

New German Pediatric Rehabilitation Concept

KidsFirst!

Developed At University Hospital Cologne International, Germany



A program for transferring knowledge from
UniReha Cologne to hospitals all over the world

In May 2016 UniReha Cologne and AIRS signed a cooperation agreement on the diffusion of the On Your Feet pediatric concept under the KidsFirst brand worldwide. The main goal of the agreement is to implement the standardized Cologne- "On Your Feet" - concept at the rehabilitation departments of leading local pediatric hospitals. We invite you to participate!

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The Cologne Concept – “On Your Feet”

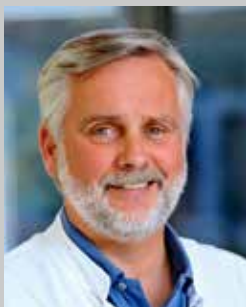
The Cologne Concept is a unique, standardized, quality-controlled rehabilitation and support treatment concept for children suffering from developmental disorders and mobility limitations. Its purpose is to help afflicted children attain greater mobility and independence – to get them out of their wheelchairs and onto their feet.

The treatment concept is based on more than ten years of experience with one of the world's leading and most innovative concepts in the field of pediatric rehabilitation. The program was developed by Professor Schönau and his team at University Hospital Cologne International. It is a twelve-month, multimodal, interval-based rehabilitation program that combines inpatient rehabilitation phases and a special home-based training program for children in a systematic manner.

It has proven successful and received several awards since its launch in 2006. From the start the concept has been under scientific supervision, and numerous studies have demonstrated its extraordinary effectiveness in connection with various indications.

After more than a decade of success, the Cologne Concept, wants to help children all over the world get back on their feet within the framework of KidsFirst, a standardized, quality-controlled, evidence-based transfer program that is currently seeking partner clinics. Clinics willing to implement the program under the supervision and instruction of University Hospital Cologne International and in cooperation with Orehsa and the Institute for the Advancement of International Rehabilitation Standards (AIRS).

The developers of the program



Prof. Eckhard Schönau, MD

- 1980-1986: student at the Faculty of Medicine, University of Erlangen-Nuremberg
- 1986: license to practice medicine
- Specialist training in child and adolescent medicine
- Since 1991: physician at University Hospital Cologne International
- Since 1995: senior physician
- Since 1999: professor at the University of Cologne
- 2006: founder and medical director of the Queen Rania Rehabilitation Center
- Since 2006: development of On Your Feet
- Since 2008: managing director of the center for prevention and rehabilitation, UniReha GmbH, Cologne



Prof. Christina Stark, MD

- PT BSc, Hogeschool van Amsterdam
- Neurorehabilitation MSc, Brunel University London
- Doctorate, Faculty of Medicine, University of Cologne
- Since 2005: member of the workgroup of Prof. Schönau, MD (muscle and bone research)
- Since 2009: scientific assistant at the Faculty of Health Science, Stellenbosch University, South Africa
- Since 2010: scientific assistant at the University of Cologne; leader of a study on CP and vibration; lecturer at the PT school of the University of Cologne
- Since 2013/2014: lecturer in/professor of physical therapy at the HSD Hochschule Döpfer, Cologne
- Since 2016: responsibility for implementing KidsFirst at various institutions

General description of the Cologne - “on your feet” concept

Cologne Concept is an interdisciplinary treatment for children and adolescents whose mobility is limited due to cerebral palsy (CP/ICP), osteogenesis imperfecta (OI), spina bifida (MMC), spinal muscle atrophy (SMA) etc.

The workgroup is headed by Professors Schönau and Stark. It has developed the standardized treatment concept on the basis of nationally and internationally recognized research results concerning the link between bone and muscle on the one hand and, on the other hand, the recognition that only regular, systematic and intense neuromuscular training addresses the functional deficits of afflicted children, induces plastic changes and occasions a reorganization of the nervous system after CNS damage.

Children and adolescents with muscle and skeletal diseases undergo a standardized, flexible, multimodal treatment concept that includes inpatient rehabilitation phases and phases of therapy at the patient's place of residence.

These phases focus on improving strength, coordination and mobility in a targeted manner and with parental participation and in particular take account of the daily lives of the patients.

A team of doctors, physical therapists and nutritionists works in close cooperation with the patient's parents in order to achieve this.

This boy is ten years old and only eighty centimeters tall. He has osteogenesis imperfecta, a rare hereditary disease. During his presentation at the clinic, he showed severely limited mobility and was incapable of independent locomotion.

