

REHABILITATION FOLLOWING KNEE PROSTHESIS SURGERY

Hospital vs home care?

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Hospital rehabilitation group

- Usual standard treatment concept for total knee arthroplasty (TKA)
- 3 weeks rehabilitation in clinic including following quality standards of DRV, i.e. German Public Retirement Insurance:
- 8h per week physiotherapy, spread over 5 days
- 4h additional physical therapy over 3 weeks
- 1.5h daily activity training over 3 weeks
- Various other educations
- **Total PT: 1.5 – 2h per day**
- **No CPM therapy** required

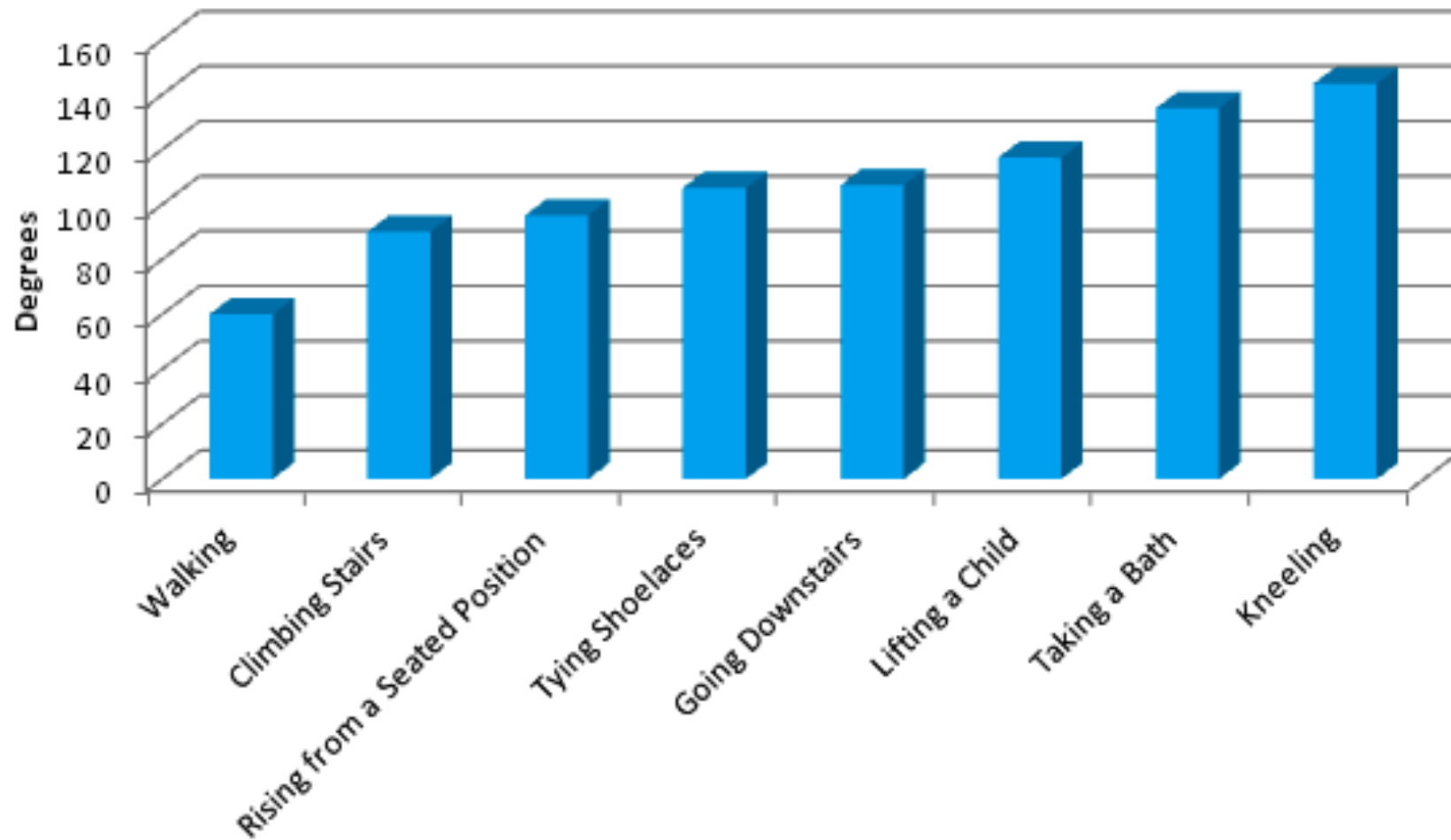
Home care rehabilitation group

- Home care treatment by one physiotherapist for the first 3 weeks, 5 days per week, 1.5 – 2h daily
- **Total PT: 1.5 – 2h per day**
- Daily use of CPM machine at home for 3 weeks, 7 days per week,
Total CPM: 2h per day



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Range of motion required for daily activities



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Knee Society Score (KSS) and Oxford score

- Primary criteria: KSS (functional knee score) and Oxford knee score (patient related score)
- Evaluation points: prior to operation, 6, 12 and 52 weeks post operation
- Secondary parameters: pain and range of motion
- Prior to operation there were no significant differences between both groups with regards to KSS and Oxford score as well as the range of motion in flexion
- 37 patients in the home care and 39 patients in the hospital rehabilitation groups were scored

What is KSS and Oxford score

- KSS

- Assessment on the patient:

- Pain
 - Flexion Contracture
 - Extension Lag
 - Total range of flexion
 - Alignment
 - Stability
 - Mediolateral

- Grading:

- Score 80 to 100: Excellent
 - Score 70 to 79: Good
 - Score 60 to 69: Fair
 - Score below 60: Poor

