

Curriculum vitae of Prof. Dr. med. Philipp Schütz, MPH



Personal information:

Current position title Professor of Medicine and Endocrinology,
Head of the Department of General Internal Medicine &
Emergency Medicine, Kantonsspital Aarau,
Tellstrasse, 5001 Aarau, Switzerland,
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Professional education and employment history

Jan 19 – present Head of the Department of General Internal Medicine & Emergency Medicine (“Chefarzt”), Kantonsspital Aarau, Switzerland
Sep 11 – Dec 18 Attending physician and Senior Consultant (Leitender Arzt), Medical University Department of Internal Medicine and Endocrinology, Kantonsspital Aarau, Switzerland
Jul 09 – Jul 11 Postdoctoral Clinical Researcher, Beth Israel Deaconess Medical Center (BIDMC), and Harvard School of Public Health, Boston (MA), USA
Sep 09 – May 11 Master of Public Health (MPH) Harvard School of Public Health, Boston (MA), USA
Mar 10 and Aug 10 Board Certification (FMH Titel) for Endocrinology and Internal Medicine
Mar 09 – Jul 09 Attending physician (“Oberarzt”), Internal Medicine and Endocrinology, University Hospitals Basel, Switzerland
Jan 03 – Mar 09 Residency (“Assistenzarzt”), Internal Medicine and Endocrinology, St. Claraspital (first year) and University Hospital Basel, Switzerland
Sep 96 – Dec 02 Medical school, University of Basel, Switzerland

Academic education

Mar 19 – present Professorship (“Titularprofessur”) for Medicine and Endocrinology, University of Basel
Feb 14 – Feb 20 Clinical Research Professorship from the Swiss National Science Foundation (SNCF)
Sep 12 Venia docendi (Habilitation, “Privat Dozent”), University of Basel, Switzerland,
May 11 Master of Public Health (MPH) degree, Harvard School of Public Health, Boston (MA)
Sep 05 MD Research Thesis (Dissertation), Institute for Medical Microbiology in Basel,

Institutional responsibilities

Head of the Department of General Internal Medicine & Emergency Medicine at the Kantonsspital Aarau with responsibility for the supervision and mentoring of >55 residents (“Assistenzärzte”) and >20 attending physicians and consultants (“Oberärzte und Leitende Ärzte”). The department has >6000 inpatient and >10,000 outpatient visits per year. In addition, Prof Schuetz has several Institutional responsibilities including co-head of the research council (“Forschungsrat”), head of the Ernährungskommission, member of the Arzneimittelkommission, and several other committees.

Approved research projects

Prof. Schuetz has obtained total research funds of >8,300,000 CHF (>4,500,000 CHF as Principal Investigator mostly from the Swiss National Science Foundation; <https://data.snf.ch/grants/person/532841>). The most important grants as main applicant and Principal Investigator are listed below:

- “Effect of Nutritional Therapy on Frailty, Functional Outcomes and Recovery of Undernourished Medical Patients at Discharge Trial: EFFORT II” 2022–2025, Swiss National Foundation (CHF 574,682);
- “Effect of Early Nutritional Therapy on Frailty, Functional Outcomes and Recovery of Undernourished Medical Inpatients Trial: EFFORT Project”, 2014–2020, Swiss National Foundation (SNF Professorship, CHF 1,927,908); Research Council Kantonsspital Aarau (CHF 402,103)
- “Optimizing Triage and Hospitalisation In Adult General Medical Emergency patients: the TRIAGE study”, 2012/2013, Schweizerische Akademien der Medizinischen Wissenschaften (SAMW), 2-year research grant, (CHF 150,000); Thermofisher Scientific, unrestricted research Grant (CHF 984,000)
- “Endothelial Dysfunction in Sepsis”, 2-year Research Fellowship at Beth Israel Medical Center in Boston, USA, 2009-2011, Swiss Foundation for Grants in Biology and Medicine, SSMBS grant (CHF 116,000); Klinische Medizin Plus Stipendium, Prof. Dr. Max Cloëtta Stiftung (CHF 23,000)

Supervision of junior researchers at graduate and postgraduate level

Prof. Schuetz is head of the outcome research team (“Forschungsgruppen Leiter”) with a main focus on nutritional research, biomarker research, among others and currently employs a research with 2-4 study nurses, 3-5 post-doctoral fellows, 5-10 junior physicians and 5-10 Masterstudents.

Teaching activities (selected)

Multiple teaching activities, including lectures, problem-based learning, and OSCEs at the Universities of Basel and the ETH Zürich. Prof Schuetz was several times voted “teacher of the year” from the residents. He is responsible for the organization and presentation of lectures on thyroid gland, metabolism and clinical nutrition for the 3rd, 4th and 6th year medical students and is a regular examiner for oral exams including the final medical exam (“Staatsexamen”).