His participation in UniReha Cologne's On Your Feet program was a complete success: he made significant progress in terms of function and mobility, progress that had a positive impact on his everyday activities and self-esteem. Among other things, he is now able to walk about 200 meters with the help of a wheeled walker, and most recently he has developed the ability to walk short distances on crutches. In addition, the deficits in his back and shoulder have abated considerably. This improvement can be attributed to increased muscle strength and weight-bearing capacity.

His father says: "Three years ago we wouldn't have believed these kinds of results possible. Our experience with On Your Feet has been very positive, and we would advise anyone with similar problems to go to Cologne for help".



Hospital	Home	Hospital	Home	Hospital	Home	Hospital
13	3	6	3	1	6	1
days	months	days	months	days	months	days
1 st in-patient phase	Home-based Galileo training	2 nd in-patient phase	Home-based Galileo training	1 st out-patient visit	No additional training	2 nd out-patient visit

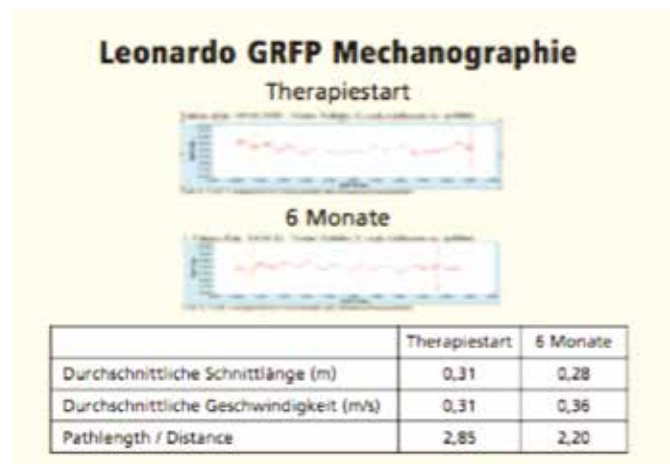
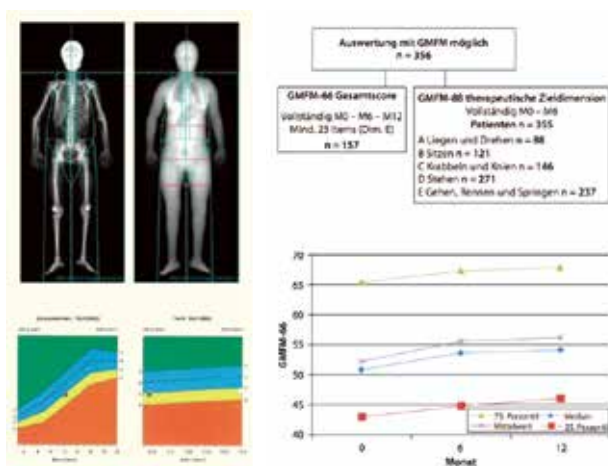


From the assessment to training according to the Cologne Concept

The Cologne Concept is based on a methodical structure that combines various treatments derived from physical therapy and medical training therapy as main components with other measures such as speech therapy, ergotherapy and diet counseling, all tailored to the needs of the individual patient.

The program kicks off with a comprehensive preliminary examination. Various tests are performed to determine the patient's bone density and gait and any deficits in muscle strength, motor function and other functions:

- Bone-density and muscle-mass measurement (DEXA, pQCT)
- Gait analysis (force pressure plates, cameras)
- Gross motor function measure (GMFM) test
- Muscle-strength tests (manual, isometric tests)



The results of the preliminary examination are applied to the training program in a systematic manner. Both the inpatient therapy program, which takes several hours, and the subsequent home-based program are adapted to the needs and functional limitations of the patient.

(R. Teasell et al., 2005. The role of timing and intensity of rehabilitation therapies.)

It is important that the right training intensity is maintained, because various studies show that the right intensity is more important for successful training and therapy than the content.

(R. Teasell et al., 2005. The role of timing and intensity of rehabilitation therapies.)

Key elements of the Cologne training concept:

- Initial assessment (reassessments after 6 and 12 months)
- Multidimensional physiotherapeutic training program – goal-oriented and intensity-controlled
 - Inpatient hospital training
 - Standardized and tailored home-based training with parental support
- Principles of the training program: tailored to and based on the condition of the patient, the functional goals and the results of the initial assessment
- Activity based and ADL related therapy
- parental training
- highly effective time/treatment management
- allows hospitals to treat more patients without losing effectiveness

It follows that targeted therapeutic exercise programs, performed regularly and with the proper intensity, can be expected to have a positive effect whereas programs that fail to address the needs of the patient cannot guarantee the same level of success.

The Cologne Concept is particularly suitable for a modern society with limited time for therapeutic interventions. The inpatient stays are brief and involve intense training. The program as a whole uses families' time effectively and allows clinics to treat more patients. The home-based training provides effective stimulation without taking up much time and is shown to improve the child's abilities in a much better way than expected.

