-1.3)	0.12 (0.02-0.89)	29 (22-37)	96 (79-100)		47	1	113	23	184
≥ 2	90 (77-97)	41 (33-50)	1.5 (1.3-1.8)	0.25 (0.11-0.59)	35 (27-44)	92 (82-97)		43	5	80	56	184
≥ 3	75 (60-86)	69 (61-77)	2.4 (1.8-3.3)	0.36 (0.22-0.60)	46 (35-58)	89 (81-94)		36	12	42	94	184
= 4	38 (24-53)	90 (84-95)	3.9 (2.1-7.4)	0.69 (0.55-0.87)	58 (39-76)	80 (73-86)		18	30	13	123	184
mNIHSS							0.71					
≥ 2	96 (86-100)	25 (18-33)	1.3 (1.1-1.4)	0.17 (0.04-0.67)	31 (24-39)	94 (81-99)		46	2	102	34	184
≥ 3	88 (75-95)	35 (27-44)	1.4 (1.2-1.6)	0.35 (0.16-0.77)	32 (24-41)	89 (77-96)		42	6	88	48	184
≥ 4	77 (62-88)	43 (34-51)	1.3 (1.1-1.7)	0.54 (0.31-0.94)	32 (24-42)	84 (73-92)		37	11	78	58	184
≥ 5	77 (63-88)	50 (51-59)	1.5 (1.2-1.9)	0.46 (0.27-0.79)	35 (26-45)	86 (77-93)		37	11	68	68	184
≥ 6	71 (56-83)	58 (49-67)	1.7 (1.3-2.2)	0.50 (0.32-0.80)	37 (27-48)	85 (76-92)		34	14	57	79	184
≥ 7	65 (50-78)	62 (53-70)	1.7 (1.2-2.3)	0.57 (0.38-0.86)	37 (27-49)	83 (74-90)		31	17	52	84	184
≥ 8	65 (50-78)	69 (61-77)	2.1 (1.5-2.9)	0.51 (0.34-0.76)	43 (31-55)	85 (77-91)		31	17	42	94	184
≥ 9	58 (43-72)	74 (65-80)	2.2 (1.5-3.2)	0.57 (0.40-0.80)	44 (31-57)	83 (75-90)		28	20	36	100	184
