## **Supplemental Online Content**

Bösel J, Niesen W-D, Salih F, et al. Effect of early vs standard approach to tracheostomy on functional outcome at 6 months among patients with severe strok receiving mechanical ventilation: the SETPOINT2 randomized clinical trial. *JAMA*. doi:10.1001/jama.2022.4798

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This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. Additional demographics and clinical baseline characteristics

	Tracheostomy		
	Early	Standard	
	(n=186)	(n=194)	
Demographics			
Race			
- Asian	1 (0.7%)	4 (2.8%)	
- Black/African American	27 (19.1%)	23 (16.0%)	
- Hawaiian/Pacific Islander	0 (0.0%)	1 (0.7%)	
- White	110 (78.0%)	113 (78.5%)	
- Other	3 (2.1%)	3 (2.1%)	
- missing	45	50	
Ethnicity			
- Hispanic (Latino/Latina)	13 (9.2%)	9 (6.3%)	
- Non-Hispanic	128 (90.8%)	135 (93.8%)	
- missing	45	50	
Baseline Scores			
APS Score (of APACHE II score) *	18 (13, 21)	18 (13, 22)	
- missing	45	50	
Lung Injury Score (LIS) <sup>†</sup>	1.0 (0.3, 1.3)	1.0 (0.3, 1.5)	
- missing	45	50	
Items of the SETScore <sup>‡</sup>			
Dysphagia	74/141 (52.5%)	69/144 (47.9%)	
Observed aspiration	46/141 (32.6%)	54/144 (37.5%)	
GCS on admission < 10	114/141 (80.9%)	115/144 (79.9%)	
Brainstem	27/141 (19.1%)	28/144 (19.4%)	
Space-occupying cerebellar	20/141 (14.2%)	20/144 (13.9%)	
Ischemic infarct > 2/3 MCA territory	20/141 (14.2%)	25/144 (17.4%)	
ICH volume > 25 ml	48/141 (34.0%)	47/144 (32.6%)	
Diffuse lesion	64/141 (45.4%)	51/144 (35.4%)	
Hydrocephalus	79/141 (56.0%)	84/144 (58.3%)	
(Neuro)surgical intervention	78/141 (55.3%)	92/144 (63.9%)	
Additional respiratory disease	25/141 (17.7%)	27/144 (18.8%)	
PaO <sub>2</sub> /FiO <sub>2</sub> < 150	17/141 (12.1%)	19/144 (13.2%)	
APS (of APACHEII) > 20	39/141 (27.7%)	43/144 (29.9%)	
LIS > 1	46/141 (32.6%)	57/144 (39.6%)	
Sepsis	6/141 (4.3%)	9/144 (6.3%)	
Diagnosis details for AIS			
Localization supratentorial	36/49 (73.5%)	45/59 (76.3%)	
Localization infratentorial	17/49 (34.7%)	15/59 (25.4%)	
Intravenous thrombolysis (IVT therapy)	16/49 (32.7%)	21/59 (35.6%)	
Intra-arterial therapy (IAT therapy)	14/49 (28.6%)	20/59 (33.9%)	
Decompressive hemicraniectomy (DHC)	24/49 (49.0%)	30/59 (50.8%)	
Diagnosis details for SAH			
Components and scores of WFNS			
- GCS:15 / Motor deficit: -	0/58 (0.0%)	2/57 (3.5%)	
- GCS: 14-13 / Motor deficit: -	2/58 (3.4%)	3/57 (5.3%)	
- GCS: 14-13 / Motor deficit: +	7/58 (12.1%)	5/57 (8.8%)	
- GCS: 12-7 / Motor deficit: +/-	16/58 (27.6%)	14/57 (24.6%)	

