

Forschungsaktivitäten 2022 – Research Report 2022

**Departement für Intensivmedizin und Neonatologie
Universitäts-Kinderspital Zürich**

**Department of Intensive Care and Neonatology,
University Children`s Hospital Zurich**



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Preface

“Research is creating new knowledge” (Neil Armstrong)

Dear Colleagues,

It is with great pleasure that we hereby present the 2022 research report from the PINNACLE research group of the Department of Intensive Care and Neonatology at the University Children's Hospital Zurich and Children's Research Center.

The report highlights the activities of our team with over 80 publications and more than 40 talks and posters at national and international events during the last year. The diversity of publications demonstrates our highly interdisciplinary research, sustaining innovation and quality improvement. Importantly, young researchers contributed to this success.

This demonstrates the increasing capacity and capability of our Department to include research at the bedside as one of several key strategies to help further improve the quality of care delivered to our patients. Research is key to drive high quality care.

Two randomized clinical trials (RCTs) and 3 research projects have been successfully conducted and concluded in 2022, with a total of 190 recruited patients. One investigator-initiated RCT and 2 research projects are ongoing and several are planned. All these projects happen in close interaction with patients, families, and bedside clinical staff – we are grateful to have this opportunity.

In 2022 we witnessed as well major grant success. Highly competitive grants like the SPHN/PHRT SwissPedHealth National Data Stream, and the SNF for the BOND trial will allow us not only to drive these innovative research projects over the coming years, but at the same time they will foster new national and international partnerships and help to expand the PINNACLE research

group. Thereby, our research focus is becoming increasingly diverse, spanning from music therapy, over quality research, to artificial intelligence. Concomitantly, we aim to further foster interdisciplinary work by supporting novice and early career researchers from medical, nursing, allied health, and other disciplines. Building on the experience started with SwissPedHealth, we aim to continue developing patient and public involvement (PPI) in all stages of the research process.

We would like to thank all PINNACLE team members, the staff of the Department of Intensive Care and Neonatology, the Children's Research Center at University Children's Hospital Zurich, and our partners for their work and support.

We are especially grateful to families for their willingness to participate in research projects during challenging and stressful times, and for their important contribution to improve the outcomes for children in the future.

Yours

C. Hagmann *Luregn Schlapbach*

Cornelia Hagmann and Luregn Schlapbach



Picture from the 2023 Start of the Year PINNACLE Research Group meeting
(note: not all members present on the picture)

