

Frühintervention & Coaching



Prof. Dr. Schirin Akhbari Ziegler

Zürcher Hochschule für Angewandte Wissenschaften, Departement Gesundheit,
Institut für Physiotherapie, Winterthur, Schweiz

**Ich habe keine
Interessenskonflikte. Die
Veranstalter nehmen auf
den Inhalt meines
Vortrags keinen Einfluss.**

Prof. Schirin Akhbari Ziegler,
PhD, MSc, PT

Leiterin des Schwerpunkts
Kinderphysiotherapie des
Master of Sciences in
Physiotherapie

Zürcher Hochschule für
Angewandte Wissenschaften



Inhalt

- **Empfehlungen Frühintervention**
- **Familienzentrierte Praxis**
- **Die Theorie der Selektion neuronaler Gruppen**
- **Coachingansätze in der pädiatrischen Rehabilitation**
- **Coaching in COPCA**

Effektive Frühintervention: was wissen wir?

Frühintervention bei Risikosäuglingen und Kleinkindern mit motorischen Entwicklungsbeeinträchtigungen wird unbestritten empfohlen!

Effektive Frühintervention: was wissen wir?

DEVELOPMENTAL MEDICINE & CHILD NEUROLOGY

SYSTEMATIC REVIEW

Do early intervention programmes improve cognitive and motor outcomes for preterm infants after discharge? A systematic review

JANE ORTON¹ | ALICIA SPITTLE^{1,2,3} | LEX DOYLE^{1,2,4} | PETER ANDERSON^{2,5} | ROSLYN BOYD^{2,6}

1 The Royal Women's Hospital, Melbourne, Australia. **2** Murdoch Childrens Research Institute, Melbourne, Australia. **3** School of Physiotherapy, The University of Melbourne, Melbourne, Australia. **4** Department of Obstetrics and Gynaecology, The University of Melbourne, Melbourne, Australia. **5** School of Behavioural Science, The University of Melbourne, Melbourne, Australia. **6** Queensland Cerebral Palsy and Rehabilitation Research Centre, University of Queensland, Brisbane, Australia.

Early developmental intervention programmes provided post hospital discharge to prevent motor and cognitive impairment in preterm infants (Review)

Spittle A, Orton J, Anderson PJ, Boyd R, Doyle LW



This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2015, Issue 11

<http://www.thecochranelibrary.com>

WILEY

Effektive Frühintervention: was wissen wir?

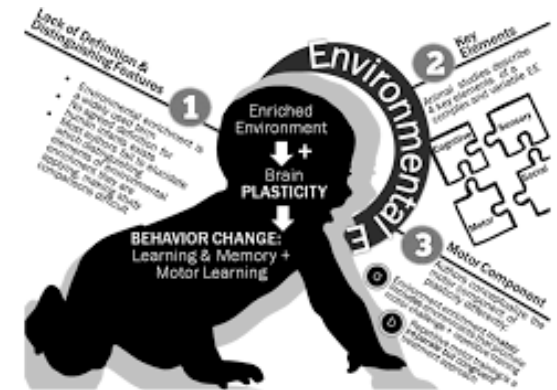
Säuglingen mit **moderaten** Entwicklungsstörungen:

- Aktive Involvierung der Familienmitglieder
- Stimulation der Eigenaktivität des Kindes
- Ermöglichen von Versuch-Irrtum Erfahrungen
- Viel Wiederholung (hohe Dosis)

Effektive Frühintervention: was wissen wir?

Säuglingen mit **moderaten** Entwicklungsstörungen:

- Angereicherte Alltagumgebung
- Zielorientierung auf Aktivitäts- und Partizipationsebene
- Coaching der Familienmitglieder



(Blauw-Hospers & Hadders-Algra 2005, Spittle et al. 2015, Morgan et al. 2016a)

Effektive Frühintervention: was wissen wir?

[JAMA Pediatr.](#) Author manuscript; available in PMC 2022 Nov 21.

Published in final edited form as:

[JAMA Pediatr.](#) 2021 Aug 1; 175(8): 846–858.

doi: [10.1001/jamapediatrics.2021.0878](https://doi.org/10.1001/jamapediatrics.2021.0878)

PMCID: PMC9677545

NIHMSID: NIHMS1845138

PMID: [33999106](https://pubmed.ncbi.nlm.nih.gov/33999106/)

Early Intervention for Children Aged 0 to 2 Years With or at High Risk of Cerebral Palsy

