

Live video mellem ambulanceredder og neurolog til vurdering af patienter mistænkt for stroke: Data fra pilot

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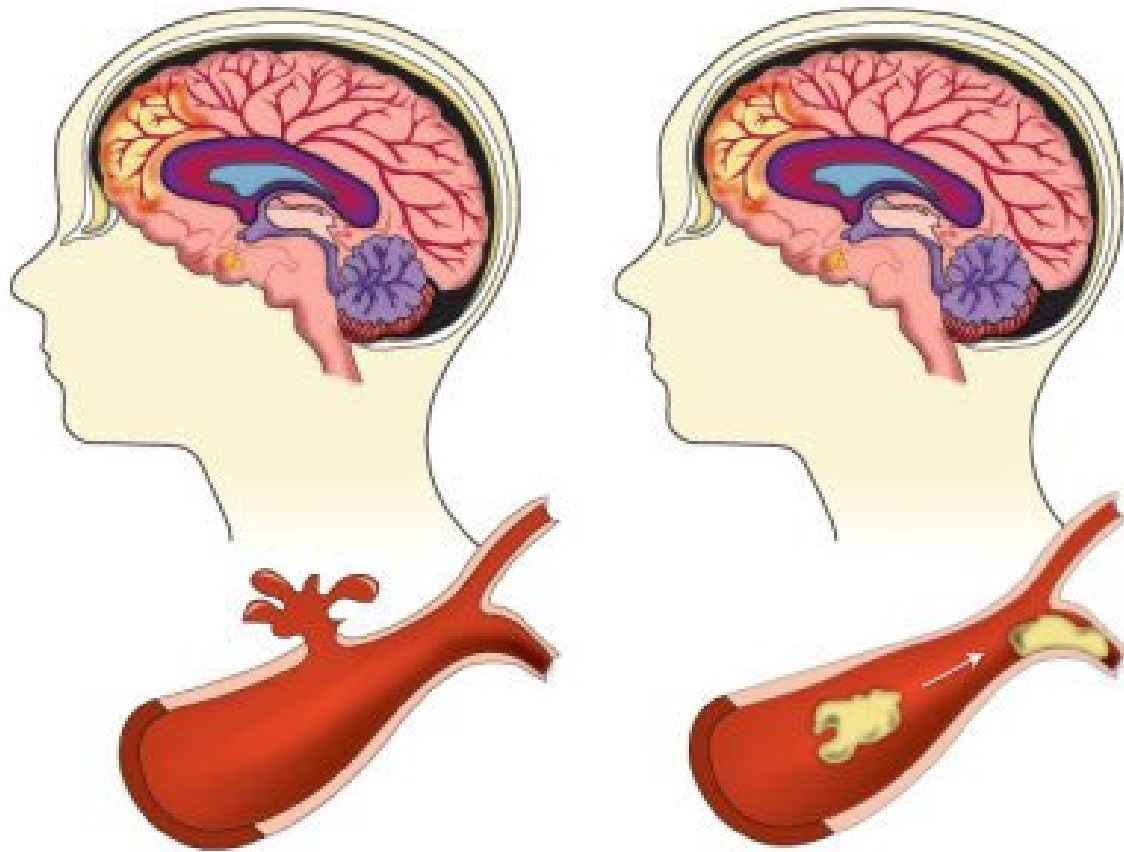
Interessekonflikter

- Ingen



Hvad er Stroke?

- Blodprop (85%)
- Blødning (15%)

