

# 2019

## RESEARCH REPORT ASKLEPIOS KLINIKEN HAMBURG GMBH



ASKLEPIOS

Gesund werden. Gesund leben.

# INTRODUCTION



## DEAR COLLEAGUES, DEAR READERS,

as in the previous years, we at the Asklepios Kliniken Hamburg look back on a successful year in the area of clinical, translational and healthcare research. This is reflected by the numerous top-class publications with the participation of Hamburg scientists, which we would like to present to you. Not included in this report, but equally vital for the success of the scientific work of our departments are the numerous active contributions at national and international congresses, which are important for the high international reputation of our clinics and departments.

In this year's research report, we would like to invite you to look back on 20 years of ASKLEPIOS proresearch and, in addition, present a project that shows the outstanding scientific work being done in a way that is representative of many others.

Dr. Pawel Kuklik and Dr. Christian Eickholt from Prof. Dr. Stephan Willems' team will give you an outlook on upcoming randomized studies on atrial fibrillation, explain the pathophysiological background to this subject area and provide an insight into the potential of the new high-resolution 3-D mapping methods.

As usual, we have included a summary of the research projects overview for the entire AKHH.

Thanks to the internal research funding provided by Asklepios Kliniken GmbH, we were able to realize numerous translational and medical care projects. One focus of our research continues to be the promotion of young scientists. The achievements of our students, but also the support of their supervisors is again reflected in an exciting, thematically highly diverse range of diploma theses. In this year's Asklepios Medical School article, Mrs. Grimm reports on the possibility of submitting a scientific paper as a substitute for the diploma thesis.

In brief, this year's research report once again mirrors the great commitment and motivation for scientific work, in addition to patient care at the highest level, at the Asklepios Kliniken Hamburg. We would like to express our great praise and thanks to all employees.

The team of ASKLEPIOS proresearch is looking forward to supporting you in your projects in the coming years.

Hamburg, April 2020  
Dr. Nele Geßler  
Management ASKLEPIOS proresearch



## INTERNAL RESEARCH FUNDING

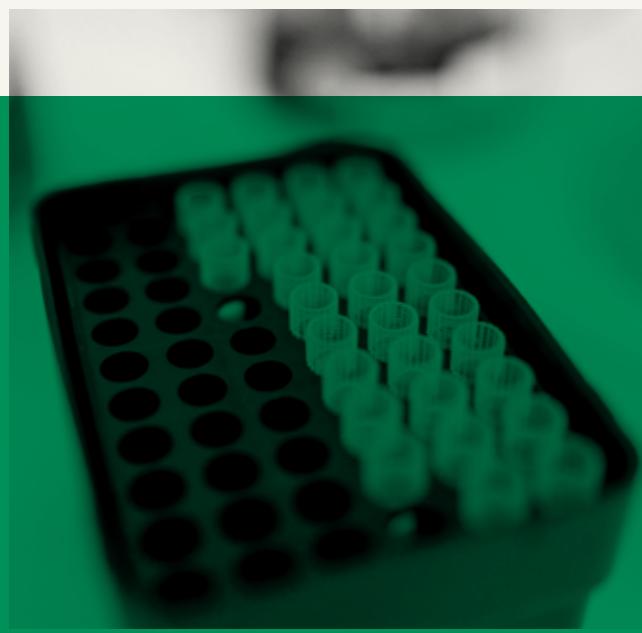
### INTERNAL RESEARCH FUNDING OF THE ASKLEPIOS KLINIKEN HAMBURG GMBH

The management of the AKHH provided funds from the operating profit of the AKHH for internal research

funding for innovative projects in patient-oriented research. Of the 12 applications received, the ones listed below were newly approved.

Clinic	Department	Employee	Title
AKA	Oncology	PD Dr. G. Schilling Prof. Dr. D. Arnold	Development and Evaluation of Patient-oriented Treatment Algorithms at the Asklepios Tumor Center Hamburg
AKB	Visceral Surgery	Dr. G. Makridis	Perioperative Assessment of Residual Liver Function Capacity with the <sup>13</sup> C Methacetin Breath Test (ReLiF Study)
AKB	Visceral Surgery	Dr. C. Wagner	miRNA as Diagnostic Marker in Pancreatic Adenocarcinoma
AKB	Cardiology	Dr. K. Schenke	CORRECT Radial RCT – CORonaRy angiography and intErventions via distal vs proximal access – a randomized Trial of different RADIAL puncture sites
AKNH	Ophthalmology	PD Dr. M. Schargus	Development of a Hamburg IVOM Register
AKNO	Psychiatry	Dr. M. Hagemann-Goebel	Evaluation of Metacognitive Training for Depression (D-MTK): Randomized Controlled Trial (RCT) in Outpatient Psychiatric/Psychotherapeutic Care (application for renewal)

Overview of approved internal research funding projects 2019



## ASKLEPIOS PRORESEARCH – MEDICAL RESEARCH WITH TRADITION



For more than 20 years, „ASKLEPIOS proresearch – Clinical Research and Development“ has brought together medicine and science and stands for research and innovation in the Asklepios Clinics in Hamburg. In April 1999 ASKLEPIOS proresearch started with only two employees in Hamburg-Barmbek - at that time still under the aegis of the Hamburg State Hospitals (LBK, Landesbetrieb Krankenhäuser Hamburg). Today, 16 study coordinators in the seven houses of the Hamburg Asklepios clinics oversee the practical implementation of clinical research and development projects. In Building J, the core facility on the Asklepios Klinik St. Georg campus, another 16 employees coordinate projects with industry and support self-initiated study projects.

ASKLEPIOS proresearch acts as Site Management Organization (SMO) of AKHH. This includes a full service for researching physicians and for external industry and research partners – both in contract research and in self-initiated studies in all seven hospitals in Hamburg.

ASKLEPIOS proresearch provides support in the acquisition of industrial clinical studies, offers consultancy on the planning and implementation of innovation and research projects and assists with cost calculation and the application for subsidies. ASKLEPIOS proresearch also handles the application for authorizations and ethics committee approvals. Researching physicians at the Asklepios Kliniken Hamburg benefit from tailored study logistics. The proresearch team's core tasks encompass advising, supporting and thus relieving the burden on the study centers, as well as providing regulatory and legal protection for all those involved.

Central elements of the service profile of ASKLEPIOS proresearch include Project service for scientists including project management in the conduct of clinical trials according to the German Medicines Act (AMG, Arzneimittelgesetz), the German Medical Products Directive (MPG, Medizinproduktegesetz) and professional law,

contract management, patent and innovation management, project controlling, central quality management as well as support and relief of the trial centers by trained personnel, the trial coordinators. ASKLEPIOS proresearch naturally applies Good Clinical Practice (GCP) and offers semi-annual GCP training courses for scientific personnel. When required, the biometrics staff take over the statistical evaluation of the data collected.

### MEDICAL PROGRESS AND INNOVATION AT ASKLEPIOS

Every year, the AKHH management supports high-quality research projects by allocating financial resources for internal research funding. ASKLEPIOS proresearch accompanies the process of application selection by an interdisciplinary research commission and the subsequent implementation of all funded projects. In addition to start-up financing, the emphasis is on the expansion of a sustainable research infrastructure and the strengthening of the Group's research priorities. To this end, a call for projects is issued to all Group employees in the Fall of each year. A cooperation links ASKLEPIOS proresearch with the Asklepios Medical School (AMS) in the field of publicly funded projects. Due to its non-profit status, AMS can apply for funds from foundations or other public institutions that require the applicant to be non-profit. In addition, there are numerous links through students of the Asklepios Medical School, who are involved in research and other scientific activities of various departments as part of their diploma theses.

### RESEARCH IN EVERYDAY CLINICAL PRACTICE

The challenges in clinical research are manifold, as the complexity of research projects increases – both due to regulatory requirements and a growing number of partners involved. The pharmaceutical and medical device industry is interested in carrying out clinical studies



The Asklepios proresearch team

efficiently and successfully; and researching physicians need support in carrying out their own research projects. Investigator initiated trials (IITs) are essential for optimizing treatment and therapy concepts. However, IITs represent a special challenge, since the same administrative and legal requirements apply to these studies as to comparable studies by industrial sponsors. Even studies that do not fall under the German Medicines Act must comply with GCP criteria. For all these studies it is imperative to find, with limited financial and personnel resources, the optimum solution to keep the burden on researching physicians as low as possible while maintaining the best possible data quality and highest patient safety. ASKLEPIOS proresearch is a reliable partner in all projects, takes over the administration of the projects and provides personnel support as well so that research can be carried out alongside everyday clinical practice.

#### BIOMETRICS AND DATA ANALYSIS

ASKLEPIOS proresearch accompanies scientific projects through the entire project cycle and offers statistical support for clinical studies, registries or the collection of clinical routine data. Prior to the beginning of a study,

our biometrician supports interested physicians in the preparation of a suitable project design and case number estimation and, on request, creates randomization lists. Upon study completion, the biometrician advises on results analysis and implements measures to prevent statistical bias.

Data analysis is followed by the results output with suitable key figures as well as the graphical representation of interrelationships between therapy, risk factors and treatment success. Results are prepared for publication in scientific journals and statistical questions from the article review are answered.

#### CLINICAL RESEARCH AT THE HIGHEST QUALITY LEVEL

Supported by a centrally controlled, supra-regional quality management, ASKLEPIOS proresearch guarantees the implementation of studies at the highest quality level in accordance with the German Medicines and Medical Devices Act and Good Clinical Practice. Based on the requirements of the DIN ISO 9001:2015 certification as well as the legal regulations, ASKLEPIOS proresearch has established a quality management system which is

continuously maintained and expanded. The QMS specifications of ASKLEPIOS proresearch are binding for all activities performed by departments, institutes and clinics of the AKHH within the scope of research projects. The ASKLEPIOS proresearch QMS thus lays the foundation for uniformly high standards in the realization of clinical research and development projects and provides legal protection for researching physicians and departments.

#### ACHIEVING AMBITIOUS GOALS TOGETHER

Over the past 20 years and in cooperation with ASKLEPIOS proresearch, physicians have made clinical research at the Asklepios Kliniken Hamburg an integral part of everyday hospital life. Our goal has always been to support ambitious and research-oriented physicians in their work in order to jointly advance medical progress and to excel in future-oriented, unparalleled patient care. Together with you, we would like to continue implementing innovative research projects in the coming years.

Questions? Please feel free to reach out to ASKLEPIOS proresearch by phone at +49 40-181885-3160 or by e-mail at [info.proresearch@asklepios.com](mailto:info.proresearch@asklepios.com).

# LISTS OF PUBLICATIONS

## BY SPECIALIZATION

### ANESTHETICS AND INTENSIVE CARE

**Best practice & research clinical anaesthesiology: Advances in haemodynamic monitoring for the perioperative patient: Perioperative cardiac output monitoring.**  
Bein B, Renner J.  
Best Pract Res Clin Anaesthesiol. 2019 Jun;33(2):139-153. doi: 10.1016/j.bpa.2019.05.008. Epub 2019 Jul 22. Review.

**Perioperative myocardial ischemia: Current aspects and concepts.**  
Bein B, Schiewe R, Renner J.  
Anaesthesist. 2019 Aug;68(8):497-508. doi: 10.1007/s00101-019-0605-z. Review. German.

**Adipositas in der Anästhesie – Big is beautiful?**  
Bein B, Scholz J.  
Anesthesiol Intensivmed Notfallmed Schmerzther. 2019 Apr; 54(4):240-241. doi: 10.1055/a-0820-6582. Epub 2019 Apr 12. German.

**Factor XIII activity in patients requiring surgical re-exploration for bleeding after elective cardiac surgery – a prospective case control study**

Elisabeth H. Adam, Jens Meier, Bernd Klee, Kai Zacharowski, Christian Weber, Andreas Pape  
Journal of Critical Care 2019, accepted

**Anaesthesia in Adult Patients with Obesity.**  
Fudickar A, Bein B.  
Anesthesiol Intensivmed Notfallmed Schmerzther. 2019 Apr;54(4):242-254. doi: 10.1055/a-0636-2782. Epub 2019 Apr 12. German.

**Prehospital non-invasive ventilation in acute respiratory failure is justified even if the distance to hospital is short.**  
Hensel M, Strunden MS, Tank S, Gagelmann N, Wirtz S, Kerner T.  
Am J Emerg Med. 2019 Apr;37(4):651-656. doi: 10.1016/j.ajem.2018.07.001.

**Granisetron reduces the need for uterotonic but not sympathomimetics during cesarean delivery**  
Raimann FJ, Baldauf HP, Louwen F, Jennewein L, Fischer D, Zacharowski K, Weber CF  
Int J Gynaecol Obstet. 2019 Jun;145(3):361-366

**Influence of the WOMAN Trial on national wide standard operating procedures for treatment of postpartum hemorrhage**  
Raimann FJ, Jennewein L, Sonntagbauer M, Raddatz LM, Möllmann CJ, Louwen F, Zacharowski K, Weber CF  
J Gynecol Obstet Hum Reprod. 2019 Apr;48(4):269-273

**Comparing four video laryngoscopes and one optical laryngoscope with a standard macintosh blade in a simulated trapped car accident victim**  
Raimann FJ, Tepperis D, Meininger D, Zacharowski K, Schalk R, Byhahn C, Weber CF, Mutlak H  
Emergency Medicine International; Volume 2019, Article ID 9690839

**Fast interpretation of thrombelastometry and aggregometry in patients suffering from chronic liver disease**  
Stegewerth K, Weber CF, Moehlmann M, Adam EH, Zacharowski Z, Zeuzem S, Weiler N  
Clin Lab. 2019 Aug 1;65(8):1513-1521

**Mobile phone-based alerting of CPR-trained volunteers simultaneously with the ambulance can reduce the resuscitation-free interval and improve outcome after out-of-hospital cardiac arrest: A German, population-based cohort study.**  
Stroop R, Kerner T, Strickmann B, Hensel M.  
Resuscitation. 2019 Dec 27. pii: S0300-9572(19)30735-X. doi: 10.1016/j.resuscitation.2019.12.012. [Epub ahead of print]

**Genome-wide association study of myocardial infarction, atrial fibrillation, acute stroke, acute kidney injury and delirium after cardiac surgery - a sub-analysis of the RIPHeart-Study.**  
Westphal S, Stoppe C, Gruenewald M, Bein B, Renner J, Cremer J, Coburn M, Schaele G, Boening A, Niemann B, Kletzin F, Roesner J, Strouhal U, Reyher C, Laufenberg-Feldmann R, Ferner M, Brandes IF, Bauer M, Kortgen A, Stehr SN, Wittmann M, Baumgarten G, Struck R, Meyer-Treschan T, Kienbaum P, Heringlake M, Schoen J, Sander M, Treskatsch S, Smul T, Wolwender E, Schilling T, Degenhardt F, Franke A, Mucha S, Tittmann L, Kohlhaas M, Fuernau G, Brosteanu O, Hasenclever D, Zacharowski K, Meybohm P; RIPHeart-Study Collaborators.  
BMC Cardiovasc Disord. 2019 Jan 24;19(1):26. doi: 10.1186/s12872-019-1002-x.

**Genome-wide association study of myocardial infarction, atrial fibrillation, acute stroke, acute kidney injury and delirium after cardiac surgery – a subanalysis of the RIPHeart-Study**  
Westphal S, Stoppe C,... Zacharowski K, Meybohm P and RIPHeart-Study Collaborators (amongst others: Weber C)  
BMC Cardiovasc Disord. 2019 Jan 24;19(1):26. doi: 10.1186/s12872-019-1002-x

**Epinephrine in Out-of-Hospital Cardiac Arrest.**  
Wnent J, Bein B, Fischer M; German Resuscitation Registry Steering.  
N Engl J Med. 2019 Jan 24;380(4):396-7. doi: 10.1056/NEJM1816187.

### CARDIOLOGY AND CARDIAC SURGERY

**Treatment with mononuclear cell populations improves post-infarction cardiac function but does not reduce arrhythmia susceptibility**  
Andrié RP, Beiert T, Knappe V, Linhart M, Stöckigt F, Klein AM, Ghannam A, Lübkemeier I, Röll W, Nickenig G, Fleischmann BK, Schrickel JW.  
PLoS One. 2019 Feb 14;14(2):e0208301. doi: 10.1371/journal.pone.0208301. eCollection 2019

**Cardiac contractility modulation improves long-term survival and hospitalizations in heart failure with reduced ejection fraction**  
Anker SD, Borgrefe M, Neuser H, Ohlow MA, Röger S, Goette A, Remppis BA, Kuck KH, Najarian KB, Guterman DD, Roussou B, Burkhoff D, Hasenfuss G.  
Eur J Heart Fail. 2019 Sep;21(9):1103-1113. doi: 10.1002/ejhf.1374. Epub 2019 Jan 16

**Low systemic arterial compliance is associated with increased cardiovascular morbidity and mortality in aortic valve stenosis.**  
Bahlmann E, Cramariuc D, Saeed S, Chambers JB, Nienaber CA, Kuck KH, Lønnebakken MT, Gerdts E  
Heart. 2019;105:1507-1514.

**Evaluating Real-World Clinical Outcomes in Atrial Fibrillation Patients Receiving the WATCHMAN Left Atrial Appendage Closure Technology**

Boersma LV, Ince H, Kische S, Pokushalov E, Schmidt B, Gori T, Meincke F, Protopopov AV, Betts T, Mazzone P, Foley D, Grygier M, Sievert H, De Potter T, Vireca E, Stein K, Bergmann MW; following investigators and institutions participated in the EWOLUTION study.  
Circ Arrhythm Electrophysiol. 2019 Apr;12(4):e006841. doi: 10.1161/CIRCEP.118.006841.

**Five-year clinical outcome of multicenter randomized trial comparing amphilimus - with paclitaxel-eluting stents in de novo native coronary artery lesions**  
Carrié D, Berland J, Verheyen S, Hauptmann KE, Vrolix M, Musto C, Berti S, Dibé A, Maupas E, Antoniucci D, Schofer J.  
Int J Cardiol. 2019 Nov 15. pii: S0167-5273(18)35877-7. doi: 10.1016/j.ijcard.2019.10.058.

**Inadvertent transseptal puncture into the aortic root: the narrow edge between luck and catastrophe in interventional cardiology**  
Chen H, Fink T, Zhan X, Chen M, Eckardt L, Long D, Ma J, Rosso R, Mathew S, Xue Y, Ju W, Wasmer K, Ma C, Yang J, Maurer T, Yang B, Heeger CH, Ho SY, Kuck KH, Wu S, Ouyang F.  
Europace. 2019 Jul 1;21(7):1106-1115. doi: 10.1093/europace/euz042.

**Safety and efficacy of endovascular ultrasound renal denervation in resistant hypertension: 12-month results from the ACHIEVE study**  
Daemen J, Mahfoud F, Kuck KH, Andersson B, Böhm M, Graf T, Sievert H, Kahlert P, Iyer M, Zeller T.  
J Hypertens. 2019 Sep;37(9):1906-1912. doi: 10.1097/HJH.0000000000002120

**A meta-analysis of the effect of stent design on clinical and radiologic outcomes of carotid artery stenting.**  
de Vries EE, Meershoek AJA, Vonken EJ, den Ruijter HM, van den Berg JC, de Borst GJ; ENDORSE Study Group.  
J Vasc Surg. 2019 Jun;69(6):1952-1961.e1. doi: 10.1016/j.jvs.2018.11.017.

**Renewal Theory as a Universal Quantitative Framework to Characterize Phase Singularity Regeneration in Mammalian Cardiac Fibrillation**  
Dharmaaprani D, Schopp M, Kuklik P, Chapman D, Lahiri A, Dykes L, Xiong F, Aguilar M, Strauss B, Mitchell L, Pope K, Meyer C, Willems S, Akar FG, Nattel S, McGavigan AD, Ganesan AN.  
Circ Arrhythm Electrophysiol. 2019 Dec;12(12):e007569. doi: 10.1161/CIRCEP.119.007569. Epub 2019 Dec 9.

**Outcomes of transcatheter aortic valve replacement without predilation of the aortic valve: Insights from 1544 patients included in the SOURCE 3 registry.**  
Dumontel N, Terkelsen C, Frerker C, Collart F, Wöhrlé J, Butter C, Hovorka T, Pinaud F, Baumgartner H, Tarantini G, Wendler O, Lefèvre T; SOURCE 3 Investigators.  
Int J Cardiol. 2019 Dec 1;296:32-37. doi: 10.1016/j.ijcard.2019.06.013. Epub 2019 Jun 12.

**Does valve in valve TAVR carry a higher risk for thromboembolic events compared to native valve TAVR?**

Eitan A, Brinkmann C, Haselbach T, Witt J, Schofer J.  
Catheter Cardiovasc Interv. 2019 Jul 9. doi: 10.1002/ccd.28391.

**Atrial fibrillation ablation strategies and outcome in patients with heart failure: insights from the German ablation registry**  
Eitel C, Ince H, Brachmann J, Kuck KH, Willems S, Gerdts-Li JH, Tebbenjohanns J, Richardt G, Hochadel M, Senges J, Tilz RR.  
Clin Res Cardiol. 2019 Jul;108(7):815-823. doi: 10.1007/s00392-019-01411-3. Epub 2019 Feb 20.