	Tracheostomy		
	Early (n=186)	Standard (n=194)	
- GCS: 6-3 / Motor deficit: +/-	33/58 (56.9%)	33/57 (57.9%)	
- missing	1	0	
Components and scores of Fisher <sup>IIII</sup> scale			
- No blood detected	3/58 (5.2%)	0/57 (0.0%)	
- Diffuse deposition or thin layer with all vertical layers less than 1 mm thick	3/58 (5.2%)	2/57 (3.5%)	
- Localized clot and/or vertical layers 1 mm or more in thickness	13/58 (22.4%)	13/57 (22.8%)	
- Intracerebral or intraventricular clot with diffuse or no subarachnoid blood	39/58 (67.2%)	42/57 (73.7%)	
- missing	1	0	
Diagnosis details for ICH Localization supratentorial			
	56/78 (71.8%)	59/78 (75.6%)	
Localization infratentorial	25/78 (32.1%)	22/78 (28.2%)	
Volume > 30 cc	46/76 (60.5%)	56/78 (71.8%)	
- missing	2	0	
Categories of ICH score <sup>¶</sup>			
- 1	3/58 (5.2%)	1/53 (1.9%)	
- 2	19/58 (32.8%)	15/53 (28.3%)	
- 3	28/58 (48.3%)	24 /53 (45.3%)	
- 4	8/58 (13.8%)	10/53 (18.9%)	
- 5	0/58 (0.0%)	3/53 (5.7%)	
- missing	20	25	

<sup>\*</sup> The Acute Physiology And Chronic Health Evaluation II (APACHE II) is a composite score of acute physiology score, points for age, and points for chronic health. In the acute physiology score (APS), 13 different variables are assigned a score varying from 0 to 4. Similarly, age and chronic health are graded from 0 to 6 and 0 to 5, respectively. The APACHE II provides an initial risk classification of severely ill hospitalized patients treated in the intensive care unit.

Abbrev.: N, number; APS (of APACHE II score); acute physiology score (of acute physiology and chronic health evaluation II); LIS; lung injury score; AIS, acute ischemic stroke; IVT, intravenous thrombolysis; DHC decompressive hemicraniectomy; SAH, subarachnoid hemorrhage; GCS, Glasgow Coma Scale; MCA, middle cerebral artery; SET, stroke-related early tracheostomy; WFNS, World Federation of Neurosurgical Societies; ICH, intracerebral hemorrhage

<sup>†</sup>The Lung Injury Score (LIS) ranges from 0 to 2.5 with 0 indicating no lung injury and > 2.5 indicating acute respiratory distress syndrome.

<sup>‡</sup> Stroke-related Early tracheostomy score (SETscore) to estimate at least 2 weeks of ventilatory support, if score sums up to > 10

<sup>§</sup> Sores on the World Federation of Neurosurgical Societies (WFNS) for risk stratification in subarachnoid hemorrhage range from 1 to 5, resulting from a composition of GCS and presence of neurologic deficits, with higher scores indicating higher mortality.

III The Fisher scale is a method for radiological grading subarachnoid hemorrhage (SAH) secondary to intracranial aneurysm rupture, assessed on the first non-contrast CT to predict the occurrence and severity of cerebral vasospasm. It runs between 1 and 4.

<sup>¶</sup> The ICH score for risk stratification in intracerebral hemorrhage ranges from 0 to 6, composed of points assigned to the criteria GCS, age, ICH location, ICH volume, and presence of intraventricular blood, with higher scores indication higher thirty-day mortality.

## eTable 2. Logistic regression model for the primary outcome mRS\* 0-4 at 6 month follow-up

Parameter	Estimate (95% CI)	Odds Ratio (95% CI)	p-value
Group (Early Tracheostomy)	-0.08 (-0.51, 0.35)	0.93 (0.60, 1.42)	0.73 <sup>†</sup>
Age	-0.04 (-0.06, -0.03)	0.96 (0.94, 0.97)	<.001 <sup>‡</sup>
Baseline GCS§	0.03 (-0.03, 0.09)	1.03 (0.98, 1.09)	0.27 <sup>‡</sup>
Country (USA)	-0.33 (-0.76, 0.10)	0.72 (0.47, 1.11)	0.14 <sup>‡</sup>

<sup>\*</sup> Scores on the modified Rankin Scale (mRS) range from 0-6, with 0 indicating no symptoms, 1 no substantial disability despite symptoms, 2 slight disability, 3 moderate disability necessitating some help, 4 moderately severe disability without ability to walk unassisted, 5 severe disability requiring constant nursing care, and 6 death. Persons with a score of 0, 1, or 2 are considered functionally independent.