Quality-controlled, multimodal treatment

Research shows that muscular function correlates with skeletal morphology. Targeted activation of the musculoskeletal system is a promising way of increasing bone mineral density (BMD) and improving gross motor function in children with walking disabilities.

Improving children's ability to walk requires multidisciplinary interventions to address the functional deficits. Various therapeutic interventions are employed depending on the condition of the patient:

- Physical therapy: intensive, one-on-one, functional, goal-oriented
- Whole body vibration (Galileo training)
- Medical training therapy (MTT): muscle strength, coordination, endurance
- Manual and robotic treadmill gait training
- Hydrotherapy
- Occupational therapy
- Drumming therapy
- and more

The Cologne Concept offers a strictly monitored treatment program based on highly concentrated neuro-motor training performed on a regular basis (min. 4 hours a day) in one-on-one and group therapy.

This high-intensity training is complemented by whole body vibration (Galileo training) to enhance the child's movement skills and independence. Since the success of any training regimen is dependent on consistent and methodical execution, the patient's progress is strictly monitored.

The program includes inpatient and outpatient phases. During the outpatient phases, a vibration device is used for home-based training. During the inpatient phases, the child and the parents are instructed on how to perform the necessary daily training at home. This ensures consistent and successful training over long periods of time and the application of the training to daily life, which is essential to success. Because the child needs to learn how to apply the treatment and training in everyday situations, this has a very positive effect on the children and triggers the advancement in development much better. It is important to understand that this is one of the key factors for the success of the treatment concept!





A few years ago I joined the UniReha team that attends to children and adolescents. It describes itself as "interdisciplinary". At first I was skeptical, because most of my new coworkers were physical therapists.

But I quickly learned that it is possible to be "interdisciplinary" even within a single field: our concept is built up out of many of the elements of classical physical therapy, medical training therapy and hydrotherapy so that our view of the patient, who after all is the focus of our work, keeps changing and new perspectives keep opening up.

An important aspect of our work with children is the involvement of the parents as "co-therapists". Thanks to their close relationship with the patient and the fact that their professional backgrounds are usually different from ours, their cooperation opens up even more perspectives.

What makes the Cologne Concept unique?

On Your Feet combines target-oriented, intensive, interval-based rehabilitation with a multimodal treatment concept. Various treatments are applied based on a comprehensive assessment performed at the beginning of treatment: conventional physical therapy, physical therapy using specialized technology, medical training therapy, hydrotherapy, occupational therapy and more.

Brief inpatient phases alternate with standardized home-based training that employs various techniques, including whole body vibration with Galileo machines. The neuromuscular stimulation made possible by Galileo is one of several novel ways to enhance neuromuscular interaction as a means to improve mobility.

Improved mobility after intensive inpatient training is directly translatable to day-to-day activities. The patient has to employ the newly gained skills and muscular capacities in everyday life in order to sustain them. Which they are forced into as the training is mainly at home!

The program has been the subject of several scientific studies since its launch in 2006. The results show that children who have participated in the Cologne Concept show both short-term and long-term mobility improvements.

After ten years the Cologne Concept's team of experts is now introducing its evidence-based, intensive, target-oriented treatment program combined with cutting-edge technology in China as KidsFirst.

Key elements of the Cologne Concept include:

- Ten years of expertise
- Standardization and quality control
- A systematic, structured approach
- A basis in scientific research
- Progress monitored by means of standardized assessments
- Multidisciplinary implementation of advanced treatment strategies
- Functional, high-intensity training focused on day-to-day living
- A focus on family involvement



Evidence - based Concept

The Cologne Concept is based on more than a decade of targeted research that has proved effective in helping children to significantly enhance their mobility. Both its therapeutic approach and its treatment methods have been shown to be highly effective.

The evidence base for rehabilitative therapy is expanding constantly, and practitioners can choose from a wide range of resources when trying to determine the most appropriate intervention for a given patient. Therapists are up to date in their areas of expertise so as to ensure that their interventions are appropriate and effective. They also need clinical reasoning skills in order to determine the best interventions for specific patients, families and social situations.

There is a strong link between evaluation, learning and improvement in patient care and quality of service. The overall goal of the KidsFirst implementation program is therefore to provide doctors and therapists with an understanding of these points so they can tailor their interventions to the needs of individual patients on the basis of up-to-date, evidence-based clinical reasoning.

The KidsFirst approach to therapy is evidence-based and adheres to national and international guidelines as well as to the activity- and participation-centric approach of the International Classification of Functioning, Disability and Health (ICF).

