

PUBLIKATIONEN



2022

Campus Kerckhoff

der Justus-Liebig-Universität Gießen

Publikationen 2022

Herz-, Lungen-, Gefäß- und Rheumazentrum
Rehabilitationszentrum

Transplantationszentrum für thorakale Organe



KERCKHOFF
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Bad Nauheim, April 2023

Liebe Leserinnen und Leser,

auch im Jahr 2022 wurde die engagierte und kontinuierliche nationale und internationale Forschungsarbeit an der Kerckhoff-Klinik erfolgreich fortgesetzt, wie dem Publikationsbericht zu entnehmen ist.

Gemeinsam mit unseren Kooperationspartnern und ausgezeichneten Netzwerkbildungen werden fachübergreifend neue innovative Themen der Grundlagen- und Anwendungsforschung auf höchstem Niveau realisiert und bestehende Therapien stetig weiter verbessert. Basierend hierauf wird ein entscheidender Beitrag zur verbesserten Außenwirkung und Anerkennung von Wissenschaft und Forschung an unserem Campus Kerckhoff sichtbar und unseren ambulanten wie stationären Patient:innen eine hochqualitative interdisziplinäre Versorgung geboten.

Allen Beteiligten, die an der Stärkung der wissenschaftlichen Expertise am Campus im Jahr 2022 beteiligt waren, gilt großer Dank.

Um die Expertise am Campus Kerckhoff weiter zu stärken, ist das Ziel, die engagierte Forschungsarbeit auch im kommenden Jahr fortzuführen.

Mit freundlichen Grüßen

Univ.- Prof. Dr. C. Hamm
Direktor Abt. Kardiologie
Direktor Forschung Kerckhoff-Klinik
Direktor Med. Klinik I, Kardiologie
Universitätsklinikum Gießen



Univ.- Prof. Dr. U. Lange
Direktor Abt. Osteologie & Physikalische Medizin
Stellv. Direktor Abt. Rheumatologie & Klinische Immunologie
Beauftragter Publikationsbericht





HERZZENTRUM

Abteilung für Kardiologie

Direktor:

Univ.- Prof. Dr. med. Christian W. Hamm



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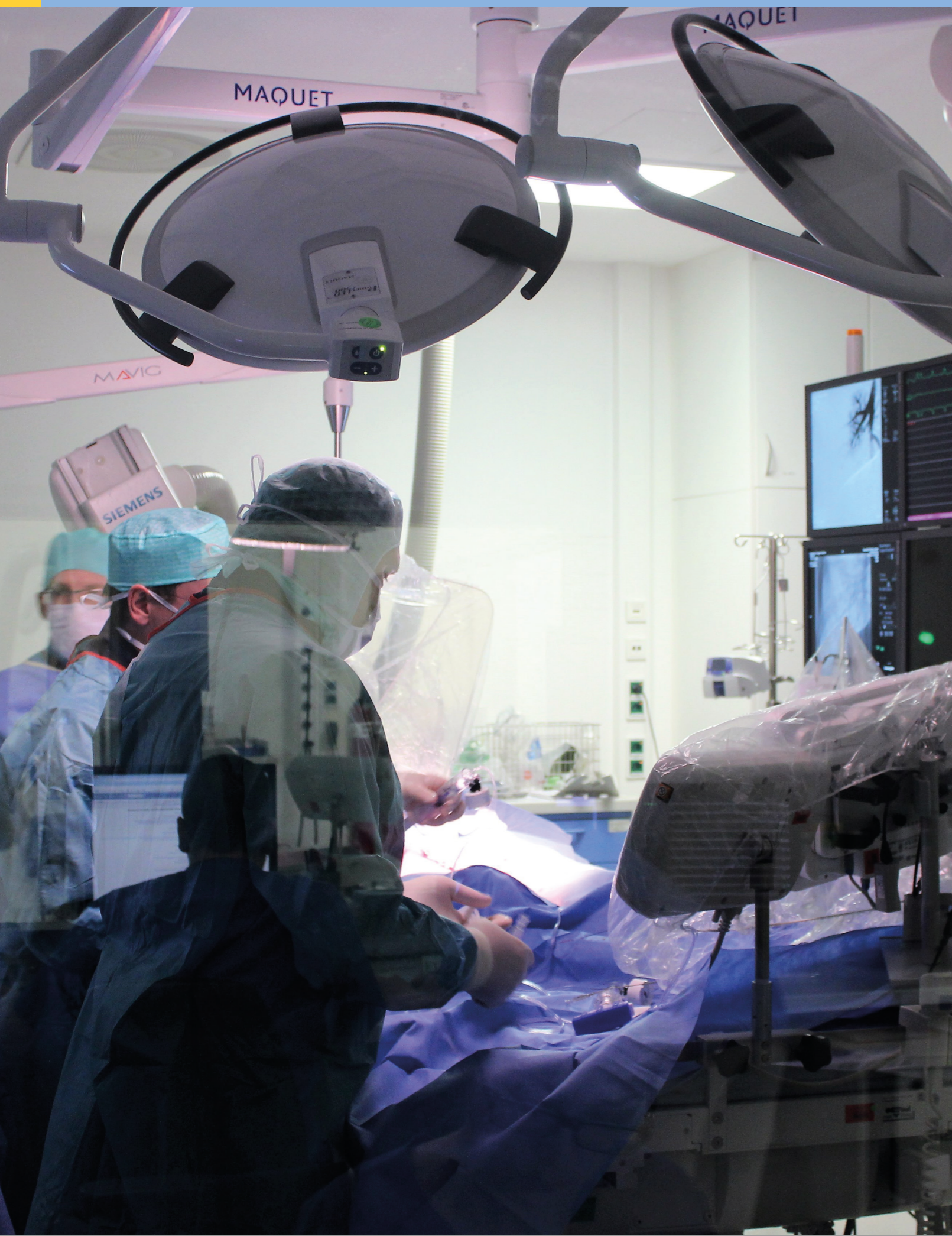
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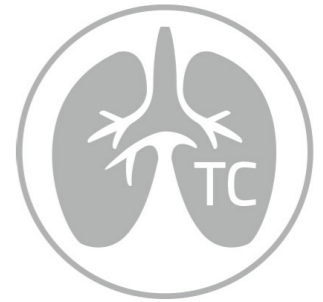