International Clinical Practice Guideline Based on Systematic Reviews

[Catherine Morgan](#), PhD, [Linda Fetters](#), PhD, [Lars Adde](#), PhD, [Nadia Badawi](#), PhD, [Ada Bancale](#), NPT, [Roslyn N. Boyd](#), PhD, [Olena Chorna](#), CCRP, [Giovanni Cioni](#), MD, [Diane L. Damiano](#), PhD, [Johanna Darrah](#), PhD, [Linda S. de Vries](#), PhD, [Stacey Dusing](#), PhD, [Christa Einspieler](#), PhD, [Ann-Christin Eliasson](#), PhD, [Donna Ferriero](#), MD, [Darcy Fehlings](#), MD, [Hans Forssberg](#), MD, [Andrew M. Gordon](#), PhD, [Susan Greaves](#), PhD, [Andrea Guzzetta](#), PhD, [Mijna Hadders-Algra](#), PhD, [Regina Harbourne](#), PhD, [Petra Karlsson](#), PhD, [Lena Krumlinde-Sundholm](#), PhD, [Beatrice Latal](#), PhD, [Alison Loughran-Fowlds](#), PhD, [Catherine Mak](#), PhD, [Nathalie Maitre](#), MD, [Sarah McIntyre](#), PhD, [Cristina Mei](#), PhD, [Angela Morgan](#), PhD, [Angelina Kakooza-Mwesige](#), PhD, [Domenico M. Romeo](#), PhD, [Katherine Sanchez](#), PhD, [Alicia Spittle](#), PhD, [Roberta Shepherd](#), PhD, [Marelle Thornton](#), DipEd, [Jane Valentine](#), PhD, [Roslyn Ward](#), PhD, [Koa Whittingham](#), PhD, [Alieh Zamany](#), DPT, and [Iona Novak](#), PhD

Empfehlungen Frühintervention

Table. Recommendations

No.	Domain	Strength	Direction	Intervention	Key recommendations	Target population
Skills development						
1	Motor	Strong	(1) For and (2) against	Early intervention	(1) We recommend beginning intervention at the time of suspected diagnosis ⁸ to harness neuroplasticity through specific training ^{8,13} and respecting parent requests for early intervention ^{14,15} and (2) we recommend against waiting and seeing because the critical window for neuromuscular plasticity is misused. ^{8,13}	Children with or at high risk of unilateral or bilateral CP
2	Motor	Strong	For	Task-specific motor training	We recommend task-specific motor training that includes self-discovery of the environment and solutions to overcome movement challenges, ¹⁶⁻²⁴ selection of challenging but achievable motor tasks that require persistence for success, ^{16,18,20-22,25,26} daily repeated practice (as possible) for skills acquisition and refinement, parental coaching to structure practice beyond scheduled therapy sessions (for adequate dosing), and creating enriched environments promoting movement variety and intense, enjoyable practice. ^{13,27,28}	Children with or at high risk of unilateral or bilateral CP
3	Motor	Strong	Against	Passive movement	We recommend against passive, therapist-controlled handling techniques for movement activation or activities. ^{6,17,29,30}	Children with or at high risk of unilateral or bilateral CP
4	Motor	Strong	For	CIMT or bimanual therapy	We recommend CIMT and/or bimanual training as soon as a unilateral CP diagnosis is suspected, since benefits outweigh the risk of harm from unused plasticity windows ^{8,13} and false-positive diagnoses. ^{22,31} We recommend short intervals of CIMT (30-60 min of therapist-supervised home programs for 6 wk) in early infancy, increasing in intensity with age. ^{31,32}	Children with unilateral CP

Effektive Frühintervention: was wissen wir?

DEVELOPMENTAL MEDICINE & CHILD NEUROLOGY

SYSTEMATIC REVIEW

Effectiveness of motor interventions in infants with cerebral palsy: a systematic review

CATHERINE MORGAN^{1*} | JOHANNA DARRAH² | ANDREW M GORDON³ | REGINA HARBOURNE⁴ |
ALICIA SPITTLE^{5,6} | ROBERT JOHNSON⁷ | LINDA FETTERS⁸

1 Cerebral Palsy Alliance, The University of Sydney, Sydney, NSW, Australia. **2** Faculty of Rehabilitation Medicine, University of Alberta, Edmonton, AB, Canada. **3** Department of Biobehavioral Sciences, Teachers College, Columbia University, New York, NY; **4** Rangos School of Health Sciences, Duquesne University, Pittsburgh, PA, USA. **5** Department of Physiotherapy, University of Melbourne, Parkville, Vic.; **6** Victorian Infant Brain Studies, Murdoch Childrens Research Institute, Parkville, Vic., Australia. **7** Norris Medical Library, **8** Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, CA, USA.