Many studies additionally show that patients seem to improve better and have longer-lasting treatment effects when treatment is implemented and provided additionally at home. As it directly correlates with targeted training and specific interventions.





Awards and publications

Professor Schönau's team regularly publishes scientific articles on the Cologne Concept in order to maintain its quality and develop it further. These articles appear in international peer-reviewed journals. The Cologne Concept is affiliated with the clinics of University Hospital Cologne, Germany, and is partnered with various highly acclaimed research centers. In recent years it has received several awards for innovation, including the German Innovation Award in Healthcare for its On Your Feet program and the Eva Luise Köhler Research Award for Rare Diseases for its research on osteogenesis imperfecta (OI).



Osteogenesis Imperfecta O. Semler, O. Fricke, I. Dammertz, C. Stark, A. Stabrey, E. Schönau - Osteoporose und Rheuma Aktuell 2/06

Neuromuscular training based on whole body vibration in children with spina bifida: a retrospective analysis of a new physiotherapy treatment program

C. Stark & H.-K. Hoyer-Kuhn & O. Semler & L. Hoebing & I. Duran & R. Cremer & E. Schoenau Childs Nerv Syst
DOI 10.1007/s00381-014-2577-2

**Intervallrehabilitation mit häuslichem Training bei Kindern mit Zerebralparese
Monatsschr Kinderheilkd 2013 · 161:625–632 DOI 10.1007/s00112-013-2910-y**

C. Stark, O. Semler, I. Duran, A. Stabrey, I. Kaul, P. Herkenrath, H. Hollmann, S. Waltz, E. Schönau

Prof. Schönau, MD, and two team members

The purpose of rehabilitating children with disabilities is to prevent sequelae while improving functionality.

Since 2006 the Cologne Concept has been combined with research.

Clinical studies show that the program has a marked positive effect on the mobility of patients with cerebral palsy (CP), spina bifida, osteogenesis imperfecta and spinal muscle atrophy.



The KidsFirst Program – Knowledge transfer to China

In the last ten years UniReha Cologne has developed the Cologne Concept, an innovative standard for rehabilitating children with walking disabilities.

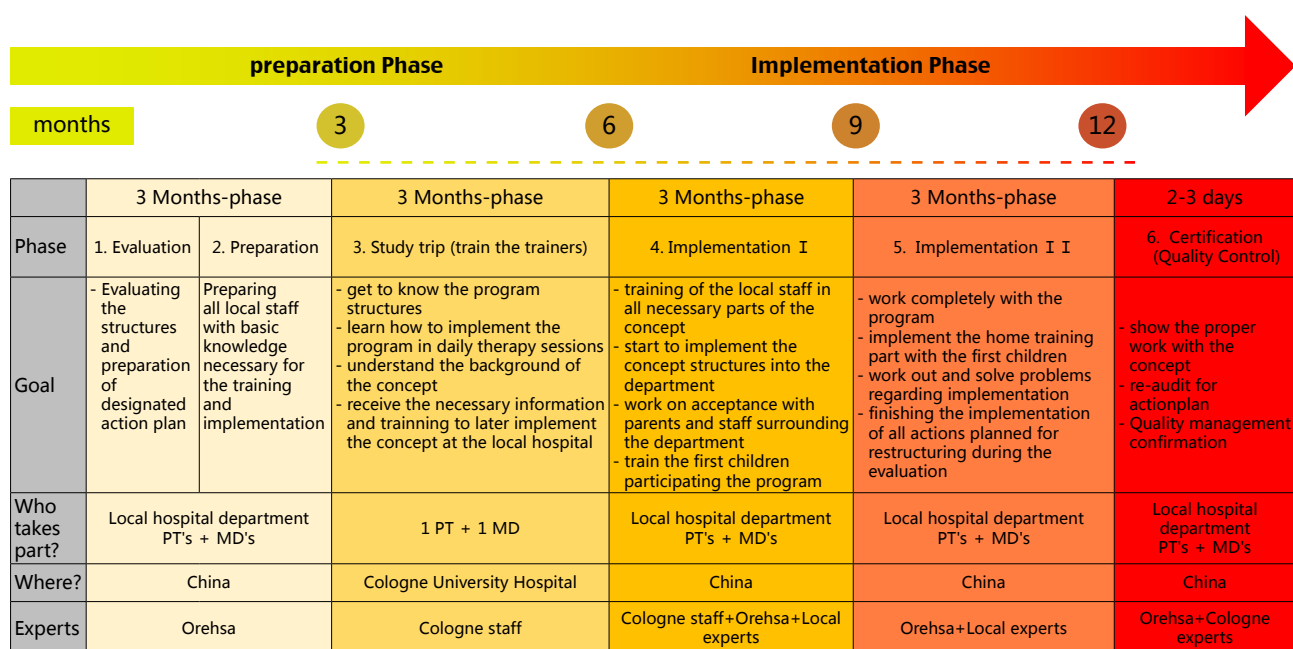
In cooperation with Orehsa, a China-based company, and the Institute for the Advancement of International Rehabilitation Standards (AIRS), which is based in Basel, Switzerland, UniReha Cologne proposes to transfer this new standard to interested pediatric hospitals worldwide so more children can benefit from the concept. This transfer Program is called KidsFirst.