LUNGENZENTRUM

Abteilung für Thoraxchirurgie

Direktor:

Priv.-Doz. Dr. med. Stefan Guth



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GEFÄSSZENTRUM

Abteilung für Gefäßchirurgie

Direktor: Dr. med. S. Classen

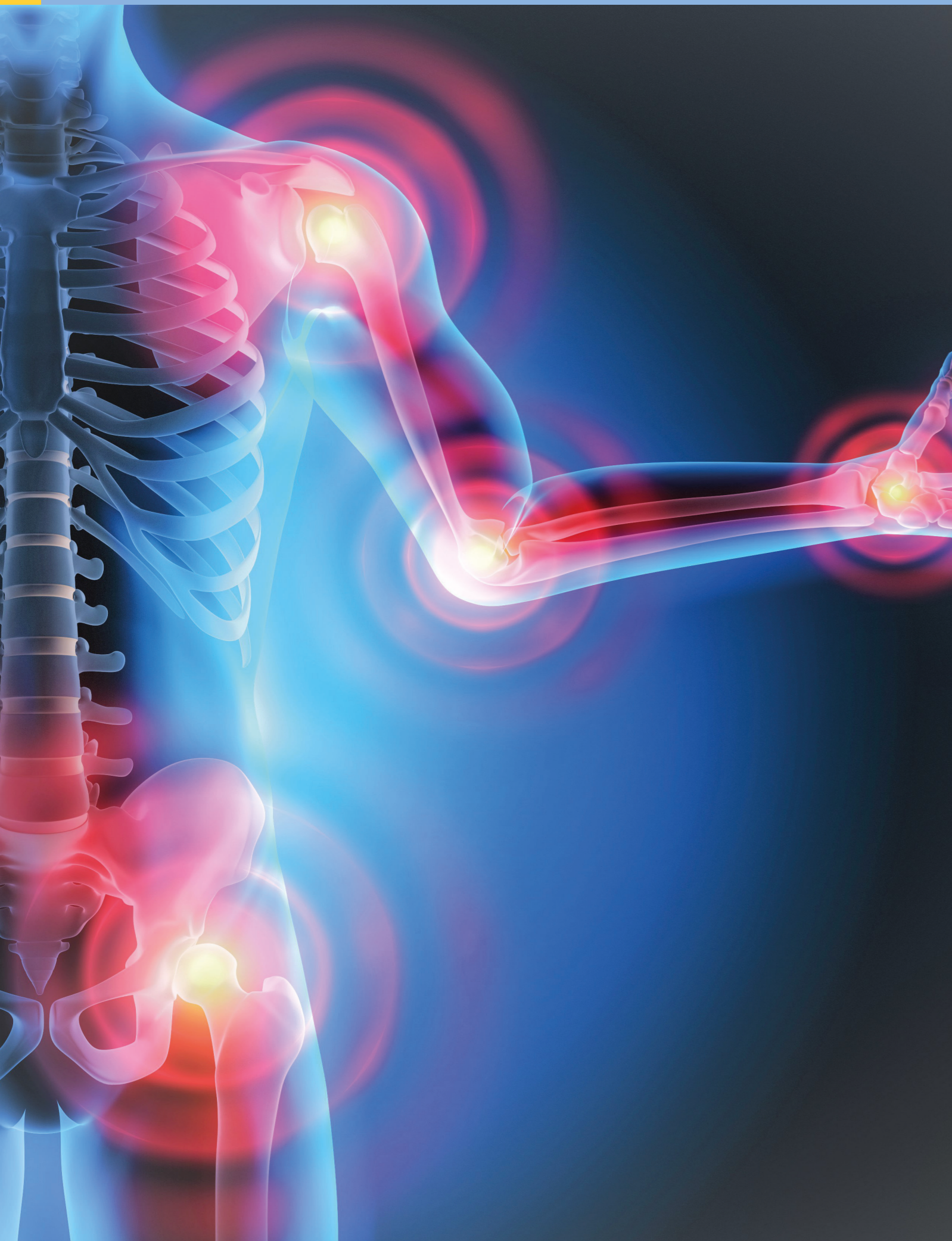
Abteilung für Angiologie

Ärztlicher Leiter: Dr. med. K. Kainer



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RHEUMAZENTRUM

Abteilung für Rheumatologie & Klinische Immunologie

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Abteilung für Physikalische Medizin & Osteologie

Direktor: Univ. Prof. Dr. U. Lange



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REHAZENTRUM

Abteilung für Rehabilitation

Ärztlicher Leiter:

Prof. Dr. med. Thomas Mengden



Publikationen & Originalarbeiten

1. Attractor Reconstruction for Quantifying the Arterial Pulse Wave Morphology During Device-Guided Slow Breathing. Hörandtner C, Bachler M, Sehnert W, Mikisek I, Mengden T, Wassertheurer S, Mayer CC. *Cardiovasc Eng Technol*. 2022 Dec;13(6):939-949. doi: 10.1007/s13239-022-00628-0. Epub 2022 May 17. PMID: 35581492 Free PMC article.
