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# KMC as part of standard care in a high-tech neonatal unit

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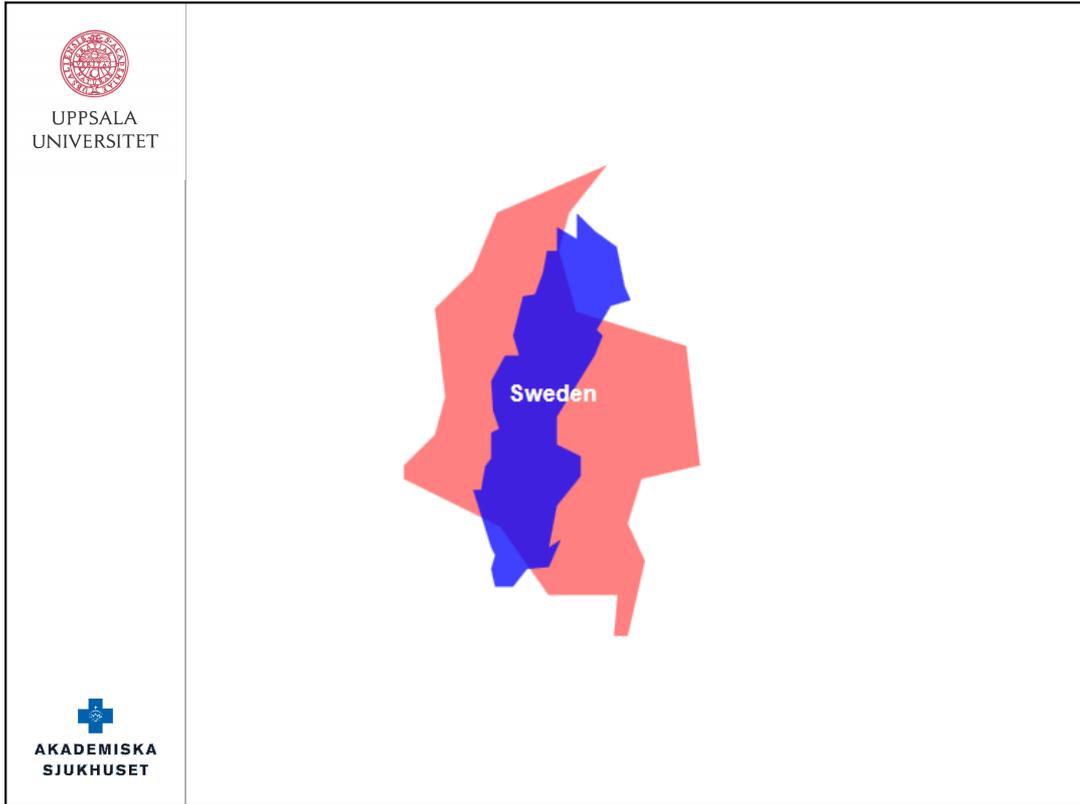


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Ladies and gentlemen, dear organizing committee and dear dr Natalie Charpak. I'd like to thank you for invitation me. I'm so happy and feel really honored to be here to day with you all. I have nothing to disclose, but must admit that my presentation will largely consist of a presentation of how we in our NICU, Uppsala, Sweden, work in our clinical practice, which is based on our clinical experiences, in combination of research in this important area. I will try to present the approach that we follow in Uppsala. Since our guidelines spans over a variety of subjects I have deliberately refrained from at all times stating relevant references.

 <p>UPPSALA UNIVERSITET</p>   <p>AKADEMISKA SJUKHUSET</p>	<h1>SWEDEN</h1>  <p>Sweden</p> <ul style="list-style-type: none"><li>• Member of the European Union</li><li>• Total area: 450 295 km<sup>2</sup></li><li>• Estimate population (2018): 10,2 million inhabitants</li><li>• Live borns (2017) 115 416 infants</li><li>• Human Development Index 0.933, rank 7</li></ul>
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So here you can see Sweden, Officially the Kingdom of Sweden, a Scandinavian, Nordic country in Northern Europe. We are Member of the European Union. A little more than one hundred and ten thousand infants are born in Sweden each year. We have a Human Development Index on 0.933, and are rank 7 in the world. Human Development Index is an weighting of life expectancy, GDP per capita and literacy skills



