

# Healthy bones despite glucocorticoid treatment

Keywords: glucocorticoid, bone, circadian rhythm, microCT, histology

Glucocorticoids (GCs) are essential to treat various inflammatory diseases, but they are detrimental to bone, causing osteoporosis with fractures. Because of the long half-life of the commonly used synthetic GCs compared to endogenous GCs, patients treated with synthetic GCs have severely disturbed or absent circadian GC rhythms, which are essential for healthy bone metabolism. In fact, we recently demonstrated in mice that not only the dosage of GCs, but also flattening GC rhythm contributes to osteoporosis. This is a novel finding opening a complete new direction to find preventive measures for patients who receive treatment with GCs. **Within this project we will investigate in a mouse model whether reintroduction of a GC rhythm can preserve bone rhythmicity, and thereby bone quality and strength.**

**Position:** 4 years fully funded by CSC

## What do we offer?

You will have the opportunity to work in a vibrant international research group with internationally renowned scientists, including other Chinese CSC students. We aim to prepare our PhD students to become an independent academic scientist. The student will be part of the Graduate School of the LUMC, which includes courses to improve English skills, and presentation at (inter)national congresses.

## Supervisors:

Prof dr. P.C.N. Rensen, professor metabolic aspects of vascular diseases  
<https://www.universiteitleiden.nl/en/staffmembers/patrick-ensen#tab-2>

Prof dr. O.C. Meijer, professor molecular neuroendocrinology of corticosteroids  
<https://www.universiteitleiden.nl/en/staffmembers/onno-meijer#tab-2>

Dr. E.M. Winter, clinician-scientist in endocrinology and metabolic bone diseases  
<https://ects-academy.org/members/>

## Application:

To apply for this vacancy please send an email to: [e.m.winter@lumc.nl](mailto:e.m.winter@lumc.nl) (Liesbeth Winter), with the following documents attached:

- Curriculum vitae
- Bachelor's and master's transcripts
- MSc thesis
- Motivation letter

**Selection criteria**

MSc degree in medical science

Previous laboratory experiences for example in cell culturing, PCR, mouse models, histology, imaging would be advantageous, but are not essential for his position.

Very good in English (both written and spoken)

Good communication and presentation skills

Scientific enthusiasm and eagerness to work in our exciting international research group