2. Effects of postoperative cognitive training on neurocognitive decline after heart surgery: a randomized clinical trial. Butz M, Gerriets T, Sammer G, El-Shazly J, Tschernatsch M, Huttner HB, Braun T, Boening A, Mengden T, Choi YH, Schoenburg M, Juenemann M. *Eur J Cardiothorac Surg*. 2022 Oct 4;62(5):ezac251. doi: 10.1093/ejcts/ezac251. PMID: 35415742 Clinical.
3. Device-guided slow breathing with direct biofeedback of pulse wave velocity - acute effects on pulse arrival time and self-measured blood pressure. Mengden T, Bachler M, Sehnert W, Marschall P, Wassertheurer S. *Blood Press Monit*. 2023 Feb 1;28(1):52-58. doi: 10.1097/MBP.0000000000000628. Epub 2022 Dec 6. PMID: 36606480 Free PMC article.

Abstracts Kongresse

1. Klein M, Mengden T. Entwicklung der Morbidität und Komorbidität in einem kardiologischen Reha-Setting von 2006 bis 2019 (abstract DGPR Tagung). *Herzmedizin* Mai 2022, 36-37.
2. DEVICE-GUIDED SLOW BREATHING WITH DIRECT BIOFEEDBACK OF PULSE WAVE VELOCITY - EFFECTS ON PULSE ARRIVAL TIME AND SELF-MEASURED BLOOD PRESSURE IN PATIENTS WITH HIGH NORMAL BLOOD PRESSURE (abstract ESH Meeting Mailand 2022 Mengden, Thomas¹; Sehnert, Walter²; Bachler, Martin³; Wassertheurer, Sigfried³ *Journal of Hypertension* 40(Suppl 1):p e196. June 2022.