**Educational needs among physicians treating patients with atrial fibrillation: lessons for Poland from the European Society of Cardiology international educational needs assessment study**  
Farkowski MM, Karliński MA, Sterliński M, Tomaszik T, Antz M, Vahanian A, Kuck KH, Hindricks G, Dagres N, Heidbuchel H.  
Pol Arch Intern Med. 2019 Sep 30;129(9):586-591. doi: 10.20452/pamw.14924. Epub 2019 Aug 5.

**Procedural success, safety and patients satisfaction after second ablation of atrial fibrillation in the elderly: results from the German Ablation Registry**  
Fink T, Metzner A, Willems S, Eckardt L, Ince H, Brachmann J, Spitzer SG, Deneke T, Schmitt C, Hochadel M, Senges J, Rillig A.  
Clin Res Cardiol. 2019 Dec;108(12):1354-1363. doi: 10.1007/s00392-019-01471-5. Epub 2019 Apr 5

**Management of arrhythmia recurrence in patients with pulmonary vein stenosis following atrial fibrillation ablation**  
Fink T, Tilz RR, Heeger CH, Schlüter M, Feickert S, Rottner L, Reissmann B, Lemes C, Alessandrini H, Maurer T, Mathew S, Rillig A, Metzner A, Ouyang F, Kuck KH.  
Europace. 2019 Oct 1;21(10):1494-1501. doi: 10.1093/europace/euz187

**Higher left ventricular mass-wall stress-heart rate product and outcome in aortic valve stenosis.**  
Gerdts E, Saeed S, Midtbø H, Rossebø A, Chambers JB, Einarsen E, Bahlmann E, Devereux R.  
Heart. 2019;105:1629-1633.

**Cytosorb Adsorption During Emergency Cardiac Operations in Patients at High Risk of Bleeding.**  
Hassan K, Kannmacher J, Wohlmut P, Budde U, Schmoekel M, Geidel S, Ann Thorac Surg. 2019 Jul;108(1):45-51. doi: 10.1016/j.athoracsur.2018.12.032. Epub 2019 Jan 23

**Efficacy and Safety of Cryoballoon Ablation in Patients With Heart Failure and Reduced Left Ventricular Ejection Fraction - A Multicenter Study**  
Heeger CH, Abdin A, Mathew S, Reissmann B, Yalin K, Liosis S, Fink T, Projetti R, Eitel C, Vogler J, Lemeš C, Maurer T, Rillig A, Meyer-Saraei R, Graf T, Wohlmut P, Goldmann B, Ouyang F, Kuck KH, Metzner A, Tilz RR.  
Circ J. 2019 Jul 25;83(8):1653-1659. doi: 10.1253/circj.CJ-19-0151. Epub 2019 Jun 28

**Left Atrial Appendage Isolation in Patients Not Responding to Pulmonary Vein Isolation**  
Heeger CH, Rillig A, Geisler D, Wohlmut P, Fink T, Mathew S, Tilz RR, Reissmann B, Lemes C, Maurer T, Santoro F, Inaba O, Sohns C, Huang Y, Alessandrini H, Dotz I, Schlüter M, Metzner A, Kuck KH, Ouyang F.  
Circulation. 2019 Jan 29;139(5):712-715. doi: 10.1161/CIRCULATIONAHA.118.037451.

**Response by Heeger et al to Letter Regarding Article, „Left Atrial Appendage Isolation in Patients Not Responding to Pulmonary Vein Isolation: Benefit and Risks“.**

Heeger CH, Rillig A, Geisler D, Wohlmuth P, Fink T, Mathew S, Tilz RR, Reissmann B, Lemes C, Maurer T, Santoro F, Inaba O, Sohns C, Huang Y, Alessandrini H, Dotz I, Schlüter M, Metzner A, Kuck KH, Ouyang F. Circulation. 2019 Jul 23;140(4):e169-e170. doi: 10.1161/CIRCULATI-ONAHA.119.040943. Epub 2019 Jul 22.

**Outcomes of cryoballoon or radiofrequency ablation in symptomatic paroxysmal or persistent atrial fibrillation**

Hoffmann E, Straube E, Wegscheider K, Kuniss M, Andrensen D, Wu LQ, Tebbenjohanns J, Noelker G, Tilz RR, Chun JKR, Franke A, Stellbrink C, Garcia-Alberola A, Dorwarth U, Metzner A, Ouarrak T, Brachmann J, Kuck KH, Senges J; FREEZE Cohort Study Investigators. Europace. 2019 Sep 1;21(9):1313-1324. doi: 10.1093/europace/euz155.

**Valve-in-Valve Implantation Using the ACURATE Neo in Degenerated Aortic Bioprostheses: An International Multicenter Analysis**

Holzamer A, Kim WK, Rück A, Sathananthan J, Keller L, Cosma J, Bauer T, Nef H, Anat-Santos IJ, Brinkert M, Husser O, Pellegrini C, Schofer J, Nerla R, Montorfano M, Giannini F, Stella P, Kuwata S, Hilker M, Castriota F, Ussia GP, Webb JG, Nietlispach F, Toggweiler S. JACC Cardiovasc Interv. 2019 Nov 25;12(22):2309-2316. doi: 10.1016/j.jcin.2019.07.042.

**Mechanisms of sex differences in atrial fibrillation: role of hormones and differences in electrophysiology, structure, function, and remodelling**

Katja E, Odening, Sebastian Deiß, Dagmara Dilling-Boer, Maxim Didenko, Urs Eriksson, Sotirios Nedios, Fu Siong Ng, Ivo Roca Luque, Pepa Sanchez Borque, Kevin Vernooy, Adrianus P. Wijnmaalen, and Hikmet Yorgun. Europace (2019) 21, 366–376

**Impact of an interatrial shunt device on survival and heart failure hospitalization in patients with preserved ejection fraction.**

Kaye DM, Petrie MC, McKenzie S, Hasenfubeta G, Malek F, Post M, Doughty RN, Trochu JN, Gustafsson F, Lang I, Kolodziej A, Westenfeld R, Penicka M, Rosenberg M, Hausleiter J, Raake P, Jondeau G, Bergmann MW, Spelman T, Aytug H, Ponikowski P, Hayward C, investigators RL-Hs. ESC Heart Fail 2019;6:62-69

**Incidence and outcome of peri-procedural transcatheter heart valve embolization and migration: the TRAVEL registry (TranscatheTer HeArt Valve EmboLization and Migration).**

Kim WK, Schäfer U, Tchetché D, Nef H, Arnold M, Avanzas P, Rudolph T, Scholtz S, Barbanti M, Kempfert J, Mangieri A, Lauten A, Frerker C, Yoon SH, Holzamer A, Praz F, De Backer O, Toggweiler S, Blumenstein J, Purita P, Tarantini G, Thilo C, Wolf A, Husser O, Pellegrini C, Burgdorf C, Antolin RAH, Díaz VAJ, Liebtrau C, Schofer N, Möllmann H, Eggebrecht H, Sondergaard L, Walther T, Pilgrim T, Hilker M, Makkar R, Unbehauen A, Börgermann J, Moris C, Achenbach S, Dörr O, Brochado B, Conradi L, Hamm CW. Eur Heart J. 2019 Oct 7;40(38):3156-3165. doi: 10.1093/eurheartj/ehz429.

**Predictive impact of previous coronary artery bypass grafting on mortality after MitraClip implantation for ischemic functional mitral regurgitation**

Kitamura M, Kaneko H, Schlüter M, Schewel D, Schmidt T, Alessandrini H, Kreidel F, Okamoto M, Neuss M, Butter C, Kuck KH, Frerker C. Int J Cardiol. 2019 Jun 15;285:21-26. doi: 10.1016/j.ijcard.2019.02.045. Epub 2019 Mar 1

**Design and rationale for the „Me & My Heart“ (eMocial) study: A randomized evaluation of a new smartphone-based support tool to increase therapy adherence of patients with acute coronary syndrome**

Krackhardt F, Maier LS, Appel KF, Köhler T, Ghanem A, Tschoepe C, Dahl JV, Degenhardt R, Niklasson A, Ahlgqvist M, Waliszewski MW, García-Alberola A, Dorwarth U, Metzner A, Ouarrak T, Brachmann J, Kuck KH, Senges J; FREEZE Cohort Study Investigators. Clin Cardiol. 2019 Nov;42(11):1054-1062. doi: 10.1002/clc.23254. Epub 2019 Sep 6.

**Repeat Ablation for Atrial Fibrillation Recurrence Post Cryoballoon or Radiofrequency Ablation in the FIRE AND ICE Trial**

Kuck KH, Albenque JP, Chun KJ, Fürnkranz A, Busch M, Elvan A, Schlüter M, Braegelmann KM, Kueffer FJ, Hemingway L, Arentz T, Tondo C, Brugada J; FIRE AND ICE Investigators. Circ Arrhythm Electrophysiol. 2019 May 22;12(6):e007247. doi: 10.1161/CIRCEP.119.007247

**Catheter Ablation Versus Best Medical Therapy in Patients With Persistent Atrial Fibrillation and Congestive Heart Failure: The Randomized AMICA Trial**

Kuck KH, Merkely B, Zahn R, Arentz T, Seidl K, Schlüter M, Tilz RR, Piorkowski C, Gellér L, Kleemann T, Hindricks G. Circ Arrhythm Electrophysiol. 2019 Dec;12(12):e007731. doi: 10.1161/CIRCEP.119.007731. Epub 2019 Nov 25

**Double Filtration During Carotid Artery Stenting Using a Novel Post-Dilation Balloon With Integrated Embolic Protection**

Langhoff R, Schofer J, Scheinert D, Schmidt A, Sedgewick G, Saylor E, Sachar R, Sievert H, Zeller T. JACC Cardiovasc Interv. 2019 Feb 25;12(4):395-403. doi: 10.1016/j.jcin.2018.11.039.

**Internal Versus External Electrical Cardioversion of Atrial Arrhythmia in Patients With Implantable Cardioverter-Defibrillator: A Randomized Clinical Trial**

Lüker J, Kühr K, Sultan A, Nölker G, Omran H, Willemans S, Andrié R, Schrickel JW, Winter S, Vollmann D, Tilz RR, Jobs A, Heeger CH, Metzner A, Meyer S, Mischke K, Napp A, Fahrig A, Steinhauser S, Brachmann J, Baldus S, Mahajan R, Sanders P, Steven D. Circulation. 2019 Sep 24;140(13):1061-1069. doi: 10.1161/CIRCULATI-ONAHA.119.041320. Epub 2019 Aug 30

**Initial experience and procedural efficacy of pulmonary vein isolation using the fourth-generation cryoballoon - a step forward?**

Mathew S, Rottner L, Warneke L, Maurer T, Lemes C, Hashiguchi N, Burgdorf C, Antolin RAH, Díaz VAJ, Liebtrau C, Schofer N, Möllmann H, Eggebrecht H, Sondergaard L, Walther T, Pilgrim T, Hilker M, Makkar R, Unbehauen A, Börgermann J, Moris C, Achenbach S, Dörr O, Brochado B, Conradi L, Hamm CW. Acta Cardiol. 2019 Oct 19;1-6. doi: 10.1080/00015385.2019.1677373.

**Catheter Ablation of Ventricular Tachycardia in Patients With Arrhythmogenic Right Ventricular Cardiomyopathy/Dysplasia: A Sequential Approach**

Mathew S, Saguner AM, Schenker N, Kaiser L, Zhang P, Yashiro Y, Lemes C, Fink T, Maurer T, Santoro F, Wohlmuth P, Reißmann B,

Heeger CH, Tilz R, Wissner E, Rillig A, Metzner A, Kuck KH, Ouyang F. J Am Heart Assoc. 2019 Mar 5;8(5):e010365. doi: 10.1161/JAHA.118.010365.

**High-Resolution Imaging of LA Anatomy Using a Novel Wide-Band Dielectric Mapping System: First Clinical Experience**

Maurer T, Mathew S, Schlüter M, Lemes C, Kiedl J, Inaba O, Hashiguchi N, Reißmann B, Fink T, Rottner L, Rillig A, Metzner A, Ouyang F, Kuck KH. JACC Clin Electrophysiol. 2019 Nov;5(11):1344-1354. doi: 10.1016/j.jacep.2019.06.020. Epub 2019 Aug 28.

**1-Year Outcomes After Edge-to-Edge Valve Repair for Symptomatic Tricuspid Regurgitation: Results From the TriValve Registry**

Mehr M, Taramasso M, Besler C, Ruf T, Connolly KA, Weber M, Yzeiraj E, Schiavi D, Mangieri A, Vaskelyte L, Alessandrini H, Deuschl F, Brugge N, Ahmad H, Biasco L, Orban M, Deseive S, Braun D, Rommel KP, Pozzoli A, Frerker C, Nähbauer M, Massberg S, Pedrazzini G, Tang GHL, Windecker S, Schäfer U, Kuck KH, Sievert H, Denti P, Latib A, Schofer J, Nickenig G, Fam N, von Bardeleben S, Lurz P, Maisano F, Hausleiter J. JACC Cardiovasc Interv. 2019 Aug 12;12(15):1451-1461. doi: 10.1016/j.jcin.2019.04.019.

**Transcatheter mitral valve repair for functional mitral regurgitation using the Cardioband system: 1 year outcomes**

Messika-Zeitoun D, Nickenig G, Latib A, Kuck KH, Baldus S, Schueler R, La Canna G, Agricola E, Kreidel F, Huntgeburth M, Zuber M, Verta P, Grayburn P, Vahanian A, Maisano F. Eur Heart J. 2019 Feb 1;40(5):466-472. doi: 10.1093/eurheartj/ehy424.

**Recommendations for extracorporeal cardiopulmonary resuscitation (eCPR): consensus statement of DGII, DGK, DGTHG, DGFK, DGNI, DGAI, DIVI and GRC.**

Michels G, Wengenmayer T, Hagl C, Dohmen C, Böttiger BW, Bauersachs J, Markowitz A, Bauer A, Gräsner JT, Pfister R, Ghanem A, Busch HJ, Kreimeier U, Beckmann A, Fischer M, Kill C, Jamssens U, Kluge S, Born F, Hoffmeister HM, Preusch M, Boeken U, Riessen R, Thiele H. Clin Res Cardiol. 2019 May;108(5):455-464. doi: 10.1007/s00392-018-1366-4.

**Local impedance guides catheter ablation in patients with ventricular tachycardia**

Münckler P, Gunawardene MA, Jungen C, Klatt N, Schwarzl JM, Akbulak RÖ, Dinshaw L, Hartmann J, Jularic M, Kahle AK, Riedel R, Merbold L, Eickholt C, Willems S, Meyer C. J Cardiovasc Electrophysiol. 2019 Nov 7. doi: 10.1111/jce.14269

**6-Month Outcomes of Tricuspid Valve Reconstruction for Patients With Severe Tricuspid Regurgitation**

Nickenig G, Weber M, Schueler R, Hausleiter J, Nähbauer M, von Bardeleben RS, Sofriou E, Schäfer U, Deuschl F, Kuck KH, Kreidel F, Julian JM, Brochet E, Latib A, Agricola E, Baldus S, Friedrichs K, Vandrange P, Verta P, Hahn RT, Maisano F. J Am Coll Cardiol. 2019 Apr 23;73(15):1905-1915. doi: 10.1016/j.jacc.2019.01.062.

**Choose Your Battles: Catheter Ablation of Perimetal Flutter**

Ouyang F, Maurer T. JACC Clin Electrophysiol. 2019 Nov;5(11):1300-1302. doi: 10.1016/j.jacep.2019.10.011.

**Effect of Catheter Ablation vs Antiarrhythmic Drug Therapy on Mortality, Stroke, Bleeding, and Cardiac Arrest Among Patients With Atrial Fibrillation: The CABANA Randomized Clinical Trial**

Packer DL, Mark DB, Robb RA, Monahan KH, Bahnsen TD, Poole JE, Noseworthy PA, Rosenberg YD, Jeffries N, Mitchell LB, Flaker GC, Pokushalov E, Romanov A, Bunch TJ, Noelker G, Ardashev A, Revishvili A, Wilber DJ, Cappato R, Kuck KH, Hindricks G, Davies DW, Kowey PR, Naccarelli GV, Reiffel JA, Piccini JP, Silverstein AP, Al-Khalidi HR, Lee KL; CABANA Investigators. JAMA. 2019 Apr 2;321(13):1261-1274. doi: 10.1001/jama.2019.0693

**Transcatheter Aortic Valve Replacement With Next-Generation Self-Expanding Devices: A Multicenter, Retrospective, Propensity-Matched Comparison of Evolut PRO Versus Acurate neo Transcatheter Heart Valves**

Pagines M, Kim WK, Conradi L, Barbanti M, Stefanini GG, Zeus T, Pilgrim T, Schofer J, Zweicker D, Testa L, Taramasso M, Hildick-Smith D, Abizaid A, Wolf A, Van Mieghem NM, Sedaghat A, Wöhrlé J, Khogali S, Van der Heyden JAS, Webb JG, Estévez-Loureiro R, Mylotte D, MacCarthy P, Brugaletta S, Hamm CW, Bhadra OD, Schäfer U, Costa G, Tamburino C, Cannata F, Reimers B, Veulemans V, Asami M, Windecker S, Eitan A, Schmidt A, Bianchi G, Bedogni F, Saccoccia M, Maisano F, Alsanjari O, Siqueira D, Jensen CJ, Naber CK, Zivello F, Sinnning JM, Seeger J, Rottbauer W, Brouwer J, Alenezi A, Wood DA, Tzalamouras V, Regueiro A, Colombo A, Latib A. JACC Cardiovasc Interv. 2019 Mar 11;12(5):433-443. doi: 10.1016/j.jcin.2018.11.036.

**Rationale and design of the European multicentre study on Stem Cell therapy in IschEmic Non-treatable Cardiac disease (SCIENCE).**

Paitazoglou C, Bergmann MW, Vrtovec B, Chamuleau SAJ, van Klarenbosch B, Wojakowski W, Michalewska-Włudarczyk A, Gyöngyösi M, Ekblond A, Haack-Sørensen M, Jaquet K, Vrangaek K, Kastrup J; SCIENCE Investigators.

Eur J Heart Fail. 2019 Aug;21(8):1032-1041. doi: 10.1002/ejhf.1412. Epub 2019 Feb 20.

**The AFR-PRELIEVE trial: a prospective, non-randomised, pilot study to assess the Atrial Flow Regulator (AFR) in heart failure patients with either preserved or reduced ejection fraction**

Paitazoglou C, Özdemir R, Pfister R, Bergmann MW, Bartunek J, Kilic T, Lauten A, Schmeisser A, Zoghi M, Anker S, Sievert H, Mahfoud F. EuroIntervention. 2019 Aug 29;15(5):403-410. doi: 10.4244/EIJ-D-19-00342.

**Transvenous lead extraction procedures in women based on ESC-EHRA EORP European Lead Extraction ConTRolled ELECTRa registry: is female sex a predictor of complications?**

Polewczuk A, Rinaldi CA, Sohal M, Golzio PG, Claridge S, Cano O, Laroche C, Kennergren C, Deharo JC, Kutarski A, Butter C, Blomström-Lundqvist C, Romano SL, Maggioni AP, Auricchio A, Diemberger I, Pisano ECL, Rossillo A, Kuck KH, Forster T, Bongiorni MG; ELECTRa investigators group. Europe. 2019 Oct 30. pii: euz277. doi: 10.1093/europace/euz277.

**Analysis of Minimally Invasive Left Thoracotomy HVAD Implantation - A Single-Center Experience.**

Reichart D, Brand CF, Bernhardt AM, Schmidt S, Schaefer A, Blankenberg S, Reichenspurner H, Wagner FM, Deuse T, Barten MJ. Thorac Cardiovasc Surg. 2019 Apr;67(3):170-175. doi: 10.1055/s-0038-1649493.

**Predictors of freedom from atrial arrhythmia recurrence after cryoballoon ablation for persistent atrial fibrillation: A multicenter study**

Reissmann B, Plenge T, Heeger CH, Schlüter M, Wohlmuth P, Fink T, Rottner L, Tilz RR, Matheus S, Lemeš C, Maurer T, Liiker J, Sultan A, Bellmann B, Goldmann B, Ouyang F, Kuck KH, Metzner A, Steven D, Rillig A. J Cardiovasc Electrophysiol. 2019 Sep;30(9):1436-1442. doi: 10.1111/jce.14023. Epub 2019 Jul 2.

**Cryoballoon ablation beyond paroxysmal atrial fibrillation**

Rottner L, Fink T, Kuck KH. Curr Opin Cardiol. 2019 Jan;34(1):23-28. doi: 10.1097/HCO.0000000000000573

**The clip and the tip: Lessons learned from ablation of atrial fibrillation in patients postpercutaneous mitral valve repair**

Rottner L, Lemes C, Dotz I, Wohlmuth P, Schmidt T, Matheus S, Heeger CH, Reissmann B, Fink T, Rillig A, Frerker C, Ouyang F, Kuck KH, Metzner A, Maurer T.

J Cardiovasc Electrophysiol. 2019 Aug;30(8):1207-1214. doi: 10.1111/jce.13964. Epub 2019 May 21.

**Commentary: Cryoballoon vs. radiofrequency ablation for atrial fibrillation-a study of outcome and safety based on the ESC-EHRA atrial fibrillation ablation long-term registry and the Swedish catheter ablation registry**

Rottner L, Metzner A, Kuck KH. Europace. 2019 Apr 1;21(4):529-530. doi: 10.1093/europace/euy259.