Abbrev.: mRS, modified Rankin Scale; CI, confidence interval; GCS, Glasgow Coma Scale

 $<sup>\</sup>dagger$  Primary group comparison not significant

<sup>‡</sup> p-values not adjusted for multiplicity

<sup>§</sup> Scores on the Glasgow Coma Scale (GCS) range between 3 and 15 points, with lower scores indicating reduced levels of consciousness. It is composed of best eye response, best verbal response and best motor response.

eTable 3. Mixed model for the primary outcome mRS\* 0-4 at 6 month follow-up including center as random effect (sensitivity analysis)

Parameter	Estimate (95% CI)	Odds Ratio (95% CI)	p-value
Group (Early Tracheostomy)	-0.08 (-0.51, 0.35)	0.92 (0.60, 1.42)	0.71
Age	-0.04 (-0.06, -0.02)	0.96 (0.94, 0.98)	<.001
Baseline GCS <sup>†</sup>	0.04 (-0.02, 0.10)	1.04 (0.98, 1.11)	0.15
Country (USA)	-0.37 (-1.01, 0.27)	0.69 (0.36, 1.30)	0.25

<sup>\*</sup> Scores on the modified Rankin Scale (mRS) range from 0-6, with 0 indicating no symptoms, 1 no substantial disability despite symptoms, 2 slight disability, 3 moderate disability necessitating some help, 4 moderately severe disability without ability to walk unassisted, 5 severe disability requiring constant nursing care, and 6 death. Persons with a score of 0, 1, or 2 are considered functionally independent.

Abbrev.: mRS, modified Rankin Scale; CI, confidence interval; GCS, Glasgow Coma Scale

<sup>†</sup> Scores on the Glasgow Coma Scale (GCS) range between 3 and 15 points, with lower scores indicating reduced levels of consciousness. It is composed of best eye response, best verbal response and best motor response.

eTable 4. Enrolling Centers

Early tracheostomy N=186		Standard tracheostomy N=194	Total N=380	
USA				
- Portland	19 (10.2%)	19 (9.8%)	38 (10.0%)	
- Baltimore	16 (8.6%)	16 (8.2%)	32 (8.4%)	
- Houston	12 (6.5%)	12 (6.2%)	24 (6.3%)	
- Columbus Ohio	11 (5.9%)	12 (6.2%)	23 (6.1%)	
- New Haven	8 (4.3%)	8 (4.1%)	16 (4.2%)	
- Richland WA	6 (3.2%)	6 (3.1%)	12 (3.2%)	
- Durham NC	5 (2.7%)	5 (2.6%)	10 (2.6%)	
- Ann Arbor	3 (1.6%)	4 (2.1%)	7 (1.8%)	
- Jacksonville	4 (2.2%)	3 (1.5%)	7 (1.8%)	
- Houston BCM	3 (1.6%)	3 (1.5%)	6 (1.6%)	
- Illinois	3 (1.6%)	2 (1.0%)	5 (1.3%)	
- Detroit	1 (0.5%)	2 (1.0%)	3 (0.8%)	
- New York Columbia	1 (0.5%)	1 (0.5%)	2 (0.5%)	
- New York Mt. Sinai	2 (1.1%)	0 (0.0%)	2 (0.5%)	
- Fullerton California	0 (0.0%)	1 (0.5%)	1 (0.3%)	
- Knoxville	0 (0.0%)	1 (0.5%)	1 (0.3%)	
Germany				
- Heidelberg	41 (22.0%)	41 (21.1%)	82 (21.6%)	
- Berlin	16 (8.6%)	17 (8.8%)	33 (8.7%)	
- Kassel	12 (6.5%)	14 (7.2%)	26 (6.8%)	
- Heidelberg Neurosurgery	8 (4.3%)	8 (4.1%)	16 (4.2%)	
- Augsburg	7 (3.8%)	6 (3.1%)	13 (3.4%)	
- Freiburg	4 (2.2%)	6 (3.1%)	10 (2.6%)	
- Berlin Campus Benjamin Franklin	2 (1.1%)	2 (1.0%)	4 (1.1%)	
- Dresden	1 (0.5%)	2 (1.0%)	3 (0.8%)	
- Hamburg - Köln	0 (0.0%) 1 (0.5%)	2 (1.0%) 1 (0.5%)	2 (0.5%) 2 (0.5%)	

