



Curriculum Vitae

Prof. Dr. med. Philipp Schütz, MPH

Personal data:

Place of birth	Basel, Switzerland
Date of Birth	09.02.1977
Marital status	Married, 2 children (Charles-Philipp 10/2012; Eva Louise 08/2014)
Citizenship	Basel-Stadt, Switzerland
Business Address	Head of Internal Medicine & Emergency Medicine, Kantonsspital Aarau, Tellstrasse CH -5001 Aarau, Switzerland, Phone +41 (0) 62 838 9524, Philipp.Schuetz@unibas.ch ;

Academic Education and Training:

Jan 19 – dato	Head of Internal Medicine and Emergency Medicine (Chefarzt), Medical University Department, Kantonsspital Aarau, Switzerland
Feb 14 – present	Associate Professor, Endocrinology/Diabetes/Clinical Nutrition and Internal Medicine, University of Basel, Switzerland (SNSF Research Professorship)
Sep 11 – Dec 18	Attending physician and Senior Consultant (Leitender Arzt), Medical University Department of Internal Medicine and Endocrinology, Kantonsspital Aarau, Switzerland
Sep 09 – May 11	Master of Public Health (MPH) Harvard School of Public Health, Boston (MA)
Jul 09 – Jul 11	Postdoctoral Clinical Researcher, Beth Israel Deaconess Medical Center (BIDMC), Department of Emergency Medicine, and Harvard Medical School, Boston (MA), USA
Mar 09 – Jul 09	Attending physician, Internal Medicine, University Hospitals Basel, Switzerland
Oct 08 – Mar 09	Residency, Intensive care unit (ICU), University Hospitals Basel, Switzerland
Apr 07 – Sep 07	Research Fellowship, Basel Institute for Clinical Epidemiology (BICE),
May 06 – Sep 08	Fellowship, Division of Endocrinology, University Hospital, Basel, Switzerland
Sep 04 – Apr 06	Residency, internal Medicine, University Hospitals, Basel, Switzerland
Jan 03 – Jun 04	Residency, Internal Medicine, St.Claraspital, Basel, Switzerland
Sep 96 – Dec 02	Medical school, University of Basel, Switzerland

Examinations, Certifications, and Degrees

- Clinical Research Professorship, Swiss National Science Foundation (SNSF), University of Basel, Feb 2014
- Venia docendi (Habilitation, "Privat Dozent"), University of Basel, Switzerland, Sept 2012
- Master of Public Health (MPH) degree, Harvard School of Public Health, Boston (MA), May 2011
- Board Certification for Endocrinology (FMH), Aug 2010
- Board Certification for Internal Medicine (FMH), Mar 2010
- MD Research Thesis (Dissertation), Institute for Medical Microbiology in Basel, Sept 2005
- Swiss Federal Medical Examination (Staatsexamen), Nov 2002

Teaching activities (selected)

- Teacher of the year award, Medical University Department, Kantonsspital Aarau, (silver), 2014





- Co-organization and presentation of lectures on thyroid gland, 3rd, 4th and 6th year medical students (total of 14 lectures/year), University of Basel, Switzerland, 2007/2008, 2012–present; Organization and presentation of lectures on clinical nutrition and hyperlipidemia (pathophysiology and clinical implications), 3rd and 4th year medical students (total of 6 lectures/year), University of Basel, Switzerland, 2014–present
- Examiner, final medical exam (Staatsexamen Medizin), University of Basel, Switzerland, 2014–present
- Lecturer at the ETH (clinical examination course, interprofessional work), 2019 –present

Grants & Funded Research Projects

Dr. Schuetz has obtained total research funds of 3,691,743 CHF (2,967,243 CHF as Principal investigator). The most important grants of Dr. Schuetz (as main applicant) are listed below:

- "Effect of Early Nutritional Therapy on Frailty, Functional Outcomes and Recovery of Undernourished Medical Inpatients Trial: EFFORT Project", 2014–2018, 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)
- 2-year Research Fellowship at Beth Israel Medical Center with Master of Public Health at Harvard School of Public Health in Boston, USA, 2009-2011, Swiss Foundation for Grants in Biology and Medicine, SFGBM (Schweizerischen Stiftung für medizinisch-biologische Stipendien, SSMBS), Competitive 2-year Research (CHF 116,000); Klinische Medizin Plus Stipendium, Prof. Dr. Max Cloëtta Stiftung (CHF 23,000)