**Left atrial anterior line ablation using ablation index and interlesion distance measurement**

Santoro F, Metzner A, Brunetti ND, Heeger CH, Matheus S, Reissmann B, Lemeš C, Maurer T, Fink T, Rottner L, Inaba O, Kuck KH, Ouyang F, Rillig A. Clin Res Cardiol. 2019 Sep;108(9):1009-1016. doi: 10.1007/s00392-019-01428-8. Epub 2019 Feb 2.

**Assessment of the German and Italian Stress Cardiomyopathy Score for risk stratification for in-hospital complications in patients with Takotsubo Syndrome.**

Santoro F, Núñez Gil IJ, Stiermaier T, El-Batrawy I, Guerra F, Novo G, Guastafierro F, Tarantino N, Novo S, Mariano E, Romeo F, Romeo F, Capucci A, Bahmann E, Zingaro M, Cannone M, Calderola P, Marchetti MF, Montisci R, Meloni L, Thiele H, Di Biase M, Almendro-Delia M, Sionis A, Akin I, Eitel I, Brunetti ND. JAMA Cardiol. 2019 Aug 7. doi: 10.1001/jamacardio.2019.2597.

**Second-Generation Cryoballoon Atrial Fibrillation Ablation in Patients With Persistent Left Superior Caval Vein**

Santoro F, Rillig A, Sohns C, Pott A, Brunetti ND, Reissmann B, Lemeš C, Maurer T, Fink T, Hashiguchi N, Sano M, Matheus S, Dahme T, Ouyang F, Kuck KH, Tilz RR, Metzner A, Heeger CH. JACC Clin Electrophysiol. 2019 May;5(5):590-598. doi: 10.1016/j.jacep.2019.02.004. Epub 2019 Mar 27.

**Antithrombotic Therapy and Device-Related Thrombosis Following Endovascular Left Atrial Appendage Closure**

Saw J, Nielsen-Kudsk JE, Bergmann M, Daniels MJ, Tzikas A, Reisman M, Rana BS. JACC Cardiovasc Interv. 2019 Jun 10;12(11):1067-1076. doi: 10.1016/j.jcin.2018.11.001. Epub 2019 May 15. Review.

**A case report of a late left atrial appendage perforation 4 months after occluder implant: reason for or caused by a resuscitation?**

Schenke K, Geidel S, Keller C, Grönfeld G. Eur Heart J - Case Reports 2019, ytz170, https://doi.org/10.1093/ehjcr/ytz170

**EAT: What role does the fat around the heart play?**

Scherschel K, Gosau N. Int J Cardiol. 2019 Sep 5. pii: S0167-5273(19)32621-X. doi: 10.1016/j.ijcard.2019.08.023.

**Early Hemodynamic Changes and Long-Term Outcome Of Patients With Severe Low Gradient Aortic Stenosis After Transcatheter Aortic Valve Replacement.**

Schewel J, Schlüter M, Schmidt T, Kuck KH, Frerker C, Schewel D. EuroIntervention. 2019 Oct 1. pii: EIJ-D-19-00399. doi: 10.4244/EIJ-D-19-00399

**Impact of Pulmonary Hypertension Hemodynamic Status on Long-Term Outcome After Transcatheter Aortic Valve Replacement.**

Schewel J, Schmidt T, Kuck KH, Frerker C, Schewel D. JACC Cardiovasc Interv. 2019 Nov 11;12(21):2155-2168. doi: 10.1016/j.jcin.2019.08.031

**The impact of biventricular heart failure on outcomes after transcatheter aortic valve implantation.**

Schmidt T, Bohné M, Schlüter M, Kitamura M, Wohlmuth P, Schewel D, Schewel J, Schmoekel M, Kuck KH, Frerker C. Clin Res Cardiol. 2019 Jul;108(7):741-748. doi: 10.1007/s00392-018-1400-6.

**Treatment Challenges in Patients with Acute Heart Failure and Severe Aortic Valve Stenosis**

Schmidt T, Frerker C. Curr Cardiol Rep. 2019 Apr 22;21(6):47. doi: 10.1007/s11886-019-1135-7

**Impella Support for Acute Myocardial Infarction Complicated by Cardiogenic Shock**

Schrage B, Ibrahim K, Loehn T, Werner N, Sinning JM, Pappalardo F, Pieri M, Skurk C, Lauten A, Landmesser U, Westenfeld R, Horn P, Pauschinger M, Eckner D, Twerenbold R, Nordbeck P, Salinger T, Abel P, Empen K, Busch MC, Felix SB, Sieweke JT, Möller JE, Pareek N, Hill J, MacCarthy P, Bergmann MW, Henriques IPS, Möbius-Winkler S, Schulze PC, Ouarrak T, Zeymer U, Schneider S, Blankenberg S, Thiele H, Schäfer A, Westermann D. Circulation. 2019 Mar 5;139(10):1249-1258. doi: 10.1161/CIRCULATIONAHA.118.036614.

**Neuron-specific-enolase as a predictor of the neurologic outcome after cardiopulmonary resuscitation in patients on ECMO**

Schrage B, Rübsamen N, Becher PM, Roedl K, Söffker G, Schwarzl M, Dreher A, Schewel J, Ghannam A, Grahn H, Lubos E, Bernhardt A, Kluge S, Reichenspurner H, Blankenberg S, Spangenberg T, Westermann D.

**Resuscitation.**

Resuscitation. 2019 Mar;136:14-20. doi: 10.1016/j.resuscitation.2019.01.011. Epub 2019 Jan 14.

**Randomized trial of ticagrelor vs. aspirin in patients after coronary artery bypass grafting: the TiCAB trial.**

Schunkert H, Boening A, von Scheidt M, Lanig C, Gusmini F, de Wah A, Kuna C, Fach A, Grothuesen C, Oberhofer M, Knosalla C, Walther T, Danner BC, Misfeld M, Zeymer U, Wimmer-Greinecker G, Siepe M, Grubitzsch H, Joost A, Schaefer A, Conradi L, Cremer J, Hamm C, Lange R, Radke PW, Schulz R, Lauffer G, Grieshaber P, Pader P, Attmann T, Schmoekel M, Meyer A, Ziegelhöffer T, Hambrecht R, Kastrati A, Sandner SE.

Eur Heart J. 2019 Aug 1;40(29):2432-2440. doi: 10.1093/eurheartj/ehz185

**Adenosine stress perfusion cardiac magnetic resonance imaging in patients undergoing intracoronary bone marrow cell transfer after ST-elevation myocardial infarction: the BOOST-2 perfusion substudy**

Seitz A, Wollert KC, Meyer GP, Müller-Ehmsen J, Tschöpe C, May AE, Empen K, Chorianopoulos E, Ritter B, Pirr J, Arseniev L, Heuft HG, Ganser A, Abu-Zaid E, Katus HA, Felix SB, Gawaz MP, Schultheiss HP, Ladage D, Bauersachs J, Fahrholdt H, Greulich S. Clin Res Cardiol. 2019 Aug 10. doi: 10.1007/s00392-019-01537-4. PMID: 31401672

**Current Generation Balloon-Expandable Transcatheter Valve Positioning Strategies During Aortic Valve-in-Value Procedures and Clinical Outcomes**

Simonato M, Webb J, Bleiziffer S, Abdel-Wahab M, Wood D, Seiffert M, Schäfer U, Wöhrle J, Jochheim D, Woitek F, Latib A, Barbanti M, Spargias K, Kodali S, Jones T, Tchetche D, Coutinho R, Napodano M, Garcia S, Veulemans V, Siqueira D, Windecker S, Cerillo A, Kempfert J, Agrifoglio M, Bonaros N, Schoels W, Baumbach H, Schofer J, Gaia DF, Dvir D.

JACC Cardiovasc Interv. 2019 Aug 26;12(16):1606-1617. doi: 10.1016/j.jcin.2019.05.057.

**Therapy of ventricular arrhythmias in patients suffering from isolated left ventricular non-compaction cardiomyopathy**

Sohns C, Ouyang F, Volkmer M, Metzner A, Nürnberg JH, Ventura R, Gerecke B, Jansen H, Reinhardt A, Kuck KH, Hebe J, Tilz RR, Siebels J, Heeger CH. Europace. 2019 Jun 1;21(6):961-969. doi: 10.1093/europace/euz016.

**Propensity-Matched Comparison of Oral Anticoagulation Versus Antiplatelet Therapy After Left Atrial Appendage Closure With WATCHMAN**

Søndergaard L, Wong YH, Reddy VY, Boersma LVA, Bergmann MW, Doshi S, Kar S, Sievert H, Wehrenberg S, Stein K, Holmes DR Jr. JACC Cardiovasc Interv. 2019 Jun 10;12(11):1055-1063. doi: 10.1016/j.jcin.2019.04.004

**Comparing phase and electrographic flow mapping for persistent atrial fibrillation**

Swerdlow M, Tamboli M, Alhusseini MI, Moosvi N, Rogers AJ, Leef G, Wang PJ, Rillig A, Brachmann J, Sauer WH, Ruppberg P, Narayan SM, Baykaner T. Pacing Clin Electrophysiol. 2019 May;42(5):499-507. doi: 10.1111/pace.13649. Epub 2019 Mar 24.

**Outcomes After Current Transcatheter Tricuspid Valve Intervention: Mid-Term Results From the International TriValve Registry.**

Taramasso M, Alessandrini H, Latib A, Asami M, Attinger-Toller A, Biasco L, Braun D, Brochet E, Connolly KA, Denti P, Deuschl F, Englmeier A, Fam N, Frerker C, Hausleiter J, Hibert D, Ho EC, Juliard JM, Kaple R, Kreidel F, Kuck KH, Ancona M, Lauten A, Lurz P, Mehr M, Nazif T, Nickening G, Pedrazzini G, Pozzoli A, Praz F, Puri R, Rodés-Cabau J, Schäfer U, Schofer J, Sievert H, Tang GHL, Tanner FC, Vahanian A, Webb JG, Windecker S, Yzeray E, Zuber M, Maisano F, Leon MB, Hahn RT. JACC Cardiovasc Interv. 2019 Jan 28;12(2):155-165. doi: 10.1016/j.jcin.2018.10.022.

**Transcatheter versus medical treatment of symptomatic severe tricuspid regurgitation.**

Taramasso M, Benfari G, van der Bijl P, Alessandrini H, Attinger-Toller A, Biasco L, Lurz P, Braun D, Brochet E, Connolly KA, de Brujin S, Denti P, Deuschl F, Estevez-Loureiro R, Fam N, Frerker C, Gavazzoni M, Hausleiter JR, Ho E, Juliard JM, Kaple R, Besler C, Kodali S, Kreidel F, Kuck KH, Latib A, Lauten A, Monivas V, Mehr M, Muntané-Carol G, Nazif T, Nickening G, Pedrazzini G, Philippon F, Pozzoli A, Praz F, Puri R, Rodés-Cabau J, Schafer U, Schofer J, Sievert H, Tang GHL, Thiele H, Topilsky Y, Rommel KP, Delgado V, Vahanian A, Von Bardeleben RS, Webb JG, Weber M, Windecker S, Winkel M, Zuber M, Leon MB, Hahn RT, Bax JJ, Enriquez-Sarano M, Maisano F. J Am Coll Cardiol. 2019 Sep 24. pii: S0735-1097(19)37739-3. doi: 10.1016/j.jacc.2019.09.028

**One-Year Outcomes of a European Transcatheter Aortic Valve Implantation Cohort According to Surgical Risk**

Tarantini G, Lefèvre T, Terkelsen CJ, Frerker C, Ohlmann P, Mojoli M, Eltchaninoff H, Pinaud F, Redwood S, Windecker S. Circ Cardiovasc Interv. 2019 Jan;12(1):e006724. doi: 10.1161/CIRCINTERVENTIONS.118.006724

**Rationale and design of BERLIN VT study: a multicenter randomised trial comparing preventive versus deferred ablation of ventricular tachycardia**

Tilz RR, Kuck KH, Kübb S, Wegscheider K, Thiem A, Wenzel B, Willems S, Steven D. BMJ Open. 2019 May 9;9(5):e022910. doi: 10.1136/bmjopen-2018-022910

**Five-year safety and performance data of a novel third-generation novolimus-eluting bioresorbable scaffold in single de novo lesions**

Verheyen S, Costa RA, Schofer J, Ormiston JA, Maeng M, Dudek D, Skurk C, Botelho RV, Costa JR, Chamié D, Abizaid AS, Boersma E, Abizaid AA.

EuroIntervention. 2019 Oct 20;15(8):685-687. doi: 10.4244/EIJ-D-18-00292.

**Prediction of survival on the waiting list for heart transplantation and of posttransplant nonadherence-Results of a prospective longitudinal study**

Vitinius F, Reklat A, Hellmich M, Klaski E, Wahlers T, Rahaman PB, Pfister R, Müller-Ehmsen J, Albus C. Clin Transplant. 2019 Jul;33(7):e13616. doi: 10.1111/ctr.13616. Epub 2019 Jun 19. PMID: 31136011

**Gender-related differences in patients undergoing transcatheter mitral valve interventions in clinical practice: 1-year results from the German TRAMI registry**  
 Werner N, Puls M, Baldus S, Lubos E, Bekerdjian R, Sievert H, Schofer J, Kuck KH, Möllmann H, Hehrlein C, Nickenig G, Boekstegers P, Ouarrak T, Senges J, Zahn R; German Transcatheter Mitral Valve Intervention (TRAMI) investigators.  
*Catheter Cardiovasc Interv.* 2019 Jun 24. doi: 10.1002/ccd.28372.

**Cabins, castles, and constant hearts: rhythm control therapy in patients with atrial fibrillation**  
 Willems S, Meyer C, de Bono J, Brandes A, Eckardt L, Elvan A, van Gelder I, Goette A, Gulizia M, Haegeli L, Heidbuchel H, Haeusler KG, Kautzner J, Mont L, Ng GA, Szumowski L, Themistoclakis S, Wegscheider K, Kirchhoff P.  
*Eur Heart J.* 2019 Dec 7;40(46):3793-3799c. doi: 10.1093/euroheartj/ehz782

**Left atrial effective conducting size predicts atrial fibrillation vulnerability in persistent but not paroxysmal atrial fibrillation**  
 Williams SE, O'Neill L, Roney CH, Julia J, Metzner A, Reißmann B, Mukherjee RK, Sim I, Whitaker J, Wright M, Niederer S, Sohns C, O'Neill M.  
*J Cardiovasc Electrophysiol.* 2019 Sep;30(9):1416-1427. doi: 10.1111/jce.13990. Epub 2019 Jun 18

**Outcomes of transcatheter mitral valve replacement for degenerated bioprostheses, failed annuloplasty rings, and mitral annular calcification**  
 Yoon SH, Whisenant BK, Bleiziffer S, Delgado V, Dhoble A, Schofer N, Eschenbach L, Bansal E, Murdoch DJ, Ancona M, Schmidt T, Yzeiraj E, Vincent F, Niikura H, Kim WK, Asami M, Unbehaun A, Hirji S, Fujita B, Silaschi M, Tang GHL, Kuwata S, Wong SC, Frangieh AH, Barker CM, Davies JE, Lauten A, Deuschl F, Nombela-Franco L, Rampat R, Nicz PFG, Masson JB, Wijeyesundara HC, Sievert H, Blackman DJ, Gutierrez-Ibanez E, Sugiyama D, Chakravarty T, Hildick-Smith D, de Brito FS Jr, Jensen C, Jung C, Smalling RW, Arnold M, Redwood S, Kasel AM, Maisano F, Treede H, Ensminger SM, Kar S, Kaneko T, Pilgrim T, Sorajja P, Van Belle E, Prendergast BD, Bapat V, Modine T, Schofer J, Frerker C, Kempfert J, Attizzani GF, Latib A, Schaefer U, Webb JG, Bax JJ, Makkar RR.  
*Eur Heart J.* 2019 Feb 1;40(5):441-451. doi: 10.1093/euroheartj/ehy590.

**Catheter ablation of supraventricular tachycardia in patients with dextrocardia and situs inversus**  
 Zhou GB, Ma J, Zhang JL, Guo XG, Yang JD, Liu SW, Ouyang FF.  
*J Cardiovasc Electrophysiol.* 2019 Apr;30(4):557-564. doi: 10.1111/jce.13847. Epub 2019 Jan 25.

**Symptomatic arrhythmias after catheter ablation of atrioventricular nodal reentrant tachycardia (AVNRT): results from the German Ablation Registry**  
 Zyulla MM, Brachmann J, Lewalter T, Kuck KH, Andrensen D, Willems S, Spitzer SG, Straube F, Schumacher B, Eckardt L, Hochadel M, Senges J, Katus HA, Thomas D.  
*Clin Res Cardiol.* 2019 Nov 29. doi: 10.1007/s00392-019-01576-x.

**Response to the Letter to the Editor „Hydropsic Ear Disease: Structure-Function Correlations and Local Low-Dose Contrast Application“.**

## ENDOCRINOLOGY

**Deficient knowledge in adult care as an incentive to found Turner centers in Germany**  
 Kahlert E, Blaschke M, Brockmann K, Freiberg C, Janßen OE, Stahnke N, Strik D, Merkel M, Mann A, Liesenkötter KP, Siggenkow H.  
*Endocr Connect.* 8:1483-1492 (2019)

## Therapieziele.

Kern W; Dreyer M, Merkel M.  
 In: Jürgen Wernecke, Andrej Zeyfang (Eds.). *Diabetes im Alter.* De Gruyter, ISBN 978-3110441185, S. 81-92 (2019)  
**Hyperlipidämie im Alter.**  
 Merkel M.  
 In: Jürgen Wernecke, Andrej Zeyfang (Eds.). *Diabetes im Alter.* De Gruyter, ISBN 978-3110441185, S. 187-188 (2019)

## Physiologie und klinische Bedeutung von weißem, beigem und braunem Fettgewebe.

Merkel M, Schmid SM, Iwen KA.  
*Internist (Berl)* 60(2):115-121 (2019)

## ENT

**Neue diagnostische und therapeutische Ansätze bei obstruktiver Schlafapnoe.**

Heiser C, Verse T.  
*HNO* 2019; 67: 652-3 (0,914)

**Significance and management of incidentally diagnosed metastatic papillary thyroid carcinoma in cervical lymph nodes in neck dissection specimens.**

Mandapathil M, Lennon P, Ganly I, Patel SG, Shah JP  
*Head Neck.* 2019 Nov;41(11):3783-3787.

**Three-dimensional force analysis of surgical manipulations at the long process of the incus.**

Óvári A, Heckeler C, Ehrt K, Bernd HE, Pau HW, Eiber A.  
*Eur Arch Otorhinolaryngol.* 2019 Jan;276(1):63-70

**Aural and nasal foreign bodies in children - Epidemiology and correlation with hyperkinetic disorders, developmental disorders and congenital malformations.**

Schuldt T, Großmann W, Weiss NM, Ovari A, Mlynški R, Schraven SP.  
*Int J Pediatr Otorhinolaryngol.* 2019 Mar;118:165-169.

**S3-Leitlinie „Diagnostik und Therapie des Schnarchens des Erwachsenen“.**

Stuck BA, Braumann B, Heiser C, Herzog M, Maurer JT, Plößl S, Steffen A, Sommer JU, Verse T, Hofauer B.  
*Somnologie* 2019; 23: 178-208 und Dt. Ärzteblatt

**Diagnostic Value of the Magnetic Resonance Imaging With Intratympanic Gadolinium Administration (IT-Gd MRI) Versus Audio-Vestibular Tests in Menière's Disease: IT-Gd MRI Makes the Difference.**

Wesseler A, Óvári A, Javorkova A, Kwiatkowski A, Meyer JE, Kivelitz DE.  
*Otol Neurotol.* 2019 Mar;40(3):e225-e232.

**Response to the Letter to the Editor „Hydropsic Ear Disease: Structure-Function Correlations and Local Low-Dose Contrast Application“.**

Wesseler A, Óvári A, Javorkova A, Kwiatkowski A, Meyer JE, Kivelitz DE  
*Otol Neurotol.* 2019 Jun;40(5):693-694

## FORENSIC MEDICINE

**Effect of cavity preparation and bone mineral density on bone-interface densification and bone-implant contact during press-fit implantation of hip stems.**

Bätz J, Messer-Hannemann P, Lampe F, Klein A, Püschel K, Morlock MM, Campbell GM.  
*J Orthop Res.* 2019 Jul;37(7):1580-1589. doi: 10.1002/jor.24288. Epub 2019 Mar 28.

**Ten Years of Urgent Care of Ruptured Abdominal Aortic Aneurysms in a High-Volume-Center.**

Behrendt CA, Köbel T, Larena-Avellaneda A, Heidemann F, Veliqui E, Rieß HC, Kluge S, Wachs C, Püschel K, Debus ES.  
*Ann Vasc Surg.* 2019 Oct 18. pii: S0890-5096(19)30878-7. doi: 10.1016/j.avsg.2019.09.035.

**Burnout in students of health-care professions. Risk and protection factors.**

Bitran M, Zúñiga D, Pedrals N, Echeverría G, Vergara C, Rigotti A, Püschel K.  
*Rev Med Chil.* 2019 Apr;147(4):510-517. doi: 10.4067/S0034-98872019000400510. Spanish.