≥ 10	56 (41-71)	79 (71-85)	2.6 (1.8-4.0)	0.57 (0.40-0.78)	48 (35-62)	84 (76-90)		27	21	29	107	184
≥ 13	38 (24-53)	88 (80-93)	3.0 (1.7-5.3)	0.71 (0.57-0.90)	51 (34-69)	80 (73-86)		18	30	17	119	184
NIHSS												
≥ 2	100 (93-100)	14 (09-21)	1.2 (1.1-1.2)	0	29 (22-37)	100 (82-100)		48	0	117	19	184
≥ 3	98 (89-100)	21 (15-29)	1.2 (1.1-1.4)	0.10 (0.01-0.70)	31 (23-38)	97 (83-100)		47	1	107	29	184

≥ 4	92 (80-98)	33 (25-42)	1.4 (1.2-1.6)	0.25 (0.10-0.66)	33 (25-41)	92 (80-98)	44	4	91	45	184
≥ 5	88 (75-95)	40 (31-48)	1.5 (1.2-1.7)	0.32 (0.15-0.68)	34 (26-43)	90 (80-96)	42	6	82	54	184
≥ 6	81 (67-91)	49 (40-57)	1.6 (1.3-2.0)	0.39 (0.21-0.71)	36 (27-46)	88 (78-94)	39	9	70	66	184
≥ 7	75 (60-86)	57 (48-65)	1.7 (1.3-2.2)	0.44 (0.27-0.74)	38 (28-48)	87 (77-93)	36	12	59	77	184
≥ 8	75 (60-86)	60 (51-68)	1.9 (1.4-2.4)	0.42 (0.25-0.70)	40 (30-50)	40 (30-50)	36	12	55	81	184
≥ 9	71 (56-83)	63 (54-71)	1.9 (1.4-2.5)	0.47 (0.30-0.74)	40 (30-51)	86 (77-92)	34	14	51	85	184
≥ 10	65 (50-78)	70 (61-77)	2.1 (1.5-3.0)	0.51 (0.34-0.76)	43 (31-55)	85 (77-91)	31	17	41	95	184
≥ 14	54 (39-69)	84 (77-90)	3.4 (2.1-5.3)	0.55 (0.40-0.75)	54 (39-69)	84 (77-90)	26	22	22	114	184