DEVELOPMENTAL MEDICINE & CHILD NEUROLOGY

SYSTEMATIC REVIEW

Effect of early intervention in infants at very high risk of cerebral palsy: a systematic review

MIJNA HADDERS-ALGRA¹ | ANKE G BOXUM¹ | TJITSKE HIELKEMA^{1,2} | ELISA G HAMER^{1,3}

1 University of Groningen, University Medical Center Groningen, Department of Paediatrics, Division of Developmental Neurology, Groningen; **2** University of Groningen, University Medical Center Groningen, Department of Rehabilitation Medicine, Center for Rehabilitation, Groningen; **3** Radboud University Medical Center, Department of Neurology, Nijmegen, the Netherlands.

Effektive Frühintervention: was wissen wir?

Zusätzliche Elemente bei Säuglingen mit **schweren** Entwicklungsstörungen:

- Posturale Unterstützung bei Stimulation zur Eigenaktivität
- Früher Einsatz von Hilfsmitteln und Technologien (auch Power mobility)



Permobil



Wizzybug

Effektive Frühintervention: was wissen wir?

Family involvement

Die Effekte von Interventionen welche auf die Eltern-Kind Interaktion fokussiert sind größer als solche die nur auf die Entwicklung des Kindes fokussiert sind.



Effektive Frühintervention: was wissen wir?



Pediatric Physical Therapy in Infancy: From Nightmare to Dream? A Two-Arm Randomized Trial

Cornill H. Blauw-Hospers, Tineke Dirks, Lily J. Hulshof, Arend F. Bos,
Mijna Hadders-Algra

Received: 28 May 2020 | Revised: 6 October 2020 | Accepted: 8 October 2020
DOI: 10.1111/apa.15619

REGULAR ARTICLE

ACTA PÆDIATRICA WILEY

The Coping with and Caring for Infants with Special Needs
intervention was associated with improved motor development
in preterm infants

Schirin Akhbari Ziegler¹  | Michael von Rhein^{2,3} | André Meichtry¹ | Markus Wirz¹ |
Tjitske Hielkema⁴ | Mijna Hadders-Algra⁵  | the Swiss Neonatal Network & Follow-Up
Group

Coaching ≠ Instruktion

Einführung in die familienzentrierte Praxis

Familienzentrierte Praxis = Praxis der Wahl



2

FAMILY

They know me best and I trust them to do what's best for me.
Listen to them. Talk to them. Hear them. Respect them.

Einführung in die familienzentrierte Praxis



Die Intervention richtet sich an die Familie als Einheit.



Einführung in die familienzentrierte Praxis



Die Eltern sind die Entscheidungsträger im Leben des Kindes und die Experten für ihre Bedürfnisse und die ihrer Kinder.



Einführung in die familienzentrierte Praxis



Jedes Familienmitglied hat Stärken und Ressourcen, die in die Intervention einfließen können.

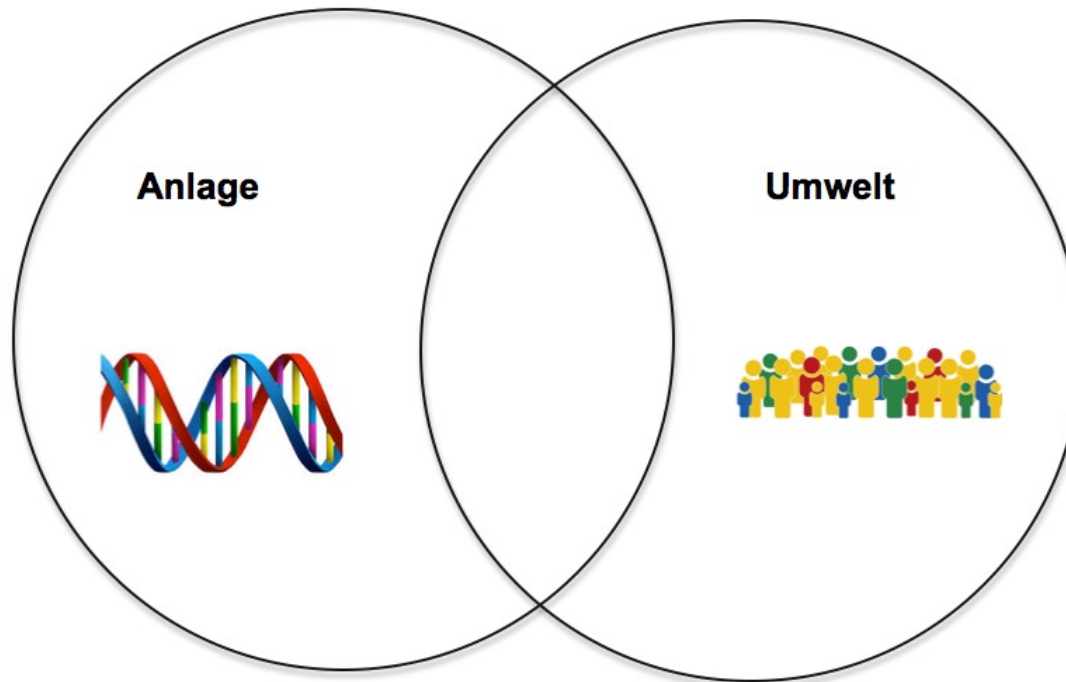


Einführung in die familienzentrierte Praxis

Die Beziehung ist vom Wertschätzung, Respekt und Offenheit zwischen gleichwertigen Partnern geprägt.