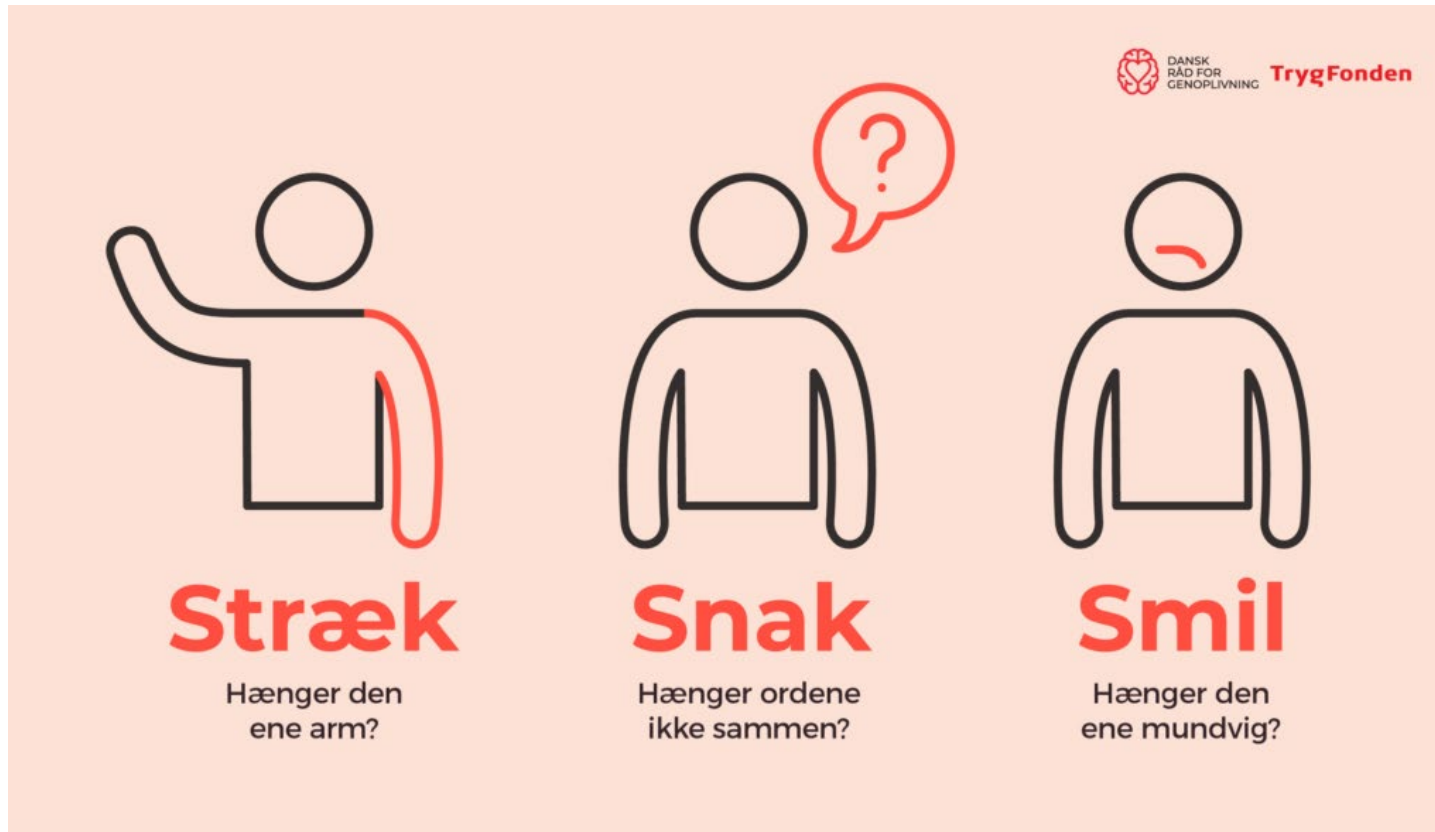


A hemorrhagic stroke occurs when a blood vessel bursts within the brain.

An ischemic stroke occurs when a blood clot blocks the blood flow in an artery within the brain.

Hvad er Stroke?

- Klinisk diagnose:



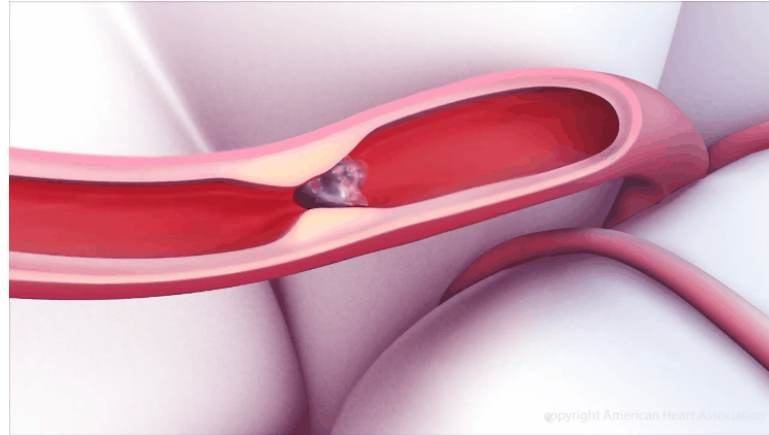
Hvorfor tale om Stroke?