≥ 15	46 (31-61)	86 (79-91)	3.3 (2.0-5.5)	0.63 (0.48-0.82)	54 (37-69)	82 (75-88)	22	26	19	117	184
PASS							0.72				
≥ 1	94 (83-99)	28 (21-36)	1.3 (1.2-1.5)	0.22 (0.07-0.69)	32 (34-40)	93 (80-99)	45	3	98	38	184
≥ 2	63 (48-76)	67 (58-75)	1.9 (1.4-2.6)	0.56 (0.38-0.82)	40 (29-52)	84 (75-90)	30	18	45	91	184
= 3	40 (26-55)	93 (88-97)	6.0 (2.9-12.3)	0.65 (0.51-0.82)	68 (48-84)	81 (74-87)	19	29	9	127	184
RACE							0.75				
≥ 1	90 (77-97)	32 (25-41)	1.3 (1.1-1.5)	0.32 (0.14-0.76)	32 (24-40)	90 (78-97)	43	5	92	44	184
≥ 2	81 (67-91)	50 (41-59)	1.6 (1.3-2.0)	0.38 (0.20-0.69)	36 (27-46)	88 (79-95)	39	9	68	68	184
≥ 3	75 (60-86)	67 (59-75)	2.3 (1.7-3.1)	0.37 (0.22-0.61)	45 (34-57)	89 (81-94)	36	12	44	92	184
≥ 4	67 (52-80)	73 (65-80)	2.5 (1.7-3.4)	0.46 (0.30-0.69)	46 (34-59)	86 (78-92)	32	16	37	99	184
≥ 5	52 (37-67)	84 (77-90)	3.2 (2.0-5.2)	0.57 (0.42-0.78)	53 (38-68)	83 (76-89)	25	23	22	114	184
≥ 6	42 (28-57)	89 (82-94)	3.8 (2.1-6.8)	0.66 (0.51-0.84)	57 (39-74)	81 (74-87)	20	28	15	121	184
≥ 7	31 (19-46)	95 (90-98)	6.1 (2.6-14.0)	0.73 (0.60-0.88)	68 (45-86)	80 (73-86)	15	33	7	129	184