FACHÜBERGREIFENDE ABTEILUNG

Abteilung für Anästhesiologie

Direktor: Prof. Dr. Dr. med. Ragnar Huhn-Wientgen



Publikationen & Originalarbeiten

1. Stroda A, Jaekel C, M'Pembete R, Guenther A, Thielmann CA, Thelen S, Schiffner E, Bieler D, Bernhard M, Huhn R, Lurati Buse G, Roth S. Myocardial Injury is associated with the Incidence of Major Adverse Cardiac Events in Patients with Severe Trauma. *J Clin Med*. 2022 Dec 15;11(24):7432.
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3. Feige K, Roth S, M'Pembete R, Galow A, Koenig S, Stroet-hoff M, Raupach A, Lurati Buse G, Mathes AM, Hollmann MW, Huhn R, Torregroza C. Influence of short and long Hyperglycemia on Cardioprotection by Remote Ischemic Preconditioning – a Translational Approach. *Int J Mol Sci*. 2022 Nov 22;23(23):14557.
4. M'Pembete R, Ahlbrecht S, Helten C, Mourikis P, Naguib D, Zako S, Trojovsky K, Huhn R, Petzold T, Hohlfeld T, Zeus T, Kelm M, Dannenberg L, Polzin A. High on-treatment platelet reactivity: Aspirin versus Clopidogrel. *Pharmacology*. 2022 Dec 2:1-7.
5. M'Pembete R, Roth S, Stroda A, Reier T, Lurati Buse G, Sixt SU, Westenfeld R, Rellecke P, Tudorache I, Hollmann MW, Aubin H, Akhyari P, Lichtenberg A, Huhn R, Boeken U. Days Alive and Out of Hospital – A Patient-centered Outcome to quantify Life Impact after orthotopic Heart Transplantation. *Sci Rep*. 2022 Nov 1;12(1):18352.
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15. M'Pembale R, Roth S, Metzger A, Nucaro A, Stroda A, Polzin A, Hollmann MW, Lurati Buse G, Huhn R. Evaluation of clinical outcomes in patients treated with Heparin or direct thrombin inhibitors during extracorporeal membrane oxygenation: A systematic review and meta-analysis. *Thromb J.* 2022 Jul 28;20(1):42.

FACHÜBERGREIFENDE ABTEILUNG

Abteilung für Psychokardiologie

Ärztliche Leitung: Prof. Dr. med. Bettina Hamann



Publikationen & Originalarbeiten

1. Delir-Studie: William G. Kerckhoff-Stiftung Projektnummer: 973032
Aufgrund der älter werdenden Bevölkerung und der zunehmenden Verbesserung anästhesiologischer und chirurgischer Techniken, ist eine Zunahme der Operationen bei älteren Patienten und somit auch eine Zunahme von postoperativen Delirien zu erwarten. Das postoperative Delir kann grundsätzlich in sämtlichen Altersstufen auftreten (Aldecoa et al., 2017). Auf der hypothetischen Grundlage, dass die Entstehung eines Delirs ein „zerebrales Schwellenphänomen“ darstellt, ist das Risiko für ältere Patienten jedoch deutlich höher (Robinson, Raeburn, Tran, Brenner, & Moss, 2011). Dies bedeutet, dass prädisponierende Faktoren wie z. B. Komorbidität, Apoplex oder Demenz sowie peri- und intraoperative Risikofaktoren wie z. B. Dehydratation oder Infektion, kumulieren, um ein Delir auszulösen. Je vorgeschädigter ein Gehirn ist, desto geringer schwerwiegend müssen Risikofaktoren wirksam sein, um ein Delir zu verursachen (Kazmierski et al., 2010; Noriene et al., 2007). Die Häufigkeit von Delirien nach einer Herzoperation wird auf 26-52% geschätzt mit einem signifikanten Prozentsatz an hypoaktiven Delirien.

Ziele:

Ein optimales Delir Management sollte zunächst mit der detaillierten Analyse des Risikoprofils eines Patienten beginnen. Dazu zählt die Identifikation von prädisponierenden intraindividuellen Faktoren sowie peri- und intraoperative Risikofaktoren, die in Summe die Schwelle für die Entstehung eines Delirs senken. Aufgrund der Komplexität eines kardiochirurgischen Eingriffs erscheint hier ein interdisziplinäres Vorgehen als geeignet.