- 4. hyppigste dødsårsag I Danmark
- 33 får stroke om dagen
- Hyppigste årsag til voksne lever med handicap

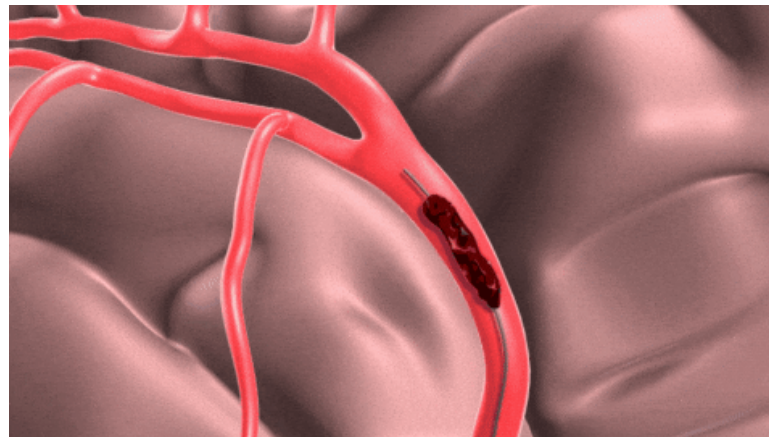


Hvordan behandler vi Stroke?

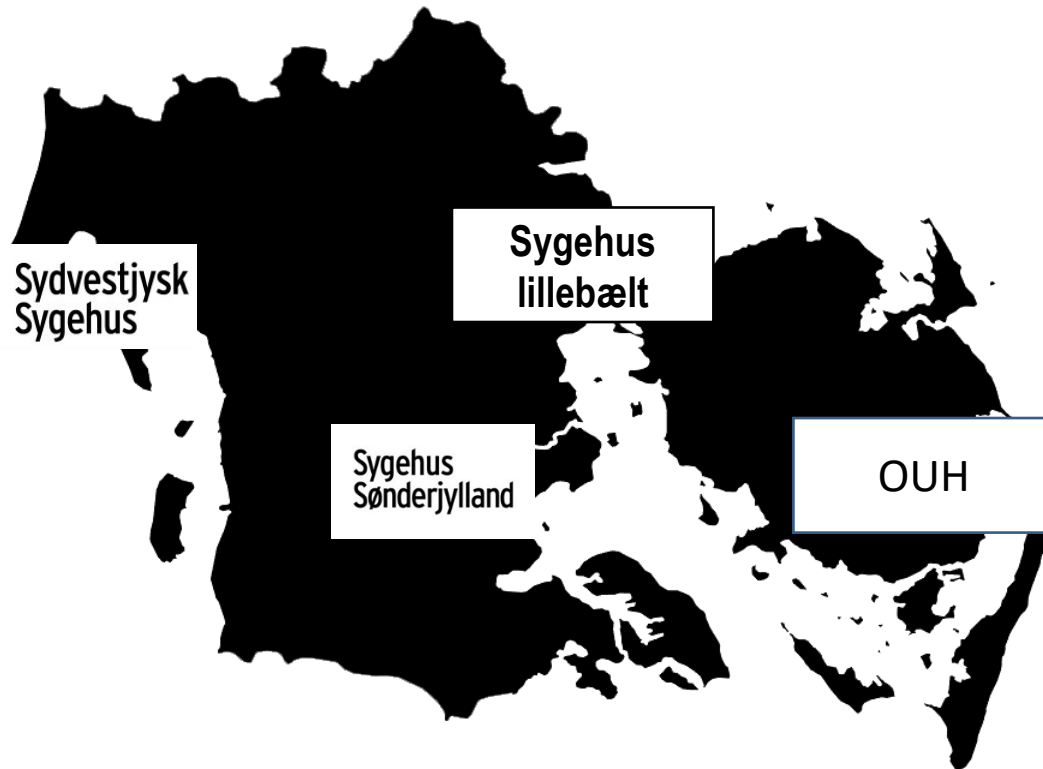
- Trombolyse (blodfortyndende)



- Trombektomi (mekanisk fjernelse)



Geografi



Hvem har stort stroke?