≥ 8	13 (05-25)	97 (93-99)	4.3 (1.3-14.4)	0.90 (0.81-1.0)	60 (26-88)	76 (69-82)	6	42	4	132	184
= 9	06 (01-17)	99 (96-100)	8.5 (0.91-80)	0.94 (0.88-1.0)	75 (19-99)	75 (68-81)	3	45	1	135	184
SAVE							0.77				
≥ 1	100 (93-100)	19 (13-27)	1.2 (1.1-1.3)	0	30 (23-38)	100 (87-100)	48	0	110	26	184
≥ 2	79 (65-90)	60 (52-69)	2.0 (1.6-2.6)	0.35 (0.20-0.61)	41 (31-52)	89 (81-95)	38	10	54	82	184
≥ 3	54 (39-69)	85 (77-90)	3.5 (2.2-5.6)	0.54 (0.40-0.74)	55 (40-70)	84 (77-90)	26	22	21	115	184
= 4	31 (19-46)	93 (88-97)	4.7 (2.2-10.1)	0.74 (0.61-0.90)	63 (41-81)	79 (72-85)	15	33	9	127	184
VAN							0.69				
+	73 (58-85)	65 (56-73)	2.1 (1.6-2.8)	0.42 (0.26-0.68)	42 (31-54)	87 (79-93)	35	13	48	88	184

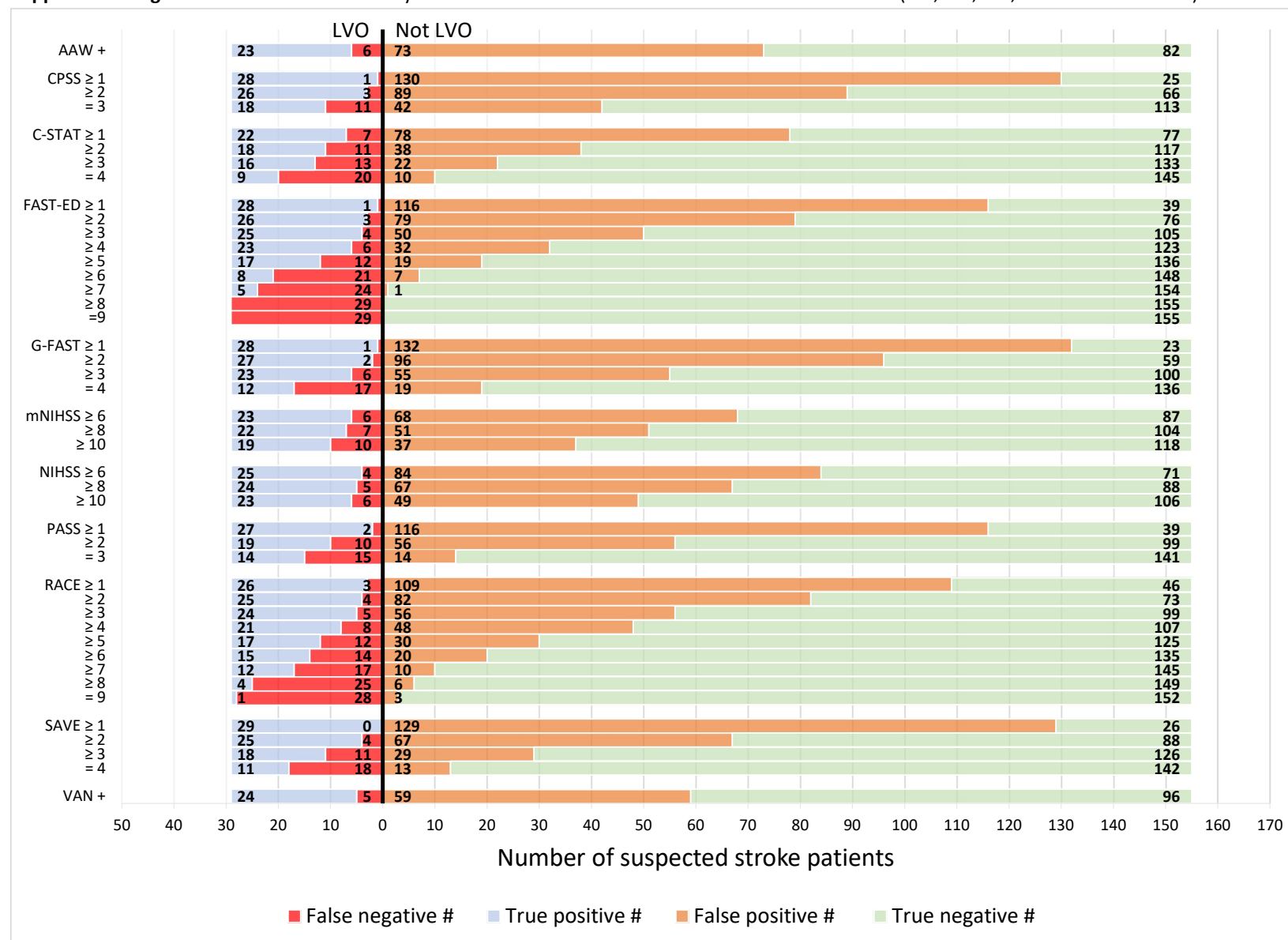
\*NPV for thresholds with zero positive cases is 1-prevalence. Specificity and NPV CIs from [https://www.medcalc.org/calc/diagnostic\\_test.php](https://www.medcalc.org/calc/diagnostic_test.php)



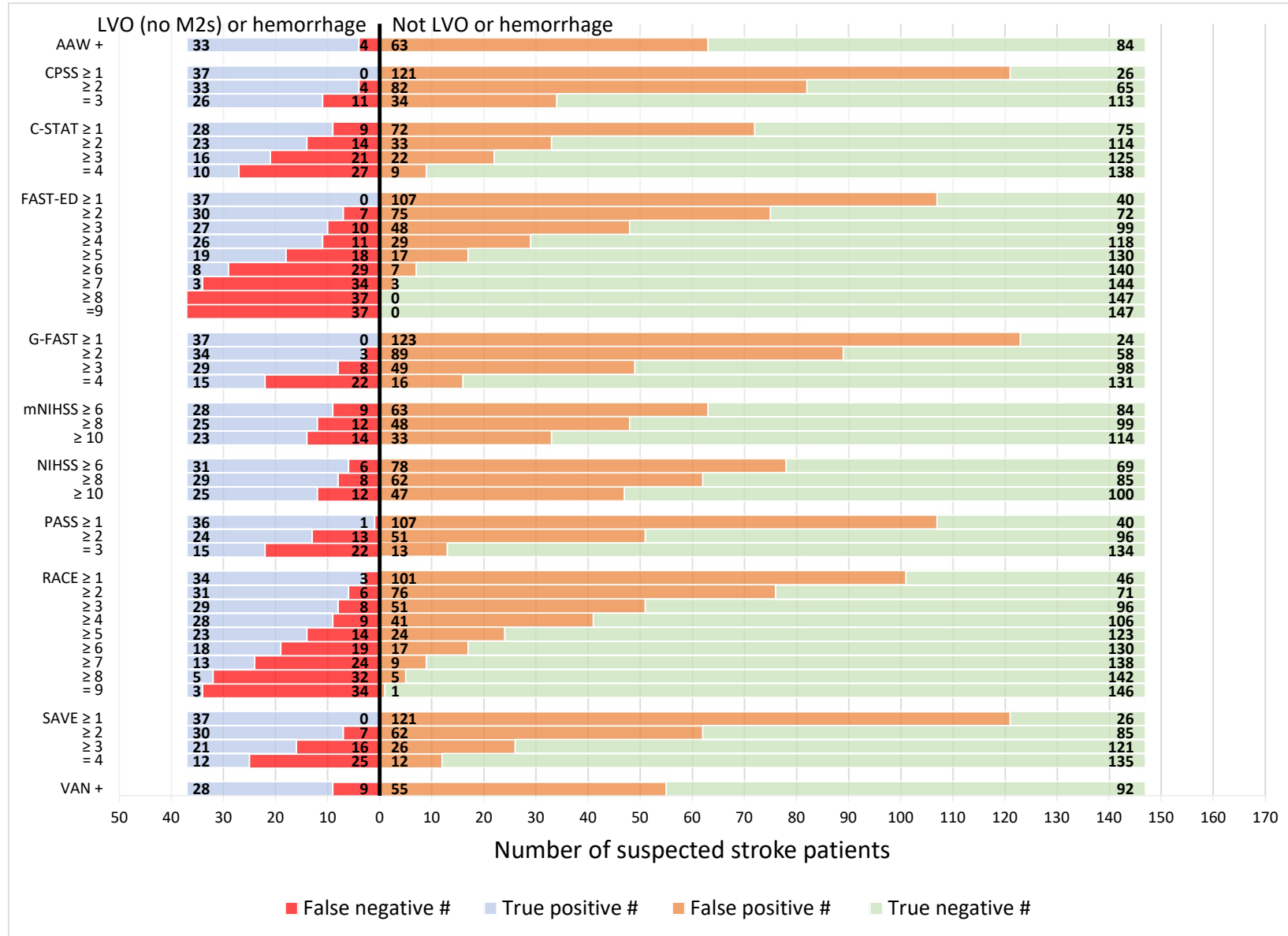
**Supplemental Figure 1.** Classification counts by scale threshold for the reference standard of LVO stroke excluding M2s (ICA, M1, or basilar occlusions).



