# Learning to attend to pain

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By means of the administration of a visual search task, an associative learning task, and an antisaccade task, we aim to resolve the primary research question whether a painful hand (more than a non-painful hand) positioned nearby a visual stimulus...

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| **Ethical review** | Approved WMO |
| **Status** | Recruiting |
| **Health condition type** | Joint disorders |
| **Study type** | Observational non invasive |

## Summary

### ID

NL-OMON38878

**Source**
ToetsingOnline

**Brief title**
Learning to attend to pain

### Condition

- Joint disorders
- Peripheral neuropathies

**Synonym**
Pain

**Research involving**
Human

### Sponsors and support

**Primary sponsor:** Universiteit Utrecht
**Source(s) of monetary or material Support:** NWO VICI beurs toegekend aan H.C. Dijkerman

## Intervention

**Keyword:** associative learning, attention, chronic pain, pain

## Outcome measures

### Primary outcome

Reaction time (RT) to targets in a visual search task. When an irrelevant distractor is presented during the visual search, attention is captured and response times become longer as compared to no-distractor present trials. This RT effect is expected to vary according to the presence and the spatial position of the painful hand.

### Secondary outcome

Detection accuracy, *learnability*; the speed (number of trials necessary) at which a participant learns and *unlearns* a new association between two events; number of trials that are required to learn a new association, saccade latency; delay in response times of eye movements, saccade accuracy; eye movement in the correct direction.

# Study description

### Background summary

Experiencing pain in case of bodily damage is normal and important for survival. Pain draws attention away from ongoing activities. This allows us to execute an appropriate response. Knowing before-hand what could potentially be painful helps us even further in protecting our body, but we have to learn what is potentially harmful and what is not. In chronic pain patients such pain related attention and learning mechanisms are suggested to be hampered. The underlying mechanism, however, remains unclear.

### Study objective

By means of the administration of a visual search task, an associative learning task, and an antisaccade task, we aim to resolve the primary research question whether a painful hand (more than a non-painful hand) positioned nearby a visual stimulus (more than far away) slows down or speeds up processing of the target as determined by task reaction times. Secondary objectives are to assess 1) whether the spatial distance between visual and pain stimuli affects the speed and strength of learning a new association between the two, and 2) whether the spatial distance between pain and visual information affects the speed of *unlearning* the relation between the two.

### Study design

The proposed study has a within subjects repeated measures design with the following factors and levels for both the visual attentional and learning tasks: Distractor presence (distractor absent/ distractor), Pain condition (painful hand/ normal hand), Spatial location (left upper quadrant, left lower quadrant, right upper quadrant, right lower quadrant; categorized in near/ far) and with reaction time as the dependent variable.

### Study burden and risks

Participants may experience negative emotions during the study, and the pain stimuli can be experienced as annoying, although the used methods are low on invasiveness. The knowledge gained with the present research has implications for improving treatment and/ or diagnostic approaches: the benefits clearly outweigh the costs.

## Contacts

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# Trial sites

## Listed location countries

Netherlands

# Eligibility criteria

**Age**
Adults (18-64 years)
Elderly (65 years and older)

## Inclusion criteria

All participants will be healthy and pain-free as determined by self-report, between 18 and 75 years of age, and capable of speaking and reading Dutch.

## Exclusion criteria

Participants will be excluded when they use psychotropic or analgesic drugs (e.g., opioids such as morphine or tramadol, tricyclic antidepressants such as amitriptyline or nortriptyline, anticonvulsants such as gabapentin or carbamazepine, or antipsychotics such as haloperidol) that affect reaction times or pain perception, or when participants are allergic for Spanish peppers or have psoriasis on one of their hands.

# Study design

## Design

**Study type:** Observational non invasive

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|---|---|
| Masking: | Open (masking not used) |
| Control: | Uncontrolled |
| Primary purpose: | Basic science |

## Recruitment

NL

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|---|---|
| Recruitment status: | Recruiting |
| Start date (anticipated): | 04-02-2014 |
| Enrollment: | 48 |
| Type: | Actual |

## Ethics review

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|---|---|
| Approved WMO Date: | 06-11-2013 |
| Application type: | First submission |
| Review commission: | METC NedMec |

## Study registrations

### Followed up by the following (possibly more current) registration

No registrations found.

### Other (possibly less up-to-date) registrations in this register

No registrations found.

### In other registers

| Register | ID |
|---|---|
| CCMO | NL45619.041.13 |