RACE

(Rapid Arterial Occlusion Evaluation)

G-FAST

(Gaze-Face-Arm-Speech-Time)

LAMS

(Los Angeles Motor Scale)

PASS

(Prehospital Acute Stroke Severity)

CG-FAST

(Conveniently-Grasped Field Assessment Stroke Triage)

FAST-PLUS

(Face-Arm-Speech-Time plus severe arm or leg motor deficit)

CPSS

(Cincinnati Prehospital Stroke Scale)

A2L2

(Arm-2-Leg-2)

Sygehus
Sønderjylland

Syddansk Universitetshospital



DIN TILFREDSHED
VORES STOLTHED

Video og Stroke

> JAMA Neurol. 2020 Jun 1;77(6):691-699. doi: 10.1001/jamaneurol.2020.0319.

Implementation of a Prehospital Stroke Triage System Using Symptom Severity and Teleconsultation in the Stockholm Stroke Triage Study

Michael V Mazya^{1 2}, Annika Berglund^{1 2}, Niaz Ahmed^{1 2}, Mia von Euler^{3 4}, Staffan Holmin^{2 5}, Ann-Charlotte Laska⁶, Jan M Mathé^{2 7}, Christina Sjöstrand^{1 2}, Einar E Eriksson^{1 2}

Affiliations + expand

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Table 2. Performance of the Stockholm Stroke Triage System for Identification of Cases With AIS+LAO and EVT Treatment

Measure	AIS + LAO, % (95% CI)	EVT, % (95% CI)
Sensitivity	41.5 (36.0-47.1)	70.6 (61.5-78.6)
Specificity	92.6 (91.5-93.6)	91.4 (90.3-92.4)
PPV	40.6 (36.1-45.2)	26.0 (22.9-29.4)
NPV	92.8 (92.2-93.4)	98.6 (98.2-99.0)
Overall accuracy	87.0 (85.8-88.2)	90.6 (89.5-91.6)
PLR	Ratio, 5.6 (4.6-6.8)	Ratio, 8.2 (7.0-9.7)
NLR	Ratio, 0.6 (0.6-0.7)	Ratio, 0.3 (0.2-0.4)
	LAO +, No.; LAO - or unknown, No.	EVT done, No.; EVT not done, No.
Triage-positive	131; 192	84; 239
Triage-negative	185; 2397	35; 2547

Abbreviations: -, negative; +, positive; AIS, acute ischemic stroke; EVT, endovascular thrombectomy; LAO, large-artery occlusion; NLR, negative likelihood ratio; NPV, negative predictive value; PLR, positive likelihood ratio; PPV, positive predictive value.



Video og Stroke

Observational Study > Stroke Vasc Neurol. 2018 Sep 3;3(4):215-221.

doi: 10.1136/svn-2018-000165. eCollection 2018 Dec.

Are you suffering from a large arterial occlusion? Please raise your arm!

Charith Cooray^{1 2}, Michael V Mazya^{1 2},
Tiago Prazeres Moreira^{1 2}, Robert Mikulik
Danilo Toni⁹, Nils Wahlgren^{1 2}, Niaz Ahr

Table 2 Sensitivity and specificity for predicting LAO for various models at optimum cut-off, high specificity cut-off and high sensitivity cut-off

Model	AUC	P values	Optimum Youden cut-off		High specificity cut-off		High sensitivity cut-off	
			Sens	Spec	Sens	Spec	Sens	Spec
NIH item 5	0.72	–	67 <i>(NIHSS 5≥3)</i>	72 <i>(NIHSS 5≥3)</i>	53 <i>(NIHSS 5=4)</i>	81 <i>(NIHSS 5=4)</i>	77 <i>(NIHSS 5≥2)</i>	57 <i>(NIHSS 5≥2)</i>
NIHSS item 5+NIHSS item 2	0.75	<0.05	68	73	64	76	82	53
NIHSS item 5+NIHSS item 2+NIHSS item 4	0.76	<0.05	70	72	61	80	80	59
NIHSS item 5+NIHSS item 2+NIHSS item 4+NIHSS item 1C	0.76	<0.05	67	75	61	80	79	59
Full-item NIHSS	0.78	<0.05	69	76	62	80	81	59
Total NIHSS score	0.76	<0.05	69	73	60	80	80	57
NIHSS item 5+NIHSS item 6	0.73	<0.05	65	74	53	82	79	52