**Variants in ABCG8 and TRAF3 genes confer risk for gallstone disease in admixed Latinos with Mapuche Native American ancestry.**

Bustos BI, Pérez-Palma E, Buch S, Azócar L, Riveras E, Ugarte GD, Toliat M, Nürnberg P, Lieb W, Franke A, Hinz S, Burmeister G, von Schönfels W, Schafmayer C, Völzke H, Völker U, Homuth G, Lerch MM, Santos JL, Püschel K, Bambs C, Roa JC, Gutiérrez RA, Hampe J, De Ferrari GV, Miquel JE.  
*Sci Rep.* 2019 Jan 28;9(1):772. doi: 10.1038/s41598-018-35852-z.

**Pregnancy-related and maternal deaths in Hamburg, Germany: an autopsy study from 1984 - 2018.**

Edler C, Sperhake JP, Püschel K, Schröder AS.  
*Forensic Sci Med Pathol.* 2019 Dec;15(4):536-541. doi: 10.1007/s12024-019-00138-x. Epub 2019 Aug 1.

**Biomechanical analysis of anterior pelvic ring fractures with intact peripelvic soft tissues: a cadaveric study.**

Fensky F, Weiser L, Sellenschloß K, Vollmer M, Hartel MJ, Morlock MM, Püschel K, Rueger JM, Lehmann W.  
*Eur J Trauma Emerg Surg.* 2019 Aug 28. doi: 10.1007/s00068-019-01213-2.

## Rationale and Design of the Hamburg City Health Study.

Jagodzinski A, Johansen C, Koch-Gromus U, Aarabi G, Adam G, Anders S, Augustin M, der Kellen RB, Beikler T, Behrendt CA, Betz CS, Bokemeyer C, Borof K, Briken P, Busch CJ, Büchel C, Brassens S, Debus ES, Eggers L, Fiehler J, Gallatin J, Gellissen S, Gerloff C, Giraudas E, Gosau M, Graefen M, Härtler M, Harth V, Heidemann C, Heydecke G, Huber TB, Hussein Y, Kampf MO, von dem Knesebeck O, Konnopka A, König HH, Kromer R, Kubisch C, Kühn S, Loges S, Löwe B, Lund G, Meyer C, Nagel L, Nienhaus A, Pantel K, Petersen E, Püschel K, Reichenspurner H, Sauter G, Scherer M, Scherschel K, Schiffner U, Schnabel RB, Schulz H, Smeets R, Sokalski V, Spitzer MS, Terschüren C, Thederian I, Thoma T, Thomalla G, Waschki B, Wegscheider K,

Wenzel JP, Wiese S, Zyriax BC, Zeller T, Blankenberg S.  
*Eur J Epidemiol.* 2019 Nov 8. doi: 10.1007/s10654-019-00577-4.

**Biperiden and mepazine effectively inhibit MALT1 activity and tumor growth in pancreatic cancer.**

Konczalla L, Perez DR, Wenzel N, Wolters-Eisfeld G, Klemp C, Lüddeke J, Wolski A, Landschulz D, Meier C, Buchholz A, Yao D, Hofmann BT, Graß JK, Spietersbach SL, Grupp K, Schumacher U, Betzel C, Kapis S, Nuguid T, Steinberg P, Püschel K, Sauter G, Bockhorn M, Uzunoglu FG, Izicki JR, Güngör C, El Gamal AT.  
*Int J Cancer.* 2019 Jul 10. doi: 10.1002/ijc.32567.

**How can the articular surface of the tibial plateau be best exposed? A comparison of specific surgical approaches.**

Krause M, Krüger S, Müller G, Püschel K, Frosch KH.  
*Arch Orthop Trauma Surg.* 2019 Oct;139(10):1369-1377. doi: 10.1007/s00402-019-03200-z. Epub 2019 May 17.

**Factors affecting dental DNA in various real post-mortem conditions.**

Mansour H, Krebs O, Pinnschmidt HO, Griem N, Hammann-Ehrt I, Püschel K.  
*Int J Legal Med.* 2019 Nov;133(6):1751-1759. doi: 10.1007/s00414-019-02151-9. Epub 2019 Sep 11.

**New aspects of dental implants and DNA technology in human identification.**

Mansour H, Sperhake JP, Bekaert B, Krebs O, Friedrich P, Fuhrmann A, Püschel K.  
*Forensic Sci Int.* 2019 Sep;302:109926. doi: 10.1016/j.forsciint.2019.109926. Epub 2019 Aug 8.

**The influence of cavity preparation and press-fit cup implantation on restoring the hip rotation center.**

Messer-Hannemann P, Bätz J, Lampe F, Klein A, Püschel K, Campbell GM, Morlock M.  
*Clin Biomech (Bristol, Avon).* 2019 Mar;63:185-192. doi: 10.1016/j.clinbiomech.2019.03.006. Epub 2019 Mar 20.

**Biomechanical analysis of conventional anchor revision after all-suture anchor pullout: a human cadaveric shoulder model.**

Ntalos D, Huber G, Sellenschloß K, Briem D, Püschel K, Morlock MM, Frosch KH, Thiesen DM, Klatte TO.  
*J Shoulder Elbow Surg.* 2019 Dec;28(12):2433-2437. doi: 10.1016/j.jse.2019.04.053. Epub 2019 Jul 13.

**Conventional rotator cuff versus all-suture anchors-A biomechanical study focusing on the insertion angle in an unlimited cyclic model.**

Ntalos D, Sellenschloß K, Huber G, Briem D, Püschel K, Morlock MM, Frosch KH, Fensky F, Klatte TO.  
*PLoS One.* 2019 Nov 27;14(11):e0225648. doi: 10.1371/journal.pone.0225648. eCollection 2019.

**Copy number variants in lipid metabolism genes are associated with gallstones disease in men.**

Pérez-Palma E, Bustos BI, Lal D, Buch S, Azocar L, Toliat MR, Lieb W, Franke A, Hinz S, Burmeister G, von Schönfels W, Schafmayer C, Ahnert P, Völzke H, Völker U, Homuth G, Lerch MM, Püschel K, Gutiérrez RA, Hampe J, Nürnberg P, Miquel JE, De Ferrari GV.  
*Eur J Hum Genet.* 2019 Sep 4. doi: 10.1038/s41431-019-0501-7.



- Health-related quality of life in patients with a germline BRCA mutation and metastatic pancreatic cancer receiving maintenance olaparib.**
- Hammel P, Kindler HL, Reni M, Van Cutsem E, Macarulla T, Hall MJ, Park JO, Hochhauser D, Arnold D, Oh DY, Reinacher-Schick A, Tortora G, Algiil H, O'Reilly EM, McGuinness D, Cui KY, Joo S, Yoo HK, Patel N, Golan T; POLO Investigators. Ann Oncol. 2019 Dec 1;30(12):1959-1968. doi: 10.1093/annonc/mdz406. PMID: 31562758
- Prospective target assessment and multimodal prediction of survival for personalized and risk-adapted treatment strategies in multiple myeloma in the GMMG-MM5 multicenter trial.**
- Hose D, Beck S, Salwender H, Emde M, Bertsch U, Kunz C, Scheid C, Hänel M, Weisel K, Hielscher T, Raab MS, Goldschmidt H, Jauch A, Moreaux J, Seckinger A. J Hematol Oncol. 2019 Jun 26;12(1):65. doi: 10.1186/s13045-019-0750-5. PMID: 31242924
- The Oncology Data Network (ODN): A Collaborative European Data-Sharing Platform to Inform Cancer Care.
- Kerr D, Arnold D, Blay JY, Buske C, Carrato A, Gerritsen W, Peeters M. Oncologist. 2020 Jan;25(1):e1-e4. doi: 10.1634/theoncologist.2019-0337. Epub 2019 Sep 5. PMID: 31488619
- Cereblon-binding proteins expression levels correlate with hyperdiploidy in newly diagnosed multiple myeloma patients.
- Kriegsmann K, Baertsch MA, Awwad MHS, Merz M, Hose D, Seckinger A, Jauch A, Becker N, Benner A, Raab MS, Hillengass J, Bertsch U, Dürig J, Salwender HJ, Hänel M, Fenk R, Munder M, Weisel K, Müller-Tidow C, Goldschmidt H, Hundemer M. Blood Cancer J. 2019 Jan 29;9(2):13. doi: 10.1038/s41408-019-0174-z. PMID: 30696815
- Observational non-randomised controlled evaluation of the effectiveness of cancer counselling centres: a study protocol.
- Lingens SP, Schilling G, Harms J, Schulz H, Bleich C. BMJ Open. 2019 Dec 4;9(12):e032889. doi: 10.1136/bmjopen-2019-032889. PMID: 31806615
- Bortezomib-based induction therapy with high or low-dose dexamethasone in newly diagnosed , transplant-eligible multiple myeloma.
- Mai EK, Hielscher T, Bertsch U, Schlenzka J, Salwender HJ, Munder M, Gerecke C, Dührsen U, Brossart P, Neben K, Hillengass J, Raab MS, Merz M, Baertsch MA, Jauch A, Hose D, Martin H, Lindemann HW, Blau IW, Scheid C, Weisel KC, Goldschmidt H; German-speaking Myeloma Multicenter Group (GMMG). Leukemia. 2019 Jan;33(1):258-261. doi: 10.1038/s41375-018-0195-9.
- Cystic transformation of focal lesions after therapy is associated with remission but adverse outcome in myeloma.
- Merz M, Hielscher T, Mai EK, Seckinger A, Hose D, Jauch A, Sauer S, Luntz S, Bertsch U, Raab MS, Neben K, Salwender H, Blau IW, Lindemann HW, Dürig J, Scheid C, Haenel M, Weisel K, Weber T, Delorme S, Goldschmidt H, Hillengass J. Blood Cancer J. 2019 Aug 27;9(9):71. doi: 10.1038/s41408-019-0235-3. PMID: 31455768
- S3-Leitlinie Magenkarzinom – Diagnostik und Therapie der Adenokarzinome des Magens und des ösophagogastralen Übergangs – Langversion 2.0 – August 2019. AWMF-Registernummer: 032/009OL.
- Moehler M, Al-Batran SE, Andus T, Arends J, Arnold D, Bareton G, Bornschein J, Budach W, Daum S, Dietrich C, Ebert M, Fischbach W, Flentje M, Gockel I, Grenacher L, Häier J, Höcht S, Jakobs R, Jansen C, Kade B, Kanzler S, Langhorst J, Link H, Lordick F, Lorenz D, Lorenzen S, Lutz M, Messmann H, Meyer HJ, Möning S, Ott K, Quante M, Röcken C, Schlattmann P, Schmiegel WH, Schreyer A, Tannapfel A, Thuss-Patience P, Weimann A, Unverzagt S. Z Gastroenterol. 2019 Dec;57(12):1517-1632. doi: 10.1055/a-1018-2516.
- Pan-Asian adapted ESMO Clinical Practice Guidelines for the management of patients with metastatic oesophageal cancer: a JSMO -ESMO initiative endorsed by CSCO, KSMO, MOS, SSO and TOS.
- Muro K, Lordick F, Tushima T, Penthaloudakis G, Baba E, Lu Z, Cho BC, Nor IM, Ng M, Chen LT, Kato K, Li J, Ryu MH, Zamariah WIW, Yong WP, Yeh KH, Nakajima TE, Shitara K, Kawakami H, Narita Y, Yoshino T, Van Cutsem E, Martinelli E, Smyth EC, Arnold D, Minami H, Tabernero J, Douillard JY. Ann Oncol. 2019 Jan 1;30(1):34-43. doi: 10.1093/annonc/mdy498. PMID: 30475943
- Pan-Asian adapted ESMO Clinical Practice Guidelines for the management of patients with metastatic gastric cancer: a JSMO-ESMO initiative endorsed by CSCO, KSMO, MOS, SSO and TOS.
- Muro K, Van Cutsem E, Narita Y, Penthaloudakis G, Baba E, Li J, Ryu MH, Zamariah WIW, Yong WP, Yeh KH, Kato K, Lu Z, Cho BC, Nor IM, Ng M, Chen LT, Nakajima TE, Shitara K, Kawakami H, Tushima T, Yoshino T, Lordick F, Martinelli E, Smyth EC, Arnold D, Minami H, Tabernero J, Douillard JY. Ann Oncol. 2019 Jan 1;30(1):19-33. doi: 10.1093/annonc/mdy502. PMID: 30475956
- Rationale and design of the German-speaking myeloma multicenter group (GMMG) trial HD6: a randomized phase III trial on the effect of elotuzumab in VRD induction/consolidation and lenalidomide maintenance in patients with newly diagnosed myeloma.
- Salwender H, Bertsch U, Weisel K, Duerig J, Kunz C, Benner A, Blau IW, Raab MS, Hillengass J, Hose D, Huhn S, Hundemer M, Andrus M, Jauch A, Seidel-Glaetzer A, Lindemann HW, Hensel M, Fronhoff S, Martens U, Hansen T, Wattad M, Graeven U, Munder M, Fenk R, Haenel M, Scheid C, Goldschmidt H. BMC Cancer. 2019 May 28;19(1):504. doi: 10.1186/s12885-019-5600-x. PMID: 31138244
- Multi-omic based molecular profiling of advanced cancer identifies treatable targets and improves survival in individual patients.
- Samsen A, von der Heyde S, Bokemeyer C, David KA, Flath B, Graap M, Grebenstein B, Heflik L, Hollburg W, Layer P, von Leitner E, Overkamp F, Saeger W, Schneider S, von Seydewitz CU, Stang A, Stein A, Zornig C, Juhl H. Oncotarget. 2018 Oct 5;9(78):34794-34809. doi: 10.18632/oncotarget.26198. eCollection 2018 Oct 5.
- Midostaurin added to chemotherapy and continued single-agent maintenance therapy in acute myeloid leukemia with FLT3-ITD.
- Schlenk RF, Weber D, Fiedler W, Salih HR, Wulf G, Salwender H, Schroeder T, Kindler T, Lübbert M, Wolf D, Westermann J, Kraemer D, Götzke KS, Horst HA, Krauter J, Girschikofsky M, Ringhoffer M, Südhoff T, Held G, Derigs HG, Schroers R, Greil R, Grießhammer M, Lange E, Burchardt A, Martens U, Hertenstein B, Marretta L, Heuser M, Thol F, Gaidzik VI, Herr W, Krzykalla J, Benner A, Döhner K, Ganser A, Paschka P, Döhner H; German-Austrian AML Study Group. Blood. 2019 Feb 21;133(8):840-851. doi: 10.1182/blood-2018-08-869453.
- Bortezomib consolidation following autologous transplant in younger and older patients with newly diagnosed multiple myeloma in two phase III trials.
- Straka C, Knop S, Vogel M, Müller J, Kropff M, Metzner B, Langer C, Sayer H, Jung W, Dürk HA, Salvender H, Wandt H, Bassermann F, Gramatzki M, Rösler W, Wolf HH, Brugger W, Fischer T, Liebisch P, Engelhardt M, Einsele H. Eur J Haematol. 2019 Sep;103(3):255-267. doi: 10.1111/ejh.13281.
- A multicentre, phase IIa study of zolbetuximab as a single agent in patients with recurrent or refractory advanced adenocarcinoma of the stomach or lower oesophagus: the MONO study.
- Türeci O, Sahin U, Schulze-Bergkamen H, Zvirbule Z, Lordick F, Koeberle D, Thuss-Patience P, Ettrich T, Arnold D, Bassermann F, Al-Batran SE, Wiechen K, Dhaene K, Maurus D, Gold M, Huber C, Krivoshik A, Arozullah A, Park JW, Schuler M. Ann Oncol. 2019 Sep 1;30(9):1487-1495. doi: 10.1093/annonc/mdz199. PMID: 31240302
- Hepatocellular carcinoma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up.
- Vogel A, Cervantes A, Chau I, Daniele B, Llovet JM, Meyer T, Nault JC, Neumann U, Ricke J, Sangro B, Schirmacher P, Verslype C, Zech CJ, Arnold D, Martinelli E. Ann Oncol. 2019 May 1;30(5):871-873. doi: 10.1093/annonc/mdy510. PMID: 30715202
- Correction to: „Hepatocellular carcinoma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up“.
- Vogel A, Cervantes A, Chau I, Daniele B, Llovet JM, Meyer T, Nault JC, Neumann U, Ricke J, Sangro B, Schirmacher P, Verslype C, Zech CJ, Arnold D, Martinelli E. Ann Oncol. 2019 May;30(5):871-873. doi: 10.1093/annonc/mdy510.
- Addition of cyclophosphamide on insufficient response to pomalidomide and dexamethasone: results of the phase II PERSPECTIVE Multiple Myeloma trial.
- Weisel KC, Scheid C, Zago M, Besemer B, Mai EK, Haenel M, Duerig J, Munder M, Lindemann HW, Seckinger A, Kunz C, Benner A, Hose D, Jauch A, Salwender H, Goldschmidt H. Blood Cancer J. 2019 Apr 8;9(4):45. doi: 10.1038/s41408-019-0206-8. PMID: 30962424
- OPHTHALMOLOGY**
- Klinische Entscheidungsfindung bei der Behandlung des diabetischen Makulaödems mit DEX-Implantat: ein Konsenspapier [Clinical Decision Making for Treatment of Diabetic Macular Oedema with DEX Implant: a Consensus Paper].
- Augustin, A. J., Feltgen, N., Haritoglou, C., Hoerauf, H., Maier, M. M., Mardin, C. Y., & Schargus, M. Klinische Monatsblätter für Augenheilkunde. 2019, 10.1055/a-1024-4089.
- A comparison of the lateral tarsal strip with everting sutures and the QuickeR procedure for involutional entropion.
- Dulz S, Green S, Mehlan J, Schüttlauf F, Keserü M. Acta Ophthalmol. 2019 Sep;97(6):e933-e936. doi: 10.1111/aos.14093. Epub 2019 Mar 27.
- Human tear fluid proteome dataset for usage as a spectral library and for protein modeling.**
- Guentermann, A., Steinbach, S., Serschnitzki, B., Grotegut, P., Reinehr, S., Joachim, S. C., Schargus, M., Marcus, K., & May, C. Data in brief (2019), 23, 103742. https://doi.org/10.1016/j.dib.2019.103742
- PEDIATRICS**
- Oxalate retinopathy is irreversible despite early combined liver-kidney transplantation in primary hyperoxaluria type 1.
- Atiskova Y, Dulz S, Schmäschke K, Oh J, Grabhorn E, Kemper MJ, Brinkert F. Am J Transplant. 2019 Jun 1. doi: 10.1111/ajt.15484. PubMed PMID: 31152479.
- Greater Susceptibility for Metabolic Syndrome in Pediatric Solid Organ and Stem Cell Transplant Recipients.
- Blöte R, Memaran N, Borchert-Mörlins B, Thurn-Valsassina D, Goldschmidt I, Beier R, Sauer M, Müller C, Sarganas G, Oh J, Büscher R, Kemper MJ, Sugianto RI, Epping J, Schmidt BMW, Melk A. Transplantation. 2019 Feb 19. doi: 10.1097/TP.0000000000002675. PubMed PMID: 30801541.
- Levamisole in Children with Idiopathic Nephrotic Syndrome: Clinical Efficacy and Pathophysiological Aspects.
- Mühligh AK, Lee JY, Kemper MJ, Kronbichler A, Yang JW, Lee JM, Shin JI, Oh J. J Clin Med. 2019 Jun 16;8(6). pii: E860. doi:10.3390/jcm8060860. Review. PubMed PMID: 31208104; PubMed Central PMCID: PMC6617114.
- PHARMACOLOGY**
- A novel soluble guanylyl cyclase activator, BR 11257, acts as a non-stabilising partial agonist of sGC.
- Elgert C, Rühle A, Sandner P, Behrends S. Biochem Pharmacol. 2019 May;163:142-153. doi: 10.1016/j.bcp.2019.02.007. Epub 2019 Feb 10.
- PSYCHIATRY AND NEUROLOGY**
- Systematic evaluation of stroke thrombectomy in clinical practice: The German Stroke Registry Endovascular Treatment.
- Alegiani AC, Dorn F, Herzberg M, Wollenweber FA, Kellert L, Siebert E, Nolte CH, von Rennenberg R, Hattingen E, Petzold GC, Bode FJ, Pfeilschifter W, Schäfer JH, Wagner M, Röther J, Eckert B, Kraft P, Pham M, Boeck-Behrens T, Wunderlich S, Bernkopf K, Reich A, Wiesmann M, Mpotaris A, Psychogios M, Liman J, Maier I, Berrousset J, Bormann A, Limmroth V, Spree J, Petersen M, Krause L, Lowens S, Kraemer C, Zweynert S, Lange KS, Thonke S, Kastrup A, Papanagiotou P, Alber B,