Memberships in panels and individual scientific reviewing activities

Prof Schuetz is current president of the EEK («Eidgenössische Ernährungskommission»), president of GESKES («Gesellschaft für klinische Ernährung der Schweiz»), Committee member of SGAIM («Schweizerischen Gesellschaft für Allgemeine Innere Medizin»), and different other national and international societies. He is a regular reviewer for multiple journals including NEJM, Lancet, Annals of internal Medicine and for funding institutions including the Swiss National Science Foundation (SNSF), the French Ministry of Social Affairs and Health, the National Institute of Health (NIH) and the National Medical Research Council (NMRC).

Organization of conferences

Organization and co-organisation of multiple national, regional, and local conferences in internal medicine, endocrinology and nutrition including the yearly Swiss SGAIM meeting, the yearly Swiss Endocrine Meeting (SGED) and the Nutrition meeting “Dreiländer Tagung” (congress president in 2021).

Prizes and awards

Prof Schuetz and his research team have won several prizes for their research including two times the SGAIM price for the best original research study (10`000 CHF each) in 2019 and 2021; and the Theodor-Näggeli Price for the EFFORT trial (100`000 CHF) in 2023.

Publications:

Dr. Schuetz has published over 400 peer-reviewed papers, several in top journals such as Lancet, JAMA and Annals of Internal Medicine, with a total impact factor of >2000 and an H-index of 82 (google scholar 01/2023).

Selected publications from the past 5 years (Peer Reviewed)

- Schuetz P, Seres D, Lobo DN, Gomes F, Kaegi-Braun N, Stanga Z. Management of disease-related malnutrition for patients being treated in hospital. **Lancet**. 2021 Nov 20;398(10314):1927-1938. (IF 53.3)
- Bargetzi L, Brack C, Herrmann J, ...Schuetz P. Nutritional support during the hospital stay reduces mortality in patients with different types of cancers. **Ann Oncol**. 2021 Aug;32(8):1025-1033. (IF 33.0)
- Hersberger L, Dietz A, Bürgler H,Schuetz P. Individualized Nutritional Support for Hospitalized Patients With Chronic Heart Failure. **J Am Coll Cardiol**. 2021 May 11;77(18):2307-2319. (IF20.6)
- Becker C, Gamp M, Schuetz P ... Hunziker S. Effect of Bedside Compared With Outside the Room Patient Case Presentation on Patients' Knowledge About Their Medical Care: A Randomized, Controlled, Multicenter Trial. **Ann Intern Med**. 2021 Jun 29. (IF 25.4)
- Merker M, Felder M, Gueissaz L, ...Schuetz P. Association of Baseline Inflammation With Effectiveness of Nutritional Support Among Patients With Disease-Related Malnutrition: A Secondary Analysis of a Randomized Clinical Trial. **JAMA Netw Open**. 2020 Mar 2;3(3):e200663. (IF 5.0)
- Schuetz P, Greenwald JL. Web Exclusive. Annals for Hospitalists Inpatient Notes - Optimizing Inpatient Nutrition-Why Hospitalists Should Get Involved. **Ann Intern Med**. 2020 Feb 18;172(4):HO2-HO3. (IF 23.3)
- Schuetz P, Fehr R, Baechli V; et all. Individualized nutritional support in medical inpatients at nutritional risk: a randomized clinical trial. **The Lancet**. 2019 Jun 8;393(10188):2312-2321. (IF 53.3)
- Gomes F, Baumgartner A, Bounoure L, Schuetz P. Association of Nutritional Support With Clinical Outcomes Among Medical Inpatients Who Are Malnourished or at Nutritional Risk: An Updated Systematic Review and Meta-analysis. **JAMA Netw Open**. 2019 Nov 1;2(11):e1915138. (IF 5.0)
- Meier MA, Branche A, ... Schuetz P. PCT-guided Antibiotic Treatment in Patients With Positive Cultures: A Patient-level Meta-analysis of Randomized Trials. **Clin Infect Dis**. 2019 Jul 18;69(3):388-396.(IF 9.1)
- Schuetz P, Wirz Y, Mueller B.; "Procalcitonin Testing to Guide Antibiotic Therapy in Acute Upper and Lower Respiratory Tract Infections. **JAMA**. 2018 Mar 6;319(9):925-926. (IF 31.7)
- Schuetz P, Wirz Y, Sager R, et all. Effect of procalcitonin-guided antibiotic treatment on mortality in acute respiratory infections: a patient level meta-analysis. **The Lancet Infect Dis**. 2017 Oct 13. pii: S1473-3099(17)30592-3. (IF 19.5)
- Bally MR, Blaser Yildirim PZ, Bounoure L, Gloy VL, Mueller B, Briel M, Schuetz P. Nutritional Support and Outcomes in Malnourished Medical Inpatients: A Systematic Review and Meta-analysis. **JAMA Intern Med**. 2016 Jan 1;176(1):43-53. (IF 15.1)