Abbrev.: N, number

eTable 5. (Potentially) Tracheostomy-related Adverse Events

	Early tracheostomy	Standard tracheostomy	Total	p-value <sup>3</sup>
All tracheostomies	N=177	N=130	N=307	
Any AE at any time	30 / 177 (16.9%)	23 / 130 (17.7%)	53 / 307 (17.3%)	0.865
Any periprocedural AE up to 2 hours after tracheostomy <sup>†</sup>	8 / 177 (4.5%)	12 / 130 (9.2%)	20 / 307 (6.5%)	0.10
Any ventilation-related	3 / 177 (1.7%)	5 / 130 (3.8%)	8 / 307 (2.6%)	0.24
Any problem with tracheostomy site or cannula	5 / 177 (2.8%)	6 / 130 (4.6%)	11 / 307 (3.6%)	0.40
Any cerebral compromise	1 / 177 (0.6%)	2 / 130 (1.5%)	3 / 307 (1.0%)	0.39
Any early AE from 2 hours after tracheostomy to discharge from ICU	17 / 177 (9.6%)	7 / 130 (5.4%)	24 / 307 (7.8%)	0.17
(Aspiration) pneumonia within first 48 h post tracheostomy - Grade I <sup>‡</sup>	7 / 177 (4.0%)	2 / 130 (1.5%)	9 / 307 (2.9%)	0.22
Any late tracheostomy-related AE	7 / 130 (5.4%)	6 / 112 (5.4%)	13 / 242 (5.4%)	0.35
Recurrent / chronic infection at tracheostomy site - Grade I	2 / 130 (1.5%)	1 / 112 (0.9%)	3 / 242 (1.2%)	0.58
- Grade II	1 / 130 (0.8%)	0 / 112 (0.0%)	1 / 242 (0.4%)	
Scarring / disturbed wound healing at tracheostomy site - Grade I	4 / 420 /2 40/ \	4 / 442 (0.00()	5 / 241 (2.1%)	0.31
- Grade II	4 / 129 (3.1%) 1 / 129 (0.8%)	1 / 112 (0.9%) 0 / 112 (0.0%)	1 / 241 (0.4%)	
Tracheocutaneous fistula - Grade I	0 / 130 (0.0%)	1 / 112 (0.9%)	1 / 242 (0.4%)	0.28
Tracheal instability/tracheomalacia with respiratory insufficiency or disturbance of vocalization			1 / 242 (0.4%)	0.28
- Grade I	0 / 130 (0.0%)	1 / 112 (0.9%)		
Clinically relevant tracheal stenosis - Grade I	0 / 130 (0.0%)	1 / 112 (0.9%)	1 / 242 (0.4%)	0.28
Complicated change of cannula - Grade I	0 / 130 (0.0%)	1 / 112 (0.9%)	1 / 242 (0.4%)	0.28
Need for surgical revision of stoma - Grade I	0 / 130 (0.0%)	1 / 112 (0.9%)	1 / 242 (0.4%)	0.36
- Grade II	1 / 130 (0.8%)	0 / 112 (0.0%)	1 / 242 (0.4%)	
Percutaneous tracheostomies	N=158	N=108	N=266	
Any AE at any time	26 / 158 (16.5%)	16 / 108 (14.8%)	42 / 266 (15.8%)	0.719