Ad hoc Reviewer of Scientific Journals

American Journal of Respiratory And Critical Care Medicine (IF 9.1), American Journal of Medical Sciences (IF 1.2), Archives of Paediatrics & Adolescent Medicine (IF 4.3), Biomarkers in Medicine (IF 0.9), BMC Infectious Disease (IF 2.6), British Medical Journal (BMJ) (IF 14.9), CHEST (IF 6.4), Clinical Infectious Disease (CID) (IF 8.2), Cochrane Review group (IF 4.6), Critical Care (IF 4.6), European Journal of Clinical Endocrinology (IF 3.3), Lancet Infectious Disease (IF 15.8), Lancet (IF 39.2), New England Journal of Medicine (IF 54.4), Thorax (IF 7.0)

Other Reviewer Activities

Swiss National Science Foundation (SNSF), Division Biology and Medicine, 12/2014 and 10/2012, French Ministry of Social Affairs and Health, 10/2014, French Intensive Care Society (FICS), 11/14, National Institute of Health (The National Institute of Academic Anesthesia, NIAA), 04/2013, National Institutes of Health (NIH), Thrasher Research Fund, 06/2011 National Medical Research Council (NMRC), 08/2010

Publications:

Dr. Schuetz has published over 250 peer-reviewed papers, several in leading journals such as Lancet or JAMA, with a total impact factor of >1200. The impact of these publications is evident from an h-index = 59

Selected publications from the past 5 years (Peer Reviewed)

- **Schuetz P**, Fehr R, Baechli V; Geiser M; Deiss M; Gomes F; Kutz A; Tribolet P; Bregenzer T; Braun N; Hoess C; Pavlicek V; Schmid S; Bilz S; Sigrist S; Braendle M; Benz C; Henzen C; Mattmann S; Thomann R; Brand C; Rutishauser J; Aujesky D; Rodondi N; Donze J; Stanga Z, Mueller B. *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)
- **Schuetz P**, Wirz Y, Sager R, Christ-Crain M, Stolz D, Tamm M, Bouadma L, Luyt CE, Wolff M, Chastre J, Tubach F, Kristoffersen KB, Burkhardt O, Welte T, Schroeder S, Nobre V, Wei L, Bucher HC, Annane D, Reinhart K, Falsey AR, Branche A, Damas P, Nijsten M, de Lange DW, Deliberato RO, Oliveira CF, Maravić-Stojković V, Verduri A, Beghé B, Cao B, Shehabi Y, Jensen JS, Corti C, van Oers JAH, Beishuizen A, Girbes ARJ, de Jong E, Briel M, Mueller B. *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)





- Eckart A, Hausfater P, Amin D, Amin A, Haubitz S, Bernard M, Baumgartner A, Struja T, Kutz A, Christ-Crain M, Huber A, Mueller B, **Schuetz P**. Hyponatremia and activation of vasopressin secretion are both independently associated with 30-day mortality: results of a multicenter, observational study. *J Intern Med*. 2018 Apr 17. (IF 6.1)
- **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)
- 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)
- Blum CA, Nigro N., Briel M, **Schuetz P**, Winzeler B, Suter-Widmer I, Ullmer E, Bingisser R, Zimmerli W, Elsaesser H, Tarr P, Wirz S, Thomann R, Baumgartner C, Rodondi N, Duplain H, Burki D, Mueller B, Christ-Crain M. Adjunct prednisone therapy for patients with community-acquired pneumonia - a randomized, double-blind, placebo-controlled multicenter trial. *The Lancet*. 2015 Jan 16. pii: S0140-6736(14)62447-8. (IF 39.4)
- **Schuetz P***, Leuppi J*, Schuetz P, Bingisser R, Bodmer M, Briel M, Drescher T, Duerring U, Henzen C, Leibbrandt Y, Maier S, Miedinger D, Mueller B, Schwerr A, Schindler C, Stoeckli R, Viatte S, von Garnier C, Tamm M, Rutishauser J, *equally contributing. Short term versus standard glucocorticoid therapy in acute exacerbations of COPD The "REDUCE*" randomized noninferiority trial (*Reduction in the Use of Corticosteroids in Exacerbated COPD) *JAMA*. 2013;309(21):2223-31. (IF 31.7)
- **Schuetz P**, Briel M, Mueller B. Clinical outcomes associated with procalcitonin algorithms to guide antibiotic therapy in respiratory tract infections. *JAMA*. 2013 Feb 20;309(7):717-8. (IF 31.7)
- **Schuetz P**, Friedli N, Grolimund E, Kutz A, Haubitz S, Christ-Crain M, Thomann R, Zimmerli W, Hoess C, Henzen C, Mueller B; ProHOSP Study Group. Effect of hyperglycaemia on inflammatory and stress responses and clinical outcome of pneumonia in non-critical-care inpatients: results from an observational cohort study. *Diabetologia*. 2014 Feb;57(2):275-84. (IF 6.6)