And here, a just a comparison with Colombia which is 2.6 times as big as Sweden



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## Swedish Health system

- Free health care system
- Almost all births take place in hospitals
- Swedish vaccination program covers over 97% of the population



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Briefly about this. Swedish Health system is free. Almost all births take place in hospitals and the Swedish vaccination program covers over 97%



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## Parental benefit

- Parental benefit is money parents receive to be able to be at home their child instead of working, seeking work or studying
- 480 days/child
- Both parents have 10 days at birth of child
- If the infant is in need of NICU care – both parents have the right to receive Temporary Parental Benefits (This is addition to the 480 days)



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Swedish social insurance covers essentially everyone who lives or works in Sweden. The insurance is an important part of the public welfare systems and is of great importance to not only individuals, households and companies, but to the entire social economy.

This means that both parents can be at the NICU and do not need to work during the infant's NICU stay



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Here you can see My hometown, Uppsala. Sweden's fourth largest city, a quite small University town, 100 kilometers, north of Stockholm, the Swedish capital.



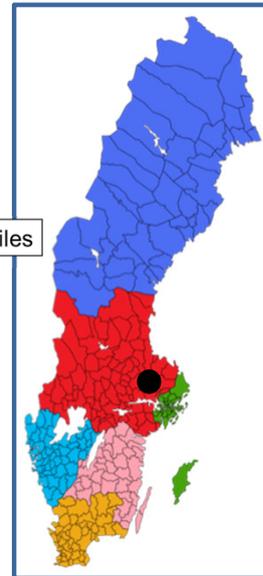
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## Uppsala NICU

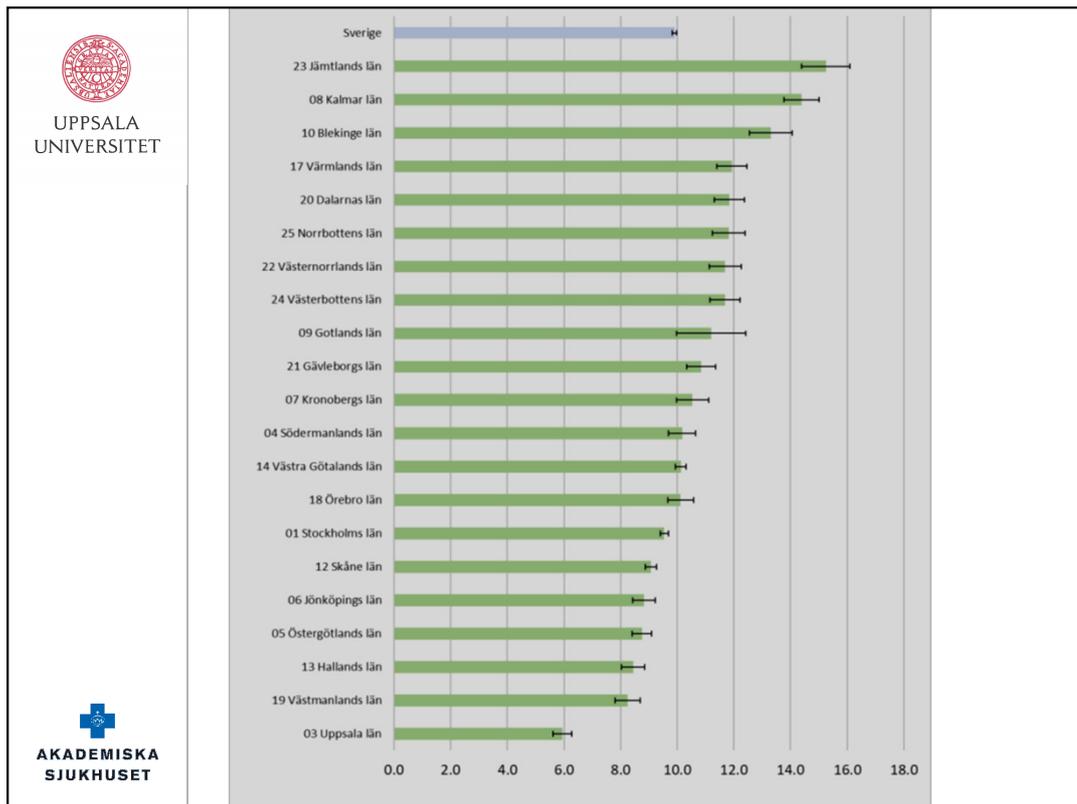
- 20 bed Level III NICU (population 2-3 mill.)
- 350 admissions, 1800 ventilator days/year
- Strong focus on extreme prematurity (70/y), neonatal surgery and hypothermia treatment
- 250 air-borne NICU transports per year