Hauptfragestellungen/Primärer Endpunkt:

Die primäre Fragestellung dieser Arbeit soll sein, ob sich zwischen den Gruppen „Patienten mit Delir“ und „Patienten ohne Delir“ Unterschiede bezüglich prä-, intra- und postoperativer Faktoren nachweisen lassen. Diese Fragestellung sollte in erster Linie qualitativ beschreibend bzw. quantitativ-hypothesengenerierend bearbeitet werden. Hierbei soll untersucht werden, welchen Einfluss medizinische Risikofaktoren und soziografische Merkmale (etwa Hypertonie, Diabetes mellitus, Alter, Geschlecht, Bildung, Operationsspezifische Daten, etc.) auf die Entstehung eines postoperativen Delirs haben. Ziel ist es, Prädiktoren für das Auftreten eines postoperativen Delirs zu bestimmen. Diese dienen der explorativen Datenanalyse und werden daher ungerichtet formuliert. Darüber hinaus sollten Fragestellungen, die vor allem von prospektivem Interesse sind, erörtert werden: Wie lassen sich Versuchspläne zukünftig gestalten? Welche zukünftigen Fragestellungen lassen sich aus den vorliegenden Daten ableiten?

- Zur Finanzierung bei der Deutschen Rentenversicherung wurde eine kontrollierte Studie eingereicht, die die traumaspezifische Behandlung von Patientinnen mit Herzerkrankung und posttraumatischer Belastungsstörung (PTBS) mittels EMDR (eye movement desensitization and reprocessing) in der psychokardiologischen Rehabilitation untersuchen soll.

Es sollen kardiologische Sicherheit und Effektivität einer traumaspezifischen Therapie mit EMDR (Interventionsgruppe) gegenüber der leitlinienkonformen kardiologischen Rehabilitationsbehandlung mit Entspannungstherapie (Kontrollgruppe) bei primär herzerkrankten Patient:innen getestet werden, die aufgrund eines medizinischen Traumas unter PTBS leiden.

EMDR ist eine anerkannte psychotherapeutische Methode zur Behandlung von PTBS bei primär somatisch gesunden Patient:innen.

Kardiologische Erkrankungen gelten bislang häufig als Ausschlusskriterium für den Einsatz therapeutischer Konfrontationstechniken, obwohl Nachweise diesbezüglich fehlen. Im Gegenteil, erste Erfahrungen mit EMDR in der kardiologischen Rehabilitation legen einen positiven Effekt auf posttraumatische Symptome nahe. Eine randomisierte kontrollierte klinische Studie mit ausreichend großer Stichprobe steht jedoch noch aus.

Die geplante Studie soll somatische Folgen erfassen, die Rückschlüsse auf die kardiologische Sicherheit und Verträglichkeit zulassen, und die Effektivität einer Behandlung mit EMDR überprüfen. Die Ergebnisse sollen eine Risiko-Nutzen-Abwägung von EMDR bei primär herzkranken Patient:innen während der rehabilitativen Routineversorgung ermöglichen.