- Braun M, Fiebler J, Gerloff C, Dichgans M, Thomalla G. *Int J Stroke.* 2019 Jun;14(4):372-380. doi: 10.1177/1747493018806199. Epub 2018 Oct 22. Erratum in: *Int J Stroke.* 2018 Dec 17;1747493018816194.
- Full Study Report of Andexanet Alfa for Bleeding Associated with Factor Xa Inhibitors.**
- Connolly SJ<sup>1</sup>, Crowther M<sup>1</sup>, Eikelboom JW<sup>1</sup>, Gibson CM<sup>1</sup>, Curnutt JT<sup>1</sup>, Lawrence JH<sup>1</sup>, Yue P<sup>1</sup>, Bronson MD<sup>1</sup>, Lu G<sup>1</sup>, Conley PB<sup>1</sup>, Verhamme P<sup>1</sup>, Schmidt J<sup>1</sup>, Middeldorp S<sup>1</sup>, Cohen AT<sup>1</sup>, Beyer-Westendorf J<sup>1</sup>, Albaladejo P<sup>1</sup>, Lopez-Sendon J<sup>1</sup>, Demchuk AM<sup>1</sup>, Pallin DJ<sup>1</sup>, Concha M<sup>1</sup>, Goodman S<sup>1</sup>, Leeds J<sup>1</sup>, Souza S<sup>1</sup>, Siegal DM<sup>1</sup>, Zotova E<sup>1</sup>, Meeks B<sup>1</sup>, Ahmad S<sup>1</sup>, Nakanya J<sup>1</sup>, Milling TJ Jr<sup>1</sup>; ANNEXA-4 Investigators. *Collaborators (105)* *N Engl J Med.* 2019 Apr 4;380(14):1326-1335. doi: 10.1056/NEJMoa1814051. Epub 2019 Feb 7.
- Polypharmacy in Parkinson's disease: risks and benefits with little evidence.**
- Csoti I, Herbst H, Urban P, Woitalla D, Wißnner U. *J Neural Transm* 2019;126:871-878
- Association of Multiple Enrichment Criteria With Ischemic and Bleeding Risks Among COMPASS-Eligible Patients.**
- Darmon A, Sorbets E, Ducrocq G, Elbez Y, Abtan J, Popovic B, Ohman EM, Röther J, Wilson PE, Montalescot G, Zeymer U, Bhatt DL, Steg PG; REACH Registry Investigators. *J Am Coll Cardiol.* 2019 Jul 2;73(25):3281-3291. doi: 10.1016/j.jacc.2019.04.046. PMID: 31248549
- Dabigatran for Prevention of Stroke after Embolic Stroke of Undetermined Source.**
- Diener HC, Sacco RL, Easton JD, Granger CB, Bernstein RA, Uchiyama S, Kreuzer J, Cronin L, Cotton D, Grauer C, Brueckmann M, Chernyina M, Donnan G, Ferro JM, Grond M, Kallmünzer B, Krupinski J, Lee BC, Lemmens R, Masjuan J, Odinak M, Saver JL, Schellingen PD, Toni D, Toyoda K; RE-SPECT ESUS Steering Committee and Investigators. *N Engl J Med.* 2019 May 16;380(20):1906-1917. doi: 10.1056/NEJMoa1813959
- Reflexstudien-Hirnstammreflexe.**
- Dohrn MF, Urban PP, Dafotakis M. *Klin Neurophysiol* 2019;50:145-8
- Characteristics in Non-Vitamin K Antagonist Oral Anticoagulant-Related Intracerebral Hemorrhage.**
- Gerner ST, Kuramatsu JB, Sembill JA, Sprügel MI, Hagen M, Knappe RU, Endres M, Haeusler KG, Sobesky J, Schurig J, Zweynert S, Bauer M, Vajkoczy P, Ringleb PA, Purrucker JC, Rizos T, Volkmann J, Müllges W, Kraft P, Schubert AL, Erbguth F, Nueckel M, Schellinger PD, Glahn J, Knappe UJ, Fink GR, Dohmen C, Stetefeld H, Fisse AL, Minnerup J, Hagemann G, Rakers F, Reichmann H, Schneider H, Wöpkings S, Ludolph AC, Stösser S, Neugebauer H, Röther J, Michels P, Schwarz M, Reimann G, Bätzner H, Schwert H, Clasen J, Michalski D, Grau A, Palm F, Urbanek C, Stösser S, Neugebauer H, Röther J, Michels P, Schwarz M, Reimann G, Bätzner H, Schwert H, Clasen J, Michalski D, Grau A, Palm F, Urbanek C, Wöhrle JC, Alshammari F, Horn M, Bahner D, Witte OW, Guenther A, Hamann GF, Lücking H, Dörfler A, Schwab S, Huttner HB. *J Neurol Neurosurg Psychiatry.* 2019 Jul;90(7):783-791. doi: 10.1136/jnnp-2018-319786. Epub 2019 Apr 16. PMID: 30992334
- Diagnostik und Therapie der idiopathischen Fazialisparese (Bell's palsy).**
- Heckmann JG, Urban PP, Pitz S, Guntinas-Lichius O, Gágyor I. *DÄ* 2019;116:692-702
- Therapie des Spasmus hemifacialis mit Botulinumtoxin.**
- Jost WH, Laskawi R, Palomowski-Wolfe A, Urban PP. *Laryngorhinootol* 2019;98:247-51
- Association of Surgical Hematoma Evacuation vs Conservative Treatment With Functional Outcome in Patients With Cerebellar Intracerebral Hemorrhage.**
- Kuramatsu JB, Biffi A, Gerner ST, Sembill JA, Sprügel MI, Leasure A, Sansing L, Matouk C, Falcone GJ, Endres M, Haeusler KG, Sobesky J, Schurig J, Zweynert S, Bauer M, Vajkoczy P, Ringleb PA, Purrucker J, Rizos T, Volkmann J, Müllges W, Kraft P, Schubert AL, Erbguth F, Nueckel M, Schellinger PD, Glahn J, Knappe UJ, Fink GR, Dohmen C, Stetefeld H, Fisse AL, Minnerup J, Hagemann G, Rakers F, Reichmann H, Schneider H, Wöpkings S, Ludolph AC, Stösser S, Neugebauer H, Röther J, Michels P, Schwarz M, Reimann G, Bätzner H, Schwert H, Clasen J, Michalski D, Grau A, Palm F, Urbanek C, Stösser S, Neugebauer H, Röther J, Michels P, Schwarz M, Reimann G, Bätzner H, Schwert H, Clasen J, Michalski D, Grau A, Palm F, Urbanek C, Wöhrle JC, Alshammari F, Horn M, Bahner D, Witte OW, Guenther A, Hamann GF, Lücking H, Dörfler A, Schwab S, Huttner HB. *Stroke.* 2019 Sep;50(9):2500-2506. doi: 10.1161/STROKEAHA.119.026005. Epub 2019 Jul 24. PMID: 31337298
- Functional Outcome Following Stroke Thrombectomy in Clinical Practice.**
- Wollenweber FA, Tiedt S, Alegiani A, Alber B, Bangard C, Berrouschot J, Bode FJ, Boeckh-Behrens T, Bohner G, Bormann A, Braun M, Dorn F, Eckert B, Flottmann F, Hamann GF, Henn KH, Herzberg M, Kastrup A, Kellert L, Kraemer C, Krause L, Leh M, Liman J, Lowens S, Mpotsaris A, Papanagiotou P, Petersen M, Petzold GC, Pfeilschifter W, Psychogios MN, Reich A, von Rennenberg R, Röther J, Schäfer JH, Siebert E, Siedow A, Solymosi L, Thonke S, Wagner M, Wunderlich S, Zweynert S, Nolte CH, Gerloff C, Thomalla G, Dichgans M, Fiebler J. *Stroke.* 2019 Sep;50(9):2500-2506. doi: 10.1161/STROKEAHA.119.026005. Epub 2019 Jul 24. PMID: 31337298
- Depression.**
- Wollmer MA, Magid M, Kruger THC, Finzi E. *Handb Exp Pharmacol.* 2019 Nov 7. doi: 10.1007/164\_2019\_272.
- RADIOLOGY**
- Nocardiosis as a Differential Diagnosis of Pulmonary Epithelioid Cell Granulomas.**
- Acar A, Niemeyer D, Groß-Fengels W, Bachmann M, Wiest G. *Pneumologie.* 2019 Sep;73(9):538-543. doi: 10.1055/a-0980-9028. Epub 2019 Sep 18. German. PubMed PMID: 31533175
- Systematic evaluation of stroke thrombectomy in clinical practice: The German Stroke Registry Endovascular Treatment.**
- Alegiani AC, Dorn F, Herzberg M, Wollenweber FA, Kellert L, Siebert E, Nolte CH, von Rennenberg R, Hattingen E, Petzold GC, Bode FJ, Pfeilschifter W, Schäfer JH, Wagner M, Röther J, Eckert B, Kraft P, Pham M, Boeckh-Behrens T, Wunderlich S, Bernkopf K, Reich A, Wiesmann M, Mpotsaris A, Psychogios M, Liman J, Maier I, Berrouschot J, Bormann A, Limroth V, Spreer J, Petersen M, Krause L, Lowens S, Kraemer C, Zweynert S, Lange KS, Thonke S, Kastrup A, Papanagiotou P, Alber B, Braun M, Fiebler J, Gerloff C, Dichgans M, Thomalla G. *Int J Stroke.* 2019 Jun;14(4):372-380. doi: 10.1177/1747493018806199. Epub 2018 Oct 22. Erratum in: *Int J Stroke.* 2018 Dec 17;1747493018816194. PubMed PMID: 30346260
- Nitric Oxide-Based Treatment of Poor-Grade Patients After Severe Aneurysmal Subarachnoid Hemorrhage.**
- Ehlert A, Starekova J, Manthei G, Ehlert-Gamm A, Flack J, Gessert M, Gerss J, Hesselmann V. *Neurocrit Care.* 2019 Aug 15. doi:10.1007/s12028-019-00809-1. [Epub ahead of print] PubMed PMID: 31418143
- ERASER, A Thrombectomy Study With Predictive Analytics End Point.**
- Fiebler J, Thomalla G, Bernhardt M, Kniep H, Berlis A, Dorn F, Eckert B, Kemmling A, Langner S, Remonda L, Reith W, Rohde S, Möhlenbruch M, Bendszus M, Forkert ND, Gellissen S. *Stroke.* 2019 May;50(5):1275-1278. doi:10.1161/STROKEAHA.119.024858. PubMed PMID: 31009356
- Correlation between SACE (Subjective Angiographic Chemoembolization Endpoint) score and tumor response and its impact on survival after DEB-TACE in patients with hepatocellular carcinoma.**
- Habbel VSA, Zeile M, Stavrou GA, Wacker F, Brüning R, Oldhafer KJ, Rodt T. *Abdom Radiol (NY).* 2019 Oct;44(10):3463-3479. doi:10.1007/s00261-019-02128-7. PubMed PMID: 31332502
- Percutaneous hepatic perfusion (chemosaturation) with melphalan in patients with intrahepatic cholangiocarcinoma: European multicentre study on safety, short-term effects and survival.**
- Marquardt S, Kirstein MM, Brüning R, Zeile M, Ferrucci PE, Prevo W, Radefeldt B, Trillaud H, Tsilikas L, Vicente E, Wiggemann P, Manns MP, Vogel A, Wacker FK. *Eur Radiol.* 2019 Apr;29(4):1882-1892. doi:10.1007/s00330-018-5729-z. Epub 2018 Sep 25. PubMed PMID: 30255257
- The Randomized Freeway Stent Study: Drug-Eluting Balloons Outperform Standard Balloon Angioplasty for Postdilatation of Nitinol Stents in the SFA and PI Segment.**
- Tacke J, Müller-Hülsbeck S, Schröder H, Lammer J, Schürmann K, Gross-Fengels W, Fischbach R, Textor J, Boguth L, Loewe C, Häuser H, Gschwendtner M, Tepe G, von Strandmann RP, Stahnke S, Dambsach J, Hausegger K. *Cardiovasc Interv Radiol.* 2019 Nov;42(11):1513-1521. doi:10.1007/s00270-019-02309-3. Epub 2019 Aug 20. PubMed PMID: 31432220
- Dual-Use Intraoperative MRI in Glioblastoma Surgery: Results of Resection, Histopathologic Assessment, and Surgical Site Infections.**
- Wach J, Goetz C, Shareghi K, Scholz T, Heßmann V, Mager AK, Gottschalk J, Vatter H, Kremer P. *J Neurol Surg A Cent Eur Neurosurg.* 2019 Nov;80(6):413-422. doi: 10.1055/s-0039-1692975. Epub 2019 Jul 4. PubMed PMID: 31272122
- Diagnostic Value of the Magnetic Resonance Imaging With Intratympanic Gadolinium Administration (IT-Gd MRI) Versus Audio-Vestibular Tests in Menière's Disease: IT-Gd MRI Makes the Difference.**
- Wesseler A, Óvári A, Javorovka A, Kwiatkowski A, Meyer JE, Kivelitz DE. *Otol Neurotol.* 2019 Mar;40(3):e225-e232. doi:10.1097/MAO.0000000000002082. PubMed PMID: 30550412
- Response to the Letter to the Editor „Hydropsic Ear Disease: Structure-Function Correlations and Local Low-Dose Contrast Application“.**
- Wesseler A, Óvári A, Javorovka A, Kwiatkowski A, Meyer JE, Kivelitz DE. *Otol Neurotol.* 2019 Jun;40(5):693-694. doi: 10.1097/MAO.0000000000002220. PubMed PMID: 31083107
- Functional Outcome Following Stroke Thrombectomy in Clinical Practice.**
- Wollenweber FA, Tiedt S, Alegiani A, Alber B, Bangard C, Berrouschot J, Bode FJ, Boeckh-Behrens T, Bohner G, Bormann A, Braun M, Dorn F, Eckert B, Flottmann F, Hamann GF, Henn KH, Herzberg M, Kastrup A, Kellert L, Kraemer C, Krause L, Leh M, Liman J, Lowens S, Mpotsaris A, Papanagiotou P, Petersen M, Petzold GC, Pfeilschifter W, Psychogios MN, Reich A, von Rennenberg R, Röther J, Schäfer JH, Siebert E, Siedow A, Solymosi L, Thonke S, Wagner M, Wunderlich S, Zweynert S, Nolte CH, Gerloff C, Thomalla G, Dichgans M, Fiebler J. *Stroke.* 2019 Sep;50(9):2500-2506. doi: 10.1161/STROKEAHA.119.026005. Epub 2019 Jul 24. PubMed PMID: 31337298

## SURGERY

**Extending resectability of hilar cholangiocarcinomas: how can it be assessed and improved?**  
*Donati M, Stang A, Stavrou GA, Basile F, Oldhafer KJ.*  
*Future Oncol. 2019 Jan;15(2):193-205. doi: 10.2217/fon-2018-0413. Epub 2018 Oct 31. Review.*

**Perspectives Establishing a student-run free clinic in a major city in Northern Europe: a 1-year experience from Hamburg, Germany.**

*Drexler R, Fröschele F, Predel C, Sturm B, Ustorf K, Lehner L, Janzen J, Valentin L, Scheer T, Lehnert F, Tadiczic R, Oldhafer KJ, Meyer TN.*  
*J Public Health (Oxf). 2019 Dec 16. pii: fdz165. doi: 10.1093/pubmed/fdz165.*

**Critical appraisal of the modified ante situm liver resection: Is the original method the better choice?**

*Fard-Aghaie MH, Kandas A, Makridis G, Reese T, Wagner KC, Oldhafer KJ.*  
*Langenbecks Arch Surg. 2019 Aug;404(5):647. doi: 10.1007/s00423-019-01794-x. Epub 2019 Jun 10.*

**ASO Author Reflections: Revival of the In-Situ Hypothermic Perfusion? The Role of Complex Liver Surgery in the Modern Era.**  
*Fard-Aghaie MH, Oldhafer KJ.*

*Ann Surg Oncol. 2019 Dec;26(Suppl 3):653. doi: 10.1245/s10434-019-07521-6. Epub 2019 Jun 26.*

**Mortality after liver surgery in Germany.**

*Filmann N, Walter D, Schadde E, Bruns C, Keck T, Lang H, Oldhafer K, Schlitt HJ, Schön MR, Herrmann E, Bechstein WO, Schnitzbauer AA.*  
*Br J Surg. 2019 Oct;106(11):1523-1529. doi: 10.1002/bjs.11236. Epub 2019 Jul 24.*

**Treatment of acute rectal prolapse.**

*Geffmann T, Tonus C.*  
*MMW Fortschir Med. 2019 Nov;161(19):47. doi: 10.1007/s15006-019-1061-z. German.*

**Correlation between SACE (Subjective Angiographic Chemoembolization Endpoint) score and tumor response and its impact on survival after DEB-TACE in patients with hepatocellular carcinoma.**

*Habbel VSA, Zeile M, Stavrou GA, Wacker F, Brüning R, Oldhafer KJ, Rodt T.*  
*Abdom Radiol (NY). 2019 Oct;44(10):3463-3479. doi: 10.1007/s00261-019-02128-7.*

**Avoiding postoperative mortality after ALPPS-development of a tumor-specific risk score for colorectal liver metastases.**

*Huiskens J, Schadde E, Lang H, Malago M, Petrowsky H, de Santibañes E, Oldhafer K, van Gulik TM, Olthof PB.*  
*HPB (Oxford). 2019 Jul;21(7):898-905. doi: 10.1016/j.hpb.2018.11.010. Epub 2019 Jan 2.*

**CCL21-expression and accumulation of CCR7+ NK cells in livers of patients with primary sclerosing cholangitis.**

*Langeneckert AE, Lunemann S, Martrus G, Salzberger W, Hess LU, Ziegler AE, Poch T, Ravichandran G, Matschl U, Bosse JB, Tiegs G, Fischer L, Koch M, Herkel J, Oldhafer KJ, Schramm C, Altfeld M.*  
*Eur J Immunol. 2019 May;49(5):758-769. doi: 10.1002/eji.201847965. Epub 2019 Feb 27.*

**ALPPS in neuroendocrine liver metastases not amenable for conventional resection - lessons learned from an interim analysis of the International ALPPS Registry.**

*Linecker M, Kambakamba P, Raptis DA, Malagó M, Ratti F, Aldrighetti L, Robles-Campos R, Lehwald-Tywuschik N, Knoefel WT, Balci D, Ardiles V, De Santibañes E, Truant S, Pruvot FR, Stavrou GA, Oldhafer KJ, Voskanyan S, Mahadevappa B, Kozyrin I, Low JK, Ferri V, Vicente E, Prachalias A, Pizanias M, Clift AK, Petrowsky H, Clavien PA, Frilling A.*  
*HPB (Oxford). 2019 Sep 17. pii: S1365-182X(19)30701-4. doi: 10.1016/j.hpb.2019.08.011. [Epub ahead of print]*

**Performance validation of the ALPPS risk model.**

*Linecker M, Kuemmerli C, Kambakamba P, Schlegel A, Mutesan P, Capobianco I, Nadalin S, Torres OJ, Mehrabi A, Stavrou GA, Oldhafer KJ, Lurje G, Balci D, Lang H, Robles-Campos R, Hernandez-Alejandro R, Malago M, De Santibanes E, Clavien PA, Petrowsky H.*  
*HPB (Oxford). 2019 Jun;21(6):711-721. doi: 10.1016/j.hpb.2018.10.003. Epub 2018 Nov 24.*

**Human liver-derived CXCR6+ NK cells are predominantly educated through NKG2A and show reduced cytokine production.**

*Lunemann S, Langeneckert AE, Martrus G, Hess LU, Salzberger W, Ziegler AE, Löbl SM, Poch T, Ravichandran G, Sauter J, Schmidt AH, Schramm C, Oldhafer KJ, Altfeld M, Körner C.*  
*J Leukoc Biol. 2019 Jun;105(6):1331-1340. doi: 10.1002/JLB.1MA111-428R. Epub 2019 Feb 19.*

**First intraoperative measurement of liver functional capacity during liver surgery using the 13 C-methacetin breath test: early results of a pilot study.**

*Makridis G, Oldhafer KJ.*  
*J Hepatobiliary Pancreat Sci. 2019 Nov 9. doi: 10.1002/jhbp.699.*

**Liver resection in octogenarians: are the outcomes worth the risk? The Hamburg Barmbek experience.**

*Makridis G, Reese T, Kandas A, Fard-Aghaie MH, Oldhafer KJ.*  
*ANZ J Surg. 2019 Jan;89(1-2):131-132. doi: 10.1111/ans.14937.*

**CD49a Expression Identifies a Subset of Intrahepatic Macrophages in Humans.**

*Martrus G, Goebels H, Langeneckert AE, Kah J, Flomm F, Ziegler AE, Niehrs A, Löbl SM, Russu K, Hess LU, Salzberger W, Poch T, Nashan B, Schramm C, Oldhafer KJ, Dandri M, Koch M, Lunemann S, Altfeld M.*  
*Front Immunol. 2019 Jun 7;10:1247. doi: 10.3389/fimmu.2019.01247. eCollection 2019.*

**Intraoperative fluorescence angiography and cholangiography with indocyanine green in hepatobiliary surgery.**

*Oldhafer KJ, Reese T, Fard-Aghaie M, Strohmaier A, Makridis G, Kandas A, Wagner KC.*  
*Chirurg. 2019 Nov;90(11):880-886. doi: 10.1007/s00104-019-01035-3. Review. German.*

**Liver Resection with In Situ Hypothermic Perfusion: An Old but Effective Method.**

*Oldhafer KJ, Stavrou GA, Wagner KC, Fard-Aghaie MH.*  
*Ann Surg Oncol. 2019 Jun;26(6):1859. doi: 10.1245/s10434-019-07232-y. Epub 2019 Feb 24.*

## ACCURACY OF ESTIMATED TOTAL LIVER VOLUME FORMULAS BEFORE LIVER RESECTION.

*Olthof PB, van Dam R, Jovine E, Campos RR, de Santibañes E, Oldhafer K, Malago M, Abdalla EK, Schadde E.*  
*Surgery. 2019 Sep;166(3):247-253. doi: 10.1016/j.surg.2019.05.003. Epub 2019 Jun 14.*