ORIGINAL ARTICLES

1. Albrecht, J.N., Jaramillo, V., Huber, R., Karlen, W., Baumann, C.R., and **Brotschi, B.**, *Technical feasibility of using auditory phase-targeted stimulation after pediatric severe traumatic brain injury in an intensive care setting*. BMC Pediatr, 2022. **22**(1): p. 616.
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61. van der Velden, F.J.S., de Vries, G., Martin, A., Lim, E., von Both, U., Kolberg, L., Carrol, E.D., Khanijau, A., Herberg, J.A., De, T., Galassini, R., Kuijpers, T.W., Martinon-Torres, F., Rivero-Calle, I., Vermont, C.L., Hagedoorn, N.N., Pokorn, M., Pollard, A.J., **Schlapbach, L.J.**, Tsolia, M., Eleftheriou, I., Yeung, S., Zavadzka, D., Fink, C., Voice, M., Zenz, W., Kohlmaier, B., Agyeman, P.K.A., Usuf, E., Secka, F., de Groot, R., Levin, M., van der Flier, M., Emonts, M., and PERFORM consortium, *Febrile illness in high-risk children: a prospective, international observational study*. *Eur J Pediatr*, 2022. DOI: 10.1007/s00431-022-04642-1.
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63. Wainwright, M.S., Williams, K., Kannan, S., Simon, D.W., Tasker, R.C., Traube, C., Pineda, J., and Pediatric Organ Dysfunction Information Update Mandate (PODIUM) Collaborative (Bembea, M.M., Agus, M., Akcan-Arikan, A., Alexander, P., Basu, R., Bennett, T.D., Bohn, D., Brandão, L.R., Brown, A.M., Carcillo, J.A., Checchia, P., Cholette, J., Cheifetz, I.M., Cornell, T., Doctor, A., Eckerle, M., Erickson, S., Farris, R.S.D., Faustino, E.V.S., Fitzgerald, J.C., Fuhrman, Y.S., Giuliano, J.J.S., Williams, K., Gaies, M., Gorga, S.M., Hall, M., Hanson, S.J., Hartman, M., Hassinger, A.B., Irving, S.Y., Jeffries, H., Jouvett, P., Kannan, S., Karam, O., Khemani, R.G., Kissoon, N., Lacroix, J., Laussen, P., Leclerc, P., Lee, J.H., Leteurtre, S., Lobner, K., McKiernan, P.J., Menon, K., Monagle, P., Muszynski, J.A., Odetola, F., Parker, R., Pathan, N., Pierce, R.W., Pineda, J., Prince, J.M., Robinson, K.A., Rowan, C.M., Ryerson, L.M., Sanchez-Pinto, L.N., **Schlapbach, L.J.**, Selewski, D.T., Shekerdemian, L.R., Simon, D., Smith, L.S., Squires, J.E., Squires, R.H., Sutherland, S.M., Ouellette, Y., Spaeder, M.C., Srinivasan, V., Steiner, M.E., Tasker, R.C., Thiagarajan, R., Thomas, N., Tissieres, P., Traube, C., Tucci, M., Typpo, K.V., Wainwright, M.S., Ward, S.L., Watson, R.S., Weiss, S., Whitney, J., Willson, D., Wynn, J.L., Yeyha, N., Zimmerman, J.J.), *Acute Neurologic Dysfunction in Critically Ill Children: The PODIUM Consensus Conference*. *Pediatrics*, 2022. **149**(1 Suppl 1): p. S32-S38.

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ACCEPTED PUBLICATIONS (in press)

1. Bialasiewicz, S., May, M., Tozer, S., Day, R., Bernard, A., Zaugg, J., Gartrell, K., Alexandersen, S., Chamings, A., Wang, C.Y.T., Clark, J., Grimwood, K., Heney, C., **Schlapbach, L.J.**, Ware, R.S., Speers, D., Andrews, R.M., and Lambert, S., *Novel Human Parechovirus 3 Diversity, Recombination, and Clinical Impact Across 7 Years: An Australian Story*. *J Infect Dis*, 2023. **227**(2): p. 278-287.
2. Gilholm, P., Gibbons, K., Lister, P., Harley, A., Irwin, A., Raman, S., Rice, M., **Schlapbach, L.J.**, and Queensland Statewide Sepsis Collaborative, *Validation of a paediatric sepsis screening tool to identify children with sepsis in the emergency department: a statewide prospective cohort study in Queensland, Australia*. *BMJ Open*, 2023. **13**(1): p. e061431.
3. Menon, K., Sorce, L.R., Argent, A., Bennett, T.D., Carrol, E.D., Kissoon, N., Sanchez-Pinto, L.N., **Schlapbach, L.J.**, de Souza, D.C., Watson, R.S., Wynn, J.L., Zimmerman, J.J., Ranjit, S., and Pediatric Sepsis Definition Taskforce, *Reporting of Social Determinants of Health in Pediatric Sepsis Studies*. *Pediatr Crit Care Med*, 2023. DOI: 10.1097/PCC.0000000000003184. Ahead of print.
4. **Schlapbach, L.J.**, **Zimmermann, E.A.**, Meylan, S., Stocker, M., Suter, P.M., Jakob, S.M., *Swiss Sepsis National Action Plan: A coordinated national action plan to stop sepsis-related preventable deaths and to improve the support of people affected by sepsis in Switzerland*. *Frontiers in Medicine*, 2023. In Press
5. Périsset, A., Natalucci, G., Adams, M., Karen, T., Bassler, D., and **Hagmann, C.**, *Impact of low-grade intraventricular hemorrhage on neurodevelopmental outcome in very preterm infants at two years of age*. *Early Human Development*, 2023: p. 105721.