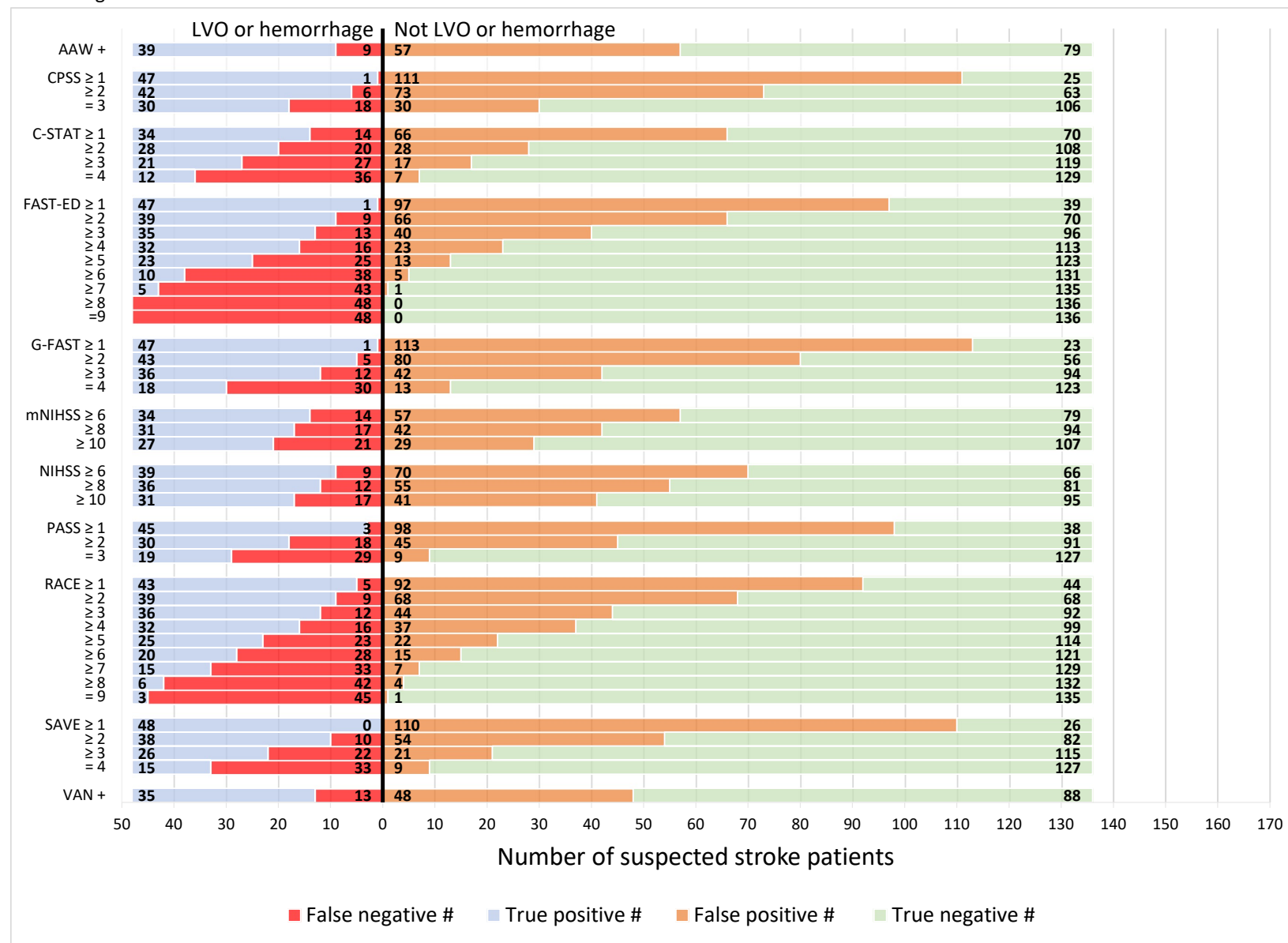
**Supplemental Figure 2.** Classification counts by scale threshold for the reference standard of LVO stroke (ICA, M1, M2, or basilar occlusions).



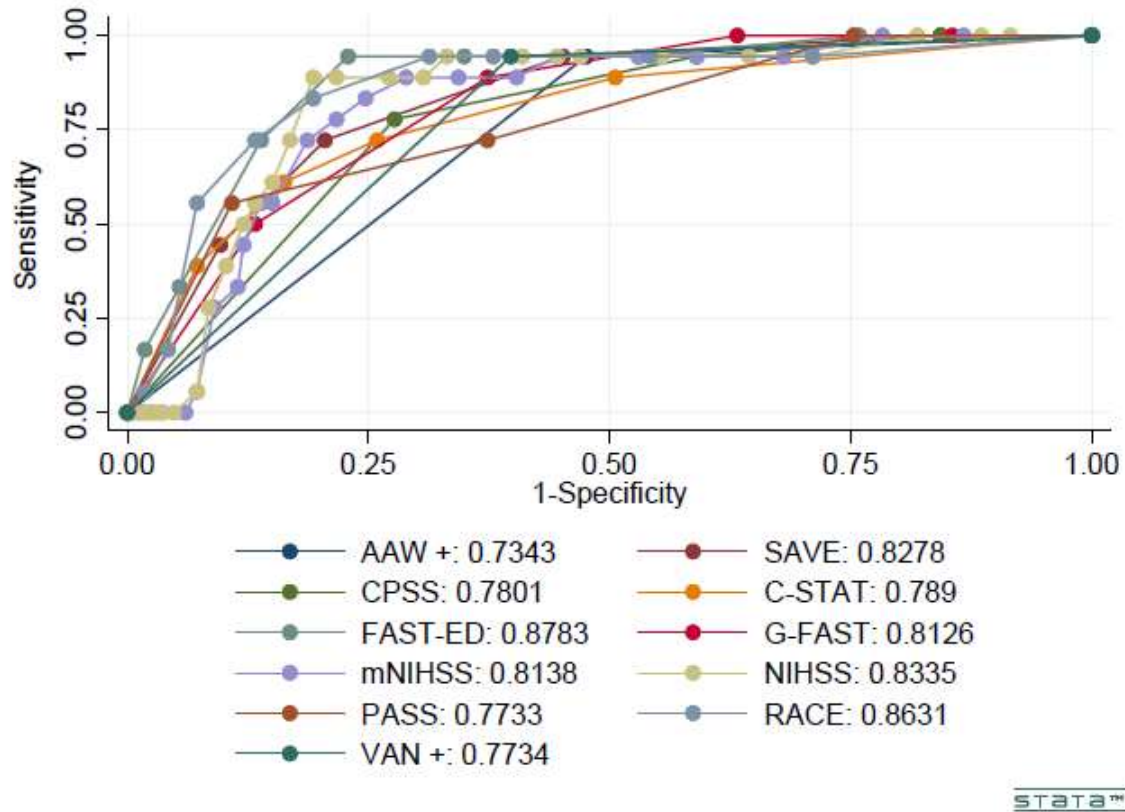
**Supplemental Figure 3.** Classification counts by scale threshold for the reference