Department of Orthopedics in the Malteser Waldkrankenhaus St. Marien gGmbH
Division of Orthopedic Rheumatology

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Research focus
- Arthroscopic synovectomy
- Endoprostheses for degenerative and inflammatory joint diseases
- Dynamic pedobarography

Structure of the Division
Professorship: 1
Personnel: 3
- Doctors (of Medicine): 2
- Graduate students: 3

Clinical focus areas
- Arthritis surgery of patients with degenerative and inflammatory joint diseases
- Joint preserving operations
- Joint arthroplasties of the lower extremities (hip and knee)
- Audited center for arthritis surgery
- Treatment of patients with rare diseases of the synovia (synovial joint chondromatosis, pigmented villonodular synovitis, etc.)

Research
Clinical research still focuses on the outcome of arthroscopic synovectomies as well as joint replacements of hip and knee. Basic osteoarthritis research (in cooperation with Prof. Dr. K. Gelse, Department of Trauma Surgery – Orthopedic Surgery; compare own report) has its focus on chondrocyte differentiation in human osteoarthritis. Dynamic pedographic measurements that started on rheumatoid patients investigate meanwhile also pathologies in soccer players.

Arthroscopic synovectomy
Pt. Prof. Dr. B. Swoboda
Clinical studies investigated the effect of arthroscopic synovectomies in patients with rheumatoid arthritis. Arthroscopic synovectomies of the knee joint were combined with a radiosynoviorrhaphy. The long-term effect of this procedure was evaluated using joint replacement as an endpoint.

Endoprostheses for degenerative and inflammatory joint diseases
Pt: Dr. A. Jendrissek, Prof. Dr. B. Swoboda
Clinical studies are conducted on the clinical outcome of large joint arthroplasty, especially in patients with degenerative and inflammatory joint diseases. For this purpose, different preoperative findings, surgical requirements, postoperative outcome, and patient satisfaction are compared.

Dynamic pedobarography
Pt: Dr. T. Hotfiel
Dynamic pedobarography has been considered as an important measurement device and has been used in various orthopedic and biomechanic investigations. Dynamic pedobarography enables to assess various kinetic parameters such as pressure, force, or contact-time in the interface between the plantar skin and the measurement surface. It can be used in different conditions such as walking, running, or specific movements. Increased and asymmetric plantar pressure conditions can be seen as risk factors for the development of metatarsal stress fractures or plantar ulcers and is associated with prolonged and complicated recurrence of existing tissue damages. Moreover the assessment of foot loads can be helpful for the evaluation of orthotic devices or given weight bearing conditions in the field of rehabilitation:
- Systematic comparison of foot pressure conditions between insole and platform based pedobarography systems
- Plantar pressure distributions in adolescent and professional adult soccer players
- Assessing foot load distribution during rehabilitation and strengthening exercises.

Teaching
The Division of Orthopedic Rheumatology offers lectures on obligatory and optional topics. Students can take part in orthopedic operations. The Division offers hands on examination courses. We supervise MD and PhD theses.

Selected publications

International cooperation
Prof. Dr. T. Kirch, PhD, Department of Orthopedic Surgery, NYU Hospital for Joint Diseases, New York City: USA