Die Theorie der Selektion neuronaler Gruppen

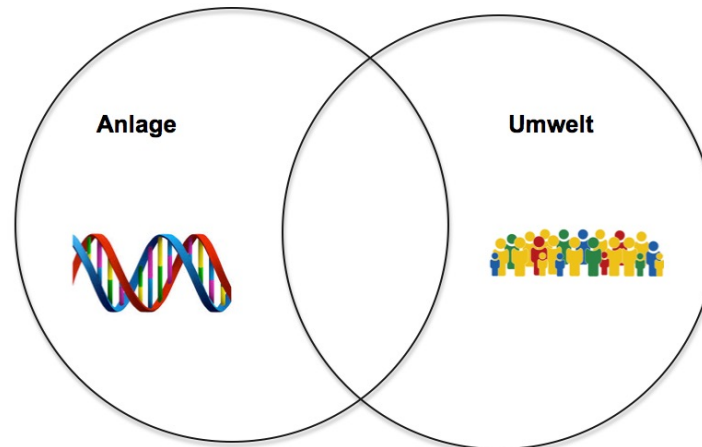


Theorie der Selektion neuronaler Gruppen

Reifungstheorie

Dynamische Systemtheorie

Die Theorie der Selektion neuronaler Gruppen



Theorie der Selektion neuronaler Gruppen



Die Theorie der Selektion neuronaler Gruppen

Die motorische Entwicklung ist charakterisiert durch zwei Phasen der Variabilität:

- Primäre Variabilität
- Sekundäre Variabilität = adaptives Verhalten

Die Theorie der Selektion neuronaler Gruppen

Selektionsprozess basiert auf aktiver Versuch-Irrtum Erfahrung



Die Theorie der Selektion neuronaler Gruppen

Atypische motorische Entwicklung



Die Theorie der Selektion neuronaler Gruppen

Die Theorie der Selektion neuronaler Gruppen betont die Wichtigkeit von selbstproduziertem, explorierendem, variationsreichem motorischen Verhalten und von Versuch und Irrtum Erfahrungen, Therapieelemente die auch durch die aktuelle Forschung gestützt werden.



Coaching versus Training



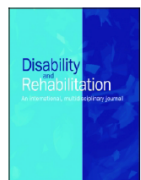
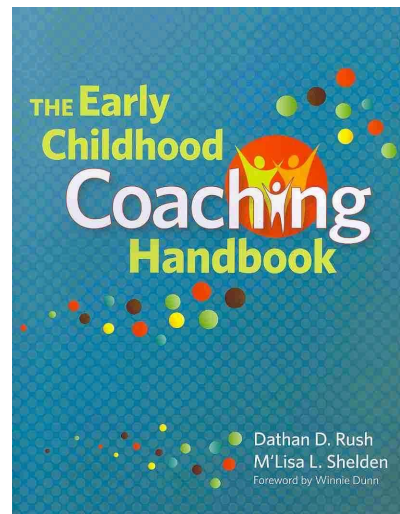
Disability and Rehabilitation



ISSN: 0963-8288 (Print) 1464-5165 (Online) Journal homepage: <http://www.tandfonline.com/loi/idre20>

Coaching in early physical therapy intervention:
the COPCA program as an example of translation
of theory into practice

Schirin Akhbari Ziegler, Tineke Dirks & Mijna Hadders-Algra



Disability and Rehabilitation

ISSN: 0963-8288 (Print) 1464-5165 (Online) Journal homepage: <http://www.tandfonline.com/loi/idre20>

Occupational therapists' and physiotherapists'
perceptions of implementing Occupational
Performance Coaching

Fiona Graham, Pauline Boland, Jenny Ziviani & Sylvia Rodger



Physical & Occupational Therapy In Pediatrics

ISSN: 0194-2638 (Print) 1541-3144 (Online) Journal homepage: <http://www.tandfonline.com/loi/riop20>

Enabling Occupational Performance of Children
Through Coaching Parents: Three Case Reports

Fiona Graham, Sylvia Rodger & Jenny Ziviani



Physical & Occupational Therapy In Pediatrics

ISSN: 0194-2638 (Print) 1541-3144 (Online) Journal homepage: <http://www.tandfonline.com/loi/riop20>

