

# Current Stroke Research in Sweden – a brief overview

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# To identify *ongoing* stroke projects in Sweden

## 1. Academic research

- Experimental stroke research
- Risk factors, outcome, genetics
- Clinical trials
- Register research

## 2. Industry sponsored trials

## 3. Regional co-operations

# To identify *ongoing* stroke projects in Sweden

## Methods

- Prof Arne Lindgren emailed colleagues
- All studies were noted (this presentation)
- Search [clinicaltrials.gov](https://clinicaltrials.gov)

## This study

- Was not registred

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- ... and has not ethical approval

# To identify *ongoing* stroke projects in Sweden

## This study

- Was not registred
- ... has not ethical approval
- ... and is very biased, and by no means the whole truth

Want a copy of the PPP, please email [erik.lundstrom@gmail.com](mailto:erik.lundstrom@gmail.com)

# Conclusions

- Much more stroke research in Sweden, not mentioned here
- Sweden has an excellent track record for stroke research including
  - Experimental, risk factors, genetics, outcome, clinical trials and rehabilitation
- Strengths also include
  - Co-operation national and international
  - Personal id-numbers
  - Clearly defined uptake areas for hospitals with few (if any) alternative hospitals
  - Central registers both for stroke and in general
  - Increased interest for stroke trials from e.g. Swedish Research Council

Litterature search as of 22 Aug 2017 @ [www.clinicaltrials.gov](http://www.clinicaltrials.gov)

Stroke AND recruiting AND \*country

Country	Number of ongoing trials in clinicaltrials.org
Sweden	27
Norway	18
Denmark	17
Finland	10
Estonia	8
Latvia	4
Lithuania	4
Iceland	0



Litterature search as of 22 Aug 2017 @ [www.clinicaltrials.gov](http://www.clinicaltrials.gov)

Stroke AND active recruiting AND \*country

Country	Number of ongoing trials in stroke
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Estonia	8
Latvia	4
Lithuania	4
Iceland	0
USA	265
Germany	58
UK	46

# Neuroimaging

- Neuroimaging for translational research  
Staffan Holmin and others, Karolinska Institutet
- 4DMRI and CBF  
Jan Malm and others, Umeå
- Near occlusion of carotid arteries
  - Elias Johansson and others, Umeå

# Experimental stroke research

Experimental stroke research is strong in Sweden  
Long tradition since the 1960-ties.

Today the research is both mechanistic and highly translational aiming at new stroke therapies for:

- Brain protection
- Stimulating brain plasticity
- Brain repair

Per Wester, Nils Wahlgren, Milos Perkny, Marcela Pekna, Lars Edvinsson,  
Zaal Kokaia, Tadeusz Wieloch

# Risk factors, outcome, genetics

- Lund Stroke Register
  - Arne Lindgren and others
    - > First ever ischaemic and hemorrhagic stroke patients and controls
    - Ongoing since 2001, more than 7 000 subjects included
- SAHLISIS, Gothenburg
  - Christina Jern, Katarina Jood, Christian Blomstrand and others
    - > Ischaemic stroke patients below 70 years
- Co-operations Gothenburg-Lund-Malmö

# Clinical Trials in Sweden 1(3)

- EFFECTS:

Efficacy of Fluoxetine – a randomised Controlled Trial in Stroke

Erik Lundström, Karolinska Institutet and others

Fluoxetine 20 mg after stroke

- TIMING:

Riksstroke. Signild Åsberg, Bo Norrving, Jonas Oldgren and others

The first registry-based randomized controlled study (R-RCT) in acute ischemic stroke

Randomization to either **early ( $\leq 4$  d)** or **delayed ( $\geq 5-10$  d)** start of NOAC in ischaemic stroke and AF

# Clinical trials in Sweden 2(3)

- **I-STROKE II**

Niaz Ahmed, Nils Wahlgren and others

A phase 3, randomised, double-blind, placebo-controlled, parallel-arm efficacy trial of Imatinib in acute ischaemic stroke

- **STROKESTOP**

Mårten Rosenqvist, Johan Engdahl and others

Mass screening for Atrial fibrillation

# Clinical trials in Sweden 2(3)

- STROKECLOSE

Mårten Rosenqvist, Per Wester and others

Prevention of stroke by left atrial appendage closure in Atrial Fibrillation patients after intracerebral hemorrhage