The p values for the AUCs describe likelihood ratios tests comparing each model with the simple arm paresis model (NIH item 5). For the 1-item model including subitem 5, arm function, we have in italics given the respective subitem cut-off for the three sensitivity/specificity scenarios. NIHSS item 2=gaze; NIHSS item 1C=level of consciousness commands; NIHSS item 4=facial motor function; NIHSS item 5=arm motor function; NIHSS item 6=leg motor function.

AUC, area under the curve; LAO, large artery occlusion; NIHSS, National Institutes of Health Stroke Scale.

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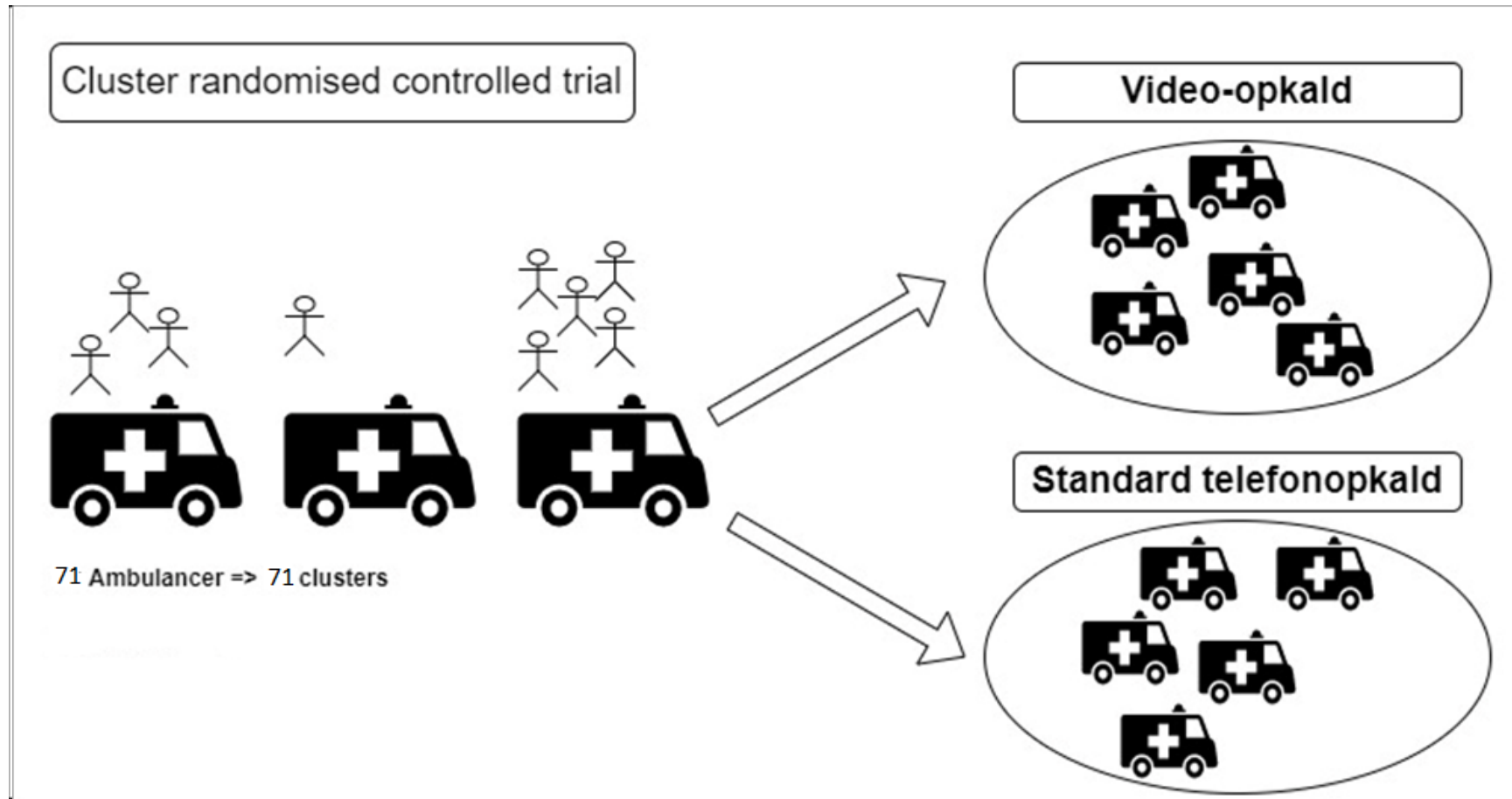
DIN TILFREDSHED
VORES STOLT HED