Aarau, Mai 20, 2020

Major scientific achievement

I. Nutritional and metabolic research (EFFORT project and multicenter trial, ongoing)

General Aim: To test the hypothesis that in medical inpatients at risk for undernutrition, early tailored nutritional therapy to reach nutritional targets based on individualized nutritional counseling is a cost-effective strategy to prevent frailty and improve patient outcomes. Towards this General Aim, several subsidiary aims are accomplished: This project is supported by the Swiss National Science Foundation with a 6-year clinical professorship and we received > 2.5 Million of funding for the project (<http://p3.snf.ch/project-150531> and <http://p3.snf.ch/project-150531>).

First, we performed in collaboration with COCHRANE an aggregate data meta-analysis on efficacy and safety of different nutritional therapy strategies in medical inpatients (*JAMA Intern Med*. 2016 Jan 1;176(1):43-53). We found only few studies with moderate-to-low quality and overall no effect of nutritional interventions on clinical outcome. 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 answer the question whether nutritional therapy improves clinical outcomes and reduces malnutrition-associated risks beyond weight gain, we conducted the by far largest, multicenter randomized, controlled trial ("EFFORT trial", <https://clinicaltrials.gov/ct2/show/NCT02517476>) in 8 Swiss hospitals comparing nutritional therapy based on an up-to-date nutritional strategy (intervention group) with a control group. Funded by the SNF, we included over a period of 4 years 2028 patients and found significant





positive effects of nutritional therapy on medical outcome in the overall population and in different prespecified subgroups (The Lancet. 2019 Jun 8;393(10188):2312-2321). This large sample of patients with an existing biobank now also allows us to understand the physio-pathological mechanisms underlying the effects of nutritional therapy in specific patient populations. We currently look at how nutritional effects vary depending on age, gender, underlying disease and acute vs. chronic courses. We also focus on inflammatory and endocrine blood markers to identify patients who do or do not benefit from nutritional therapy. We also study effects of nutritional therapy on the course of inflammation and infection recovery, as reflected by serial measurements of biomarkers. In collaboration with researchers from the functional genomic center at the ETH Zürich, we also look at new metabolomic markers that may serve as malnutrition markers in the future. Finally, we also plan to do an incremental cost-effectiveness analysis of nutritional therapy within the 30-day follow-up period.

II. Biomarker research in the area of antibiotic stewardship (ProHOSP trial and metaanalysis)

General Aim: to study the effects when adding procalcitonin (PCT), an inflammatory marker for infection to clinical antibiotic stewardship protocols.

For the last 10 years we have been pioneers in the field of biomarker research for antibiotic stewardship starting with several trials done in Switzerland and lead by our group (e.g, ProHOSP, JAMA, 2009, Sep 9;302(10):1059-66). 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 infection, 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 an individual patient data meta-analysis in collaboration with Cochrane and all the different trialists from individual trials. In a recent update in 2017, our analysis show a reduction in mortality when PCT is used for antibiotic stewardship efforts and also a trend towards less complications (The Lancet Infect Dis. 2017 Oct 13.). These effects are paralleled with lower antibiotic consumptions and lower risk of antibiotic side effects. We have now also published several papers looking at best use of PCT in different patient populations. 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.

II. Endocrine and diabetes research

General Aim: To study whether endocrine dysfunction and impairments in glucose metabolism interact with 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 predictive of outcome. We thus 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 neurosurgery, we studied the diagnostic value of pro-vasopressin (copeptin, the stable peptide of the vasopressin precursor) for early diagnosis of diabetes insipidus.

III. Comprehensive Effectiveness Research („Versorgerforschung“, InHospitoOL trial)

General 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 bei 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.