  
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1000 miles



The NICU in Uppsala are a referral center for specialized neonatal intensive care covering approx. 22 000 deliveries and a population of 2 million, the red area on the map. If you also include neonatal surgery (blue area) we cover a population of approximately 3 million. We take care of extremely preterm infants (we take care of infants from 22 weeks of GA), neonatal surgery and severe asphyxia cases. Our level II units in our region routinely admit infants from 28 weeks which would be considered level 2½ in many countries.



We have a very good collaboration with the maternity ward at our hospital. In Sweden as a whole, 10 percent of all newborn infants is cared for at an NICU

But in Uppsala, only 6 percent of the infants is cared for at the NICU, the rest of them are taken of at the maternity ward, together with her mother. We have had this collaboration for a long time and it has its basis in that we do not want to separate newborn infants from their mothers. The staff at the maternity ward are absolutely amazing! They help the parents to cared for their infants skin-to-skin, directly from birth, even after Caesarean section, they feed those infants who are in need of extra in addition to breastfeeding, for example, infants of mothers with diabetes and those small for gestational age, every second hour with a feeding cup. They take care of infants over GA 34-35



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## We think this is important

What you do often you will be good at!

- Parent's presence
- Involve parents
- Early start
- Avoid control of infants achievements



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What you do often you will be good at! If you often separate infants from their parents and put a lot of infants in incubators - that's what you are used to do and you will be good at it! The same goes for the opposite - if you always work for togetherness and for early STS - that's what you are used to do and you will be good at it!

Much is about daring to question and think new, but also about being able to see practical solutions as to how things can be done in better and more infant-parent friendly ways.

We think this is important:

Make sure that **parent's are (or maybe can be) presence**

### Have a Welcoming NICU environment with space for parents around the clock

Parental beds

Involve and welcoming Siblings and relatives

**Involve parents** and let them actively participate in the infants care. **Give them important things to do at the NICU, with their infant; STS, tube feeding and so on**

**Early start** of parental presence, participation and STS

**Avoid unnecessary (and often unscientific) controls that the infant should achieve before getting being allowed to be skin-to-skin, or even being**