Forskningspørgsmål

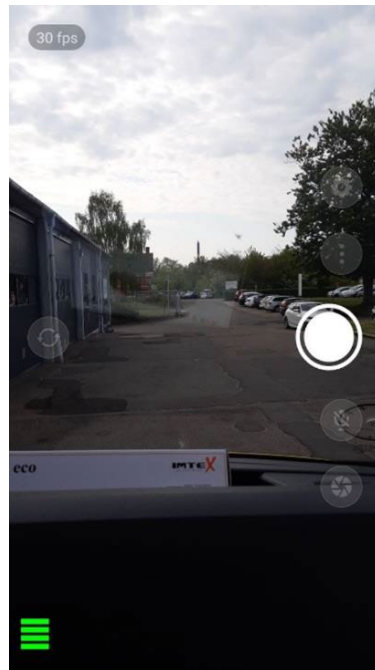
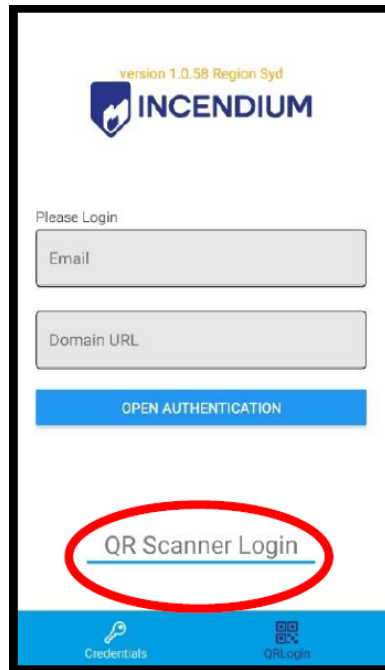
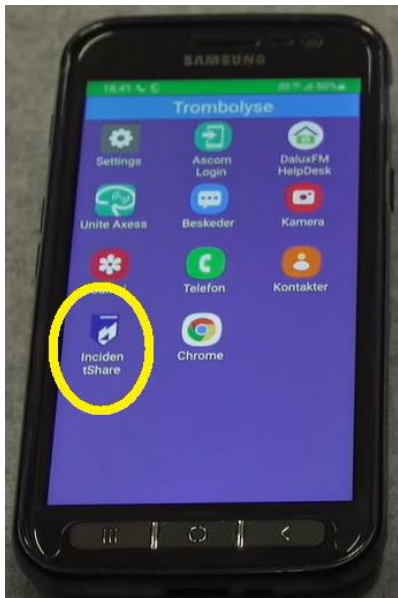
- Øges performance og feasibility af Stroke Severity Scales ved at anvende video-opkald mellem det præhospitale personale og vagthavende neurolog i vurderingen af patienter mistænkt for stroke?



