ISRCTN21417206 https://doi.org/10.1186/ISRCTN21417206

# Effect of meditation combined with breathing technique on mental and exercise-induced hypertension

| Submission date | Recruitment status | [_] Prospectively registered |
|---|---|---|
| 21/09/2005 | No longer recruiting | [_] Protocol |
| **Registration date** | **Overall study status** | [_] Statistical analysis plan |
| 18/01/2006 | Completed | [X] Results |
| **Last Edited** | **Condition category** | [_] Individual participant data |
| 09/11/2009 | Circulatory System | |

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

## Contact information

**Type(s)**
Scientific

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## Additional identifiers

**Protocol serial number**
N/A

## Study information

**Scientific Title**

## Acronym
Meditation Study

## Study objectives
Meditation in the Christian tradition combined with breathing techniques reduces ambulatory and stress-induced blood pressure in essential hypertension

## Ethics approval required
Old ethics approval format

## Ethics approval(s)
Not provided at time of registration

## Study design
Randomised controlled trial

## Primary study design
Interventional

## Study type(s)
Not Specified

## Health condition(s) or problem(s) studied
Essential untreated hypertension

## Interventions
Randomisation 1:1 into meditation versus no meditation. The intervention consists of a four-week introductory course and a four-week intensive training phase. During these eight weeks, meditation in the Christian tradition and breathing techniques are taught by a certified meditation facilitator. Meditation sessions (40 minutes) are held daily as group meetings in the early evening. In addition, meditation is practiced daily individually at home in the morning. At baseline and after eight weeks, all participants undergo the following tests:
1. Standardised computerised mental stress test
2. Bicycle ergometry
3. 24 hour ambulatory blood pressure (BP) measurement
4. 24 hour Holter electrocardiogram (ECG)
5. Echocardiography

## Intervention Type
Other

## Phase
Not Specified

## Primary outcome(s)
Median change in systolic BP during mental stress in the intervention group compared with controls.

## Key secondary outcome(s))

1. Median change in systolic and diastolic resting BP, during 24 hour ambulatory BP monitoring, exercise test (intervention group versus controls, respectively)
2. Difference in heart rate variability (Holter)
3. Diastolic function in echocardiography

### Completion date
30/06/2004

## Eligibility

### Key inclusion criteria
1. Age between 30 and 65 years
2. Written informed consent
3. Elevated resting blood pressure (more than 140/85 mmHg) on three occasions within four weeks
4. Primary hypertension confirmed by laboratory testing, clinical history and examination, abdominal ultrasound

### Participant type(s)
Patient

### Healthy volunteers allowed
No

### Age group
Adult

### Sex
All

### Key exclusion criteria
1. Previous training in contemplative meditation
2. Secondary hypertension
3. Blood pressure more than 180/110 mmHg
4. Antihypertensive therapy within the last 12 months
5. Pregnancy
6. Alcohol abuse
7. Immunosuppressive medication
8. Diabetes

### Date of first enrolment
01/03/2004

### Date of final enrolment
30/06/2004

## Locations

### Countries of recruitment

Germany

**Study participating centre**
**Joseph-Schneider-Strasse 2**
Wuerzburg
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97070

# Sponsor information

**Organisation**
University of Wuerzburg (Germany)

**ROR**
https://ror.org/00fbnyb24

# Funder(s)

**Funder type**
Not defined

**Funder Name**
Not provided at time of registration

# 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? |
|---|---|---|---|---|---|
| Results article | results | 01/02/2008 | | Yes | No |