Any periprocedural AE up to 2 hours after	6 / 158 (3.8%)	9 / 108 (8.3%)	15 / 266 (5.6%)	0.115
tracheostomy†	2 / 450 /4 00/ )	2 / 400 /2 00/ )	6 / 266 (2.3%)	0.635
Any ventilation-related  Any problem with	3 / 158 (1.9%) 3 / 158 (1.9%)	3 / 108 (2.8%) 6 / 108 (5.6%)	9 / 266 (2.3%)	
tracheostomy site or cannula	3 / 158 (1.9%)	6 / 108 (5.6%)	9 / 200 (3.4%)	0.105
Any cerebral compromise	1 / 158 (0.6%)	1 / 108 (0.9%)	2 / 266 (0.8%)	0.786
7 tily coronial comprehises	17 100 (0.070)	1, 100 (0.070)	2 / 200 (0.070)	0.700
Any early AE from 2 hours after tracheostomy to discharge from ICU	15 / 158 (9.5%)	3 / 108 (2.8%)	18 / 266 (6.8%)	0.032
(Aspiration) pneumonia within first 48 h post tracheostomy				
- Grade I <sup>‡</sup>	6 / 158 (3.8%)	1 / 108 (0.9%)	7 / 266 (2.6%)	0.151
Any late tracheostomy-related AE	2 / 116 (1.7%)	4 / 92 (4.3%)	6 / 208 (2.9%)	0.262
Recurrent / chronic infection at tracheostomy site				
- Grade I	2 / 116 (1.7%)	1 / 92 (1.1%)	3 / 208 (1.4%)	0.702
Scarring / disturbed wound healing at tracheostomy site				
- Grade I	4 / 115 (3.5%)	1 / 92 (1.1%)	5 / 207 (2.4%)	0.265
Tracheocutaneous fistula				
- Grade I	0 / 116 (0.0%)	1 / 92 (1.1%)	1 / 208 (0.5%)	0.260
Tracheal instability/tracheomalacia with respiratory insufficiency or disturbance of vocalization				
- Grade I	0 / 116 (0.0%)	1 / 92 (1.1%)	1 / 208 (0.5%)	0.260
Clinically relevant tracheal stenosis	0 / 116 (0.0%)	0 / 92 (0.0%)	0 / 208 (0.0%)	-
Complicated change of cannula				
- Grade I	0 / 116 (0.0%)	1 / 92 (1.1%)	1 / 208 (0.5%)	0.260
Need for surgical revision of stoma	0 / 116 (0.0%)	0 / 92 (0.0%)	0 / 208 (0.0%)	-

<sup>\*</sup>P-values result from chi-squared tests.

Abbrev.: N, number; AE, adverse

<sup>†</sup> Definitions of Adverse Events: "Any ventilation-related" comprising relevant hypoxia during tracheostomy (SpO2< 90%) requiring augmentation of ventilation, significant atelectasis requiring recruitment, pneumothorax and hematothorax; "Any problem with tracheostomy site or cannula" comprising arterial bleeding, venous bleeding and local trauma (puncture of the tracheal pars membranacea, dilatation of the tracheal pars membranacea, cannula misplacement, subcutaneous emphysema or pneumomediastinum, fracture of tracheal cartilage, damage to larynx or neighboring structures, accidental decannulation requiring reintubation); "Any cerebral compromise" comprising ICP > 25 mmHg for > 5 min requiring treatment, neurological deterioration ( of more than 4 points on the National Institutes of Health Stroke Scale).

<sup>‡</sup> Adverse Events (AE) were graded according to severity. Severity was defined as grade I if AE could be managed by the treating intensivists themselves without additional invasive procedure or material, was transient and without further clinical consequences and as grade II if AE required consultation from other disciplines and/or further invasive procedures and/or was not transient and/or had lasting consequences i.e. precipitated clinical deterioration or was fatal. Some of these AE may fulfill the definition of a severe AE.

