

Study I

“The influence of extra Icaros training in rehabilitation aftercare
on the daily limitations and trunk muscles strength
in patients with lumbar spinal problems “

conducted at Technical University of Munich, 2018
Sports Science Faculty

Study I

Question:

“Does additional exercise with the Icaros have a positive effect on the subjective experience of daily limitations or strength parameters of the trunk muscles in patients with lumbar spinal problems?”

Procedure:

- 42 lumbar spinal problems patients in aftercare
- 26 at pre-test
- 12 appointments
- 20 at post test

Test Subjects:

Intervention group (n=9)

Control group (n=11)



Study I

Methodology- Test

Oswestry Disability Questionnaire (Osthus et al., 2006)

10 minute warm-up on the ergometer

Isokinetic reading:

5 times at 60°/s
15 times at 90°/s

Isometric reading:

60°, 45°, 30° flexion
Ratio of extensors : flexors



Results

- Isokinetic strength ratio not significantly improved
Expectation of pain? (Al-Obaidi, 2000)
- **All other parameters improved** more than in the control group
- Isometric flexion at 60° and 45° **significantly more improved** than in the control group
- Isometric extension and strength ratio at 30° flexion **significantly more improved** than in the control group
- The **motivational nature** of ICAROS is positive for the continuation of sports activity after rehabilitation
- Usage also for shoulder problems or neurological disorders?
- Further studies are being conducted