Solution-Focused Coaching in Pediatric
Rehabilitation: An Integrated Model for Practice

Patricia Baldwin, Gillian King, Jan Evans, Stacy McDougall, Mary Ann Tucker
& Michelle Servais





Coaching versus Training

DEVELOPMENTAL MEDICINE & CHILD NEUROLOGY

REVIEW

Coaching approaches in early intervention and paediatric rehabilitation

SCHIRIN AKHBARI ZIEGLER¹  | MIJNA HADDERS-ALGRA² 

1 School of Health Professions, Institute of Physiotherapy, Zurich University of Applied Sciences ZHAW, Winterthur, Switzerland **2** University of Groningen, University Medical Center Groningen, Department of Paediatrics, Division of Developmental Neurology, Groningen, the Netherlands.

Correspondence to Schirin Akhbari Ziegler, Zurich University of Applied Sciences, School of Health Professions, Institute of Physiotherapy, Technikumstrasse 71, 8401 Winterthur, Switzerland. E-mail: akhb@zhaw.ch



Zürcher Hochschule
für Angewandte Wissenschaften

zhaw
Gesundheit
Institut für
Physiotherapie



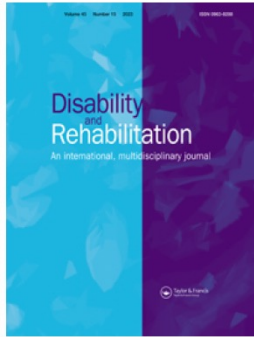
umcg

DN
Developmental Neurology



Coachingansätze in der pädiatrischen Rehabilitation

Zürcher Hochschule
für Angewandte Wissenschaften



Disability and Rehabilitation

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/idre20>

Comparing three coaching approaches in pediatric rehabilitation: contexts, outcomes, and mechanisms

Gillian King, Fiona Graham & Schirin Ahkbari Ziegler

To cite this article: Gillian King, Fiona Graham & Schirin Ahkbari Ziegler (2023): Comparing three coaching approaches in pediatric rehabilitation: contexts, outcomes, and mechanisms, Disability and Rehabilitation, DOI: [10.1080/09638288.2023.2229731](https://doi.org/10.1080/09638288.2023.2229731)

To link to this article: <https://doi.org/10.1080/09638288.2023.2229731>

	Context	Mechanisms <u>Therapist</u> Input	Mechanisms <u>Client</u> Response	Outcomes
Common	Designed for pediatric settings Across health conditions	Goal oriented Emphasis on listening and relational strategies Attention to engagement	Client autonomy, engagement & self-efficacy	Attainment of participation-oriented goals
COPCA	Applied by PT & OT Children fx <2 years Client= family unit	Activity or participation oriented goals Trial and error opportunities	Motor learning Adaptation	Capacity building of parent, child & family
	Solution focused and performance driven	Caregivers coached toward challenging infants during daily activities	Challenge infant motor responses	
SFC - peds	Transdisciplinary Birth to young adult	Participation oriented goals		
	Solution-focused	Envisioning a preferred future	Engagement & self-efficacy	
OPC	Transdisciplinary Applicable across lifespan Client= parent, child or family	Participation oriented goals	Autonomy	
	Solution and problem focused	Structured collaborative performance analysis	Active engagement	

Was ist Coaching in der pädiatrischen Rehabilitation?



Coaching is a distinctive family of relational, goal-oriented interventions, that use listening, reflection and engagement strategies to support client goal achievement and capacity building.



COPCA, SFC-peds and OPC are specific forms of coaching, developed from differing theory, for specific contexts with differing emphases in therapist actions or mechanisms, but common intended outcomes.



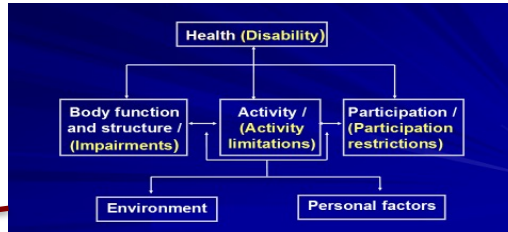
Choice of coaching intervention may depend on clinician's local contexts, health populations and prior skills and knowledge.

Theoretical background of COPCA

Family involvement

- Family autonomy: informed decision, choices
- Family specific parenting: unique
- Equal partnership
- Family active participation

ICF-CY



NGST

- Neuromotor principles
- Variation
 - Exploration
 - Trial and error
 - Self produced motor behaviour
 - At the limit of capacity

Environment

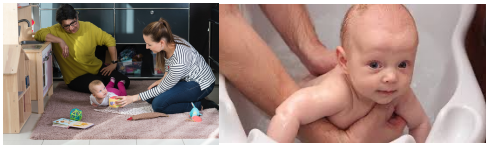
- Enriched real life environment
- During daily care giving activities

COPCA

Goals

- Family goal
- Mobility goal

Goal setting



Role family members: active partners

Playing
Bathing
Feeding

High intensity



Challenging

- Variation
- Exploration
- Trial and error
- Self produced motor behaviour
- At the limit of capacity

Coaching

- to observe
- to share observation
- to listen
- to ask questions
- to give hints

Role of the health profession ?