Major scientific achievement

Nutritional and metabolic research (EFFORT project)

Principal investigator of the Effect of early nutritional therapy on Frailty, Functional Outcomes and Recovery of malnourished medical inpatients Trial (EFFORT). This largest yet nutritional randomized trial proved that individualized nutritional therapy is a cost-effective strategy to prevent complications and to improve survival in patients at nutritional risk. This project was supported by the Swiss National Science Foundation (SNSF) over a time period of 6 years with a clinical professorship and a total of > 2.5 Million of funding was raised for the project (<http://p3.snf.ch/project-150531> and <http://p3.snf.ch/project-150531>). In 2019 the trial was published in the LANCET and in 2023, Prof. Schuetz received the Theodor-Näggeli Price for this project (100'000 CHF).

Within EFFORT, we first performed an aggregate data meta-analysis on efficacy and safety of different nutritional therapy strategies in medical inpatients in collaboration with COCHRANE (JAMA Intern Med. 2016 Jan 1;176(1):43-53). Through a consensus conference, we then developed a "state-of-the-art" nutritional strategy for individualized management of medical inpatients. This algorithm was also published as an international guideline for the nutritional workup and treatment of malnourished medical inpatients (ESPEN guideline, Clin Nutr. 2018 Feb;37(1):336-353.). To ultimately proof that nutritional support improves clinical outcomes and reduces malnutrition-associated risks beyond weight gain, we then conducted a trial in 8 Swiss hospitals and 2028 patients comparing nutritional therapy based on an up-to-date nutritional strategy (intervention group) with a control group ("EFFORT trial", <https://clinicaltrials.gov/ct2/show/NCT02517476>). The trial showed significant improvements in different clinical outcomes including risk for adverse outcome, mortality, quality of life and functionality and was published in the Lancet including an editorial comment (The Lancet. 2019 Jun 8;393(10188):2312-2321). The large sample of patients with an existing biobank also allowed us to study the physio-pathological mechanisms underlying the effects of nutritional therapy in specific patient populations and resulted in multiple secondary publications with focus on effect of inflammation on nutritional support, cost-effectiveness of nutritional support, risks of refeeding, long term prognostic effect of nutritional risk screening tools among others. In collaboration with researchers from the functional genomic center at the ETH Zürich, we also looked at new metabolomic markers that may serve as malnutrition markers in the future. Several research cooperations and analyses are currently still ongoing.

Importantly, based on the promising results, we currently conduct the multicenter EFFORT II randomized trial in 10 Swiss hospitals looking at the effect of nutritional support on mortality and other outcomes in the post-discharge outpatient setting. This trial is again funded by the Swiss National Science Foundation (SNSF) (<https://data.snf.ch/grants/grant/207474>).

Biomarker research regarding antibiotic stewardship

Main investigator of a large antibiotic stewardship trial using the biomarker procalcitonin (PCT) and several subsequent individual patient data meta-analyses to understand safety of early stopping antibiotics based on biomarker kinetics. This research on antibiotic stewardship has led to several high impact publications and inclusion of recommendations in different international guidelines.

For the last 10 years we conducted research to better understand the clinical value of biomarkers for the purpose of antibiotic stewardship starting with several trials done in Switzerland lead by our group (i.e., "ProHOSP trial", JAMA, 2009, Sep 9;302(10):1059-66) and "PARTI trial" Arch Intern Med. 2008 Oct 13;168(18):2000-7). These trials found strong reductions in antibiotic use particularly for patients with respiratory infections including pneumonia, COPD exacerbation and bronchitis. We also looked at other types of infection such as Legionella, heart failure with superinfection, patients with post-operative fever, patient with positive cultures for coagulase-negative staphylococci among others. To better understand safety of using PCT for antibiotic stewardship, it is important to study large numbers of patients. We thus pooled available trial data in individual patient data meta-analysis in collaboration with Cochrane and our international network of researchers participating in previous stewardship trials. In the most recent update published in 2018 (Lancet Infect Dis. 2018 Jan;18(1):95-107 and Cochrane Database Syst Rev. 2017 Oct 12;10(10):CD007498), our analysis included 6708 patients from 26 eligible trials in 12 countries showed a reduction in mortality when PCT was used for antibiotic stewardship efforts. These effects were paralleled with lower antibiotic consumptions and lower risk of antibiotic side effects. Based on this database, we have also published several studies focusing on best use of PCT in different patient populations including patients with positive blood cultures (Clin Infect Dis. 2019 Jul 18;69(3):388-396), ICU patients with sepsis (Crit Care. 2018 Aug 15;22(1):191.), outpatients (Ann Emerg Med. 2018 Aug;72(2):226-228) among others. Together with international expert we currently further advance the field of biomarker research in infectious disease also focusing on safe and efficient implementation of PCT in clinical routine.

