

# Electrical contrastimulation on the calf for Restless Legs

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To assess the efficacy of LEX0 on the calf for Restless Legs (RLS)

<b>Ethical review</b>	Approved WMO
<b>Status</b>	Recruitment stopped
<b>Health condition type</b>	Sleep disturbances (incl subtypes)
<b>Study type</b>	Interventional

## Summary

### ID

NL-OMON48228

### Source

ToetsingOnline

### Brief title

LEX0 Study

### Condition

- Sleep disturbances (incl subtypes)

### Synonym

Restless Legs Syndrome (RLS), Willis Ekbohm disease

### Research involving

Human

### Sponsors and support

**Primary sponsor:** Relegs

**Source(s) of monetary or material Support:** Relegs BV

### Intervention

**Keyword:** Contrastimulation, Restless Legs, RLS, TENS

## Outcome measures

### Primary outcome

Difference in VAS score before and after the use of LEX0 during an RLS attack.

### Secondary outcome

- Difference in MOS-sleep before and after 4 weeks of LEX0 use in home environment.
- Difference in RLS-QoL score before and after 4 weeks of LEX0 use in home environment.
- Difference in IRLS score before and after 4 weeks of LEX0 use in home environment.
- Registering adverse reactions and serious adverse events.

## Study description

### Background summary

Restless Legs Syndrome (RLS) is a sensorimotor disorder characterized by an irresistible urge to move the legs to stop unpleasant sensations. These unpleasant sensations are usually experienced in the calves and range in severity from discomfort to painful. The exact cause of RLS remains unknown and there is no cure. Treatment is directed at symptom relief only, which can be achieved with pharmaceuticals or conservatively. Existing pharmacotherapy can only be administered to target specific patients, is not practical in every RLS triggering situation, and is not very popular due to the related adverse effects. Transcutaneous electrical nerve stimulation (TENS) is a safe non-pharmacological treatment modality for a variety of pain conditions and it has been shown that TENS can reduce symptoms of RLS. Therefore, to treat RLS with TENS could offer additional efficacy and improve the therapeutic repertoire for RLS, with fewer side effects. LEX0 is a novel TENS device designed to place on the calf, specifically for the treatment of RLS.

Hypothesis: LEX0 reduces symptoms of Restless Legs (RLS).

## **Study objective**

To assess the efficacy of LEX0 on the calf for Restless Legs (RLS)

## **Study design**

Prospective interventional study

## **Intervention**

Subjects are instructed to use LEX0 for 4 weeks in home environment. A user manual is handed. In the event of an RLS attack, LEX0 is placed with the electrode patch on the skin of the calf and the preset treatment program of 30 minutes is started. The most affected leg must be treated. There are three levels of intensity and the most comfortable intensity level below the pain threshold is chosen. LEX0 does not have to be used with every RLS attack and in case of a prolonged attack treatment can be continued. Treatment can be stopped at any time. Before and after each treatment a VAS on RLS symptoms is scored. During the four-week study subjects keep a diary. Subjects visit the clinic twice, both times 3 short validated questionnaires about RLS are completed (IRLS, MOS sleep, RLS-QoL). During the last visit also a questionnaire about LEX0 usability is taken.

## **Study burden and risks**

Subject has to visit the clinic two times; at the beginning and end of the study. During these visits subject completes 3 questionnaires related to RLS. At the end of the study also a questionnaire about LEX0 usability is taken. The study duration is 4 weeks in home environment. Subject uses LEX0 as needed and measures leg discomfort by scoring VAS, before and after treatment. Throughout the study, subject keeps a diary. There are no risks associated with the investigational treatment; TENS is an established safe non-pharmacological treatment modality to use at home for many different pain conditions. There are no good treatment options for RLS and pharmacotherapy has its limitations. Subject may benefit from this treatment with experiencing symptom relief. By exception subject may experience a mild skin reaction beneath the stimulation electrode applied or (muscle)pain or cramps in the calf.

## Contacts

### Public

Relegs

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### Scientific

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## Trial sites

### Listed location countries

Netherlands

## Eligibility criteria

### Age

Adults (18-64 years)

Elderly (65 years and older)

### Inclusion criteria

- \* Age >18 < 80 yrs;
- \* 5 essential diagnostic criteria RLS according to IRLSSG;
- \* RLS attack \* once a week. IRLSSG ≤ International Restless Legs Syndrome Study Group formula

### Exclusion criteria

- \* RLS medication
- \* Cardiac pacemaker, Implanted defibrillator, Transdermal drug delivery system
- \* Open wounds, skin eruptions or infected areas on legs/calves
- \* Lack of normal sensation in legs/calves

- \* Deep vein thrombosis during last 6 months
- \* Another sleep disorder
- \* Another movement disorder (e.g. Parkinson disease, dyskinesia, or dystonia)
- \* Epilepsy
- \* Pregnancy

## Study design

### Design

**Study type:** Interventional

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Treatment

### Recruitment

NL

Recruitment status: Recruitment stopped

Start date (anticipated): 02-10-2019

Enrollment: 12

Type: Actual

### Medical products/devices used

Generic name: Transcutaneous Electrical Nerve Stimulation (TENS)

Registration: Yes - CE intended use

## Ethics review

Approved WMO

Date: 22-08-2019

Application type: First submission

Review commission: METC Leiden-Den Haag-Delft (Leiden)

metc-ldd@lumc.nl

## Study registrations

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

No registrations found.

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

ID: 27456

Source: NTR

Title:

### In other registers

Register	ID
CCMO	NL68957.098.19
Other	NL7672
OMON	NL-OMON27456