REVIEWS

1. Fernández-Sarmiento, J., **Schlapbach, L.J.**, Acevedo, L., Santana, C.R., Acosta, Y., Diana, A., Monsalve, M., and Carcillo, J.A., *Endothelial Damage in Sepsis: The Importance of Systems Biology*. *Front Pediatr*, 2022. **10**: p. 828968.
2. Henry, C.J., Semova, G., Barnes, E., Cotter, I., Devers, T., Rafeae, A., Slavescu, A., Cathain, N.O., McCollum, D., Roche, E., Mockler, D., Allen, J., Meehan, J., Klingenberg, C., Latour, J.M., van den Hoogen, A., Strunk, T., Giannoni, E., **Schlapbach, L.J.**, Degtyareva, M., Plötz, F.B., de Boode, W.P., Naver, L., Wynn, J.L., Küster, H., Janota, J., Keij, F.M., Reiss, I.K.M., Bliss, J.M., Polin, R., Koenig, J.M., Turner, M.A., Gale, C., and Molloy, E.J., *Neonatal sepsis: a systematic review of core outcomes from randomised clinical trials*. *Pediatr Res*, 2022. **91**(4): p. 735-742.
3. Menon, K., **Schlapbach, L.J.**, Akech, S., Argent, A., Biban, P., Carrol, E.D., Chiotos, K., Jobayer Chisti, M., Evans, I.V.R., Inwald, D.P., Ishimine, P., Kissoon, N., Lodha, R., Nadel, S., Oliveira, C.F., Peters, M., Sadeghirad, B., Scott, H.F., de Souza, D.C., Tissieres, P., Watson, R.S., Wiens, M.O., Wynn, J.L., Zimmerman, J.J., Sorce, L.R., and Pediatric Sepsis Definition Taskforce of the Society of Critical Care Medicine, *Criteria for Pediatric Sepsis-A Systematic Review and Meta-Analysis by the Pediatric Sepsis Definition Taskforce*. *Crit Care Med*, 2022. **50**(1): p. 21-36.
4. **Schlapbach, L.J.**, Malik, I.R., Kissoon, N., *Sepsis and Healthcare-associated Infections*. Health Europa 2022. URL: <https://www.healtheuropa.eu/sepsis-and-healthcare-associated-infections/113187/>
5. Slooff, V., Hoogendoorn, R., Nielsen, J.S.A., Pappachan, J., Amigoni, A., Caramelli, F., Aziz, O., Wildschut, E., Verbruggen, S., Crazzolara, R., Dohna-Schwake, C., Potratz, J., Willems, J., Llevadias, J., Moscatelli, A., Montaguti, A., Bottari, G., Di Nardo, M., **Schlapbach, L.**, Wosten-van Asperen, R., and POKER (PICU Oncology Kids in Europe Research group) research consortium of ESPNIC (European Society of Paediatric Neonatal Intensive Care), *Role of extracorporeal membrane oxygenation in pediatric cancer patients: a systematic review and meta-analysis of observational studies*. *Ann Intensive Care*, 2022. **12**(1): p. 8.

CASE REPORT

1. Lu, M., Cavazzoni, E., Selvadurai, H., and **Burren, J.M.**, *Paediatric acute respiratory distress syndrome: consider the role of lymphatics*. *BMJ Case Rep*, 2022. **15**(7). DOI: 10.1136/bcr-2021-245543.

INVITED EDITORIALS

1. **Schlapbach, L.J.** and Carrol, E.D., *Reducing Antibiotic Exposure at the Beginning of Life.* JAMA Netw Open, 2022. **5**(11): p. e2243705.
2. **Schlapbach, L.J.** and Coin, L., *Understanding Detrimental Host Response to Infection-The Promise of Transcriptomics.* Pediatr Crit Care Med, 2022. **23**(2): p. 133-135.
3. **Schlapbach, L.J., Hagmann, C.,** and Giannoni, E., *Time to tackle early-onset sepsis in low-income and middle-income countries.* Lancet Glob Health, 2022. **10**(5): p. e592-e593.
4. **Schlapbach, L.J.** and Kissoon, N., *Resuscitating Children With Sepsis and Impaired Perfusion With Maintenance Fluids: An Evolving Concept.* Pediatr Crit Care Med, 2022. **23**(7): p. 563-565.
5. **Schlapbach, L.J.** and Peters, M.J., *Pragmatic trials for critical illness in neonates and children.* Lancet Child Adolesc Health, 2023. **7**(2): p. 78-79.