FACHÜBERGREIFENDE ABTEILUNG

Abteilung für

Administration Forschung & Lehre

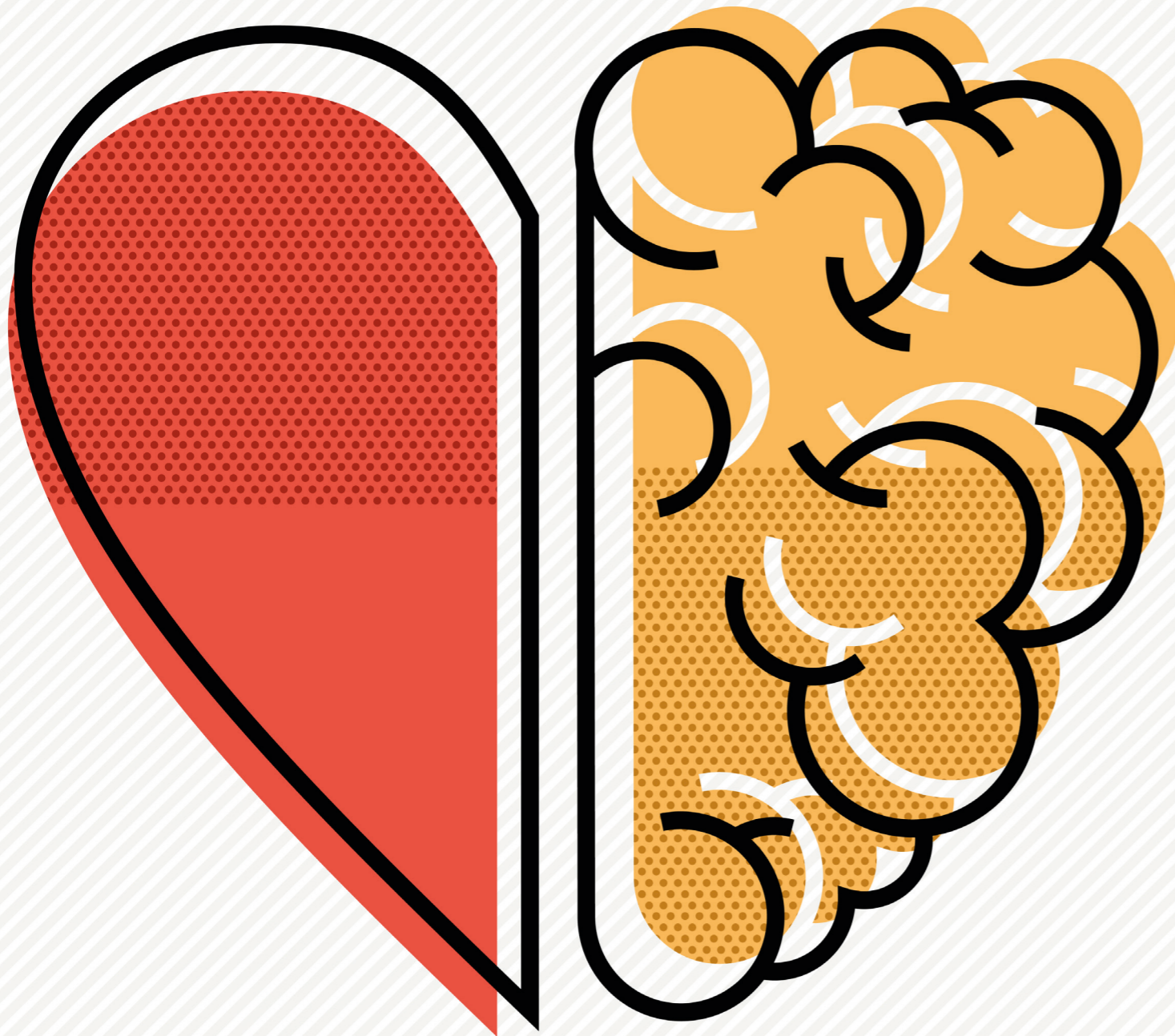
Ärztliche Leitung: Prof. Dr. med. Markus Schönburg



Publikationen & Originalarbeiten

- Butz M, Meyer R, Gerriets T, Sammer G, Doerr JM, El-Shazly J, Doepfner TR, Choi YH, Schoenburg M, Juenemann M.
Increasing preoperative cognitive reserve to prevent postoperative delirium and postoperative cognitive decline in cardiac surgical patients (INCORE): Study protocol for a randomized clinical trial on cognitive training. *Front Neurol*. 2022 Dec 12;13:1040733.
- Tschernatsch M, El Shazly J, Butz M, Lie SR, Yeniguen M, Braun T, Bachmann G, Schoenburg M, Gerriets T, Schramm P, Juenemann M.
Visual Hallucinations following Coronary Artery Bypass Grafting: A Prospective Study. *Medicina (Kaunas)*. 2022 Oct 16;58(10):1466.
- Butz M, Gerriets T, Sammer G, El-Shazly J, Tschernatsch M, Huttner HB, Braun T, Boening A, Mengden T, Choi YH, Schoenburg M, Juenemann M.
Effects of postoperative cognitive training on neurocognitive decline after heart surgery: a randomized clinical trial. *Eur J Cardiothorac Surg*. 2022 Oct 4;62(5):ezac251.
- Kubin T, Gajawada P, Bramlage P, Hein S, Berge B, Cetinkaya A, Burger H, Schönburg M, Schaper W, Choi YH, Richter M.
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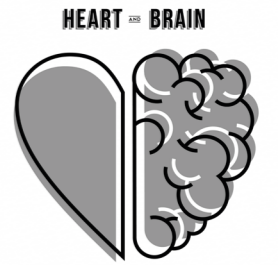
HEART AND BRAIN



Heart & Brain Research Group

Leitung:

Prof. Dr. med. Tibor Gerriets



Publikationen & Originalarbeiten

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