

From a physiotherapeutic point of view

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Discussion notes on the use of baby wraps from a physiotherapeutic perspective

Baby wraps and carriers are a hotly debated topic. Anyone who's ever walked through town wearing their baby in a wrap knows too well the mixed reactions from passers-by of all ages; they range from enthusiastic acceptance to sceptical criticism. In my experience as a children's therapist and as the mother of a 'wrap baby', I feel that it is our duty to teach parents about correct babywearing techniques in our practices and clinics. Being carried is often the best therapy for many children.

Children with congenital hip dysplasia benefit from being carried

Evelin Kirkilionis wrote that children who are carried on their parents' hips automatically assume the hip joint angle which is ideal for treating hip dysplasia. Additionally, the constant movement stimulates the development of the head of the femur in the hip socket. Experience shows that children with hip dysplasia who are carried often have less problems aligning their pelvis to the back than children who wear a harness. As parents often report how the harness gets in the way when carrying or cuddling the child, a baby wrap is an ideal alternative that can be used as a preventative measure or, in consultation with a doctor, as an alternative to a harness – provided of course that the correct tying technique is used. Tying the wrap wrongly or using an unsuitable carrier can have a negative effect on the development of the hip joint.

Preemies and babies with special needs can re-experience the feeling of secureness they enjoyed in the womb when carried in a wrap
Premature babies have to forfeit many weeks

of secureness in womb. What happens then? Animal studies have proven again and again that physical contact is essential for baby animals! The positive effect of it on the immune system can be seen in blood test results. Observations carried out at the Johns-Hopkins Hospital, Baltimore, USA on thirteen physically under-developed children from dysfunctional families confirmed that intensive, tender loving care resulted in a significant weight gain. Many premature baby units also recognise that babies gain weight quicker when they are allowed to enjoy more physical contact. Therefore 'kangaroo care' has caught on and baby massage is also carried out for the same reasons. It can hardly be argued that carrying isn't extremely effective for frail 'preemies' who are susceptible to infection.

Children with central coordination disorders or delayed development are subjected to facilitative stimuli when carried in a wrap

These children often display movement behaviour that is very different from the norm and is often accompanied by abnormal muscle tone. What happens to these children when they are carried in a wrap? 'Stiff' children become softer and more flexible due to the constant movement. This provides our therapy with a significantly better starting point. The physiological pattern of movement appears sooner during therapy and the child can incorporate it better into their spontaneous movement. The same applies to hypotonic children; they become more alert and interested and their muscle tone increases. With these children, it is especially important that the child's posture in the wrap is checked by the therapist. Whilst they are carried, children experience a variety of stimuli in addition to movement. Put yourself in

their position for a moment... In most western civilisations, infants usually lie in their beds or prams with few stimuli. However, a wrap baby is in constant motion; she is hugged and rocked, she can hear voices and noise, she can smell food cooking and feel the wind on her face. Consequently the brain receives a multitude of information without over-whelming the child as she enjoys the support of her safe environment. Clear stimuli in a safe environment are true developmental impulses for the brain.

Children who are carried develop quicker and are quieter and happier

To the extent that a child develops his motor skills on the floor, the amount of time he is carried is reduced. Amazingly, the development of children who are carried occurs quicker and more smoothly although they are seldom on the floor. This contradicts previous theories, but is a developmental advantage particularly for children who are behind in motor skills. Another positive effect is the contentedness of the child. They can sleep easily and blissfully, are more even-tempered and less jumpy. This can be a blessing for many stressful mother-child relationships as often our problem children are also persistent criers who are additionally burdened by daily physio exercises at home. Usually a more contented child will respond better to therapy.

My answers to the most frequent concerns:

1. *The child will become spoilt*

Staff at the Max Planck Society Research Centre for Human Ethology observed families living on the Trobriand Islands off the east coast of New Guinea. Other scientists observed the !Kung people in Botswana and the Inuits in the far north of Alaska, and they all came to the same conclusions. In contrast to western industrialised practices, infants and toddlers from traditional cultures enjoy almost constant physical contact with their mothers, fathers and siblings. Despite this, baby Trobrianders, !Kung or Inuits do not turn into spoilt little tyrants. Quite on the contrary – they are independent much earlier than children of the same age in the USA or Western Europe.

