Department of Radiology

Director:
Professor Christoph Düber

OVERVIEW

Main areas of research:
- Liver and cardiovascular imaging using MRI and CT
- Interventional vascular and tumor therapy
- IT and image post-processing in radiology
- Innovative MRI techniques

HIGHLIGHTS

Department of Diagnostic and Interventional Radiology

DIAGNOSTIC METHODS:
- Radiography
- Radioscopy
- Computed Tomography
- Magnetic Resonance Imaging
- Digital Subtraction Angiography
- Sonography
- Mammography

THERAPEUTIC METHODS:
- Balloon dilatation and stent implantation
- Occlusion of blood vessels and tumor embolization
- Percutaneous tumor ablation
- Biliary tract interventions
- Biopsies and implantation of markers for targeted therapies
- Percutaneous drainages

GENERAL SERVICES AND SPECIALTIES:
- Radiology Information System
- Picture-Archiving and Communication System (PACS)
- Teleradiology
- Clinical Trial Center Radiology
- Section of Medical Physics
- Section of Pediatric Radiology

Graafen D, Belen Franzoni M, Schreiber LM et al. Magnetic resonance imaging of H-1 long lived states derived from parahydrogen induced polarization in a clinical system. JOURNAL OF MAGNETIC RESONANCE. 2016; 262: 68-72.


**FIG. 1:** Tumor invasion of the portal vein in hepatocellular carcinoma.

**FIG. 2:** Percutaneous transvenous direct annuloplasty of a human tricuspid valve using the Valtech Cardioband. CT control 4 days after implant showing regular position in all 16 anchors and patency of RCA.

**FIG. 3:** T1- and T2-Maps in a patient with midventricular Tako-Tsubo-Cardiomyopathy. The maps clearly demarcate the myocardial areas with impaired regional contractility.

**FIG. 4:** Online-evaluation of results based on structured data capture while radiological reporting.

**IMPORTANT PROJECTS**

- **CT for planning and follow-up in percutaneous mitral- and tricuspidal valve repair**
  - **PROJECT MANAGER:** Dr. T. Emrich
  - **PROJECT DURATION:** 2016 - 2018

- **Mapping of myocardial T1- and T2-relaxation times in 3 Tesla-MRI**
  - **PROJECT MANAGER:** Prof. K. Kreitner, Dr. T. Emrich
  - **PROJECT DURATION:** 2015 - 2017

- **Structured reporting in Radiology**
  - **PROJECT MANAGER:** Prof. P. Mildenberger
  - **PROJECT DURATION:** 2014 - 2018

- **Tissue damage after irreversible electroporation (IRE) in a large animal model**
  - **PROJECT MANAGER:** Dr. S. Schotten, Dr. F. Jungmann, Prof. M.B. Pitton
  - **PROJECT DURATION:** 2016 - 2017

- **Vascular tumor invasion in hepatocellular carcinoma (HCC)**
  - **PROJECT MANAGER:** Dr. R. Klöckner
  - **PROJECT DURATION:** 2016 - 2018