**Risk stratification for postoperative pancreatic fistula using the pancreatic surgery registry StuDoQ | Pancreas of the German Society for General and Visceral Surgery.**

*Petrova E, Lapshyn H, Bausch D, D'Haese J, Werner J, Klier T, Niessler NC, Gaedcke J, Ghadimi M, Uhl W, Belyaev O, Kantor O, Baker M, Keck T, Wellner UF; StuDoQ | Pancreas study group and members of StuDoQ | Pancreas registry of the German Society for General and Visceral Surgery (DGAV).*  
*Pancreatology. 2019 Jan;19(1):17-25. doi: 10.1016/j.pan.2018.11.008. Epub 2018 Nov 24.*

## DEFINING BENCHMARK OUTCOMES FOR ALPPS.

*Raptis DA, Linecker M, Kambakamba P, Tschuor C, Müller PC, Hadjitsotis C, Stavrou GA, Fard-Aghaie MH, Tun-Abraham M, Ardiles V, Malagó M, Campos RR, Oldhafer KJ, Hernandez-Alejandro R, de Santibañes E, Machado MA, Petrowsky H, Clavien PA.*  
*Ann Surg. 2019 Nov;270(5):835-841. doi: 10.1097/SLA.0000000000003539.*

**Interferon-γ-dependent immune responses contribute to the pathogenesis of sclerosing cholangitis in mice.**

*Ravichandran G, Neumann K, Berkhout LK, Weidemann S, Langeneckert AE, Schwinge D, Poch T, Huber S, Schiller B, Hess LU, Ziegler AE, Oldhafer KJ, Barikbin R, Schramm C, Altfeld M, Tiegs G.*  
*J Hepatol. 2019 Oct;71(4):773-782. doi: 10.1016/j.jhep.2019.05.023. Epub 2019 Jun 5.*

**Renal Impairment Is Associated with Reduced Outcome After Associating Liver Partition and Portal Vein Ligation for Staged Hepatectomy.**

*Reese T, Fard-Aghaie MH, Makridis G, Kandas A, Wagner KC, Malagó M, Robles-Campos R, Hernandez-Alejandro R, de Santibañes E, Clavien PA, Petrowsky H, Linecker M, Oldhafer KJ.*  
*J Gastrointest Surg. 2019 Nov 19. doi: 10.1007/s11605-019-04419-2.*

**Undifferentiated embryonal sarcoma of the liver treated with associating liver partition and portal vein ligation for staged hepatectomy in a young adult: A case report.**

*Schepelew D, Reese T, Horling K, Frenzel C, Oldhafer KJ.*  
*Int J Surg Case Rep. 2019 Nov 30;66:221-227. doi: 10.1016/j.ijscr.2019.11.052.*

**The MEGNA Score and Preoperative Anemia are Major Prognostic Factors After Resection in the German Intrahepatic Cholangiocarcinoma Cohort.**

*Schnitzbauer AA, Eberhard J, Bartsch F, Brunner SM, Ceyhan GO, Walter D, Fries H, Hannes S, Hecker A, Li J, Oldhafer K, Rahbari N, Rauchfuss F, Schlitt HJ, Settmacher U, Stavrou G, Weitz J, Lang H, Bechstein WO, Rückert F.*  
*Ann Surg Oncol. 2019 Oct 23. doi: 10.1245/s10434-019-07968-7.*

## UROLOGY

**Harnessing New Media Tools in Patient Information.**

*Bach T, Behrendt M, Tanidir Y, Cornford P, Sun Y, Van Poppel H.*  
*Eur Urol. 2018 Dec;74(6):685-687. doi: 10.1016/j.eururo.2018.09.018. Epub 2018 Sep 27. PMID: 30270127*

**Aquablation of the prostate: single-center results of a non-selected, consecutive patient cohort.**

*Bach T, Giannakis I, Bachmann A, Fiori C, Gomez-Sancho F, Herrmann TRW, Netsch C, Rieken M, Scoffone CM, Tunc L, Rassweiler JJ, Liatsikos E.*  
*World J Urol. 2019 Jul;37(7):1369-1375. doi: 10.1007/s00345-018-2509-y. Epub 2018 Oct 4. PMID: 30288598*

**Effect of optical fiber diameter and laser emission mode (cw vs pulse) on tissue damage profile using 1.94 μm Tm:fiber lasers in a porcine kidney model.**

*Becker B, Enikeev D, Glybochko P, Rapoport L, Taratkin M, Gross AJ, Vinnichenko V, Herrmann TRW, Netsch C.*  
*World J Urol. 2019 Sep 12. doi: 10.1007/s00345-019-02944-y.*

**Ho: YaG laser lithotripsy: recent innovations.**

*Becker B, Gross AJ, Netsch C.*  
*Curr Opin Urol. 2019 Mar;29(2):103-107.*

**Perioperative Safety in Patient Under Oral Anticoagulation During Holmium Laser Enucleation of the Prostate.**

*Becker B, Netsch C, Hansen J, Böhme A, Gross AJ, Zacharias M, Lehrich K.*  
*J Endourol. 2019 Mar;33(3):219-224. doi: 10.1089/end.2018.0693.*

**Thulium vapourenucleation of the prostate (ThuVEP) for prostates larger than 85 ml: long-term durability of the procedure.**

*Becker B, Orywal AK, Gross AJ, Netsch C.*  
*Lasers Med Sci. 2019 Oct;34(8):1637-1643. doi: 10.1007/s10103-019-02760-1*

**Cabazitaxel versus Abiraterone or Enzalutamide in Metastatic Prostate Cancer.**

*de Wit R, de Bono J, Sternberg CN, Fizazi K, Tombal B, Wielfing C, Kramer G, Eymard JC, Bamias A, Carles J, Iacovelli R, Melichar B, Sverrisdóttir Á, Theodore C, Feyerabend S, Helissey C, Ozatilan A, Gefriaud-Ricouard C, Castellano D; CARD Investigators.*  
*N Engl J Med. 2019 Sep 30. doi: 10.1056/NEJMoa191206.*

**Adult Granulosa Cell Tumor of the Testis: A Case Report with a Review of the Literature.**

*Dieckmann KP, Bertolini J, Wielfing C.*  
*CaseRepUrol. 2019 May 19;2019:7156154. doi: 10.1155/2019/7156154. eCollection 2019.*

**Serum Levels of MicroRNA-371a-3p (M371 Test) as a New Biomarker of Testicular Germ Cell Tumors: Results of a Prospective Multicentric Study.**

*Dieckmann KP, Radtke A, Geczi L, Matthies C, Anheuser P, Eckhardt U, Sommer J, Zengerling F, Trenti E, Pichler R, Belz H, Zastrow S, Winter A, Melchior S, Hammel J, Kranz J, Bolten M, Krege S, Haben B, Loidl W, Ruf CG, Heinzelbecker J, Heidenreich A, Cremers JF, Oing C, Hermanns*

T, Fankhauser CD, Gillessen S, Reichegger H, Cathomas R, Pichler M, Hentrich M, Eredics K, Lorch A, Wülfing C, Peine S, Wosniok W, Boke-meyer C, Belge G.  
J Clin Oncol. 2019 Jun 1;37(16):1412-1423. doi: 10.1200/JCO.18.01480. Epub 2019 Mar 15.

#### **Antegrade Sklerosierung der Varikozele testis.**

Gross AJ.  
Aktuelle Urol. 2019 Feb;50(1):113-119. doi: 10.1055/a-0646-5599. Epub 2019 Feb 7. German.

#### **Enhanced endoscopic imaging for urothelial cancer.**

Knoll T, Bach T.  
Aktuelle Urol. 2019 Feb;50(1):76-83. doi: 10.1055/a-0731-0008. Epub 2018 Sep 27. Review. German.  
PMID: 30261550

**Erdafitinib in Locally Advanced or Metastatic Urothelial Carcinoma.**  
Loriot Y, Necchi A, Park SH, Garcia-Donas J, Huddart R, Burgess R, Fleming M, Rezazadeh A, Mellado B, Varlamov S, Joshi M, Duran I, Tagawa ST, Zakharia Y, Zhong B, Stuyckens K, Santiago-Walker A, De Porre P, O'Hagan A, Avadhani A, Sieker-Radtke AO; BLC2001 Study Group. Collaborators (118)  
N Engl J Med 2019 Jul 25. 381:338-348 DOI: 10.1056/NEJMoa1817323

**Attending physicians in urology working at university centers or non-university centers-what are the differences? Results of a web-based cross-sectional study at German hospitals.**  
May M, Wolff I, Briandl J, Kriegmair MC, Marghawal D, Wülfing C, Burger M, Necknig U, Schäfer C; DGU-Arbeitsgruppe „Urologische Oberärztinnen und Oberärzte“. Urologe A. 2019 Aug 26. doi: 10.1007/s00120-019-01028-4. German.

#### **Endoscopic enucleation of the prostate.**

Miernik A, Gross AJ, Schoeb DS, Sievert KD, Rassweiler JJ, Netsch C, Häcker A, Leyh H, Olbert PJ, Klein JT, Homberg R, Westphal PJ, Herrmann TRW.  
Urologe A. 2019 Apr;58(4):437-450. doi: 10.1007/s00120-019-0910-9. German

**Surgical treatment of large volume prostates: a matched pair analysis comparing the open, endoscopic (ThuVEP) and robotic approach.**  
Nestler S, Bach T, Herrmann T, Jutzi S, Roos FC, Hampel C, Thüroff JW, Thomas C, Neisius A.  
World J Urol. 2019 Sep;37(9):1927-1931. doi: 10.1007/s00345-018-2585-z. Epub 2018 Dec 4.  
PMID: 30515596

#### **Point-Counterpoint: Thulium laser enucleation of the prostate.**

Netsch C, Gross AJ.  
Curr Opin Urol. 2019 Mar 27. doi: 10.1097/MOU.0000000000000610.

#### **Thulium laser enucleation of the prostate.**

Netsch C, Gross AJ.  
Curr Opin Urol. 2019 May;29(3):302-303. doi: 10.1097/MOU.0000000000000610.

**Urological infections and antibiotic management in geriatric patients.**

Olbert PJ, Netsch C, Schoeb DS, Leyh H, Gross AJ, Miernik A,

Rassweiler JJ, Westphal J, Häcker A, Homberg R, Klein J, Sievert KD, Herrmann TRW.  
Urologe A. 2019 Jul;58(7):809-820. doi: 10.1007/s00120-019-0974-6. Review. German

#### **High proliferation rate and TNM stage but not histomorphological subtype are independent prognostic markers for overall survival in papillary renal cell carcinoma.**

Polifka I, Agaimy A, Herrmann E, Spath V, Trojan L, Stöckle M, Becker F, Ströbel P, Wülfing C, Schrader AJ, Barth P, Staehler M, Stief C, Hohenfellner M, Macher-Göppinger S, Wüllrich B, Noldus J, Brenner W, Roos FC, Walter B, Otto W, Burger M, Höfler H, Haferkamp A, Geppert CI, Stöhr C, Hartmann A; German Network Of Kidney Cancer.  
Hum Pathol. 2019 Jan;83:212-223. doi: 10.1016/j.humpath.2018.08.006. Epub 2018 Aug 17.

#### **Treatment of benign prostatic hyperplasia in geriatric patients-use and limitations of existing guidelines.**

Schoeb DS, Wüllrich B, Dürschmied D, Heimbach B, Heupel-Reuter M, Gross AJ, Wilhelm K, Gratzke C, Miernik A.  
Urologe A. 2019 Sep;58(9):1029-1038. doi: 10.1007/s00120-019-0988-0. Review. German

#### **Update of the 2Sk guidelines on the diagnostics, treatment and metaphylaxis of urolithiasis (AWMF register number 043-025) : What is new?**

Seitz C, Bach T, Bader M, Berg W, Knoll T, Neisius A, Netsch C, Nothacker M, Schmidt S, Schönthalter M, Siener R, Stein R, Straub M, Strohmaier W, Türk C, Volkmer B.  
Urologe A. 2019 Nov;58(11):1304-1312. doi: 10.1007/s00120-019-01033-7. Review. German.  
PMID: 31506761

#### **Efficacy and safety of aquablation of the prostate for patients with symptomatic benign prostatic enlargement: a systematic review.**

Suarez-Ibarrola R, Bach T, Hein S, Coccia A, Russo GI, Herrmann TRW, Gratzke C, Miernik A.  
World J Urol. 2019 Sep 26. doi: 10.1007/s00345-019-02959-5. [Epub ahead of print] Review.  
PMID: 31559476

#### **Rare case of nonparasitic chyluria.**

Vogt K, Netsch C, Pfeiffer D, Venneri Becci A, Gross AJ, Becker B.  
Urologe A. 2019 Feb;58(2):151-154. doi: 10.1007/s00120-018-0849-2

#### **Erratum zu: Therapiesituation beim metastasierten kastrations-naiven Prostatakarzinom (mCNPC) und die Auswirkungen im klinischen Alltag.**

Wülfing C, Bögemann M, Goebell PJ, Hammerer P, Machtens S, Pfister D, Schwentner C, Steuber T, von Amsberg G, Schostak M.  
Urologe A. 2019 Aug;58(8):924. doi: 10.1007/s00120-019-0985-3. German

#### **Treatment situation in metastatic Castration Naive Prostate Cancer (mCRPC) and the implications on clinical routine.**

Wülfing C, Bögemann M, Goebell PJ, Hammerer P, Machtens S, Pfister D, Schwentner C, Steuber T, von Amsberg G, Schostak M.  
Urologe A. 2019 Sep;58(9):1066-1072. doi: 10.1007/s00120-019-0925-2. Review. German





# ASKLEPIOS MEDICAL SCHOOL PUBLICATIONS AS A SUBSTITUTE FOR DIPLOMA THESES

**DR. MONIKA GRIMM**

**DR. CHRISTOPH JERMANN**

Students of the Asklepios Campus Hamburg (ACH) of Semmelweis University also engage in scientific research at Asklepios. They are obliged to write a scientific paper, the diploma thesis, as part of their studies. The majority of the students do this at the Asklepios clinics in Hamburg, thereby supporting ongoing research projects. In order to increase the visibility of the students' research activities, they are welcome to submit an accepted publication as first author in a peer-reviewed journal instead of a thesis.

The journal's impact factor is not decisive for recognition as a diploma thesis. A publication with shared first authorship is also recognized as a diploma thesis, yet only by one of the first authors.

The first student to take advantage of the opportunity to submit a publication as a substitute for the diploma thesis was Jakob Feldt who, in 2019, wrote his diploma thesis in the Cardiology Department of the Asklepios Klinik St. Georg under the supervision of Dr. Thomas Fink and PD Dr. Andreas Metzner. His paper was published in the journal *Current Opinion in Cardiology*, titled „Catheter ablation in elderly patients: a review of current studies and pending questions“ (*Curr Opin Cardiol.* 2019, 34(1): 29–34). In his review article, Mr. Feldt provides an overview of current studies dealing with the risk of catheter ablation in elderly patients. He concludes that, in most cases, the patient's general condition plays a more decisive role for a well-tolerated and effective catheter ablation than the patient's age.

In 2020, Jendrik Becker-Assmann was the next to seize the opportunity to submit a publication as a replacement for his thesis. He wrote his thesis under the supervision of Mohammad-Hossein Fard-Aghaie, MD, in the Department of Prof. Karl J. Oldhafer, MD. The work was publis-

hed in the journal *Der Chirurg* with the title „Diagnostic and prognostic significance of the  $\alpha$ -feto protein in hepatocellular carcinoma“ (*Chirurg.* 2020. doi: 10.1007/s00104-020-01118-6). In his study, Mr. Becker-Assmann concludes that the  $\alpha$ -feto-protein (AFP) level can be attributed a therapeutic utility and that the measured AFP concentration has therapeutic consequences regarding therapy strategy.

Publishing at an early stage as first author helps students increase the visibility of their research work while for the Departments, the supervision efforts invested pay off in the form of impact points earned. In this respect, the possibility of submitting a publication as a substitute for a diploma thesis is a win-win situation for all parties involved. We hope that many departments will make use of this possibility in the future. We already know of nine planned theses of this kind that shall be completed within the next three years. And more will certainly follow.



Figure 1: Graduates of the Asklepios Campus Hamburg of Semmelweis University, 2019

## DIPLOMA THESES

### YEAR 8

Name	Vorname	Thema	Betreuer
Arnold	Danielle Louisa	Drei Jahre Peritonektomie und HIPEC-Therapie an der Asklepios Klinik Barmbek Einzeitige und zweizeitige HIPEC-Applikation im deskriptiven Vergleich	Dr. med. Michael Lipp
Basedau	Hauke	Zentrale Verarbeitung nozizeptiver Reize – Bildgebende Methodiken zur Untersuchung der Neuromatrix	Dr. rer. nat. Jan Mehner
Beckelmann	Stefanie Kerstin	Die kleinen Speicheldrüsenkarzinome – Epidemiologie, Therapie, Prognose	Prof. Dr. med. Jens E. Meyer
Benger	Konstantin	Winkelstabile Plattenosteosynthese am distalen Radius: Retrospektiver Vergleich von zwei unterschiedlichen Plattenystemen: Aptus Radius vs. VariAx DR	PD Dr. med. Marc Schult
Bjoernsgard	Karen Elisabeth	Geschlechtskrankheiten nach dem zweiten Weltkrieg – Formen und Institutionen der Versorgung in Hamburg	Univ.-Prof. Dr. Florian Steger
Bohnen	Jan-Eric	Wirksamkeit und Sicherheit der Kyroballonablation bei Patienten über 75 Jahren	Dr. med. Christian-Hendrik Heeger

Brückner	Fabian	Der „erweiterte Suizid“ und seine Charakteristika im Vergleich – eine retrospektive Auswertung der Obduktionsfälle aus dem IfR Hamburg über den Zeitraum von 01.01.2005 - 31.03.2018	Prof. Dr. med. Jan Peter Sperhake
Burmeister	Martin	Kreativität und Morbus Parkinson – Eine Untersuchung im Asklepios Klinikum Harburg	Prof. Dr. med. Rudolf Töpper
Cichutek	Sophia Marlene	Konstruktion und Funktionalitätstest lentiviraler und gammaretroviraler Vektoren zur Expression Nanobody-basierender chimärer Antigenrezeptoren (CAR) gegen CD38	PD Dr. rer. nat. Dipl.-Biochem. Kristoffer Riecken
Danzer	Maximilian	Evaluation der Klassifikation der patellofemoralen Instabilität nach Frosch am Beispiel der Typen 3e und 5	Prof. Dr. med. Christian Kühne
Daß	Christian Camillo	Korrelation des late enhancements im linksventrikulären Myokard mit der Myokardbiopsie	PD Dr. med. Dietmar Kivelitz
Dekorsy	Antonia	Perioperative Schmerztherapie bei Tonsillektomie: Eine Literaturrecherche	Dr. med. Catharina Meyer zu Natrup
Diener	Leopold	Einfluss von technischen und operativen Parametern auf das postoperative Hörvermögen bei Elektroakustischer Stimulation	Prof. Dr. med. Jens E. Meyer
Duske	Vincent Sean	Der Barmbeker Frühwarnscore (BFS) – ein Pilotprojekt	Dr. med. Sebastian Wirtz
Feldt	Jakob	Catheter ablation in elderly patients: A review of current studies and pending questions	Dr. med. Thomas Fink
Firla	Jan	Adjuvante Chemotherapie beim duktalem Pankreaskarzinom	Prof. Dr. med. Karl J. Oldhafer
Geisler	Dominic Nicholas	Katheterablation basierte Isolation des linken Vorhofes: Klinischer Nutzen, Komplikationen und Prävention von Thrombembolien	Dr. med. Christian-Hendrik Heeger
Gerlitzky	Franziska Hedwig	Antibiotische und antimykotische Prävention postoperativer Komplikationen in der kolorektalen Chirurgie – Eine Untersuchung der Anastomoseninsuffizienzen und Wundinfektionen im Asklepios Klinikum Barmbek	Dr. med. Atingwa Tasi
Hagen	Marius	Der Einfluss von software-basierter Metallartefaktreduktion (iMAR) auf den klinischen Konturierungsprozess am Beispiel zweier Patientenfälle	Prof. Dr. Florian Würschmidt
Haneke	Mirko	Analyse eines Rotormappingsystems bei persistierendem Vorhofflimmern	Dr. med. Shibu Mathew
Heckschen	Konstantin	Auswahl der postoperativen Bildgebung zur Lageüberprüfung einer Stapesprothese	Prof. Dr. med. Jens E. Meyer
Hommelsheim	Stephan Alexander	Prognostische Bedeutung einer präprozeduralen Anämie bei hochgradiger Aortenstenose nach kathergeföhrtem Aortenklappenersatz (TAVI)	Dr. med. Dmitry Schewel
Huber	Tessa Maria Christina	Aktuelle Behandlungskonzepte intrahepatischer cholangiozellulärer Karzinome in einem Leberzentrum	Dr. med. Gregor Stavrou
Hüttemann	Eva Lisa	Charakterisierung des Kallmann-Syndroms	Prof. Dr. med. Onno E. Janßen
Janzen	Jara	Patientenzufriedenheit auf der geschlossenen Akutstation der Psychiatrie: Sind Patienten zufrieden und wo besteht Verbesserungspotenzial, vor allem unter Berücksichtigung von Zwangsmäßignahmen?	Prof. Dr. med. Matthias Nagel
John	Alexander	Die CT-gesteuerte Radiofrequenzablation (RFA) zur minimal-invasiven Behandlung von Tumoren	Prof. Dr. med. W. Gross-Fengels
Korthaus	Alexander Sebastian	Unterschied zwischen der biplanaren aufsteigenden und der absteigenden medial öffnenden Tibiakopf Osteotomie	PD Dr. med. Matthias Krause