standard of LVO stroke excluding M2s (ICA, M1, or basilar occlusions) or intracranial hemorrhages.



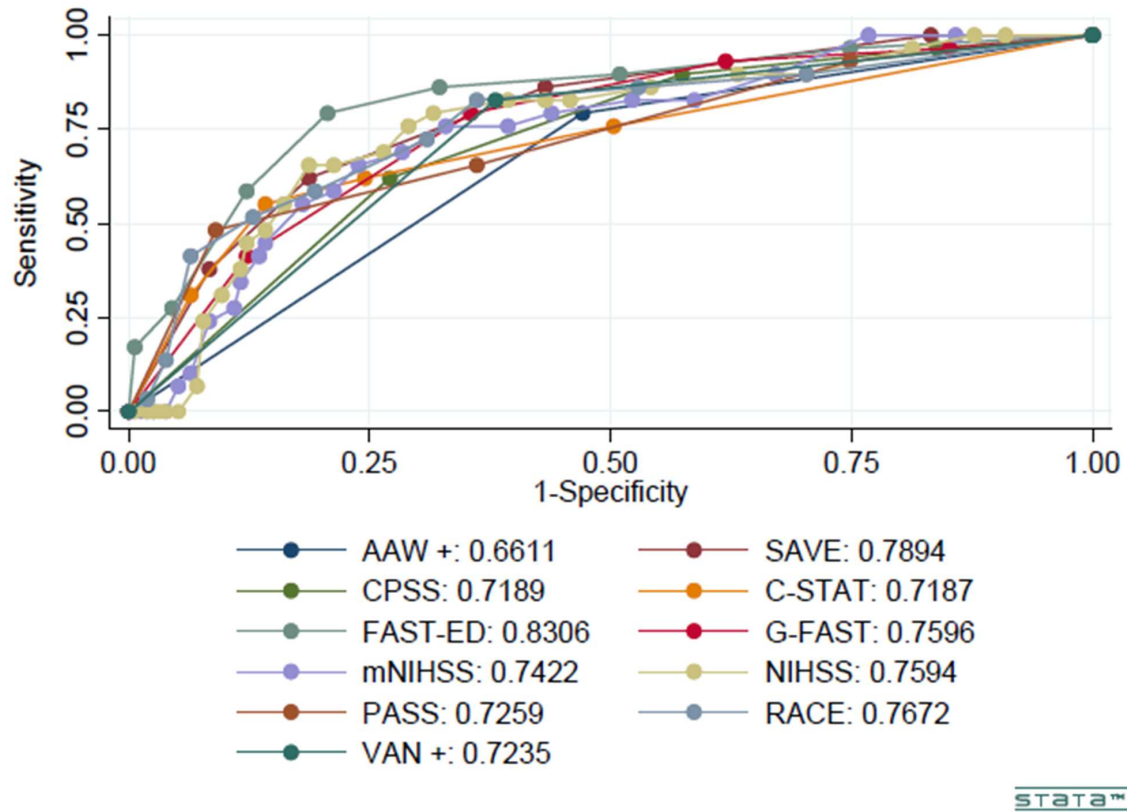
**Supplemental Figure 4.** Classification counts by scale threshold for the reference standard of LVO stroke (ICA, M1, M2, or basilar occlusions) or intracranial hemorrhages.