- Shoulder pain after stroke

Ingrid Lindgren, Christina Brogårdh, Lund University

Functional orthopedic diagnosis and treatment vs ordinary treatment

- NAILED

Nurse-based Age-independent Intervention to Limit Evolution of Disease

Anna-Lotta Irewall, Thomas Mooe. Östersund/Umeå University

Nurse-led intervention after stroke to improve outcome

And many more trials

# Sponsored by industry or International

- REDCUCE
  - Christina Sjöstrand, Karolinska Institute. Also other centers including Lund.  
PFO closure vs no closure in ischemic stroke
- ESUS (Boehringer)
  - Christina Sjöstrand, Karolinska Institute. Also other centers.  
Dabigatran in embolic stroke of unknown source
- NAVIGATE ESUS (Bayer)
  - Arne Lindgren, Lund University. Also other centers  
Rivaroxaban in embolic stroke of unknown source
- ESCAPE NA-1
  - Staffan Holmin, Karolinska Institute and others  
Neuroprotective drug in acute thromectomy



# Registers

## Riksstroke

Bo Norrving

Socioeconomics, Ischemic stroke and ICH on OAC treatment, long-term follow-up studies, TIA, hospital, TIMING study, and effect of hospital situation and quality of care after stroke

## SITS

Niaz Ahmed, Nils Wahlgren

International register for Thrombolysis and thrombectomy

# Regional co-operations

Stroke Centrum Väst: Gothenburg, West Sweden area

Stroke Center Syd: Lund-Malmö, South Sweden area

Stockholm area stroke co-operation.

- Co-operation preclinical, prehospital, acute, inpatient, discharge, rehabilitation, long-term follow up.

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Sponsor	Namn på studien	Antal individer	Antal center
Läkemedelsverket, Hjärt-Lungfonden, Vetenskapsrådet	Swedish Aspirin Low-Dose Trial (SALT) of 75 mg aspirin as secondary prophylaxis after cerebrovascular ischaemic events <sup>[1]</sup>	1 360	16
Umeå Universitet	Atenolol in Secondary Prevention after Stroke <sup>[2]</sup>	720	18
Swedish Medical Research Council (Project no. 19X-07192), Pharmacia AB, Queen Victoria's and King Gustav V's 80th Anniversary Fund, the Swedish National Association Against Heart and Lung Diseases, and Umeå University	Multicenter trial of hemodilution in acute ischemic stroke. I. Results in the total patient population <sup>[4]</sup>	373	15
Sahlgrenska akademien	Effect of acute stroke unit care integrated with care continuum versus conventional treatment: A randomized 1-year study of elderly patients: the Göteborg 70+ Stroke Study <sup>[2]</sup>	249	1
Lunds universitet	Anticoagulant vs anti-platelet therapy as prophylactic against cerebral infarction in transient ischemic attacks <sup>[5]</sup>	156	5
Lunds universitet	Acupuncture and transcutaneous nerve stimulation in stroke rehabilitation: a randomized, controlled trial <sup>[6]</sup>	150	7
Karolinska Institutet	Double-blind comparison of sertraline and placebo in stroke patients with minor depression and less severe major depression <sup>[7]</sup>	123	4
Karolinska Institutet	A randomized controlled trial on very early speech and language therapy in acute stroke patients with aphasia <sup>[8]</sup>	123	1
Norrlands Universitetssjukhus	A randomized controlled trial of hemodilution therapy in acute ischemic stroke <sup>[9]</sup>	102	1
Karolinska Institutet	A randomized controlled trial evaluating the effect of a support and education programme for spouses of people affected by stroke <sup>[10]</sup>	100	1
Karolinska Institutet	A randomized controlled trial of early supported discharge and continued rehabilitation at home after stroke: five-year follow-up of patient outcome <sup>[11]</sup>	83	1
Uppsala universitet	Short-term and long-term effects of a progressive resistance and balance exercise program in individuals with chronic stroke: a randomized controlled trial <sup>[12]</sup>	67	1
Karolinska Institutet	Randomized assessment of imatinib in patients with acute ischaemic stroke treated with intravenous thrombolysis <sup>[13]</sup>	60	5
Linköpings universitet	Effects of Twice-Weekly Intense Aerobic Exercise in Early Subacute Stroke: A Randomized Controlled Trial <sup>[14]</sup>	56	1
Lunds universitet	Can sensory stimulation improve the functional outcome in stroke patients? <sup>[15]</sup>	40	1

Erik Lundström: [https://sv.wikipedia.org/wiki/Randomiserade\\_strokestudier\\_i\\_Sverige](https://sv.wikipedia.org/wiki/Randomiserade_strokestudier_i_Sverige)

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