allowed to breast feed

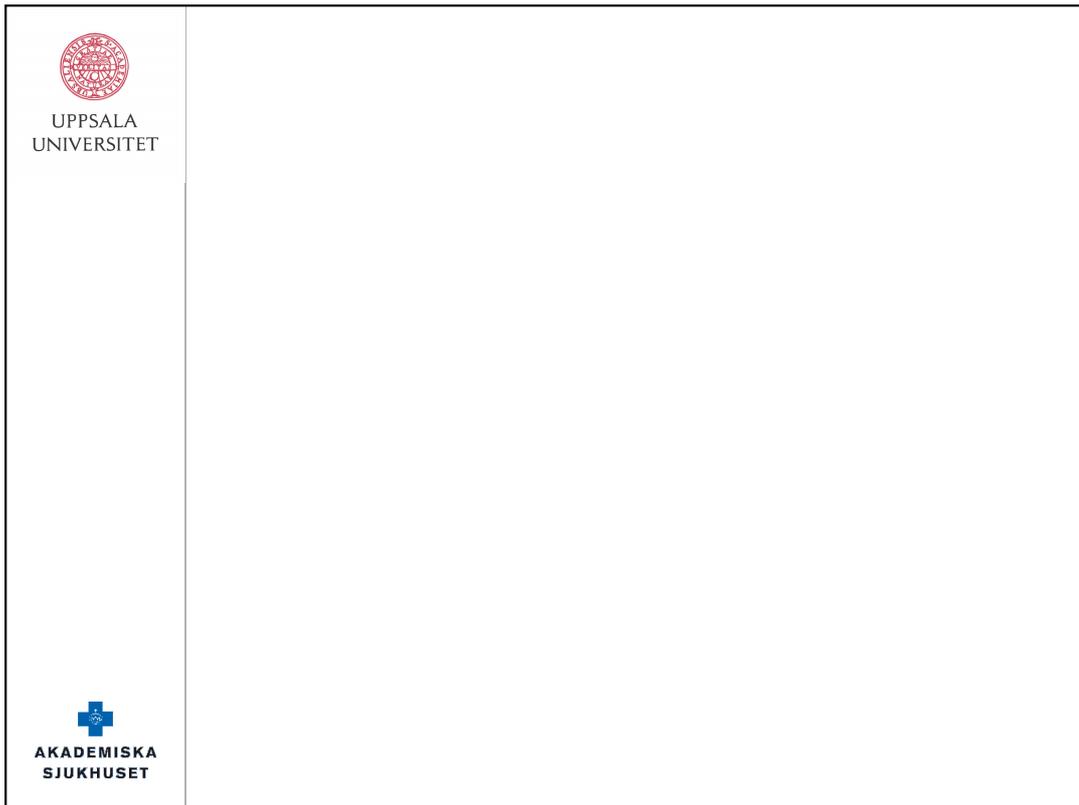
This is what I will talk about and I will show many photos to clarify what I mean.



First of all – Do not separate infants from their parents!

In one, recently published, study we found that the main issue mentioned by the mothers was related to closeness to, or separation from, their infant. Those mothers who were able to stay at the NICU around the clock valued this highly, and access to a family room was highlighted as important by most of the mothers.

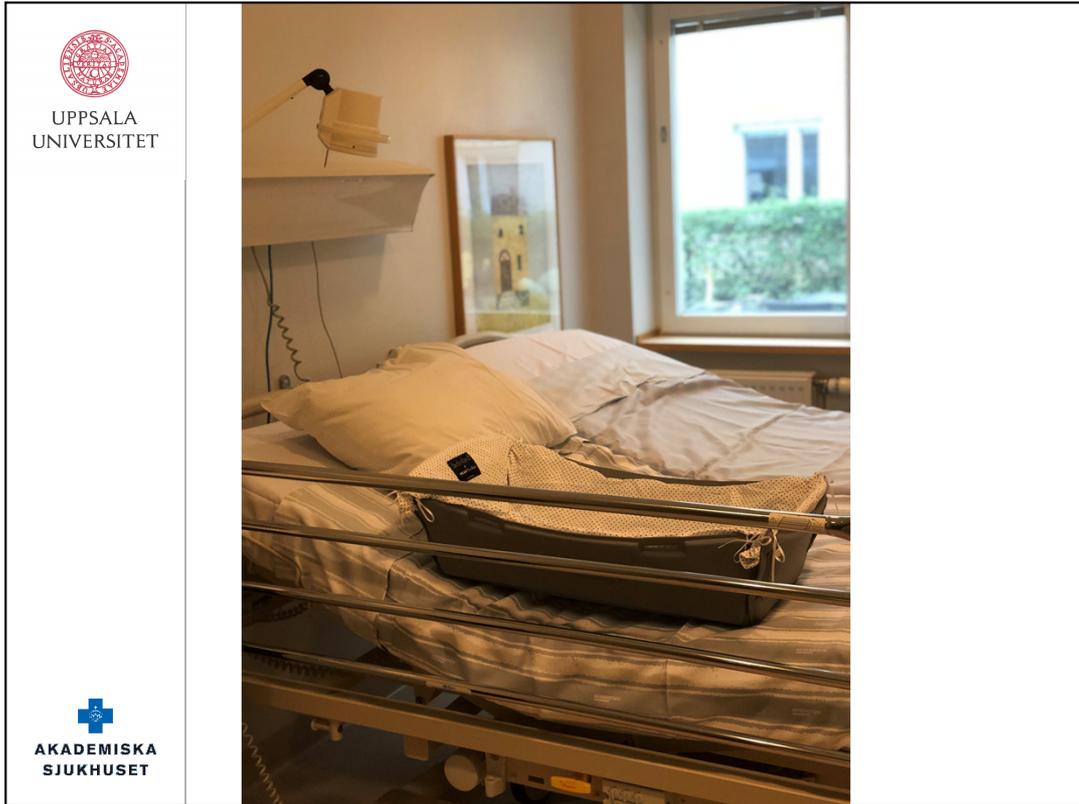
Those mothers, to an infant cared for at an NICU where they was not allowed to stay around the clock whit their infant adapted to the situation and learned to cope with it. The separation became normal and they tried to see advantages instead, for example to rest from the hospital during the night helped them gain energy. Despite this, they said they would have stayed at the hospital if this had been an option. Several mothers said, "It should be mandatory to provide parents with access to family rooms at NICUs."