**Supplemental Figure 5.** Receiver operating characteristic curves of scales for the reference standard of LVO stroke excluding M2s (ICA, M1, or basilar occlusions) with areas under the curve (AUCs).

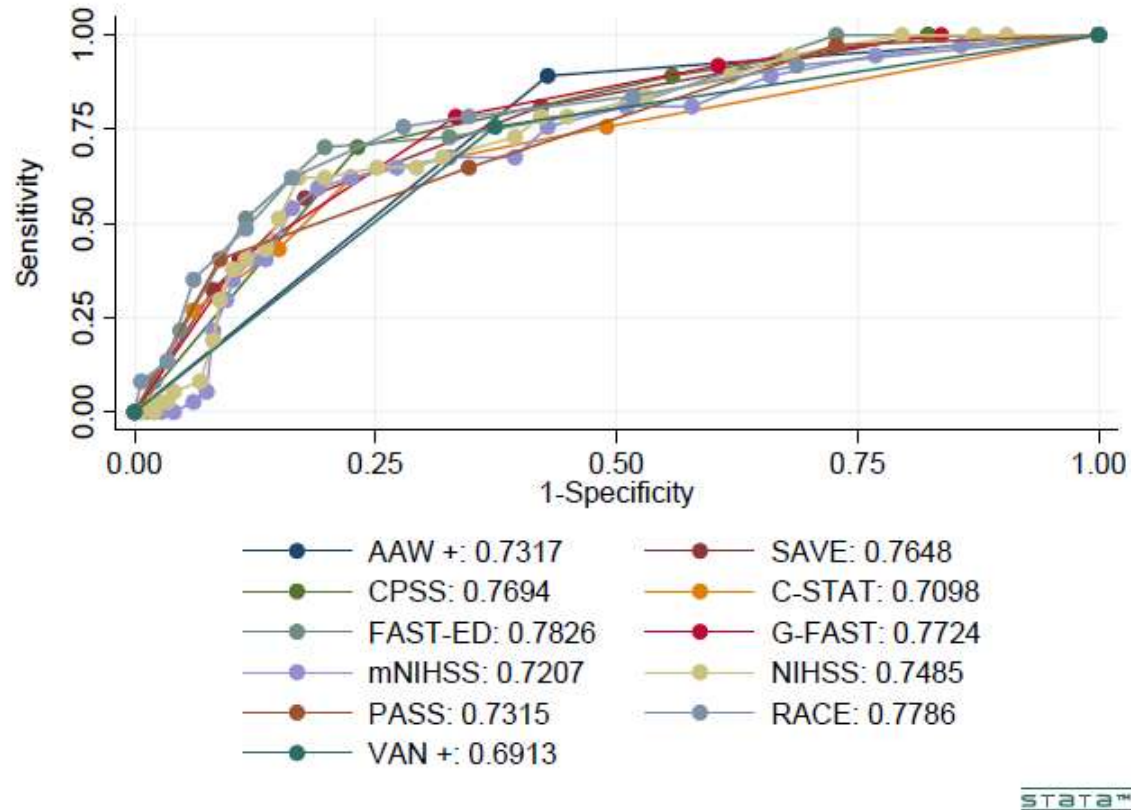


**Supplemental Figure 6.** Receiver operating characteristic curves of scales for the reference standard of LVO stroke (ICA, M1, M2, or basilar occlusions) with areas under the curve (AUCs).



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**Supplemental Figure 7.** Receiver operating characteristic curves of scales for the reference standard of either LVO stroke excluding M2s (ICA, M1, or basilar occlusions) or intracranial hemorrhage with areas under the curve (AUCs).



**Supplemental Figure 8.** Receiver operating characteristic curves of scales for the reference standard of either LVO stroke (ICA, M1, M2, or basilar occlusions) or intracranial hemorrhage with areas under the curve (AUCs).