Endocrine and diabetes research

Lead author for several observational research projects investigating whether endocrine dysfunction and impairments in glucose metabolism interact with the recovery of medical inpatients, and whether or not such dysfunction and impairments can be prevented.

Using our large clinical databases, we studied the effects of novel insulin treatment algorithms on glucose control and outcomes of medical inpatients. We also studied the association of hormonal disturbances (thyroid hormones, IGF1 and growth hormone, sex hormones) and patient outcomes and found different hormones to be associated with adverse clinical outcome. We then asked the question whether hormone levels can provide prognostic and/or diagnostic information to better understand the course of medical disease. Further, we ask the question whether hormonal treatment may improve outcomes, which has been found for some but not all hormones. In collaboration with physicians from neurosurgery, we studied the diagnostic value of pro-vasopressin (copeptin, the stable peptide of the vasopressin precursor) for early diagnosis of diabetes insipidus.

Comprehensive Effectiveness Research („Versorgerforschung“, InHospITool trial)

Principal investigator of several studies with the aim to improve everyday patient care with the derivation and validation of evidence-based diagnostic and risk stratification tools („Triage“) for a more targeted use of resources. This project is supported by the Swiss National Science Foundation (SNF 74) and we received > 0.9 Million of funding for the project (<http://p3.snf.ch/Project-167376>).

In the TRIAGE project, we included over 7000 patients from different centers and countries (US, France, Switzerland) to study the importance of initial triage based on clinical parameters, nursing scales, blood biomarkers and TRIAGE scores for site of care decisions and reduction of time to effective treatment. In collaboration with nursing staff, we are investigating how the PACD discharge score can be used for better planning of patient discharge (OPTIMA-PACD). Funded by the SNSF, we currently conduct the InHospITool study to understand the effect of the use of an interdisciplinary electronic medical chart to better manage patients in regard to care transition. We aim to include >45'000 data of patients in 5 Swiss hospitals.

Collaboration in multicenter trials

Active collaborator and principal local investigator in different multicenter trials mostly from other Swiss centers. These trials and projects include (<https://data.snf.ch/grants/person/532841>):

- Co-Investigator of the SNF funded “Clinical surveillance vs. anticoagulation for low-risk patients with isolated subsegmental pulmonary embolism: a multicenter randomized placebo-controlled non-inferiority trial” project (<http://p3.snf.ch/project-185616>), time period: 01.07.2019 - 30.04.2024, total funding amount: 1'315'113 CHF
- Co-Investigator of the SNF funded “Effect of bedside patient case presentation compared to outside the room case presentation on patient perception of quality of care and patient outcomes: A pragmatic randomized-controlled, multicenter trial” (<http://p3.snf.ch/project-182422>), time period: 01.10.2018 - 31.03.2021, total funding amount: 367'614 CHF
- Co-Investigator of the SNF funded “Checklist-guided Shared Decision-making for Code Status Discussions in Medical Inpatients”-project (<https://clinicaltrials.gov/ct2/show/NCT03872154>), time period: 01.10.2020 - 01.10.2023, total funding amount: 330'600 CHF
- Collaborator of the SNF funded “Canakinumab in patients with COVID-19 and Type 2 Diabetes (CanCovDia): A Multicentre Randomized, Double-Blind, Placebo-Controlled Trial”-project, time period: 01.09.2020 - 01.09.2022,
- Collaborator of the SNF funded “Integrative Hospital Treatment in Older patients to benchmark and improve Outcome and Length of stay - the In-HospITool study”-project (<http://p3.snf.ch/project-167376>), total funding amount: 840'452 CHF, time period: 01.01.2017 - 31.12.2020,
- Collaborator of the SNF funded “Corticosteroid treatment for Community-Acquired Pneumonia - A randomized, double-blind study- The STEP trial”-project (<http://p3.snf.ch/project-150757>), total funding amount: 415'302 CHF, time period: 01.02.2014 - 31.01.2016,
- Co-Investigator of the SNF funded “Procalcitonin guided antibiotic use in acute respiratory tract infection in primary care - a randomized controlled trial”-project (<http://p3.snf.ch/Project-107772>), time period: 01.04.2005 - 30.06.2006, total funding amount: 150'000 CHF

Aarau, März 23, 2023