RECEIVED GRANTS AS CHIEF INVESTIGATOR

Grant	Project	Investigator	Budget
COALAR	Improving the lives of Latin American children with sepsis through clinical trial capacity building (CIB)	L. Schlapbach	AUD 22,237
NHMRC	Resuscitation in Paediatric Septic Shock using Mega-Dose Vitamin C and Hydrocortisone - A Randomised Controlled Multicentre Trial (RESPOND study APP 2014937) (CIC)	L. Schlapbach	AUD 1,305,172
Nomis Foundation	Artificial Intelligence in the PICU (CIA)	L. Schlapbach	CHF 496,500
PHRT	PHRT-273: Rapid Personalized Diagnosis of Sepsis in Children (RAPIDS) (CIB)	L. Schlapbach	CHF 2,000,000
Research Grant Children's Research Center Zurich	CoCo2 trial (CIA)	R. Mozun	CHF 60,000
SANA Foundation	Artificial Intelligence in the PICU (CIA)	L. Schlapbach	CHF 150,000
SNF	BOND-Creative Music Therapy in Newborn Infants with Congenital Heart Disease	C. Hagmann	CHF 900,000
SPHN	ADONIS (Coinvestigator)	L. Schlapbach	CHF 494,000
SPHN/PHRT	NDS-2021-911 "Pediatric Personalized Research Network Switzerland (SwissPedHealth) – a Joint Pediatric National Data Stream" (CIA)	L. Schlapbach	CHF 5,000,000
Starship Foundation	Follow-up of the NITRIC cohort (SF 4226 CID)	L. Schlapbach	NZD 100,000
Stiftung Naturwiss./techn. Forschung	Artificial Intelligence in the PICU (CIA)	L. Schlapbach	CHF 150,000
Vontobel	BOND-Creative Music Therapy in Newborn Infants with Congenital Heart Disease	C. Hagmann	CHF 145'620.00

INVITED KEYNOTE PRESENTATIONS

C. Hagmann & B. Brotschi

Quality indicator in the Swiss National Cooling and Asphyxia Register
Webinar Newborn Brain Society, September 2022

C. Hagmann

High-risk Termingeborene: Betreuung im Spital und Nachsorge
Pädiatrie Update Refresher, Zurich, October 2022

Neuroimaging in newborn infants after perinatal asphyxia
4th summer discussions on neonatology, Avignon, June 2022

Workshop on neuroimaging
4th summer discussions on neonatology, Avignon, June 2022

L. Schlapbach

Pediatric Inflammatory Multisystem Syndrome
Pediatric Sepsis – Lessons Learnt and Future Directions
9th Annual Meeting of the Japanese Society of Intensive Care Medicine, Sendai, Japan, March 2022

PIMS-TS in Children
Update Refresher Pädiatrie, Zurich October 2021, April 2022

The Approach to Immunomodulatory and Adjunctive Therapy in Children with Sepsis
World Sepsis Congress Spotlight April 27th 2022

Sepsis
Symposium Peter Rimensberger, Geneva, April 28th 2022

Low flows on peripheral cannulation in sepsis
Sepsis in children
10th EuroELSO Conference, London, May 4-5 2022

Pediatric Sepsis Shock in 2022
Korean Society of Critical Care Medicine (KSCCM) 42nd Annual Congress Acute and Critical Care Conference 2022, Gyeongju, Korea, May 6-7, 2022

New Sepsis Guidelines
40th congress German Society for Tropical Paediatrics and International Child Health, Basel, May 28-29 2022