Coach



Knowledge, skills and attitude of the coach

Bidirectional communication

Information exchange, reflection, feedback, joint planning

Practical implementation

Charakteristiken COPCA

Familienzentriert

Eltern aktive
Partner

Im Alltag der
Familie

COPCA



Ziel Coaching in COPCA

COPCA

Versuch und
Irrtum

Angereicherte
Umgebung



famigros.migros.ch



© S. Rae - Fotolia.com



etsy.com

COPCA Coaching

Elterncoaching



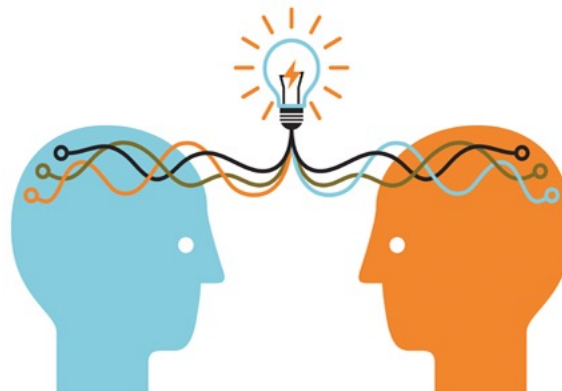
de.dreamstime.com



icone.com



de.dreamstime.com



shutterstock.com



de.123rf.com

Zielorientiertes Coaching

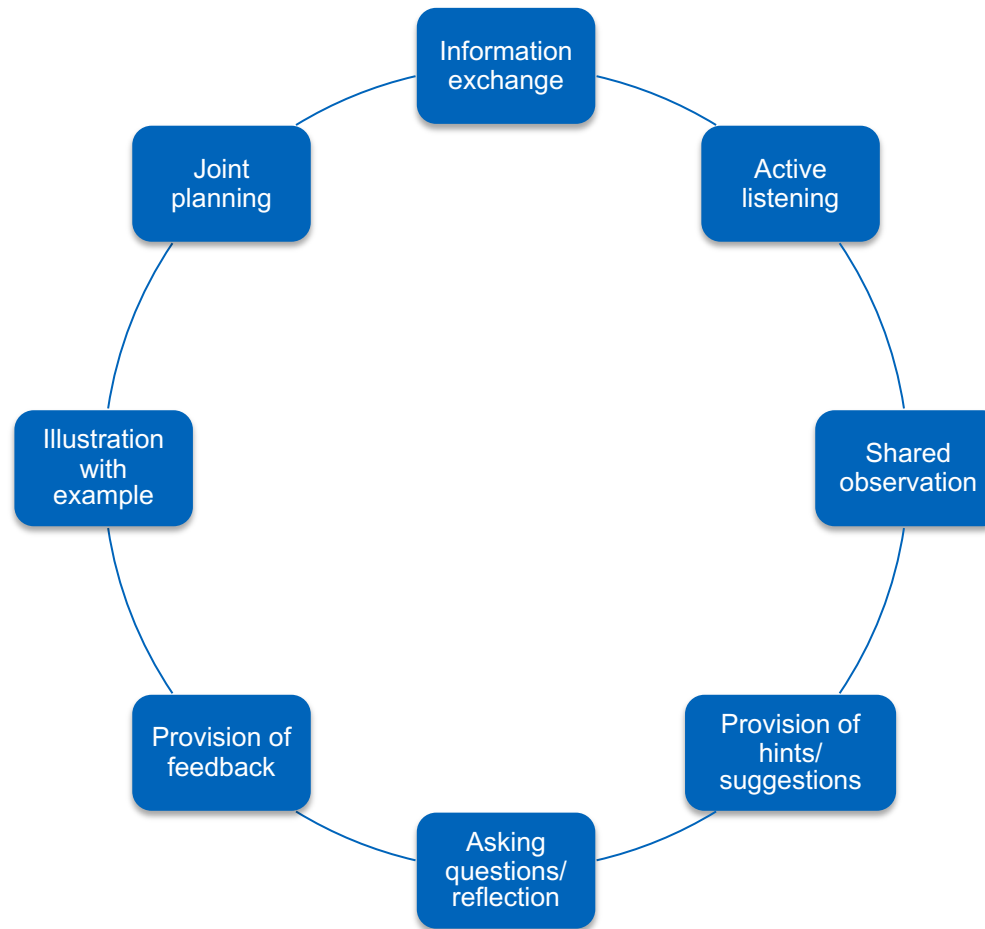
Nicht-direktiv
Lösungsorientiert
Performance orientiert

Grundhaltung Coach im familienzentrierten Setting

Grundhaltung



Coaching strategies



Ist COPCA's Coaching effektiv?