The KidsFirst training program has two focal points: preparation and implementation.

Good preparation is necessary for anything that changes existing workflows and setups, especially if it is interdisciplinary. It is important to make sure that everyone has the same basic knowledge and idea. There has to be a common understanding of the program itself, of the knowledge provided by Cologne and the responsibilities of each individual working with the Cologne Concept. This foundation is necessary in order to be strong on various levels, from management to doctors to therapists. Knowledge and structure should be similar and accepted so the changes can be implemented properly. This is why the training team decided not only to provide training in Cologne for key people but also to audit the department structure and instruct therapists and doctors at their local clinics. The general knowledge provided in this way provides a strong foundation for the further implementation of the program.

Implementation is defined as a specified set of activities designed to put into practice an activity or program of known dimensions. According to this definition, implementation processes are purposeful and described in sufficient detail so independent observers can detect the presence and strength of a specific set of activities related to implementation. Implementation generally benefits from high levels of user involvement and management support. Active participation has several positive results: first, if users are heavily involved, they can shape the system according to their priorities and requirements and control the outcome; second, they are more likely to react positively to the change process. Incorporating user knowledge and expertise leads to better solutions.

This is why the rehabilitation department has key people who go to Cologne for specific training. Additionally they participate in all aspects of the local training with their colleagues as a team to develop together.





Knowledge transfer: monitored implementation phases

The KidsFirst program for transferring knowledge from UniReha Cologne to hospitals all around the world takes 12 months and consists of six phases:

Phase 1 – hospital evaluation

The hospital evaluation takes four days and is performed by Orehsa experts in cooperation with the management and department heads of the hospital.

The purpose of the evaluation is to gain an understanding of the hospital's working procedures as a basis for presenting reasonable ideas and suggestions during the goal-setting meeting.

Treatment quality and quality management are analyzed in detail, starting with a general audit of the rehabilitation department, the hospital's staff, structure, layout, internal processes, patient records and documentation, patient distribution and rehabilitation equipment and the hospital as whole.

A summary report, including a PowerPoint presentation and a SWAT analysis, establishes which areas are in need of improvement. The action plan created together with the management team shows clear timeframes concerning how and when changes should be made and who is responsible for applying it.

Phase 2 – general knowledge phase

This phase includes general training for the staff of the pediatric rehabilitation department – doctors, therapists, nurses. All members of the team must have a similar level of knowledge in order for the Cologne Concept to be implemented.

The general knowledge phase lasts three months and is divided into on-site training conducted by foreign Orehsa experts (four weeks minimum) and e-learning-based self-study.

At the end of the preparation phase, the participants are given a test that further evaluates their skills and whether they are ready for the next stage.

KidsFirst Curriculum Structure									
Topic	Phase	Sub-Topic	Learning Objectives	Competences	Activities	Materials	Assessment	Reflection	Notes
Introduction	1	1.1	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7
	2	2.1	2.1.1	2.1.2	2.1.3	2.1.4	2.1.5	2.1.6	2.1.7
	3	3.1	3.1.1	3.1.2	3.1.3	3.1.4	3.1.5	3.1.6	3.1.7
	4	4.1	4.1.1	4.1.2	4.1.3	4.1.4	4.1.5	4.1.6	4.1.7
Theory	1	1.1	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7
	2	2.1	2.1.1	2.1.2	2.1.3	2.1.4	2.1.5	2.1.6	2.1.7
	3	3.1	3.1.1	3.1.2	3.1.3	3.1.4	3.1.5	3.1.6	3.1.7
	4	4.1	4.1.1	4.1.2	4.1.3	4.1.4	4.1.5	4.1.6	4.1.7
Practice	1	1.1	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7
	2	2.1	2.1.1	2.1.2	2.1.3	2.1.4	2.1.5	2.1.6	2.1.7
	3	3.1	3.1.1	3.1.2	3.1.3	3.1.4	3.1.5	3.1.6	3.1.7
	4	4.1	4.1.1	4.1.2	4.1.3	4.1.4	4.1.5	4.1.6	4.1.7

This combination of tables shows the overall structure of the general part and the specific planning, as well as the learning goals of each lesson in addition with an structure.