Scoring Systems for Organ Dysfunction and Multiple Organ Dysfunction in Pediatric Sepsis
18th International Sepsis Forum, Sao Paolo, June 2-3 2022

Pediatric Intensive Care 2020-2030
Swiss Society of Pediatrics, Lucerne, June 2-3 2022

PIMS-TS

Swiss Society of Cardiology 9-11 June 2022

Sepsis workshop

ESPNIC Xperience – Interactive Sessions – virtual, 15-17 June 2022
The European Society of Paediatric and Neonatal Intensive Care

NITRIC Trial results

Critical Care Reviews, Belfast, 28th June 2022

Educational outcomes in childhood survivors of critical care

11th Congress of the World Federation of Pediatric Intensive & Critical Care Societies
Virtual – 14-16 July

Recovery after cardiopulmonary bypass in infants - insights from the NITRIC trial

Cardiac Society of Australia and New Zealand, 11-14 August 2022

High-flow in the PICU

European Paediatric Airway Symposium (EPAS), Genoa, Italy, September 9-10 2022

Pediatric Sepsis in 2022

Asian Society for Paediatric Research ASPR, online, September 17-18 2022

Pediatric Sepsis State of the Art

Groupe Francophone de Réanimation et d'Urgences Pédiatrique, Paris, September 30 2022

Pragmatic Trials – Pro/Con Debate

Implementation of the Sepsis Guidelines

9th Congress of the European Academy of Paediatric Societies, Barcelona, October 7-11 2022

Pediatric Sepsis Update

Fluids – from FEAST to THIRST?

11th Annual Scientific Meeting of Indonesian Pediatric Society, November 20-22 2022

Pediatric Sepsis Update

Indian Academy of Pediatrics – Intensive Care Chapter, India, December 16-18 2022

ORAL PRESENTATIONS

R. Anderson de la LLana, G. Alfano, J. Degenhardt.

“Challenging transplantation for refractory severe aplastic anaemia: multi-disciplinary approach amongst Level III centres.”

Annual Meeting of the Swiss Society of intensive Care, Basel, Switzerland, September 2022

J. Burren, Demirakca Süha

“Beatmung bei Kindern – Interaktive Fall-Simulation (TED)”

DIVI22 Kongress, Hamburg, Deutschland, November 2022

L. Flückiger

“Advanced Practice Dietitian (APD) in der Intensivmedizin am Universitäts-Kinderspital Zürich”

Zurich University of Applied Sciences, April 2022

L. Flückiger

“Advanced Practice Dietitian (APD) in der Praxis”,

“Ernährungstherapie in der pädiatrischen Intensivmedizin”

Bern University of Applied Sciences master's program, April and June 2022

L. Flückiger

“Nutrition therapy in the perioperative Setting”

Annual Meeting of the Association for European Paediatric and Congenital Cardiology, Geneva, Switzerland, May 2022

R. Gotsmann

“Peri-operative creative music therapy with critically ill infants and their parents: a mixed-methods case-study.”

12th European Music Therapy Conference, Edinburgh, United Kingdom, June 2022

S. Miotti (presenter), Selina Kuhn, Rebeca Mozun, Elisa Zimmermann, Luregn Schlapbach

“Adherence to “Choosing Wisely” recommendations during pediatric intensive care patient visits: A before and after study”.

Annual Meeting of the Swiss Society of intensive Care, Basel, Switzerland, September 2022

F. M. Wehrle

“Impact of COVID-19 on psychosocial outcomes in young patients with CHD.”

Annual Meeting of the Association for European Paediatric and Congenital Cardiology, Geneva, Switzerland, May 2022

F. M. Wehrle

“Similarities and differences in the neurodevelopmental outcome of children with congenital heart disease and children born very preterm at preschool age.”

Annual Meeting Pädiatrie Schweiz, Lucerne, Switzerland, June 2022

N. Wieden

“Familiengespräch – die Wichtigkeit der pflegerischen Kommunikation auf der kardialen pädiatrischen Intensivstation”.