2. *Carrying causes postural problems*

People believe that infants must first achieve developmental milestones on their backs and tummies as well as be able to roll over in order to strengthen their trunk musculature. According to this argument, indigenous babies who are carried constantly must have all manner of postural problems. However, this has never been proven. In contrast, an examination carried out by Kirkilionis on 192 carried children proved that the frequency of postural abnormalities in these children was lower than average. This makes all other theoretical arguments irrelevant.

3. *Children who are carried are usually tied to their mother's backs so they can work in the fields*

This argument would mean that all indigenous people who carry their children are engaged in agriculture. However, the American Jean Liedloff describes the very different life of the Ye'kuana who live in the jungle of Venezuela. Liedloff lived with the Ye'kuana for many years and wrote a book about them.

4. *Carrying damages the back of the carrier*

This may apply to parents who already suffer from a bad back, however, if you begin to carry an infant during the first days of her life, the person doing the carrying will soon get used to the increasing weight. It's difficult if you only start carrying a child from the age of 7 or 10 months. In these cases, instruction for parents by a physiotherapist on the correct movement can be helpful.

5. *The child won't be able to breathe*

Experience also puts this notion to rest. Children who are carried develop well and do not seem to suffer from chronic lack of oxygen. Their contentedness and even-temper are also signs of healthy, peaceful sleep in the wrap. After considering these observations, theoretical misgivings about baby wraps can be overturned by the experience of many cultures. Johann Wolfgang von Goethe already recognised the dilemma of our western culture: "Nature doesn't have a sense of humour, it's always true, always earnest and always serious. Mistakes and errors are always that of humankind."

On Down Syndrome

The mother of a child with Down syndrome approached us with a question. She had heard that using a wrap was not suitable for her child. It is said that children with Down syndrome do not have sufficient postural tone to be carried. It is also said that the spread-squat position is not suitable for children with Down syndrome as they are predisposed to having pronounced abduction (legs spread too far apart). However, as her child enjoyed being carried in the wrap, the mother asked us for our opinion. This was a complex question and we had to ask for expert advice on the matter.

We passed the question on to physiotherapist Hilke Engel-Majer, who has provided us with advice in other cases.

She replied:

Dear Ms. B., Dear Ms. Hoffmann,

As a physiotherapist qualified in the Bobath concept, the Vojta technique and manual therapy, I am particularly interested in the relationship between paediatric neurology and paediatric orthopaedics. I have heard the arguments many times against carrying children with Down syndrome due to a pronounced hip abduction, and each time I hear it I am appalled.

Let me explain how this incorrect chain of reasoning came about. As a rule, children with Down syndrome have low muscle tone. This means that when they lie on their backs, their legs often fall open into the 'spread eagle' position. When it comes to learning to crawl, it can take a long time for them to bring their knees closer together. It is this difficulty that leads to the incorrect reasoning that abduction of the legs is always bad for children with Down syndrome.

However, we often also deal with spastic disabilities in paediatric therapy, which is basically the opposite of this inherent 'floppiness'. Spasticity is a pathological increase in muscle tone that is usually accompanied by stiff stretching and

squeezing of the legs together. We call this a stretch pattern. During therapy, we can release and loosen this stiff stretch pattern with gentle abduction exercises. In the same way that you cannot reverse a subtraction problem, thinking that pushing the legs together and performing stretching exercises will increase muscle tone in a 'floppy' child is faulty reasoning and contradicts all experiences. It definitely will not work and is not used in therapy. On the contrary, in a wrap, a baby's legs are fixed in a certain splayed and bent position.

The Freiburg-based human ethologist Evelin Kirkilionis has written clearly about how advantageous this position is for the development of an infant's hips. The 'spread eagle' position that is observed in extremely floppy children when they are lying down is simply not possible in a wrap. By being carried and moved, the child reacts with his entire musculature which encourages the stability of the trunk, and that also of the pelvis and hip positions, and the entire musculature strengthens. Furthermore, the sensory stimuli that a child can enjoy from the secure environment of his mother's body is particularly important for children with delayed development.

It is important to mention that the optimal tying technique must be used with children with low muscle tone, especially for those children that like to sleep in the wrap. The Front-Wrap-Cross-Carry method provides ideal stability, and the simple Short-Cross-Carry method is preferred over the Kangaroo Carry technique. At the age of 18 months, the child should be able to be carried on your hip.

All that remains to be said is – that as far as I know – there are no studies that contradict me, although I am prepared to be proven wrong.

Should you have any other questions, please do not hesitate to contact me. I do hope the mother will continue to wear her baby.

All the best,

Hilke Engel-Majer