

# The N-methyl-D-aspartate (NMDA)-antagonist memantine affects training induced motor cortex plasticity: a study using transcranial magnetic stimulation

<b>Submission date</b> 06/05/2005	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
<b>Registration date</b> 09/05/2005	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol
<b>Last Edited</b> 15/02/2008	<b>Condition category</b> Other	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

**Plain English summary of protocol**  
Not provided at time of registration

## Contact information

**Type(s)**  
Scientific

**Contact name**  
Prof Martin Tegenthoff

**Contact details**  
Department of Neurology  
BG-Kliniken Bergmannsheil  
Buerkle-de-la-Camp-Platz 1  
Bochum  
Germany  
44789

## Additional identifiers

## Study information

**Scientific Title**

**Study objectives**

Training of a repetitive synchronised movement of two limb muscles leads to short-term plastic changes in the primary motor cortex, which can be assessed by transcranial magnetic stimulation (TMS) mapping.

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Not provided at time of registration

**Primary study design**

Interventional

**Study design**

Randomised controlled trial

**Study type(s)**

Treatment

**Health condition(s) or problem(s) studied**

Training induced motor cortex plasticity

**Interventions**

Memantine versus placebo either given as a single dose or daily over 8 days.

**Intervention Type**

Drug

**Phase**

Not Specified

**Drug/device/biological/vaccine name(s)**

Memantine

**Primary outcome(s)**

The differential effects of different treatment regimens.

**Key secondary outcome(s)**

Not provided at time of registration

**Completion date**

31/01/2005

**Eligibility**

**Key inclusion criteria**

Healthy subjects (adults, either sex)

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**Key exclusion criteria**

1. Left-handedness
2. Neurological disorders
3. Intake of central acting drugs

**Date of first enrolment**

01/06/1998

**Date of final enrolment**

31/01/2005

**Locations****Countries of recruitment**

Germany

**Study participating centre**

Department of Neurology

Bochum

Germany

44789

**Sponsor information****Organisation**

BG-Kliniken Bergmannsheil (Germany) - Department of Neurology

**ROR**

<https://ror.org/04j9bvy88>

**Funder(s)****Funder type**

Hospital/treatment centre

**Funder Name**

BG-Kliniken Bergmannsheil (Germany) - Department of Neurology; main funders

**Funder Name**

Merz Pharmaceuticals GmbH (Germany) - funded the measurement of the memantine serum levels

## Results and Publications

**Individual participant data (IPD) sharing plan****IPD sharing plan summary**

Not provided at time of registration

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	Results	12/05/2005		Yes	No