Annual Meeting of the Swiss Society of intensive Care, Basel, Switzerland, September 2022

POSTER PRESENTATIONS

- S. Mächler**, M. Pfiffner, L. J. Schlapbach, R. D. Signorell, A. Caduff Good
“Implementation of a Critical Care Pharmacy Service in a Swiss PICU - First Steps”.
Swiss Association of Public Health Administration and Hospital Pharmacists conference, Lucerne, Switzerland, November 2022
- C. Dobbert**, J. Burren, E. Bergsträsser, D. Gubler, E. Kühlwein
“Compassionate Extubation at home - Der Wunsch nach einem Lebensende zu Hause in der Pädiatrie”.
Annual Meeting of the Swiss Society of intensive Care, Basel, Switzerland, September 2022
- R. Anderson de la LLana**, A. Meinhold , M. Schmutz , M. Albisetti , M. Schweiger , L. Schlapbach , J. Pachlopnik
“Extracorporeal membrane oxygenation as salvage therapy for a case of presumed gestational alloimmune liver disease”.
Annual Meeting of the Swiss Society of intensive Care, Basel, Switzerland, September 2022
- R. Anderson de la Llana**, U. Terheggen, P.M. Meyer Sauter, C. Berger, L. Schlapbach
“Rare case of acute severe SARS COVID 19 disease in a newborn needing invasive ventilation”.
Annual Meeting of the Swiss Society of intensive Care, Basel, Switzerland, September 2022
- S. Kuhn**, S. Miotti, R. Mozun, E. Zimmermann, L. Schlapbach
“Impact of interruptions during pediatric intensive care patient visits on adherence to hand hygiene recommendations and visit duration”.
Annual Meeting of the Swiss Society of intensive Care, Basel, Switzerland, September 2022
- R. Signorell et al.**
“Critical Care Pharmacists – Nice to Have or Need to Have?”
Annual Meeting of the Swiss Society of intensive Care, Basel, Switzerland, September 2022

AWARDS

- F. Wehrle**
SwissPedNet Translational & Clinical Research Award 2022
Research project "Similarities and differences in the neurodevelopment outcome of children with congenital heart disease and children born very preterm at preschool age".
- L. Schlapbach**
International Sepsis Forum Award 2022: Best Abstract at WFPICCS 2022

MEDIA ACTIVITIES (LINKS)

L. Schlapbach:

Article/Interview NZZ September 2022:

<https://www.nzz.ch/wissenschaft/sepsis-fruehzeitig-behandelt-waeren-viele-todesfaelle-verhinderbar-ld.1701280?reduced=true>

Swiss Sepsis National Action Plan, September 2022

<https://www.eurosepsisalliance.org/news/2022/9/14/switzerland-announces-swiss-national-action-plan-ssnap>

<https://www.sgi-ssmi.ch/de/news-detail/items/schweizer-nationaler-aktionsplan-gegen-sepsis.html>

SUPERVISION OF PhD STUDENTS (completed 2022)

Student	Title & University	Year	Supervisor
Harley Amanda	Paediatric Sepsis (The University of Queensland)	2019 - 2022	L. Schlapbach

MEDICAL DOCTORAL THESIS AND MASTER THESIS (completed 2022)

Student	Title	Head of the study	Supervisor
Kuhn Selina	Interruptions in PICU	L. Schlapbach	R. Mozun
Miotti Sonja	Checklist in PICU	L. Schlapbach	R. Mozun
Erlach Melanie	Elternfragebogen zur Hypothermie Behandlung von Neugeborenen mit perinataler Asphyxie	B. Brotschi	B. Grass
Marie Hofbauer	Neugeborenen Transporte - quo vadis?	B. Grass	
Philine Roos	Zusammenhang zwischen Verarbeitungsgeschwindigkeit und Feinmotorik bei sehr frühen Frühgeborenen und gleichaltrigen Termingeborenen	C. Hagmann	F. Wehrle, A. Stöckli

CLINICAL STUDIES AND RESEARCH PROJECTS

Randomized Clinical Trials (patients recruitment concluded in 2022)

RECOVERY: Randomised Evaluation of COVID-19 Therapy.