Phase 3 – internship in Cologne

The core of the KidsFirst knowledge-transfer program is a three-month internship at Cologne University Hospital International, Germany. One doctor and one physiotherapist from the local hospital learn about the Cologne Concept during intense and challenging on-site training. The internship consists of theoretical and practical training in accordance with a comprehensive curriculum.

The participants in the internship in Cologne are the key people in the next phase of implementing the concept at the local hospital: they are the main persons responsible for transferring knowledge to their colleagues and applying it to the daily workflow in the local hospital.

Phase 4 – implementation phase I

Implementation phase I at the local hospital lasts three months. Responsibility for it lies mainly with the participants in the internship in Cologne. With the support of experts from Cologne University Hospital International (two weeks) and the Orehsa training and education team, they teach the key principles of the Cologne Concept to the rest of the pediatric rehabilitation team and lay the groundwork for the step-by-step implementation of the KidsFirst procedures and processes at the hospital's pediatric rehabilitation department.

Phase 5 – implementation phase II

Implementation phase II also lasts three months and also takes place at the local hospital. Its purpose is to ensure that the hospital adopts the new therapy methods and adapts its therapeutic practice accordingly. The main focus is on transferring and applying the acquired principles under the guidance of the former interns. Home-based training is also introduced. This phase is supported by the Orehsa training and education team.

Phase 6 – certification phase

The last phase of the knowledge-transfer program consists of an audit by the Institute for the Advancement of Rehabilitation (AIRS) in cooperation with UniReha Cologne that evaluates the hospital's pediatric rehabilitation department, which may subsequently be certified. The main focus of KidsFirst is on implementation by doctors and therapists and on the proper transfer of key elements of the Cologne Concept, including home-based training and active participation of parents and other family members.



Details of the training in Cologne

The internships for local doctors and therapists at University Hospital Cologne International are of central importance for the KidsFirst Program. One medical doctor and one physical therapist undergo a three-month internship in Germany and are subsequently responsible for implementing the concept at the hospital.

The internship encompasses intense daily theoretical and practical training:

- Theory: 2 to 3 hours of classes a day
- Self-study periods for preparing practical tasks and gaining expertise using first-rate study material
- Practical training:
 - 3 hours of applied clinical training in a one-on-one setting
 - Case examples and hands-on training



The training program is tailored to the concept's subsequent implementation at local hospitals and comprises a variety of topics and training modules. It transmits both theoretical and practical content:

Theory: the challenging curriculum involves more than 120 hours of lessons on theory that are provided by the highly qualified training and education team of UniReha Cologne. Participants are thoroughly prepared for the implementation of KidsFirst in the local hospital.

The comprehensive curriculum of the internship in Cologne covers the following topics:

- Disease-specific theory, including physiology, pathophysiology and clinical effects. Subjects include: nerve/muscle/bone interaction, motor development and childhood diseases such as cerebral palsy, spina bifida, spinal muscular atrophy and osteogenesis Imperfecta.
- Application of best standard assessments with and without apparatuses for high-quality evaluations, clinical monitoring and research.
- General physical-therapy concepts for goal- and activity-oriented treatment of children with motor impairments, including complex diseases, basic motor-learning principles, parent education, aids and orthotics.
- Physical therapy combined with technology, including WBV with the Galileo system, MTT and treadmill training (with and without robotics).
- Management training for implementing the Cologne Concept at the local clinic.

The practical part of the training program gives participants deep insight into the complex methodical structure of the concept from the initial assessment to the planning of the individual training program to the implementation of this program in day-to-day therapy with the patient.

The inclusion of sample cases in training shows participants the importance of adapting the therapy and training intensity to the individual within the framework of the Cologne Concept. Home-based training is an essential aspect of that. The participants learn in detail how home-based training is structured and how parents should be involved and instructed.

Week 1 DST						
Unit (60 Min.)	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
08:00 - 09:00	Meeting	Meeting	Meeting	Meeting	Meeting	
09:00 - 10:00	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	
10:00 - 11:00	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	
11:00 - 12:00	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	
Lunch						
13:00 - 14:00	MD Phys	MD Clinical	Gait Phys	MI		
14:00 - 15:00	MD Path	MD Clinical	Gait Path	MI		
15:00 - 16:00	MD/exPT	MD/exPT	MD/exPT	MI		
16:00 - 17:00	self-study	self-study	self-study	self-study		

