

# Sensitivity and specificity of thermography to diagnose active arthritis in hand-joints of patients with arthritis psoriatic or rheumatoid arthritis

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To determine the sensitivity and specificity of IRT to detect clinical active arthritis in hand-joints of patients with RA or PsA using clinical examination and ultrasonography as gold standard.

<b>Ethical review</b>	Approved WMO
<b>Status</b>	Pending
<b>Health condition type</b>	Autoimmune disorders
<b>Study type</b>	Observational non invasive

## Summary

### ID

NL-OMON44201

### Source

ToetsingOnline

### Brief title

HeAT-study

### Condition

- Autoimmune disorders

### Synonym

arthritis, rheuma

### Research involving

Human

### Sponsors and support

**Primary sponsor:** Erasmus MC, Universitair Medisch Centrum Rotterdam

**Source(s) of monetary or material Support:** Ministerie van OC&W

## Intervention

**Keyword:** Arthritis, Hand, Thermography

## Outcome measures

### Primary outcome

The main endpoint is the number of positive results of infrared-thermography examination in hand-joints of patients with RA or PsA and clinical active arthritis.

### Secondary outcome

The secondary endpoint is the number of positive results of infrared-thermography examination in hand-joints of patients with RA or PsA compared to US examination.

## Study description

### Background summary

Arthritis is characterized by inflammation of the synovial membrane, which could affect all joints, but small joints of the hands and feet are often involved. Early treatment can limit the damage, therefore early recognition and diagnosis are important. In order to prevent delay, arthritis needs to be recognized by other specialist especially General Practitioners (GP) and dermatologists as early as possible. At present, the standard practice for detecting arthritis is physical examination (PE). Useful supporting diagnostic tools for arthritis are ultrasound (US) or Handscan. However these tools require specific expertise of a physician and are large and not easy to apply in daily practice. An unknown diagnostic tool for arthritis is infrared thermography (IRT). Recent technological advances have increased the applicability. Thermal imaging cameras are now commercially available as standalone devices and as peripheral attachments for smartphones that provide quick assessment of environmental thermal profiles. The sensitivity and specificity of these cameras, to detect active arthritis in

hand-joints of patients with rheumatoid arthritis (RA) or arthritis psoriatic (PsA), is still unknown.

### **Study objective**

To determine the sensitivity and specificity of IRT to detect clinical active arthritis in hand-joints of patients with RA or PsA using clinical examination and ultrasonography as gold standard.

### **Study design**

A mono-center, descriptive cross-sectional study.

### **Study burden and risks**

The burden to the patient is restricted to one visit of the outpatient clinic with the duration of an hour.

The risk is neglectable.

## **Contacts**

### **Public**

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## **Trial sites**

### **Listed location countries**

Netherlands

## Eligibility criteria

### Age

Adults (18-64 years)

Elderly (65 years and older)

### Inclusion criteria

- 18 years or older
- Diagnosed with Arthritis Psoriatic (CASPAR criteria) or Rheumatoid Arthritis (Rheumatism classification criteria)
- Active arthritis in hand based on physical examination by a rheumatologist

### Exclusion criteria

- Poor knowledge of the Dutch language
- No written informed consent

## Study design

### Design

**Study type:** Observational non invasive

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Diagnostic

### Recruitment

NL

Recruitment status: Pending

Start date (anticipated): 01-01-2018

Enrollment: 20

Type: Anticipated

## Ethics review

Approved WMO

Date: 20-12-2017

Application type: First submission

Review commission: METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

## 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	NL63716.078.17