



**Dynamic  
Neuromuscular  
Stabilization®**

according to Kolář

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## Baby handling based on developmental kinesiology

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## PHYSIOLOGICAL DEVELOPMENT


Stimulation

- Visual
- Acoustic
- Proprioceptive
- Exteroceptive
- Vestibular
- (Taste)



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## NEWBORN

Position of the baby depends on external help

- Supine (¼ of day time)
- Prone (¼)
- Sidelying (left ¼, right ¼)



↓

different loading, field of vision etc.

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## NEWBORN

### Sidelying

- Bodyawareness
- Hands in the field of vision
- Prevention of plagiocephaly, predilection





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## NEWBORN

- Touch - calm, light
- Placement of the toys (carousel not above eyes but above belly not far away - reachable distance)



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## BABY WRAPPING

- Up to 8 weeks - wrapping baby
- hypertonic baby
- excitable baby



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## POSITIONING BABY IN THE BED

- If the bed is next to the wall, regularly change the position of the baby to motivate head turning to both sides




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## DRESSING AND LIFTING BABY UP

- Do not lift baby up in supine position
- Do not lift the shoulders and chest up
- Use the wrap around baby
- Lift baby by turning




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## BASIC RULES OF BABY HANDLING 0-3 MONTHS

- control head position
- uprighted trunk
- don't lift up the chest
- prefer holding baby facing forward not facing the parent
- Avoid vertical position of baby



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## HANDLING – CARRYING EQUIPMENT

It is necessary to consider:

- neurodevelopmental age
- ability (motor skills)
- symetry or asymetry (predilection)
- how much time baby use the aid



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## BABY WEARWRAP

- Newborn doesn't control head position

→ use horizontal position



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## BABY WEARWRAP

- too much hip abduction and flexion
- inhibition of abdominal wall activity
- asymetry of head
- vertical position




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### BABY WEARWRAP IN SLING

Disadvantages

- thighs not supported
- lordoses of L spine
- pelvis anteversion
- vertical position of child
- elevation of shoulders
- head asymmetry (head weight)




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### CARSEAT

- not suitable for long term sitting
- only for car transport and feeding
- use a car seat which provide good support
- at a 45 degrees backward inclination there is not such a spinal overload as in a “perpendicular” position




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### BABY IN A STROLLER, PRAM

- good support
- without inclinaion
- positioning in spine, prone, sidelying
- sensorimotor stimulation while moving




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### FEEDING

- From the midline
- Not from the side
- Do not touch upper lip and upper palette → stimulates head extension



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## FEEDING

- stable position
- keep midline
- neutral head position
- hip flexion 45-90dg




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## CHANGING DIAPERS, HYGIENE

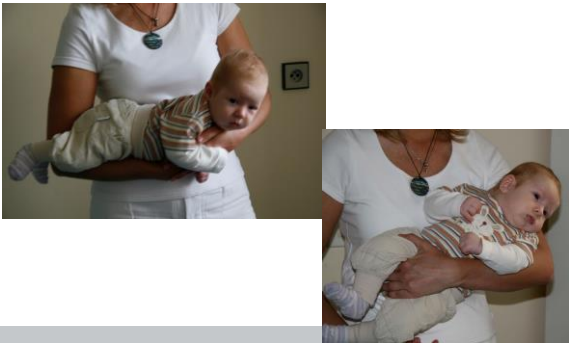
- Spine straight
- Side lying position can be used
- Bottom extremities = supporting – provide stability if functionally centred



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## CORRECT HANDLING - EXAMPLES



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## CORRECT HANDLING - EXAMPLES




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## LIFTING OR LYING DOWN BABY


### ROTATIONAL HANDLING

- first position the head into neutral position
- fix the head
- prevent retroflexion when lifting (lying down) the baby




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Placing the baby to prone using rotation



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## BABY WRAPPING





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## CORRECT HANDLING

- Maintain maximum contact between your and baby's trunk = stability for yourself and the baby!



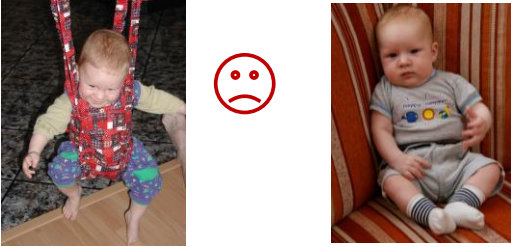
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## PREMATURE VERTICALISATION

Never encourage passively positions baby cannot achieve him/herself

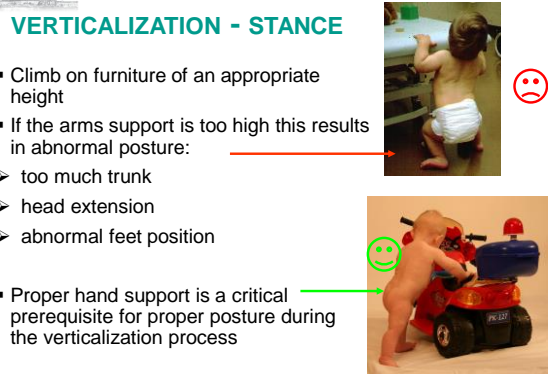


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## VERTICALIZATION - STANCE

- Climb on furniture of an appropriate height
- If the arms support is too high this results in abnormal posture:
  - too much trunk
  - head extension
  - abnormal feet position
- Proper hand support is a critical prerequisite for proper posture during the verticalization process




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## TOY PLACEMENT


- If **too high** there is excessive trunk and head extension. The baby cannot use both hands to manipulate the toy
- **Proper placement** of the toy allows proper posture, baby can use both arms for support and toy manipulation



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## PREMATURE VERTICALIZATION



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### Handling in positions according to developmental positions

- Hook the thumbs behind the medial epicondyle
- Approach the elbow towards the table
- Your face should be at the same level as the face of the baby
- Observe:
  - Uprighting of the CT junction
  - Dorsal tilting of the pelvis
  - Abdominal activity

**3 M**



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### Handling in positions according to developmental positions

- Gently put the chest to expiratory position
- Handle the legs in 90-90-90

**3 M**




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### Mother in sitting position child on the knees

- The child is in symmetry (head, neck, pelvis)
- The child feels more stable
- Nice for communication



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### Handling in positions according to developmental positions

**SIDELYING**

**5-6 M**

- Handle the baby from front as well as from the back
- Talk to the baby
- Baby can see the hands in front of the face



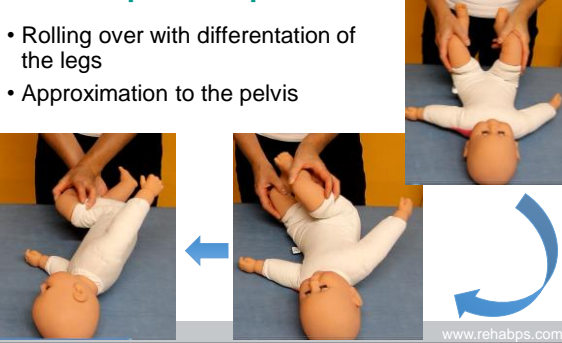
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### Handling in positions according to developmental positions

- Rolling over with differentiation of the legs
- Approximation to the pelvis




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### Handling in positions according to developmental positions

**SQUATING** 12-14 M

- Stay behind the baby, support his trunk
- Straight back
- Approximate the knees towards the feet
- The feet must be well centrated
- The knees should not go to internal rotation and adduction



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