

**TREAT-SVDs – performed by world renowned stroke centres in Europe**

**Participating Centres:**

**LMU Munich (coordinating centre)**

Institute for Stroke and Dementia Research,  
Klinikum der Universität München  
Feodor-Lynen-Straße 17, Munich, Germany  
Coordinating Investigator: *Prof. Martin Dichgans*

**Edinburgh**

Neuroimaging Sciences and Brain Research Imaging  
Centre, University of Edinburgh  
Crewe Rd, Edinburgh, United Kingdom  
*Prof. Joanna Wardlaw*

**Utrecht**

Brain Center Rudolf Magnus, University Medical  
Center Utrecht, Universiteitsweg 100, Utrecht  
The Netherlands  
*Prof. Geert Jan Biessels*

**Maastricht**

Department of Neurology, University Medical Center  
Maastricht, University of Maastricht  
P. Debyelaan 25, Maastricht, The Netherlands  
*Prof. Robert van Oostenbrugge*

**Oxford**

Nuffield Department of Clinical Neurosciences  
University of Oxford, John Radcliffe Hospital, Oxford,  
United Kingdom  
*Prof. Peter Rothwell*

# TREAT-SVDs

*Effects of Amlodipine and other Blood Pressure Lowering Agents on Microvascular Function in Small Vessel Diseases*

**Type of study:** International clinical trial comparing three blood pressure medications in small vessel disease

**Duration:** 2 years, **participants:** 105

**Main Inclusion Criteria:**

- Clinical features of small vessels disease
- Medical history of hypertension or stroke/TIA
- Age > 18 years
- Currently using no more than 2 blood pressure lowering drugs

**Coordinating investigator:**

Prof. Dr. med. Martin Dichgans,  
Institute for Stroke and Dementia Research (ISD)  
Klinikum der Universität München  
Feodor-Lynen-Straße 17, D - 81377 Munich  
Phone: +49-89-4400-46046



*SVDs@target has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 666881.*



# TREAT-SVDs

*Effects of Amlodipine and other Blood Pressure Lowering Agents on Microvascular Function in Small Vessel Diseases*

Layout: Antonia Weingart, photos: shutterstock @goodluz, fotolia @one, ©K&U Annas



## Background and Aims

Pathological changes in the small blood vessels of the brain can lead to stroke or to vascular cognitive impairment. High blood pressure is one of the most important risk factors for developing small vessel disease but currently it is not clear which blood pressure lowering drugs are best at improving small blood vessel function. We propose that the function of the small microvessels in the brain can be influenced by medication. This study will investigate the effects of three common blood pressure lowering tablets on the function of the brain's small blood vessels.

TREAT-SVDs is a multicentre, non-commercial pharmaceutical study which will be performed in 3 different countries in Europe (Germany, the Netherlands, UK).

The study will be performed over 2 years and recruit 105 participants.

**By participating in this study you will make an important contribution to the research on cerebral small vessel diseases.**

We thank you for your interest,



Prof. Martin Dichgans, M.D.  
Coordinating investigator

## Study flow

### Screening Visit

- Physical examination
- Blood drawing
- ECG
- Neuropsychological tests
- Face-to-face interview
- Instructions for how to use blood pressure measuring device
- Supply of rescue medication for hypertension

### Individual visits

Time: after 2, 6, 10 and 14 weeks (total duration: 3,5 months)

Place: Outpatient clinic

- Physical examination
- Blood drawing
- MRI scan
- Face-to-face interview
- Supply of study drugs for the next 28 days (not in the last visit)

### Antihypertensive Drugs

- **Amlodipine**  
(calcium channel blocker)
- **Losartan**  
(AT1-receptor blocker)
- **Atenolol**  
(beta-blocker)

You will receive all three drugs; each one for 4 weeks. The order of drugs will be randomly assigned.

## Your advantages:

- Stable medical assistance
- No waiting period
- Study nurse as direct contact
- High resolution MRI
- ECG, blood analysis
- Blood pressure monitoring with a premium blood pressure device
- Individualised feedback on the blood pressure course depending on different drugs

## Magnetic resonance imaging (MRI):

Magnetic resonance imaging is a neuroimaging technique based on magnetic fields. The investigation is not dangerous and is not linked with radiation exposure. Noisy knocking sounds occur during the recording; you will wear earplugs during the scan. For a short time you will breathe CO<sub>2</sub> to investigate the function of the small vessels in the brain. Duration: ca. 2x30 minutes at visit 1, afterwards ca. 1x40 minutes.



## Time frame