Physical Therapy
Journal of the American Physical Therapy Association



Pediatric Physical Therapy in Infancy: From Nightmare to Dream? A Two-Arm Randomized Trial
Cornill H. Blauw-Hospers, Tineke Dirks, Lily J. Hulshof, Arend F. Bos and Mijna Hadders-Algra
PHYS THER. 2011; 91:1323-1338.
Originally published online June 30, 2011
doi: 10.2522/ptj.20100205



Disability and Rehabilitation



ISSN: 0963-8288 (Print) 1464-5165 (Online) Journal homepage: <https://www.tandfonline.com/loi/idre20>

LEARN2MOVE 0–2 years, a randomized early intervention trial for infants at very high risk of cerebral palsy: family outcome and infant's functional outcome

Tjitske Hielkema, Anke G. Boxum, Elisa G. Hamer, Sacha La Bastide-Van Gemert, Tineke Dirks, Heleen A. Reinders-Messelink, Carel G. B. Maathuis, Johannes Verheijden, Jan H. B. Geertzen & Mijna Hadders-Algra



Received: 28 May 2020 | Revised: 6 October 2020 | Accepted: 8 October 2020

DOI: 10.1111/apa.15619

REGULAR ARTICLE

ACTA PÆDIATRICA
WILEY

The Coping with and Caring for Infants with Special Needs intervention was associated with improved motor development in preterm infants

Schirin Akhbari Ziegler¹  | Michael von Rhein^{2,3} | André Meichtry¹ | Markus Wirz¹ | Tjitske Hielkema⁴ | Mijna Hadders-Algra⁵  | the Swiss Neonatal Network & Follow-Up Group

Materials & methods



< 32 GA

The Coping with and Caring for Infants with Special Needs intervention was associated with improved motor development in preterm infants

Schirin Akhbari Ziegler¹ | Michael von Rhein^{2,3} | André Meichtry¹ | Markus Wirz¹ | Tjitske Hielkema⁴ | Mijna Hadders-Algra⁵ | the Swiss Neonatal Network & Follow-Up Group