eTable 6. Serious Adverse Events

	Early tracheostomy N=186	Standard tracheostomy N=194	Total N=380	p- value*
At least one SAE	88 / 186 (47.3%)	85 / 194 (43.8%)	173 / 380 (45.5%)	0.49
Number of SAEs per patient <sup>†</sup> - 0	98 / 186 (52.7%)	109 / 194 (56.2%)	207 / 380 (54.5%)	
- 1	67 / 186 (36.0%)	64 / 194 (33.0%)	131 / 380 (34.5%)	
- 2	16 / 186 (8.6%)	14 / 194 (7.2%)	30 / 380 (7.9%)	
- 3	1 / 186 (0.5%)	4 / 194 (2.1%)	5 / 380 (1.3%)	
- 4	2 / 186 (1.1%)	1 / 194 (0.5%)	3 / 380 (0.8%)	
- 5	1 / 186 (0.5%)	2 / 194 (1.0%)	3 / 380 (0.8%)	
- 6	1 / 186 (0.5%)	0 / 194 (0.0%)	1 / 380 (0.3%)	
For all patients with at least one SAE, number of patients with at least one SAE that was				
related to tracheostomy	4 / 88 (4.5%)	4 / 85 (4.7%)	9 / 173 (4.6%)	0.96
cerebral <sup>‡</sup>	35 / 88 (39.8%)	37 / 85 (43.5%)	72 / 173 (41.6%)	0.62
pulmonary / tracheal	24 / 88 (27.3%)	15 / 85 (17.6%)	39 / 173 (22.5%)	0.13
cardiocirculatory	13 / 88 (14.8%)	9 / 85 (10.6%)	22 / 173 (12.7%)	0.41
septic	6 / 88 (6.8%)	7 / 85 (8.2%)	13 / 173 (7.5%)	0.72

<sup>\*</sup>P-values calculated using chi-squared tests.

Abbrev.: N, number; SAE, severe adverse event

<sup>†</sup> Overall, there were 121 Serious Adverse Events in the early tracheostomy group and 118 in the prolonged intubation group. Severe adverse events were defined as any adverse events, related to the procedure or not, that occurred after enrollment into the study with one of the following consequences: death, life-threatening situation, prolonged hospital stay or re-admission to hospital, related prolonged deterioration of health.

<sup>‡</sup> Cerebral Serious Adverse Events comprised cerebral compromise related to the primary brain injury, unrelated to the primary brain injury and events with unclear differentiation of the two.

eTable 7. Causes and time of death

	Early tracheostomy N=186	Standard tracheostomy N=194
Death in ICU or hospital	33 / 186 (17.7%)	34 / 193 (17.6%)
Neurologically related ICU deaths*	16 / 20 (80%)	14 / 24 (58.3%)
Death after hospital discharge	29 / 144 (20.1%)	22 / 155 (14.2%)
Circumstances of follow-up deaths		
- Sudden, unexpected death due to a stroke- related neurological condition	3 (13.6%)	3 (17.6%)
- Sudden, unexpected death due to a stroke- related medical condition	0 (0.0%)	1 (5.9%)
- Sudden, unexpected death due to an unrelated condition	11 (50.0%)	4 (23.5%)
- Died following WLST (hospice or palliative care) due to strokerelated disability	4 (18.2%)	5 (29.4%)
- Died following WLST (hospice or palliative care) due to other medical conditions	4 (18.2%)	4 (23.5%)
- missing	7	5

<sup>\*</sup> In total, there were 26 total ICU deaths in the early tracheostomy group and 29 in the standard tracheostomy group. For 6 patients in the early tracheostomy group and for 5 patients in the standard tracheostomy group, no conclusive data regarding the cause of death was available.

Given the severity of included primary brain injury, mortality in the ICU as well as after discharge was distinguished according to withdrawal of life-sustaining therapy as the underlying cause of death, even though this was never an active measure and patients eventually died as a consequence of their severe condition.

Abbrev.: N, number; WLST, withdrawal of life-sustaining therapy

eTable 8. SETscore for estimation of 2-week ventilation need

Area of assessment	Situation	Points	
Neurological Function	Dysphagia	4	
	Observed aspiration	3	
	GCS on admission < 10	3	
Neurological Lesion	Brainstem	4	
	Space-occupying cerebellar	3	
	Ischemic Infarct > 2/3 MCA territory	4	
	ICH volume > 25 ml	4	
	Diffuse lesion	3	
	Hydrocephalus	4	
General Organ Function / Procedure	(Neuro)surgical Intervention	2	
	Additional respiratory disease	3	
	PaO2/FiO2 < 150	2	
	APS (of APACHEII) > 20	4	
	LIS > 1	2	
	Sepsis	3	
Estimation of at least 2 weeks of ventilatory support, if score sums up to > 10.			