Krause	Janina Maren	Hämodynamische Unterschiede und Einflussfaktoren biologischer Aortenklappenprothesen	Dr. med. Nicolai Bayer
Krümmel-bein	Michel Pierre	Vergleichende Mutationsanalyse mittels konventioneller molekulargenetischer Testung und Amplikon-basierter Next-Generation-Sequenzierung bei Adenokarzinomen der Lunge in einem Hamburger Patientenkollektiv	Dr. med. Markus Tiemann
Lehner	Louisa Antonella	Patientenscreening auf Familiäre Hypercholesterinämie: Mutationsfrequenz und Mutationsspektrum	Hon. Prof. Dr. med. Martin Merkel
Lehnert	Franziska	Antidepressant Effect of Botulinum Toxin A Injections in Outpatients with Affective Disorders – A Practical Experience	PD Dr. med. Marc Axel Wollmer
Lohmann	Lisa Andrea	Der Einfluss von Botulinumtoxin auf die emotionale Bewertung von Bildern und Wörtern	PD Dr. med. Marc Axel Wollmer
Malan	Marcel	Klinische Ergebnisse nach kombinierter distaler Femurosteotomie zur Behandlung der Patellainstabilität bei Genu Valgum	Dr. med. Jannik Frings
Mohr	Ann-Christin	Die Bedeutung eines umfassenden somato-psychischen Behandlungskonzeptes anhand des Krankheitsbildes Brustkrebs im Hinblick auf das Outcome	Dr. med. Goetz Broszeit
Obert	Jan Daniel Alexander	Eine retrospektive Analyse von 93 Patienten mit einem perihilären Gallengangskarzinom	Hon. Prof. Dr. med. Siegbert Faiss
Paaß	Hendrik	Drei Jahre Peritonealdialyse-Katheter-Implantation an der Asklepios Klinik Barmbek – Ein erstes Follow-Up	Dr. med. Michael Lipp
Panzer	Juliane	Testosteronsubstitution bei Transmännern: Auswirkungen auf Hormonstatus, Metabolismus und die Häufigkeit der Autoimmunthyreoiditis Hashimoto	Prof. Dr. med. Onno E. Janßen
Preyer	Caroline Elisabeth Marie	Schnittführung der Cochlea Implantation – unter besonderer Berücksichtigung des minimalinvasiven Zugangs	Prof. Dr. med. Jens E. Meyer
Rieß	Juliane Christine	Der Einfluss von Übergewicht auf den Krankheitsverlauf der juvenilen idiopathischen Arthritis	Dr. med. Ivan Foeldvari
Sagasser	Joana	Konzeption und Entwicklung eines Lehrplan begleitenden Histopathologieskriptes für das 5. und 6. Semester der Asklepios Medical School – Pathologische Präparate der Kardiologie, Orthopädie, Urologie, Pneumologie und Gynäkologie	Prof. Dr. med. Katharina Tiemann
Salloum	Omar	Effektivität und Sicherheit der Cryoballon basierten PVI bei Patienten mit einem implantierten kardialen System.	Dr. med. Christian-Hendrik Heeger
Scheer	Tristan Ruben	Validierung und Weiterentwicklung eines Screening-Instrumentes zur Verkürzung von Überweisungszeiten bei Kindern mit Verdacht einer juvenilen idiopathischen Arthritis	Dr. med. Ivan Foeldvari
Schöppach	Leonie	Vergleich verschiedener Untersuchungsverfahren zur Differenzialdiagnose HPVpositiver und HPV-negativer Oropharynxkarzinome	Prof. Dr. med. Jens E. Meyer
Torster	Leopold	Konzeption und Entwicklung eines Lehrplan begleitenden Histopathologieskriptes für das 5. und 6. Semester des Asklepios Campus Hamburg	Prof. Dr. med. Katharina Tiemann
Traupe	Florian Maximilian	Auswirkung von Kryotherapie auf Laktatentwicklungen – ein zeit- und temperaturabhängiger Vergleich des Laktatabbaus am Beispiel von Wasserballspielern	Michael Ehnert
Valentin	Lisa	Neue Therapieoptionen bei kompliziertem nephrotischen Syndrom im Kindesalter	Prof. Dr. med. Markus J. Kemper

Wesseler	Antje	Diagnostik des Morbus Menière	PD Dr. med. Dietmar Kivelitz
Westphal	Christina	Die unterschiedlichen Arten der Cochleotomie	Prof. Dr. med. Jens E. Meyer
Wittmann	Kira Felicitas	Plattenostesynthese bei Weber-B-Fraktur: Retrospektiver Vergleich von zwei unterschiedlichen Platten systemen: Konturenplatte nach Brug vs. VariAx	PD Dr. med. Marc Schult
Wolbert	Lara	Hart- und Weichgewebsveränderungen nach chirurgischer Dysgnathiebehandlung in der Mund-, Kiefer- und Gesichtschirurgie anhand von khalometrischer Fernröntgenseitenbildanalyse und Profilfotoauswertung	Dr. med. Dr. med. dent. N. B. Liebehenschel
Zäck	Matthias Julian	Prognostische Bedeutung des R2-CHA2DS2-VASc-Scores bei Patienten mit hochgradiger Aortenstenose nach TAVI	Dr. med. Jury Schewel

## YEAR 9

Name	Vorname	Thema	Betreuer
Amian	Jacqueline	Einsatzmöglichkeiten des mikrovaskulären Unterarmappens in der Kopf-Hals-Onkologie	Prof. Dr. Thomas Verse
Arbabzadah	Sahar	Synchrone kolorektale Lebermetastasen – Behandlungsstrategien und Überleben	Dr. Dr. habil. Gregor A. Stavrou
Bartels	Inga	Prädiktoren für postoperative Komplikationen nach zytoreduktiver Chirurgie (CRS) und hyperthermer intraperitonealer Chemotherapie (HIPEC) eine retrospektive Analyse	Dr. med. Michael Lipp
Baumgart	Elisabeth Maria	Der Einfluss des posterioren tibialen Slopes auf die Prävalenz von peripheren Bandinstabilitäten bei vorderen Kreuzbandrupturen	Dr. med. Lena Alm
Becker	Johannes David	Retrospektive Analyse von CT-gestützten transthorakalen Lungenpunktionen in den Jahren 2016/2017“	Prof. Dr. med. Roman Fischbach
Becker-Assmann	Jendrik	Diagnostische und prognostische Bedeutung des Alpha-Feto-Proteins (AFP) beim Hepatzellulären Karzinom.	Dr. med. Mohammad-Hossein Fard-Aghaie
Bertels	Jana	Durchführbarkeit und akuter Erfolg der Katheterablation atrialer Linien bei Patienten nach Mitralklappenoperationen	Prof. Dr. med. Stephan Willems/ Christine Lemes
Bozicic	Esra	Klinische und hormonelle Charakteristika von Patienten mit PubertätsgynäkomastieVergleich der Diagnostik mit den Empfehlungen der Leitlinie	Prof. Dr. Carl-Joachim Partsch
Braun	Florian	Spektrum des von Willebrand Syndroms mit besonderer Berücksichtigung des erworbenen von Willebrand Syndroms. Eine retrospektive Auswertung von 2010 – 2017.	Prof. Dr. med. Ulrich Budde
Drews	Jan	Stellenwert der Diagnostik der Endothelfunktion in der kardiologisch-angiologischen Praxis	Dr. Boris Leithäuser
Drexler	Richard	Die Etablierung einer immunhistochemischen Färbung des Hit-zeschockproteins-27 im duktalen Adenokarzinom des Pankreas und eine Analyse des Expressionsmusters am Patientenkollektiv	Prof. Dr. K.-J. Oldhafer

Ellendt	Christina	Echokardiografische Analysen zur Rolle des linksventrikulären Ausflusstrakts in Bezug auf die Schrittmacherpflichtigkeit nach TAVI	Prof. Dr. med. Derk Frank
Frank	Victoria Julia	Der Einfluss des Gelenkflächenwinkels bei Umstellungsosteotomien des Kniegelenkes	Dr. med. Lena Alm
Fröschle	Felix Florian	Interleukin 6 (IL-6) in der Diagnostik einer Anastomoseninsuffizienz am Ösophagus – eine retrospektive Analyse von 23 Patienten.	Dr. Tina Maghsoudi
Gémes	Kristóf György	Die PD-L1 Expression und lymphozytäre Infiltration bei Triple-negativen-Mammakarzinomen	Prof. Dr. med. Katharina Tiemann
Günther	Bela	Hemikolektomie rechts: Vergleich zwischen konventionell-offenem und laparoskopischem Operationsverfahren	Dr. med. Michael Lipp
Hähnle	Anna Theresa	Analyse der Effektivität und Sicherheit der Katheterablation ventrikulärer Arrhythmien der Papillarmuskeln	Dr. med. Thomas Fink
Hambrecht	Jan Michael	Histologische Charakteristika des bullösen Pemphigoids	Prof. Dr. Christian Sander
Herder	Sonja Charlotte	Der posteriore tibiale Slope (PTS) als potenzieller Risikofaktor bei Primär- und Rezidiv-VKB-Rupturen	Dr. med. Lena Alm
Hühnlein	Lisa	Sicherheit, audiologische Ergebnisse und gesundheitsbezogene Lebensqualität nach Cochlea Implantation mit HiRes 90K und HiFocus™ Mid-Scala Elektrode	Dr. med. Attila Óvári
Katz	Jérôme	Die Ergebnisse der Behandlung der akuten Cholezystitis bei Patienten im Alter über 85 Jahren – eine retrospektive Studie	Dr. Thomas Mansfeld
Keller	Peter Sebastian	Aufbau eines Sarkomzentrums an der Asklepios Klinik Sankt Georg in Hamburg	Prof. Dr. med. habil. Carolin Tonus
Klaproth	Anna Sophia Mathilde	Risikofaktoren für ein Induktionsversagen der Standard-chemotherapie mit Anthracycline und Cytarabin bei der Akuten Myeloischen Leukämie	Prof. Dr. Ahmet Elmaagacli
Kölzer	Charlotte	Verbesserung der Compliance von Patienten mit Hilfe der Smartphone App „Stone MD: Nierensteine“	Dr. med. Benedikt Becker
Kölzer	Hannah	Qualitative und quantitative Analyse von computertomographisch gesteuerten Knochenbiopsien bei Patientinnen mit Mammakarzinom	Prof. Dr. med. Roman Fischbach
Kuck	Marie Philine	Die hochauflösende Bildgebung der linksatrialen Anatomie des Herzens mittels eines neuen dielektrischen Breitband-Mapping-Systems	Dr. med. Tilmann Maurer
Labonte	Lukas Antonius Josef	Dehnen im Sport: Sinnhaftigkeit und Auswirkungen auf das Leistungsvermögen	Michael Ehnert
Leitner	Katharina Elisabeth	Surgical Risk Calculator – Evaluierung von Effizienz und Nutzen bezogen auf das Patientenkollektiv einer deutschen chirurgischen Abteilung	Prof. Dr. Dr. habil Thomas Carus
Lentz	Yannick	Postoperative Komplikation nach offener vs. laparoskopischer Resektion für Kolonkarzinome	Dr. med. Atingwa Tasi
Lorenz	Nikolas	Prävalenz der koronaren Herzkrankheit bei chronisch obstruktiver Lungenerkrankung – pathophysiologische Mechanismen und empirische Belege der Komorbidität	PD Dr. med. Hans-Peter Hauber
Ludwig	Julia	Die Sonographie in der Diagnostik eines Abszesses in der Kopf- und Halsregion – eine systematische Übersichtsarbeit	Prof. Dr. Jens Eduard Meyer
Martin	Isabell	Durchführbarkeit, Sicherheit und Akuteffektivität des Kryobalons der vierten Generation im Rahmen der Katheterablation von Vorhofflimmern	PD Dr. med. Andreas Rillig / Dr. med. Laura Rottner

Metke	Franziska	Prävalenz und Risikofaktoren für das Auftreten einer Meningoësis lymphomatosa bei Burkitt-Lymphom	Prof. Dr. Ahmet Elmaagacli
Mülders	Sarah	Anwendung und Sicherheit lokaler Hämostyptika in der Herzchirurgie	Dr. Nocolai Bayer
Müllner	Maximilian	Klinische Ergebnisse nach arthroskopischer Rekonstruktion des Popliteuskomplexes bei posterolateralen Instabilitäten des Kniegelenks Bewertung der Operationsverfahren für die hinteren Schrägbänder mit kombinierter hinterer Kreuzbandruptur	Dr. Tobias Drenck
Opitz	Karena	Cryoballon-basierte Pulmonalvenenisolierung im Sinusrhythmus oder Vorhofflimmern? Einfluss des periprozeduralen Grundrhythmus auf den klinischen Erfolg“	PD Dr. Andreas Metzner
Pleye	Lars Nikolas	Wie unterscheiden sich Eingriffszeiten und Strahlenexposition bei chirurgischer und perkutaner EVAR?	Prof. Dr. Klaus Mathias
Rudolph	Leonie Laura Zoe	Die COPD und ihre Komorbiditäten – am Beispiel der Osteoporose	PD Dr. med. Hans-Peter Hauber
Schinzel	Annika Lisa Marie	Effektivität und Risiken minimalinvasiver Stents in der Glaukomchirurgie	PD Dr. Marc Schargus
Sturm	Berit	Die COPD und ihre Komorbiditäten am Beispiel der Herzinsuffizienz	PD Dr. med. Hans-Peter Hauber
Töckelt	Feri	Die Wertigkeit der einmaligen intravenösen Gabe von Tranexamsäure beim unilateralen endoprothetischen Hüftgelenkersatz	Dr. Oliver Niggemeyer
Ullmann	Octavia	Vergleich der laparoskopischen Resektion mit der offenen Resektion des Rektumkarzinoms im Hinblick auf postoperative Komplikationen	Dr. med. Atingwa Tasi
Ustorf	Klara Marie	Ist die laparoskopische Appendektomie ein ausreichendes Verfahren bei perforierter Appendizitis – eine retrospektive Auswertung des Patientenguts eines städtischen Erstversorgerkrankenhauses in Hamburg.	Dr. Thomas Mansfeld
Wille	Sebastian Witiko	Monozentrische retrospektive Analyse der Wirksamkeit einer Barorezeptoraktivierungstherapie bei Patienten mit Herzinsuffizienz oder therapierefraktärer Hypertonie	Dr. med. Felix Diehlmann

# RESEARCH PROJECTS OVERVIEW AKHH

## AGGREGATION LEVEL AKHH

In 2019, there are 392 active research projects and clinical studies, which represents a decrease compared to the previous year (440 active projects). The largest decline is seen at the Asklepios Westklinikum, while the number of projects in St. Georg and Altona has risen slightly. The number of events held within the AKHH last year dropped slightly from 136 to 115.

Most of the projects are still being implemented in the field of hemato-oncological/oncological and cardiovascular diseases. As in 2018, research in this area is still leading - with almost 140 active projects, the figures of the previous year have been exceeded (2018: 110 active projects). With a total of 96 projects, cardiology remains number two and, in contrast to the previous year, is also growing. For the first time, neurology and urology rank third and fourth with slightly increased project numbers. Gastroenterology, last year in 3rd place with over 70 projects, meanwhile shows a massive drop in study activity.

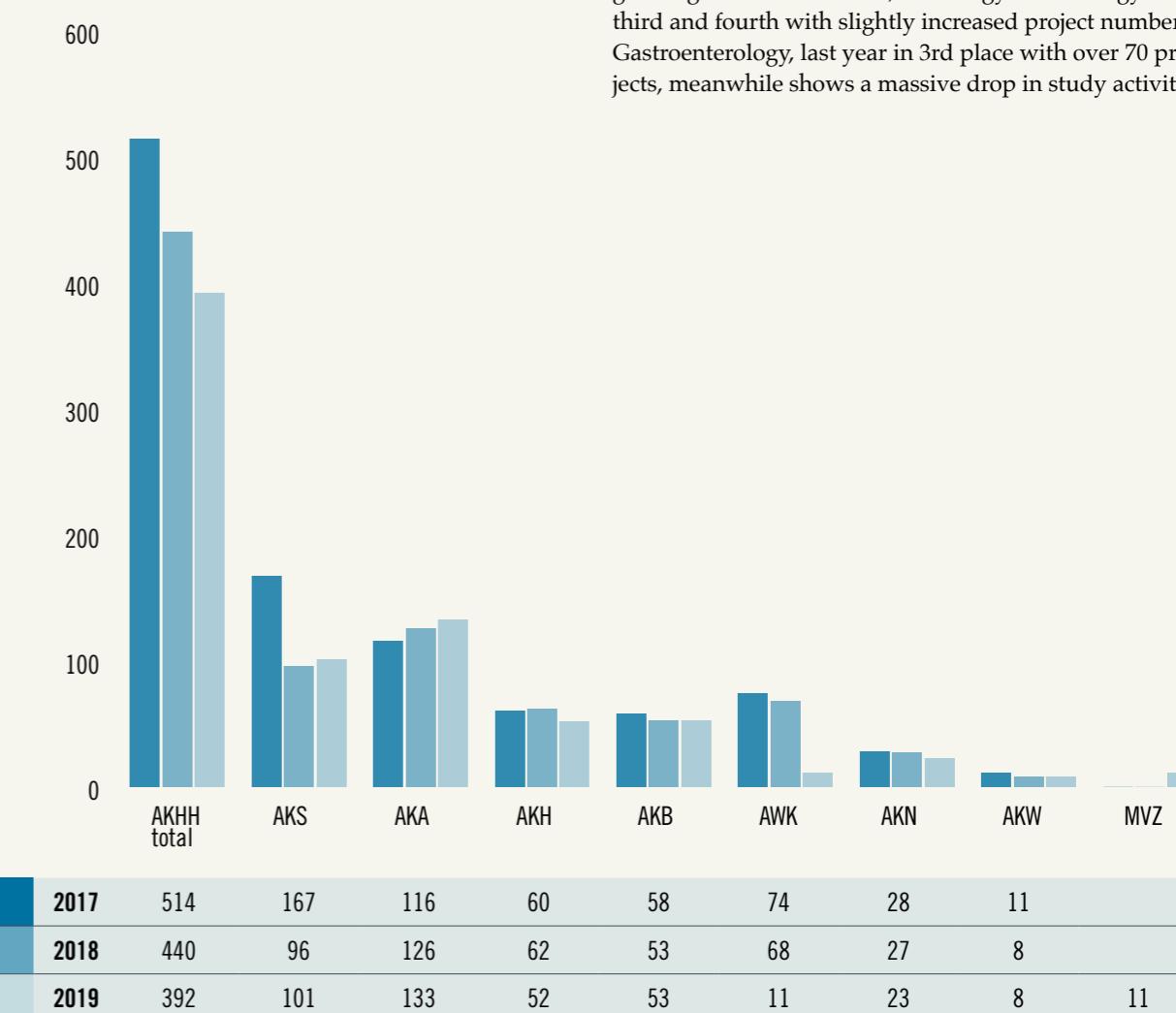


Figure 1: Active research projects AKHH 2017 to 2019

**Main sites with a focus on**

- Hemato-oncology research: AK Altona, AK St. Georg, AK Harburg (Lunge), AK Barmbek
- cardiovascular research: AK St. Georg, AK Harburg (Angiologie), AK Barmbek
- neurological research: AK Nord, AK Wandsbek
- urology research: AK Altona, AK Harburg, AK Barmbek

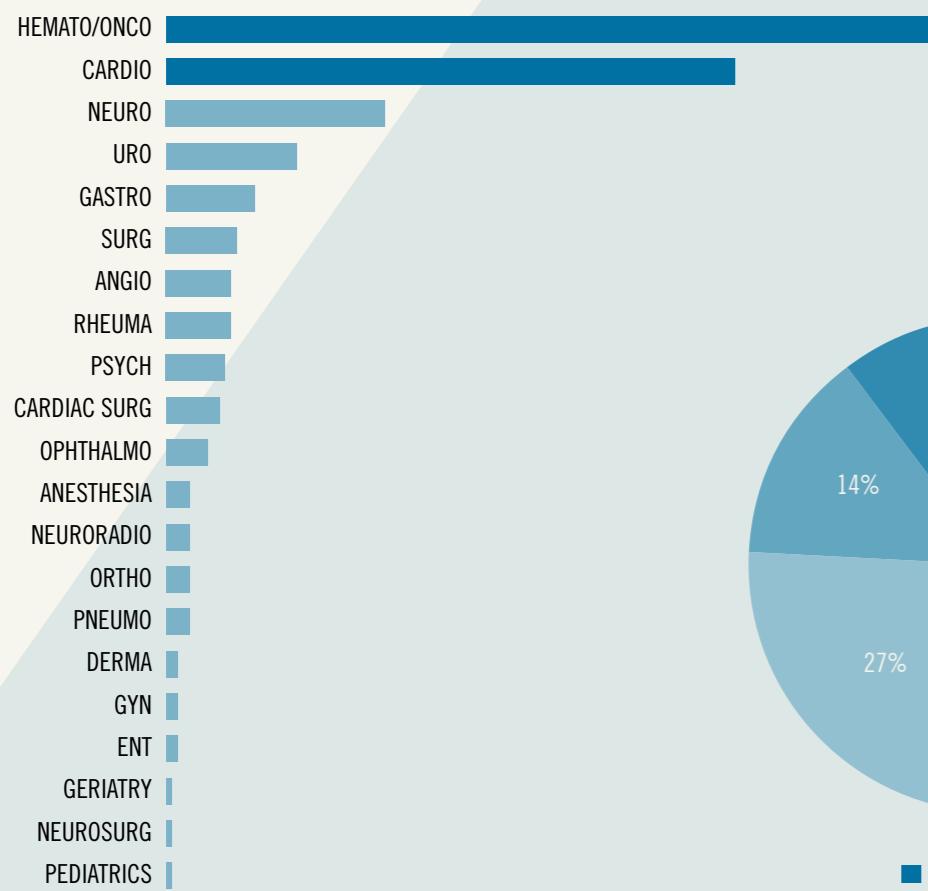


Figure 2: Research projects by specialization - AKHH research projects

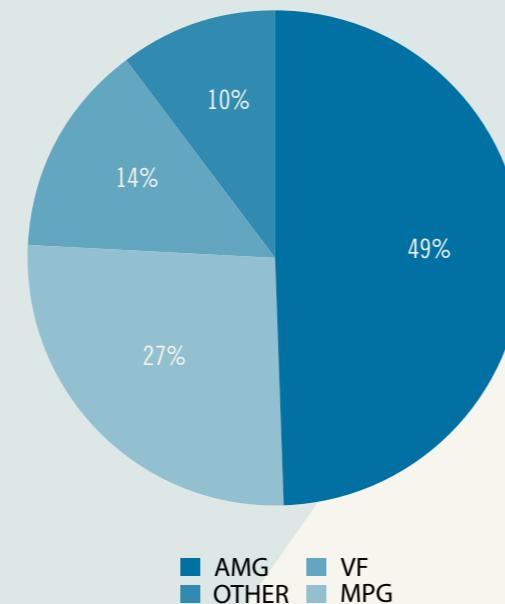


Figure 3: Project portfolio 2019 AKHH total (n=514)

The project portfolio largely corresponds to that of previous years. Almost 50 % of all projects are clinical trials under the German Medicines Act (AMG) - 53 % in the previous year - and 27 % under the German Medical Devices Act (MPG). A slight increase of 5 % was observed

in MPG studies. With a 76 % share, external contract research projects in cooperation with the pharmaceutical industry accounted for the largest part. The shares of health services research, sample collections and register studies are comparable to those of the preceding year.