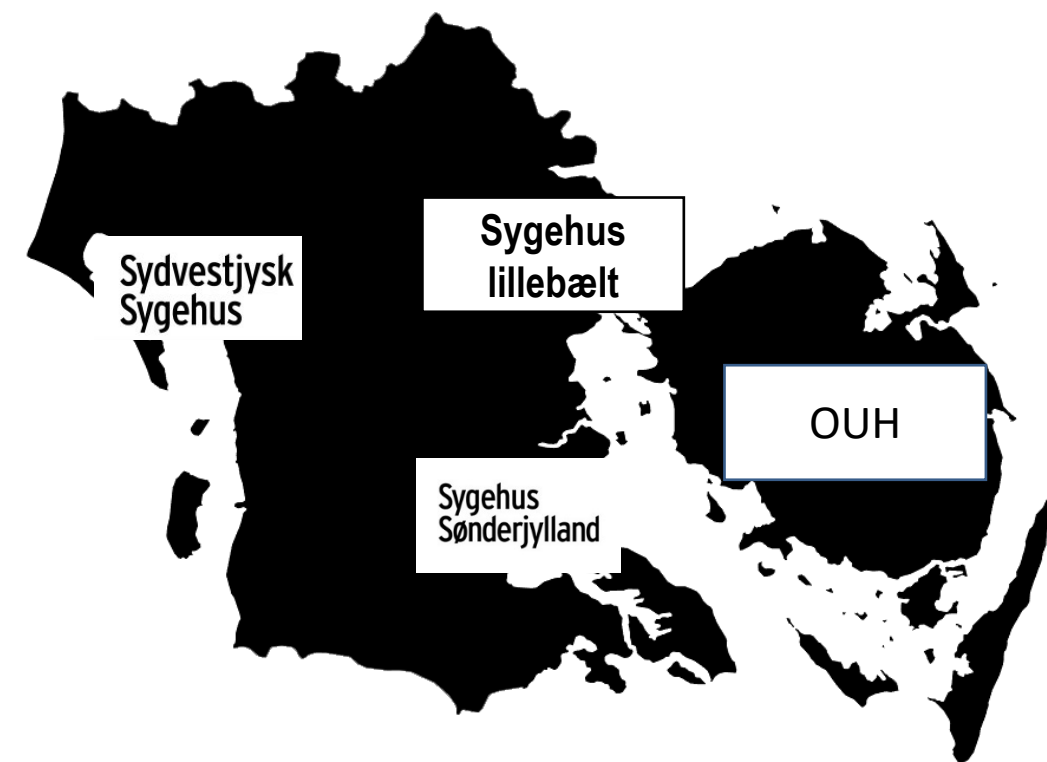
Metode



Metode



Metode



Inkluderes:

- 850 patienter mistænkt for stroke

Inklusionskriterier:

- Alder > 18 år
- Mistænkt stroke < 24 h (vha. PreSS 1)
- Optageområde Region Syddanmark

Eksklusionskriterier:

- GCS < 9
- Intrahospital stroke eller privat kørsel til hospital
- Pt. Ønsker ikke at deltage i video-opkald



Pilot – metode og outcomes

- Optageområde omkring Sygehus Sønderjylland
- 2:1 clusterrandomiseret
- Mål: 40 patienter
- *Last patient in date* efter 3 måneder



Pilot – metode og outcomes

- Primære feasibility outcome:

- Inklusionsrate

Succeskriterier:

≥40% feasible as is
30-39% feasible with close monitoring
25-29 % feasible with modifications
<25 % not feasible

- Sekundære feasibility outcomes

- Patient semi-structured feedback survey
- Stakeholder survey



Pilot

- Upubliceret data udtaget.



Pilot – hvad har andre gjort

RESEARCH ARTICLE

Prehospital Telestroke vs Paramedic Scores to Accurately Identify Stroke Reperfusion Candidates

A Cluster Randomized Controlled Trial

Imogene Mary Scott, MBChB, Csilla Manoczki, MBChB, Andrew Herbert Swain, MBChB, PhD, Abhishek Ranjan, MS, Michael Garth McGovern, Alicia Lucy Shyrell Tyson, BNurs PGDip, Melissa Claire Hyslop, BHSc, Martin Michael Punter, MBBS, PhD, and Annemarei Ranta, MD, PhD, FRACP

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Neurology® 2022;99:e2125-e2136. doi:10.1212/WNL.0000000000201104

- 76 inkluderet (35 video >< 41 telephone)
 - 13 måneder
 - Tidlig terminering: Skulle have været 110 patienter



Det er svært...

- At ændre på arbejdskulturer i sundhedsvæsenet!



Pilot

- Afventer data fra stakeholders
 - Ambulancereddere
 - Neurologer
- Forventer at skulle lave nogle modifikationer til studiet før endelig implementering i Region Syd



Perspektivering

- Få de rigtige patienter til den rigtige behandling hurtigst muligt
- Ressourcebesparende
- Hurtigere behandling =>
- Bedre outcome =>
- Mindre handicap for patienterne og muligvis lavere mortalitet



Tak for jeres opmærksomhed!