- Oxford knee score

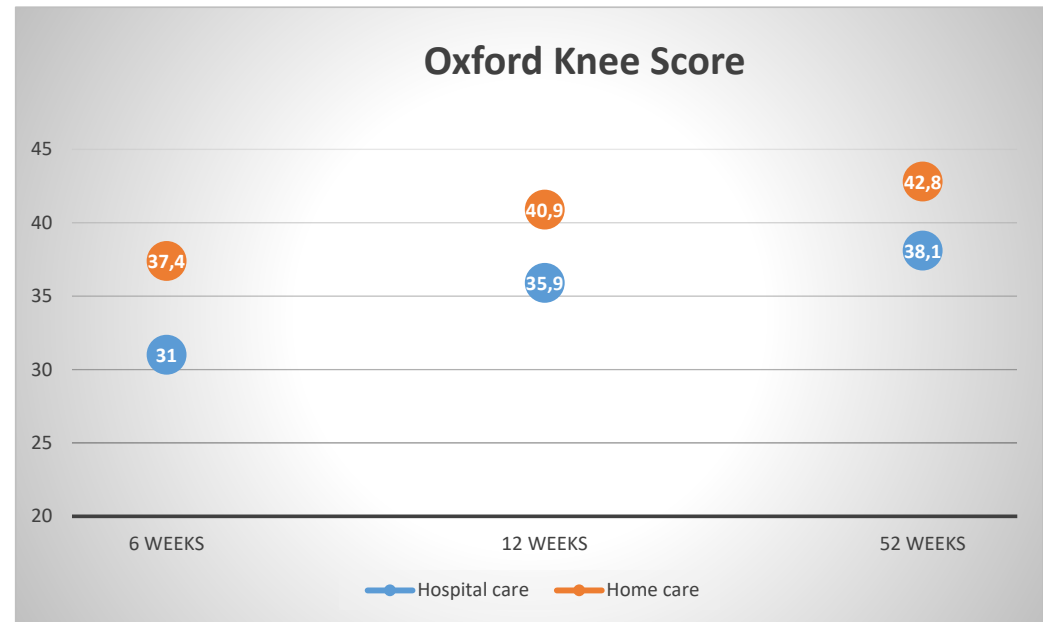
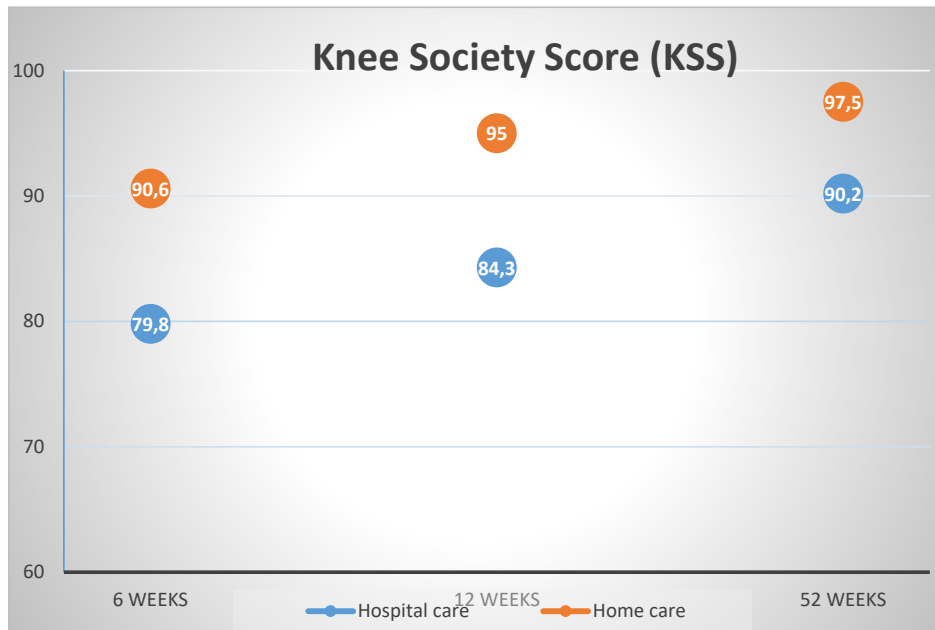
- Patient feedback on the following:

- Pain, mobility, stability, daily activities e.g. traffic, household, toilet, washing
 - ...
 - 12 different questions with a maximum of 48 points to score

- Grading:

- Score 40 to 48: Satisfactory joint function
 - Score 30 to 39: Mild to moderate knee arthritis
 - Score 20 to 29: Moderate to severe knee arthritis
 - Score 0 to 19: Severe knee arthritis

Results



- Significant increase of range of motion at all investigation points with the Home care treatment
- Even 1 year postop the patients of the home care (PT + CPM) group showed a significant higher range in knee flexion (122° vs 112° – of a maximum 130° after Total Knee Replacement)
- **Home care treatment** achieves the same scores after 6 weeks than **Hospital treatment** after 52 weeks
- **Home care treatment** achieves satisfactory joint function after 12 weeks on the Oxford knee score, which **Hospital treatment** does not even reach after 52 weeks

Summary

- Significant better knee function (KSS “excellent”) at all postop. investigation points in Home care group (PT + CPM)
- Home care group significantly better and more obvious in daily activities score (Oxford “satisfactory joint function”) at all postop. investigations
- **Conclusion: Hospital rehab group (only PT) shows huge disadvantage still 1 year postop and suffers from unsatisfying joint function in daily activity compared to Home care group (PT + CPM)**
- The home care rehabilitation with intensive Physiotherapy on 5 days per week and CPM use on 7 days per week offers an excellent alternative to the hospital rehabilitation treatment after Knee prosthesis surgery
- To be considered also under health-economic aspects