The project portfolio of the clinics in the AKHH reflects the range of fundamental and patient-oriented research required by the Science Council. In this way, we continue

to meet our demand for university research-oriented science.

**Number of projects at the AKHH 2019**

Number of events at the AKHH 2019

392

117

Table 1: Number of projects and events in 2019 at the AKHH

**EXTERNAL FUNDS**

Considering all internal and external revenues, the total research revenue will amount to € 3,402,637 in 2019 and thus fall below the previous year's total (2018: € 4,028,873). With an amount of € 1,834,355, revenues from external contract research also lag behind the previous year's figures (€ 2,145,131). This can be mainly explained by the decline in industrial contract research in the field of gastroenterology, which has enjoyed rather high study activity for years. An increase in external revenues was recorded in the area of event administration (2018: 219,364 €).

PROMEDIG gGmbH has recorded a slight increase in donations compared to 2018 (€ 472,801). Internal revenues (research funding and AMS apprenticeship bonus) were significantly lower than in the previous year due to a reduction in research funding. The third-party funding ratio (DMQ, Drittmittelquotient), which is calculated as the ratio of external revenues from contract research and events as well as donations received by PROMEDIG gGmbH to total research revenues, is 7 percentage points higher than in the previous year.

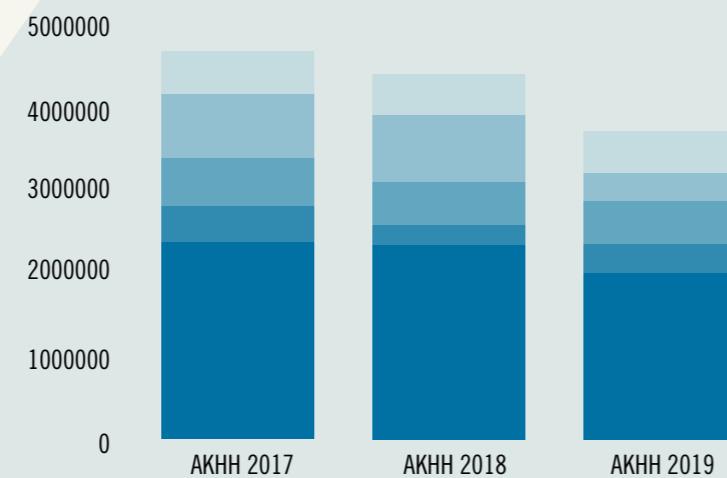
**Total external funds AKHH**

2019

Ext: contract research (incl. other operations)	1.726.626,29 €
Ext: public funds	107.728,80 €
Int: research funding	310.510,00 € <sup>1</sup>
Int: AMS apprenticeship bonus (incl. other operations)	463.277,82 € <sup>2</sup>
Ext: events/event surplus	317.490,87 €
Ext: PROMEDIG gGmbH (stock/acquisition)	477.002,07 €
<b>Total DMQ (= external revenues)</b>	<b>77,3 %</b>
<b>Total research revenue AKHH</b>	<b>3.402.636,62 €</b>

Table 2: Total research revenue AKHH 2019

<sup>1</sup> incl. research funding by ASKLEPIOS proresearch<sup>2</sup> only clinics of the AKHH



	72%	70%	77%
<b>DMQ*</b>			
<b>Pool money (n/a)</b>	n/a	n/a	n/a
<b>AMS apprenticeship premiums</b>	470.293,75 €	450.509,19 €	463.277,82 €
<b>Research funding</b>	710.000,00 €	741.068,00 €	310.510,00 €
<b>PROMEDIG</b>	531.756,47 €	472.800,55 €	477.002,07 €
<b>Event administration</b>	399.266,03 €	219.364,36 €	317.490,87 €
<b>Contract research</b>	2.172.549,68 €	2.145.131,39 €	1.834.355,09 €

Figure 4: Total research revenue AKHH from 2017 to 2019

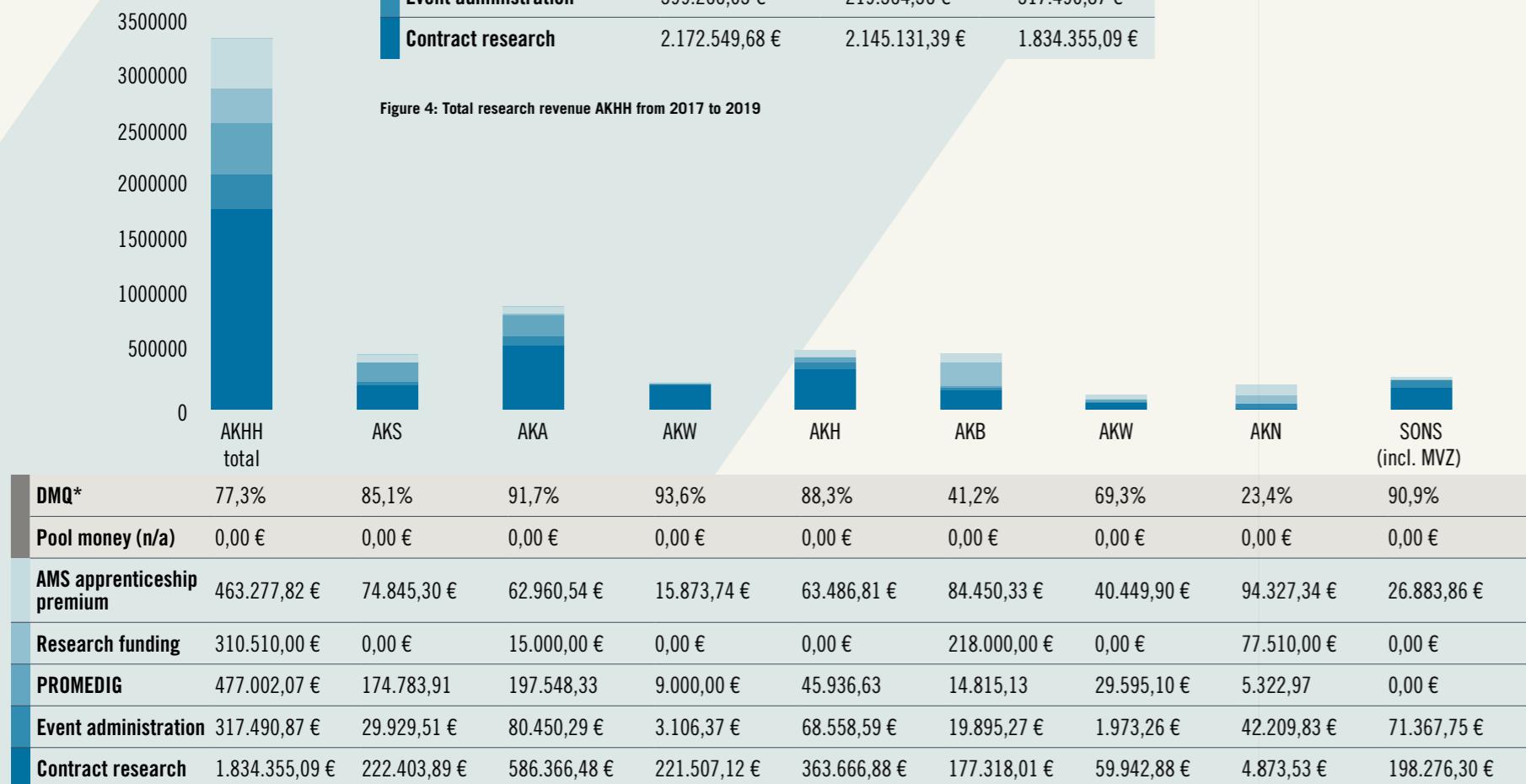


Figure 5: Total research revenue AKHH 2019, distribution by hospitals of the AKHH

\*DMQ = Share of external revenues in total revenues = total revenues minus research funding, AMS and pool funds

## STAFF AND SCIENTIFIC PERSONNEL

Staff financed by research funds are divided into different categories. Our study coordinators, with 15.4 full-time employees (FT), continue to make up the majority. These staff are employed exclusively on research projects, and neither involved in routine care nor included in the individual clinics' or departments' personnel budget.

Staff who otherwise support the research projects in the departments can be financed by proresearch in two ways: by cost absorption (4.5 FT) or by direct employment through ASKLEPIOS proresearch (scientific staff: 5.2 FT).

	Total pro rata FT 2019
Study coordinators	15,4
Cost absorption	4,5
Scientific staff	5,2
<b>Total</b>	<b>25,1</b>

Table 3: Aggregated personnel costs FoBe 2019, AKHH



# IN SEARCH OF A SUITABLE ABLATION THERAPY FOR PATIENTS WITH RECURRENT ATRIAL FIBRILLATION AFTER INITIAL PULMONARY VEIN ABLATION

DR. PAWEŁ KUKLIK

DR. CHRISTIAN EICKHOLT

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Catheter ablation of atrial fibrillation (AF) has become first-line therapy in patients unresponsive to electrical or pharmacological cardioversion. In case of paroxysmal AF, pulmonary vein isolation (PVI) aiming at complete electrical isolation is recommended due to high acute and long-term success rates. However, once AF becomes persistent, ablation efficiency dramatically decreases, most likely due to advanced electrical and structural remodeling of the atria (1) resulting from unaddressed risk factors. This leads to the recurrence of AF in patients who previously underwent a PVI procedure. Such patients are scheduled for a consecutive procedure during which the quality of the initial PVI is assessed and gaps in ablation lesions are corrected. However, a considerable proportion of patients remains in AF despite complete and verified PVI. There, two approaches can be considered: either to perform electrical cardioversion and terminate the procedure, or, to continue ablation within the atrial body searching for drivers maintaining arrhythmia (2,3).

Some studies, most notably STAR AF II (4), suggested that additional ablation beyond PVI may not benefit patients as expected. However, several studies explored promising novel techniques, e.g. high frequency source ablation (5), electrogram complexity-guided ablation, low-voltage amplitude targeting (6), activation-dispersal-guided ablation (7), stepwise ablation approach (8,9) and recently proposed techniques of identification of rotating waves and point sources (10), to name just few.

Such a great variety of approaches may stem from the heterogeneity of the atrial pathophysiological phenotype presented during the ablation procedure (so called 'AF substrate'). Some patients in an early stage of electrical and structural remodeling of the atria may have localized sites maintaining arrhythmia with a clearly defined pattern of electrical activity – then, localized ablation can

remove the AF driver and benefit the patient in the long term. However, patients with an advanced stage of remodeling may lack such clearly defined spots and may require more extensive ablation or, in case of very advanced remodeling, the abandonment of further ablation attempts. Since additional catheter ablation is related with a decrease of atrial function and an increased risk of procedural complications, it is important to identify an optimum approach to maximize patient benefit and minimize the extent of unnecessary catheter ablation.

The most important imaging technique used to assess the degree of structural and electrical remodeling of the atria is 3D electro-anatomical mapping. During such mapping, hundreds of electrograms are recorded across the entire atrial endocardial surface. Then, these electrograms are processed to extract various parameters shedding light on the state of the underlying myocardial tissue. One of the most obvious parameters is the amplitude of the electrical signal collected at a given site. Diseased, fibrotic tissue generates low-amplitude electrical activity, whereas healthy, bulky areas generate a high amplitude. In our approach, we look at several electrogram-derived parameters such as the degree of electrogram morphology "fractionation" (see Figure 1), presence of rotating waves or percent of time the electrical activity is present in small area of the atrium. Those parameters are then projected onto the 3D geometry of the atria and used to identify targets for ablation (see Figure 2).

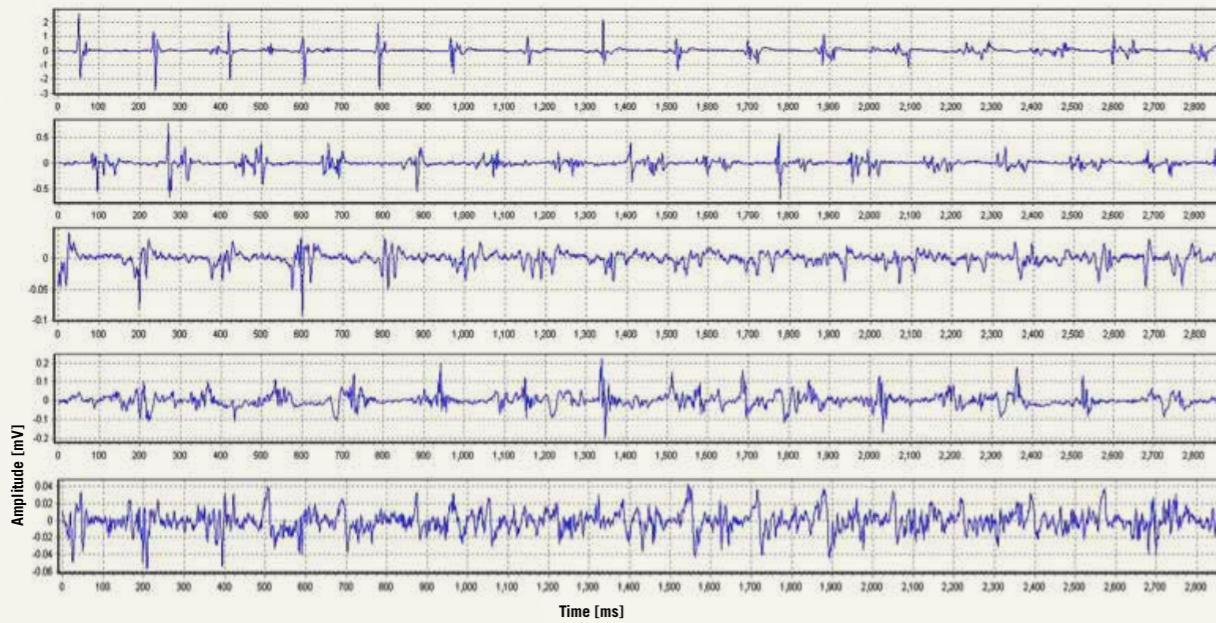


Figure 1 Sample intracardiac electrograms collected during Atrial Fibrillation with a progressive degree of morphology fractionation.

Our goal is to create a patient-tailored ablation strategy that would consider various biomarkers (ECG parameters, intracardiac electrograms, AF history, etc.) and suggest an optimal catheter ablation strategy (see Figure 3). Our work focuses on:

- the development of signal processing algorithms extracting various complexity-related parameters from ECG and intracardiac electrograms,
- the identification of the clinically most relevant parameters in the context of catheter ablation,
- the estimation of the thresholds in decision trees leading to optimal ablation strategy and

To evaluate the long-term efficacy of developed ablation strategies high-quality clinical trials are necessary, which are designed and conducted at our site. One important

project was planned together with the Asklepios Campus Hamburg. The start of this multicenter prospective randomized study will be in 2020. We are looking forward to the results.

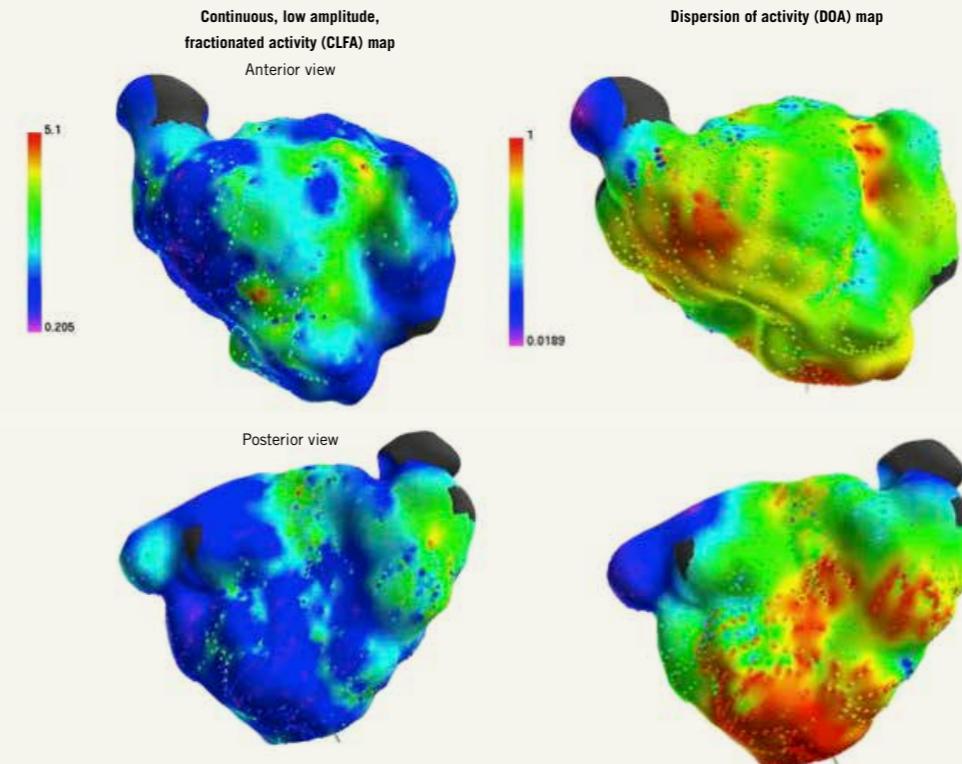


Figure 2 Left Atrium. Sample 3D maps of parameters related with arrhythmia complexity. Areas of the greatest complexity (red) are targeted during catheter ablation.

#### BIBLIOGRAPHY (ABRIDGED):

The references have been abridged for space reasons. For a complete list of the literature used please contact the author.

1. Long-term outcomes of catheter ablation of atrial fibrillation: a systematic review and meta-analysis. Ganesan AN, Shipp NJ, Brooks AG, Kuklik P, Lau DH, Lim HS, et al. J Am Heart Assoc. 2013 Mar 18;2(2):e004549.
2. Targeting Nonpulmonary Vein Sources in Persistent Atrial Fibrillation Identified by Noncontact Charge Density Mapping: UNCOVER AF Trial. Willems S, Verma A, et al. Circ Arrhythm Electrophysiol. 2019 Jul;12(7):e007233. doi: 10.1161/CIRCEP.119.007233. Epub 2019
3. Cabins, castles, and constant hearts: rhythm control therapy in patients with atrial fibrillation. Willems S, Meyer C, de Bono J, Brandes A, Eckardt L, et al. European Heart Journal 2019 Dec 7; 40(46):3793–3799c, <https://doi.org/10.1093/eurheartj/ehz782>

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## LIST OF ABBREVIATIONS

ACH	Asklepios Campus Hamburg of Semmelweis University Budapest
MD	Medical Direktor
AKHH	Asklepios Kliniken Hamburg GmbH
AMG	Arzneimittelgesetz – German Medicines Act
AMS	Asklepios Medical School gGmbH
DMQ	Drittmittelquotient – Third party funding ratio
n/a	not applicable
CD	commercial director
MPG	Medizinproduktegesetz – German Medical Devices Act
FT	fulltime employee

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Gesund werden. Gesund leben.