

## Prof. Dr. med. Ewa Klara Stuermer - MD



### Current position and affiliation

Prof. Dr. med. Ewa K. Stuermer, MD  
Head of Translational Research & Senior physician  
Department for Vascular Medicine  
University Heart and Vascular Center Hamburg  
University Medical Center Hamburg-Eppendorf  
Hamburg, Germany

President of the Nuremberg Wound Congress 2022

### Academic background

2020 – now	Senior Physician, Dpt. for Vascular Medicine - University Medical Center Hamburg-Eppendorf - Germany
2015 –2020	Head of the Institute of Translationale Wound Research - Witten/Herdecke University - Germany
2012 – 2015	Head of the Department of Experimental Surgery – Institute for Research in the Operative Medicine – Witten/Herdecke University – Germany
2013	Professorship at the Georg-August University of Goettingen
2009	<u>Venia legendi</u> - Georg-August University of Goettingen (Surgery & Orthopedics) „Hormonal influence on the osteoporotic bone and its fracture healing“
2001 – 2012	Physician at the Dpt. of Trauma & Plastic Surgery - Georg-August-University of Goettingen - Germany
1999 – 2001	Physician at the Dpt. of Visceral Surgery - Georg-August-University of Goettingen
1995 – 1999	Physician at the Dpt. of Trauma & Plastic Surgery - Georg-August-University of Goettingen - Germany
1996	Doctorate – University of Essen/Duisburg - Germany

## Education

2013	Principal Investigator
2013	Microbiologist
2009	Surgical Radiologist
2007	Emergency doctor
2006	Orthopedic Surgeon
2003	Trauma Surgeon
2001	Surgeon

## Awards

URGO 3-Länder-Wundpreis 2018  
URGO 3-Länder-Wundpreis 2020  
Hygiene Award of the Robert-Schuelke-Foundation 2022

## Memberships

Council "Deutscher Wundrat e.V."  
Advisory council "Initiative Chronische Wunden e.V."  
Advisory council "Wundnetz Hamburg"  
Member of the German Society for Vascular Surgery

## Main research topics

Translational Research  
Wound biofilm  
Antimicrobials  
Tissue engineering  
Empowerment in wound care

### Publications of the last 5 years (wounds only)

Schäfer S, Köpf M, Drinic A, Kopp A, Hartjen P, Assaf A, Aavani F, Beikler T, Peters U, Fiedler I, Busse B, Stürmer EK, Vollkommer T, Gosau M, Fuest S, Ralf Smeets R. Antibacterial Properties of Functionalized Silk Fibroin and Sericin Membranes for Wound Healing Applications in Oral and Maxillofacial Surgery. *Journal Materials Science and Engineering C* 2022 [accepted]

Stürmer EK, Dissemond J. Evidenz in der lokalen Therapie chronischer Wunden: Was ist gesichert? *Phlebologie* 2022 [accepted]

Stürmer EK, Rembe JD. Wund-Biofilm erkennen und verstehen: Therapeutische Möglichkeiten und ihre Grenzen. *Dermatologie Praxis* 2022 [accepted]

Severing AL, Rembe JD, Fuellerer M, Stuermer EK. Impact of the chronic wound microenvironment on in vitro wound healing and the effect of marine omega-3 fatty acids as local treatment option. *Exp Dermatol.* 2021; doi: 10.1111/exd.14506. [Online ahead of print]

Weber L, Kaltenhaeuser J, Besser M, Hagemann A, Bachmann HS, Stuermer EK. Effect of bacteria as new targets for farnesyltransferase inhibitors. *Front Microbiol* 2021; 30; 12:628283.

Stuermer EK, Plattfaut I, Dietrich M, Brill FHH, Kampe A, Wienecke V, Ulatowski A, Geffken M, Rembe JD, Naumova EA, Debus ES, Smeets R. In vitro activity of antimicrobial wound dressings on *P. aeruginosa* wound biofilm. *Front Microbiol.* 2021; 12: 664030

Stuermer EK, Besser M, Brill F, Geffken M, Plattfaut I, Severing AL, Wiencke V, Rembe JD, Naumova EA, Kampe A, Debus ES, Smeets R. Comparative analysis of biofilm models to determine the efficacy of antimicrobials. *J Environ Health* 2021; 234: 113744

Plattfaut I, Besser M, Severing AL, Oplaender C, Stuermer EK. Plasma medicine and wound management: Evaluation of the antibacterial efficacy of a medically certified cold atmospheric argon plasma jet. *Int J Antimicrob Agents.* 2021; 11: 106319.