Abbreviations: APS (of APACHE II score), acute physiology score (of acute physiology and chronic health evaluation II); LIS, Lung Injury Score; GCS, Glasgow Coma Scale; MCA, middle cerebral artery; ICH, intracerebral hemorrhage;  $PaO_2$ , partial pressure of oxygen;  $PaO_2$ , fraction of inspired oxygen

## eTable 9. SETPOINT2's Contraindications to Percutaneous Dilatation Tracheostomy

Area of assessment Situation

Anatomy Gross anatomical distortion of the neck

Previous surgery (NOT previous TT), burns, radiotherapy to the neck

Instable or rigid cervical spine

Tracheal distortion, stenosis or malacia Tumor or stenosis of the upper airways

Morbid obesity (BMI > 35 kg/m<sup>2</sup>)

Large thyroid gland or vessels in the operation field on ultrasound

Physiology High PEEP (> 12 cm H2O) or FiO2 > 0.6 requirements

Haemodynamic instability

Coagulopathy (aPTT> 50 s, INR > 1.5, thrombocyte count < 50.000 / µl)

Uncontrollably raised intracranial pressure

Others Emergency situation

Need for a permanent tracheostoma

Very difficult airway management, expected (re-) intubation problems

Abbreviations: ICU, intensive care unit; CT, computed tomography; MRI, magnetic resonance imaging; AIS, acute ischemic infarction; ICH; intracerebral hemorrhage; SAH, subarachnoid hemorrhage; TT, tracheostomy; BMI, body mass index; PEEP, positive endexpiratory pressure; aPTT, activated partial thromboplastin time; INR, international normalized ratio

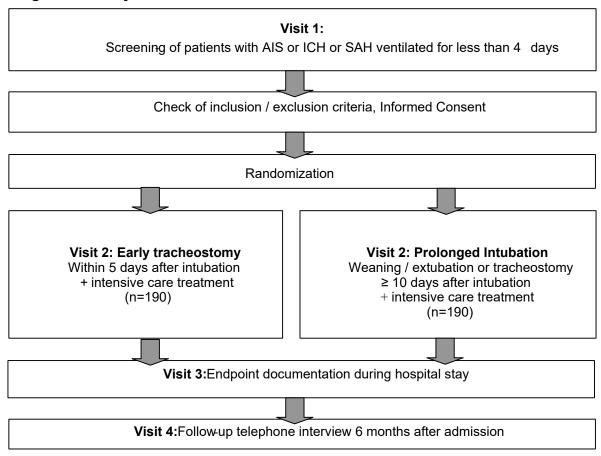
eTable 10. Study protocol: Procedures and documentation in SEPOINT2

	Visit 1: Screening/ randomization	Visit 2: Early tracheostomy/ Prolonged Intubation	Visit 3: Documentation during hospital stay	Visit 4: Follow-up: telephone interview after 6 months
age, gender, past medical history	Χ‡			
date of symptom onset, diagnosis AIS/ICH/SAH	Χ‡			
SETscore	Χ‡			
Primary endpoint: modified Rankin Scale	Χ*, ‡			Х
NIH Stroke Scale	Χ‡			
Glasgow Coma Scale	Χ‡			
Neuroimaging (CT, MRI): date, diagnosis (AIS/ICH/SAH), extent and localisation of lesion	X <sup>‡</sup>			
Inclusion/exclusion criteria	Х			
Informed consent	Х		Χ <sup>†</sup>	Χ <sup>†</sup>
Randomization: time and date, random-number, treatment arm	X			
Treatment: date of treatment start, treatment arm		Х		
Admission to hospital: date	X‡			
Intubation: date	X <sup>‡</sup>			
De-cannulation: date				Х
Date and type of death			Х	Х
Days on ICU			X§	Х
Secondary endpoints			Х	X§,III

<sup>\*</sup> pre-morbid and admission status; † if patient was not capable of giving informed consent previously and has regained his/her capability of giving informed consent; ‡ routine examination; § at discharge; III 6 month after admission