8

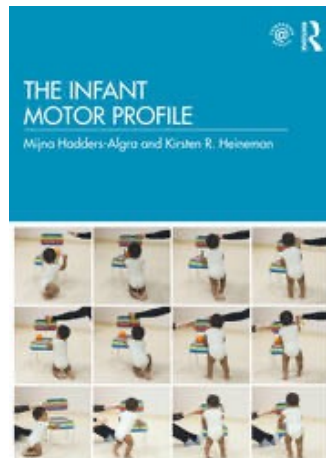
COPCA

6 months

8

TIP

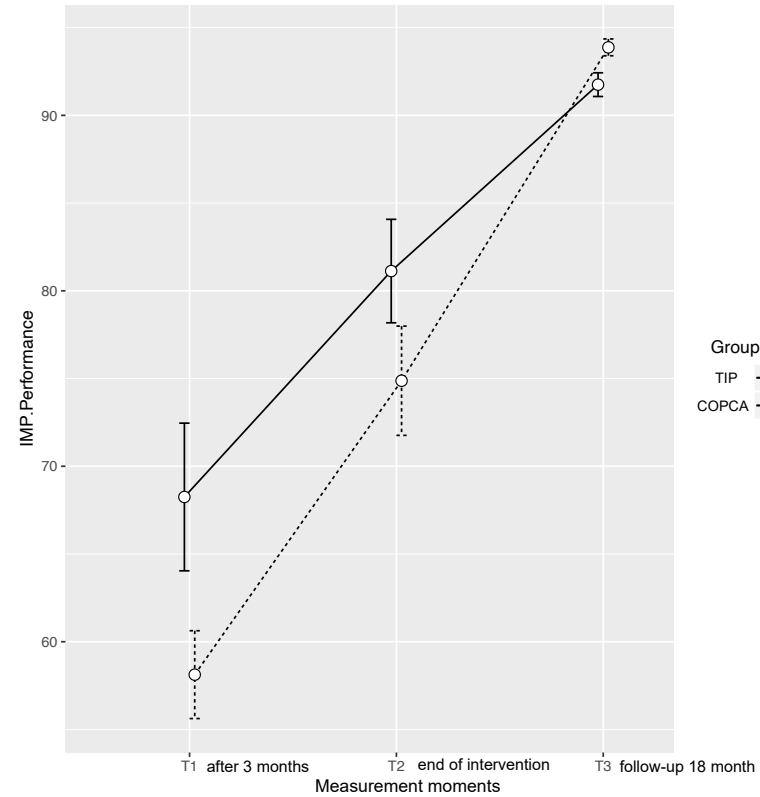
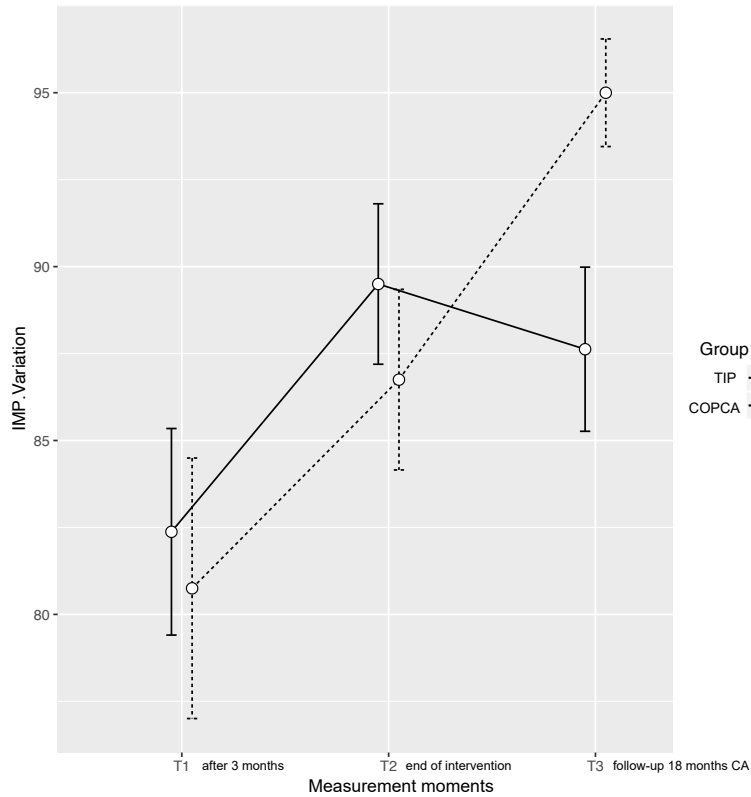
+



- Variation
- Adaptability
- Symmetry
- Fluency
- Performance

The study was financially supported by the Schweizerische Stiftung für das cerebral gelähmte Kind, the Anna Mueller Grocholsky Foundation and the Swiss Association of Physiotherapy.

Results



Process evaluation

IMP performance at 18 months CA **pos.** associated with **caregiver coaching**

IMP variation at 18 months CA **neg.** associated with **caregiver training + hands-on techniques**

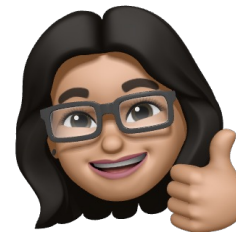
Schlussfolgerung

18 Monate

COPCA



- Variation
- Performance

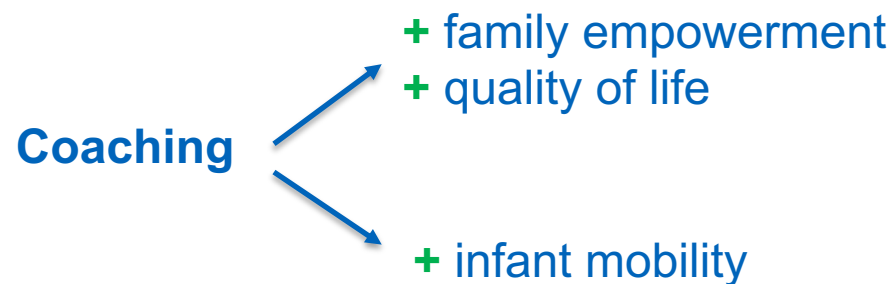


<https://www.praxis-prophysio.de/bobath-fuer-kinder/>



nachhaltig

Ist COPCA's Coaching effektiv ?



Parental perception

- Highly appreciate support from the coach
- Promote infant development autonomously
- Integrated in daily routines
- Coping with the situation
- Participation
- Quality of life
- Self-efficacy and self-confidence

Akhbari Ziegler S, Mitteregger E, Hadders-Algra M. Caregivers' experiences with the new family-centred paediatric physiotherapy programme COPCA: A qualitative study. *Child Care Health Dev.* 2019;46:28-36.

Von Hülsen F. Erfahrungen mit dem familienzentrierten COPCA-Programm von Eltern mit Säuglingen und Kleinkindern mit Risiko oder Manifestation einer Entwicklungsverzögerung. Masterthesis, unpublished.