Unit (60 Min.)	Monday	Tuesday	Wednesday	Thursday
08:00 - 09:00	Meeting	Meeting	Meeting	Meeting
09:00 - 10:00	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.
10:00 - 11:00	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.
11:00 - 12:00	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.
Lunch				
13:00 - 14:00	PEDI	PEDI	Other	Other
14:00 - 15:00	PEDI	PEDI	Other	Other
15:00 - 16:00	self-study	self-study	self-study	self-study
16:00 - 17:00	self-study	self-study	self-study	self-study

Unit (60 Min.)	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
08:00 - 09:00	Meeting	Meeting	Meeting	Meeting	Meeting	
09:00 - 10:00	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	
10:00 - 11:00	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	
11:00 - 12:00	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	Clinical Impl.	
Lunch						
13:00 - 14:00	Galileo Princ.	Galileo Princ.	Galileo Clin.	Galileo Clin.	Treadmill	
14:00 - 15:00	Galileo Princ.	Galileo Princ.	Galileo Clin.	Galileo Clin.	Treadmill	
15:00 - 16:00	self-study	self-study	self-study	self-study	self-study	
16:00 - 17:00	self-study	self-study	self-study	self-study	self-study	

These tables are out of the detailed lesson planning for the cologne study trip. All parts of the KidsFirst program are structured like that in detail.

Details of the training at the local hospitals

The entire knowledge-transfer program of KidsFirst is geared towards implementing the concept at local hospitals.

During each phase of the program the ultimate goal is the practical implementation of the concept. That is why both the training team of University Hospital Cologne International and the Orehsa team support the doctors and therapists of the partner clinic throughout the training program.

It is important that the entire team of doctors and therapists of the local rehabilitation department, and not only part of it, is involved in the training program.

All training material is translated by the Orehsa training and education team and provided in the local language.

The training at the local hospital includes:

- Theory: 2 to 3 hours of classes a day
- Self-study periods for preparing practical tasks and gaining expertise using first-rate study material
- Practical training:
 - applied clinical training in a one-on-one setting
 - Case examples and hands-on training



Preparation:

The basic knowledge training at the local hospital is conducted by foreign Orehsa experts for a minimum of four weeks and is complemented by e-learning and therapy missions both for the team as a whole and for individual therapists and doctors. The preparation phase involves more than 160 hours of training. The entire rehabilitation team participates in the training program.

General training during the preparation covers the following topics:

- International Classification of Functioning, Disability and Health (ICF) – rehabilitation strategies
- Evidence-based medicine – basics
- Goal setting, evaluations and assessments, clinical reasoning
- Communication and psychology
- Physics, biomechanics and training science
- English – basics and medical terms

Regular attendance and successful test results are prerequisites for the subsequent certification of the institution as a whole.

Implementation I and II

After completing their intensive training in Cologne, the doctor and therapist train the rest of their team at the local clinic and start treating children according to the KidsFirst concept.

After two to four weeks, the Cologne-based team of experts visits the clinic for a period of two weeks to help the team put their training into practice. Implementation phase I is supervised by the Orehsa training and education team for another four weeks.



The purpose of implementation phase 2 is to apply the KidsFirst concept in the team's day-to-day work with patients and their families. This phase is not as closely monitored as implementation phase I, allowing the team to gain experience independently. However, the experts are still available for counseling, and brief visits from the Orehsa team ensure continual monitoring until final certification subsequent to an audit by experts from Orehsa and Cologne University Hospital International.

Implementation phases I and II include:

- Disease-specific training, building on general knowledge and the Cologne visit
- Specific interventions implementing devices such as treadmill, motomed, Galileo, MTT
- Specific assessments overview: mechanograph, pQCT, DXA
- Clinical reasoning and adaptation training
- Implementation training of the Cologne Concept and patient examples
- Supervision and guidance for independent treatment/assessment
- Self-study periods, e-learning and exams

The KidsFirst transfer program features the following:

- One year of supervised knowledge-transfer training
- A highly qualified educational team: training administered by the program's inventors and developers
- Close supervision: about 13 weeks of supervision at the local hospital
- More than 23 weeks of direct supervision in total
- Knowledge transfer guided by internationally recognized experts
- On-site domestic translators to help overcome the language barrier
- All necessary information and training materials translated into the local language
- Training modules that address doctors and physiotherapists alike/doctors only/therapists only



Knowledge-transfer partners

The one-year knowledge-transfer program of the KidsFirst pediatric-rehabilitation concept is organized and managed by the following institutions:

- **UniReha Cologne:** responsible for the On Your Feet pediatric-rehabilitation concept at University Hospital Cologne International, Germany.
- **AIRS Institute, Basel, Switzerland:** Institute for the Advancement of International Rehabilitation Standards, Basel.
- **Ohresa Co. Ltd., Beijing, China:** Ohresa offers education and consulting services in the area of rehabilitation for hospitals and rehabilitation clinics. Ohresa is a subsidiary of Soreha AG, Somantec Group, Basel, Switzerland.