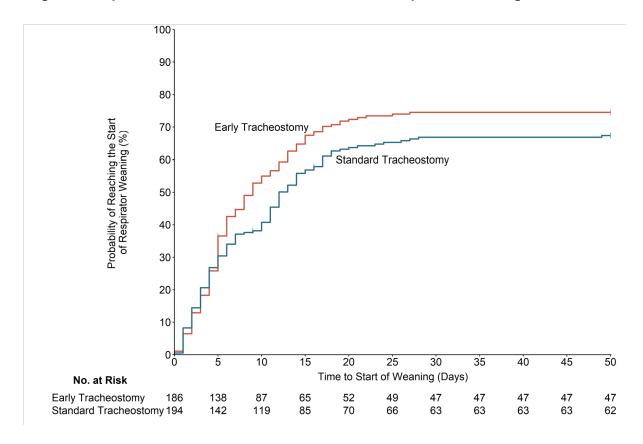
Abbreviations: ICU, intensive care uni; CT, computed tomography; MRI, magnetic resonance imaging; AIS, acute ischemic infarction; ICH; intracerebral hemorrhage; SAH, subarachnoid hemorrhage; SETscore, Strokerelated Early tracheostomy score

eFigure 1. Study flow chart of SETPOINT2



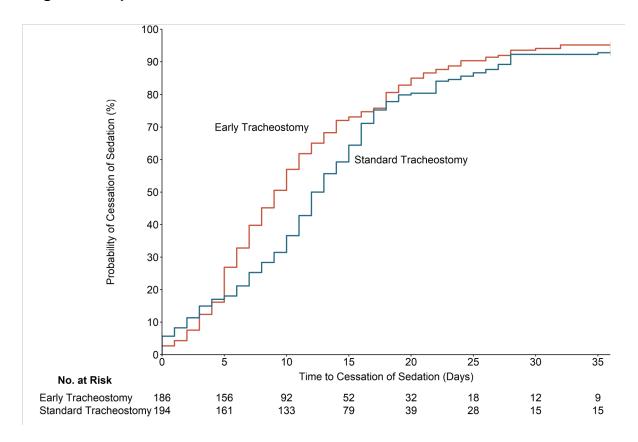
Abbreviations: ICU, intensive care unit; AIS, acute ischemic stroke; ICH, intracerebral hemorrhage; SAH, subarachnoid hemorrhage

eFigure 2. Kaplan-Meier Estimate of Time to Start of Respirator Weaning



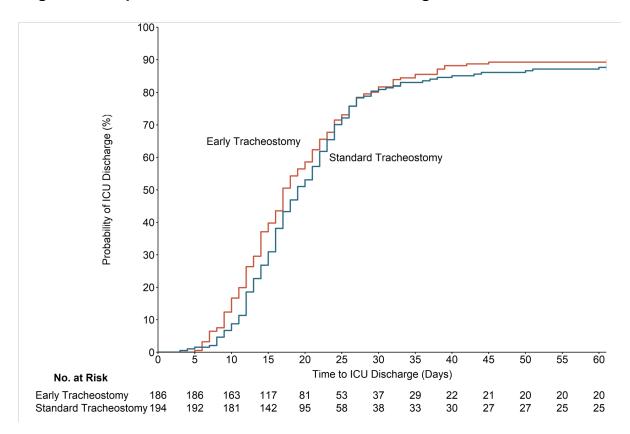
Cumulative incidence rate estimates of the start of respirator weaning after intubation for the intention-to-treat population. Patients who died before the start of weaning were censored after the last event in both groups (day 50) to account for the fact that they did not reach the event. Censored patients are indicated by a vertical mark.

eFigure 3. Kaplan-Meier Estimate of Time to Cessation of Sedation



Cumulative incidence rate estimates of the cessation of sedation after intubation for the intention-to-treat population. Patients who died before cessation of sedation were censored after the last event in both groups (day 36). Censored patients are indicated by a vertical mark.

eFigure S4. Kaplan-Meier Estimate of Time to Discharge from Intensive Care Unit



Cumulative incidence rate estimates of discharge from ICU after admission for the intention-to-treat population. Patients who died before being discharged were censored after the last event in both groups (day 61). Censored patients are indicated by a vertical mark.