National, multicenter, Investigator-Initiated Trial (IIT) Kispi (head of the study). Category A, Clinical trial according to ClinO.

Recruitment period in Kispi: 2021-2022

Patient recruitment in Kispi vs total recruited in CH: 24/76

THRIVE: Trans-nasal Humidified Rapid-Insufflation Ventilatory Exchange in Children Requiring Emergent Intubation.

International, multicenter, Principal Investigator Kispi (partner of the study). Category A, Other clinical trials (ClinO chapter 4).

Recruitment period in Kispi: from February to October 2022

Patient recruited in Kispi vs total recruited: 12/960

Research Projects (concluded in 2022)

BATS: Best Available Treatment Study (BATS) for Childhood Inflammatory diseases associated with SARS-CoV-2 (MIS-C/PIMS-TS).

International, multicenter, Principal Investigator Kispi (partner of the study). Observational cohort study. HRO Chapter 3.

Tot recruited patient in Kispi: 52

SCOTER: Subphenotyping Children with Oncological diseases Treated at the PICU for infections and inflammatory conditions: a Retrospective study.

International, multicenter, Principal Investigator Kispi (partner of the study). Retrospective cohort study. HRO Chapter 3.

Tot recruited patient in Kispi: 17

BELLY: NIRS to assess the optical properties of the abdomen and stool, in clinically stable term born children.

National, monocenter, Principal Investigator Kispi (partner of the study). Observational, non-interventional study. Category A, HRO Chapter 2.

Tot recruited patient in Kispi: 85 (50 samples, 35 NIRS measurements).

Randomized Clinical Trials (ongoing December 2022)

BOND: Creative Music Therapy in Newborns with Congenital Heart Disease: A Randomized Clinical Trial – BOND Study.

National, monocenter, Investigator Initiated Trial Kispi (head of the study). Category A, Other clinical trials (ClinO chapter 4).

Recruitment period in Kispi: 11.2022 – 07.2025 (planned)

Planned patient recruitment: TOT 164

New Prospective Research Projects (ongoing December 2022)

MOMIC: Pediatric Personalized Research Network Switzerland (SwissPedHealth): Development of a multi-omics work-flow to discover rare diseases in children with extreme phenotypes.

National, multicenter, Investigator Initiated research project Kispi (head of the study). Category A, HRO Chapter 2.

Recruitment period in Kispi: 09.2022 – 08.2024 (planned)

Planned patient recruitment: TOT 150

DIAMONDS: H2020 Consortium led by Imperial College. Diagnosis and Management of Febrile Illness using RNA Personalised Molecular Signature Diagnosis

International, multicenter, principal investigator Kispi (partner of the study), Category A, prospective cohort study (HRO chap. 2).

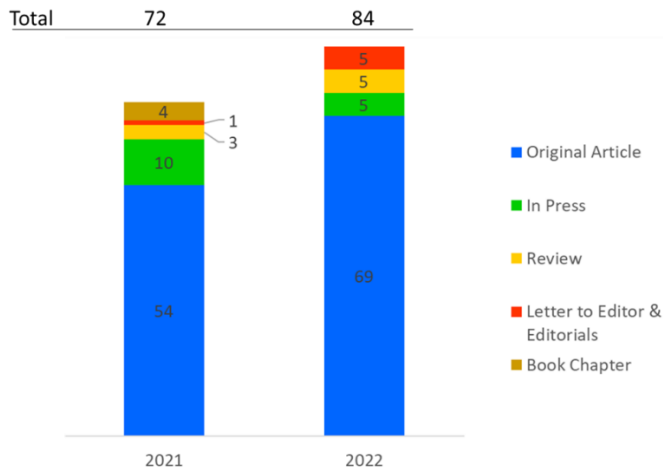
Recruitment period in Kispi: 11.2022 – 12.2023 (planned)

Planned patient recruitment Kispi: TOT 100

SUMMARY RESEARCH ACTIVITIES

Publications & Presentations 2021 - 2022

Publication 2021 - 2022



Presentations 2021 - 2022