KidsFirst training in Germany:

Training is organized by the experts of the UniReha KidsFirst team. Highly qualified and experienced German doctors and therapists are tasked with teaching and educating the Chinese interns. Top-rate training modules, both theoretical and practical, are provided during the 3-month course.

KidsFirst training in China:

The AIRS Institute has appointed Ohresa as its exclusive local cooperation partner. Ohresa is an education and consulting company that has grown out of the pioneering work performed in the area of rehabilitation by its partner company, Soreha China. The Soreha brand stands for best-in-class rehabilitation services and has been providing comprehensive educational services in the field of rehabilitation for about ten years. The KidsFirst education modules are implemented by Ohresa's education team, which consists of experienced foreign and domestic rehabilitation experts, under the guidance of UniReha's expert education team.

Certification:

The knowledge-transfer program of the Cologne Concept is conducted by UniReha Cologne. Certification is undertaken by UniReha in cooperation with the AIRS Institute.



Quality control and certification

KidsFirst is a quality-assured knowledge-transfer program that aims to introduce its key quality factors at Chinese hospitals.

That is why the one-year program ends by conferring official certification on the local hospital. Prior to the certification process, the quality criteria are assessed along with the implementation of KidsFirst in the day-to-day working procedures of the rehabilitation department.

In terms of quality management, the certification process also assesses structural, procedural and outcome quality:

- **Structural quality:** structural requirements include:
 - Space requirements: there has to be enough therapy space available for the KidsFirst concept to be implemented (treatment rooms, including rooms for one-on-one treatment; a dedicated room for medical training therapy (MTT); a room for group therapy; an assessment room; etc.)
 - Qualified doctors and therapists: a certain percentage of the hospital's doctors and therapists must have successfully completed the training program in order for KidsFirst to be implemented. Success is verified by means of tests and learning-success reviews performed during the course of the KidsFirst education program.
 - Equipment: in addition to special qualifications for staff, successful implementation of the program is dependent on specialized equipment:
 - * Assessment equipment: Leonardo Mechanograph, gait-analysis system, software etc.
 - * Galileo Whole Body vibration (WBV) equipment
 - * MTT machines for resistance training
 - * Treadmill and unweighing system for manual gait training
 - * Small training equipment
 - * etc.
- **Procedural quality:** an important aspect of the audit is an assessment of the institution's procedural quality. This assessment evaluates the special treatment processes of the KidsFirst program and their implementation during day-to-day therapeutic work at every stage, from the initial assessment of the patient to therapy planning to actual therapy – both within the hospital's rehabilitation department and in the context of subsequent home-based training – and, finally, the reassessment. The level of parental involvement in the treatment process is also taken into consideration.
- **Outcome quality:** The Cologne Concept determines outcome quality by means of various standardized processes and scores – some objective, others subjective. KidsFirst certification comprises an assessment of outcome quality on the basis of patient records and case examples.

Certification

Certification takes place after an audit by the AIRS Institute and UniReha Cologne. If the institution passes, it is designated a "certified KidsFirst facility". In addition, the individual staff members receive certificates confirming that they have successfully completed the training modules.



The Education Team

The UniReha team in Cologne

A team of doctors, physical therapists and nutritionists is working towards a common goal. It consists of Professor E. Schönauf, MD, the medical director; three other physicians specializing in child and adolescent medicine, particularly neuropediatrics and bone diseases such as osteogenesis imperfecta; and an assistant physician. The highly qualified therapy team consists of 29 physical therapists whose qualifications encompass all areas of further education in the field of physiotherapy.



AIRS

国际康复标准引用研究所

Institute for the Advancement of International Rehabilitation Standards (AIRS)

The AIRS Institute provides a platform for medical and other rehabilitation professionals to transfer their expertise to their international counterparts who are responsible for developing and implementing the AIRS rehabilitation system locally. The Institute also develops and promotes internationally recognized rehabilitation standards across the globe. The Institute's focus is on active rehabilitation and is therefore in line with cutting-edge academic opinion and clinical proofs of concept. It adheres rigorously to ICF, KNFG and other advanced standards and guidelines.



The Orehsa Team

The experts, trainers and teachers of the Orehsa training and education team look back on ten years of experience with the Cologne Concept. Orehsa offers hospitals and rehabilitation clinics education and consulting services in the area of rehabilitation.

Its main goal is to help national hospitals attain international rehabilitation standards. Together with AIRS, it works towards this goal in cooperation with hospital managements, rehabilitation professionals and clinicians.



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