Plattfaut I, Demir E, Fuchs P, Schiefer JL, Stuermer EK, Bruening AKE, Oplaender C. Characterization of blue light treatment for infected wounds: Antibacterial efficacy of 420, 455 and 480 nm light emitting diodes against common skin pathogens vs. blue light-induced skin cell toxicity. *Photobiomodul Photomed Laser Surg.* 2021; 39: 339-348.

Stürmer EK, Dissemond J. Evidence in the local therapy of chronic wounds: What is proved? *Akt Dermatol* 2021; 47: 314–322

Stuermer EK, Storck M. Choosing wisely together—Recommendations on the treatment of chronic wounds. *Gefaesschirurgie* 2021; 26: 164–174

Stürmer EK, Barth S. Physiotherapie zur Narbenreduktion – Effektivität und Grenzen. *Wundmanagement* 2021; 15: 12-17

Moore Z, Weir D, Ayabe S, Bellingeri A, Carville K, Garten A, Jelnes R, Ruotsi L, Post H, Swan J, Swanson T, Stuermer EK, Tariq G, Woo K, Clark M. Strategies to reduce practice variation in wound assessment and management: The T.I.M.E. Clinical Decision Support Tool. *Wounds Intern* 2020; 10 [epub]

Plattfaut I, Opländer C, Stürmer EK. Atmosphärisches Kaltplasma und Blaulicht in der Wundtherapie. *Wundmanagement* 2020; 14: 225-228

Besser M, Schlobach R, Stuermer EK. Therapie mit pulsierenden elektromagnetischen Feldern – „nur“ Erfahrungsmedizin oder doch wissenschaftlich evidenzbasiert? *Wundmanagement* 2020; 14: 236-239

Augustin M, Stürmer EK, Dissemond J, Gerber V, Gruber B, Morbach S, Tigges WP, Storck M – für den Expertenrat Strukturentwicklung Wundmanagement. Empfehlungen zur Verbesserung der

Versorgungsstruktur für Menschen mit chronischen Wunden in Deutschland. *Wundmanagement* 2020; 14: 357-365

Rembe JD, Stuermer EK. Die Moderne Wundantiseptik – Indikationen und Limitationen, zwischen Wissen, Wunsch und Unsicherheit. *Gefäßchirurgie* 2020; 25: 272-276

Besser M, Dietrich M, Weber L, Rembe JD, Stuermer EK. Efficiency of antiseptics in a novel 3-dimensional human plasma biofilm model (hpBIOM), *Scientific Rep Nature Research* 2020; 10: 4792

Rembe JD, Huelsboemer L, Besser M, Stuermer EK. Antimicrobial hypochlorous wound irrigation solutions demonstrate lower anti-biofilm efficacy against bacterial biofilm in a complex in vitro human plasma biofilm model (hpBIOM) than common wound antimicrobials. *Frontiers in Microbiology* 2020; 11: 564513

Opländer C, Plattfaut I, Stürmer EK. Blaulicht und physikalisches Kaltplasma: Neue Optionen in der Behandlung von infizierten und chronischen Wunden. *Krankenhaus & Management* 2020; 2: 21-23

Rembe JD, Boehm J, Fromm-Dornieden C, Hauer N, Stuermer EK. Comprehensive analysis of zinc derivatives pro-proliferative, anti-apoptotic and antimicrobial effect on human fibroblasts and keratinocytes in a simulated, nutrient-deficient environment in vitro. *Int J Mol Cell Med*. Spring 2020; 9: 165-178.

Krassovka JM, Suschek CV, Probst M, Grotheer V, Demir E, Fuchs PC, Schiefer JL, Windolf J, Stuermer EK, Oplaender C. The impact of non-toxic blue light (453 nm) on cellular antioxidative capacity, TGF- $\beta$ 1 signaling, and myofibrogenesis of human skin fibroblasts. *J Photochem Photobiol* 2020; 209: 111952.

Besser M, Terberger J, Koester V, Ghebremedhin B, Naumova EA, Arnold WH, Stuermer EK. Impact of probiotics on pathogen survival in an innovative human plasma biofilm model (hpBIOM). *J Trans Med* 2019; 17: 243-252

Stuermer EK, Plattfaut I, Besser M. Kaltplasma, Magnetfeld, Laser, Blaulicht, Stoßwellen – was kann was? *Vasomed* 2019; 7: 123-126

Stuermer EK, Besser M, Terberger N, Bachmann HS, Severing AL. Side effects of frequently used antihypertensive drugs at wound healing *in-vitro*. *Skin Pharmacol Physiol* 2019; 32: 162-172

Stuermer EK, Besser M, Terberger N, Koester V, Bachmann HS, Severing AL. Side effects of frequently used oral antidiabetics on wound healing *in-vitro*. *Naunyn Schmiedebergs Arch Pharmacol*. 2019; 392: 371-380.

Severing AL, Rembe JD, Koester V, Stuermer EK. Safety and efficacy profiles of different commercial sodium hypochlorite/hypochlorous acid solutions (NaClO/HClO): antimicrobial efficacy, cytotoxic impact and physicochemical parameters in vitro. *J Antimicrob Chemother*. 2019; 74: 365-372.

Rembe JD, Berek J, Pieper D, Stuermer EK. Biologic wound fluid profiles and biomarkers in acute and chronic wounds - a systematic review and meta-analysis. Prospero registration No. CRD42018095745 <https://www.crd.york.ac.uk/PROSPERO>

Besser M, Khosravani M, Severing, AL, Rembe JD, Stuermer EK. Acute and chronic wound fluid inversely influence wound healing in an *in-vitro* 3D wound model. *J Tissue Rep Regen* 2018; 1: ISSN: 2640-6403

Rembe JD, Fromm-Dornieden C, Böhm JK, Stuermer EK. The influence of human acute wound fluid (AWF) on the antibacterial efficacy of different antiseptic polyurethane foam dressings: an in-vitro analysis. *Wound Repair Regen*. 2018; 26: 27-35

Rembe JD, Fromm-Dornieden C, Stuermer EK. Effects of vitamin B complex and vitamin C on human skin cells: Is the perceived effect measurable? *Adv Skin Wound Care*. 2018; 31: 225-233.

Stürmer EK. Wundheilung translational - Bakterielle Kontamination, Kolonisation und Biofilm. *Pro Vita* 2018; 2: 8-10

Masur K, Schmidt J, Stürmer EK, Pedersen A, v. Woedtke T. Kalte Plasmen zur Heilung chronischer Wunden. *Wundmanagement* 2018; 12: 9-15

Rembe JD, Fromm-Dornieden C, Böhm J, Stuermer EK: Der Einfluss von humanem Wundexsudat auf die antibakterielle Wirksamkeit verschiedener antiseptischer Polyurethan-Schaumstoffauflagen: eine in-vitro-Analyse. *Wundmanagement* 2018; 12: 24-30

Stürmer EK. Wundheilung translational – From bench to bedside. *Management & Krankenhaus* 2017; 5: 16

Stürmer EK. Wundheilung translational – From bench to bedside. *Medical Special* 2017; 2: 14-15

Wahabzada M, Besser M, Khosravani M, Kuska M, Kersting K, Mahlein AK, Stuermer EK. Monitoring Wound Healing in a 3D Wound Model by Hyperspectral Imaging and Efficient Clustering. *PlosOne* 2017; 12: e0186425.

Rembe JD, Böhm JK, Fromm-Dornieden C, Schäfer N, Stuermer EK. Comparing two polymeric biguanides: chemical distinction, antiseptic efficacy and cytotoxicity of polyaminopropyl biguanide and polyhexamethylene biguanide. *J Med Microbiol.* 2016; 65: 867-876.

Rembe JD, Boehm JK, Fromm-Dornieden C, Schaefer N, Maegele M, Fröhlich M, Stuermer EK. Erratum to: Comparison of hemostatic dressings for superficial wounds using a new spectrophotometric coagulation assay. *J Transl Med.* 2016; 14: 218-224