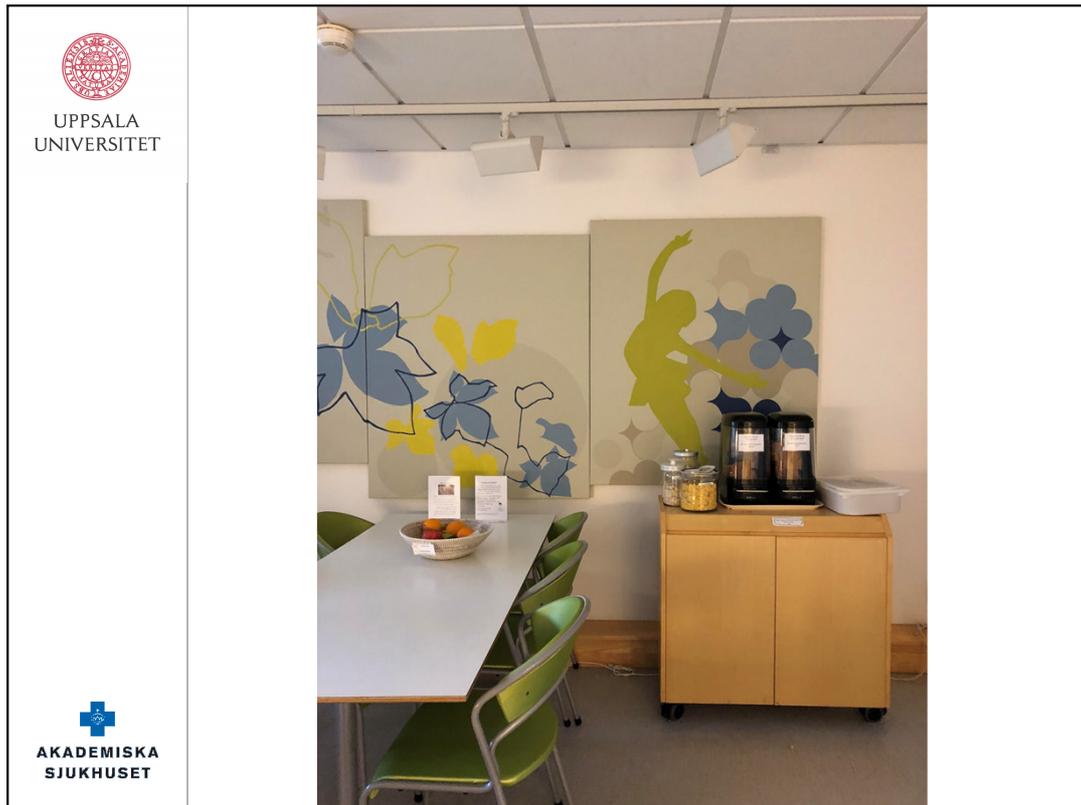
So our NICU in Uppsala. We have three intensive care rooms with care spaces for four infants each. At every infants care space, there is always at least one parental bed. We have had this since 2004 and this is probably the most clever change weve done.

By having these beds, we clearly demonstrate to parents that they are allowed to stay with their infant 24 hours a day, and also that it is ok to sleep with, and next to, their infant.

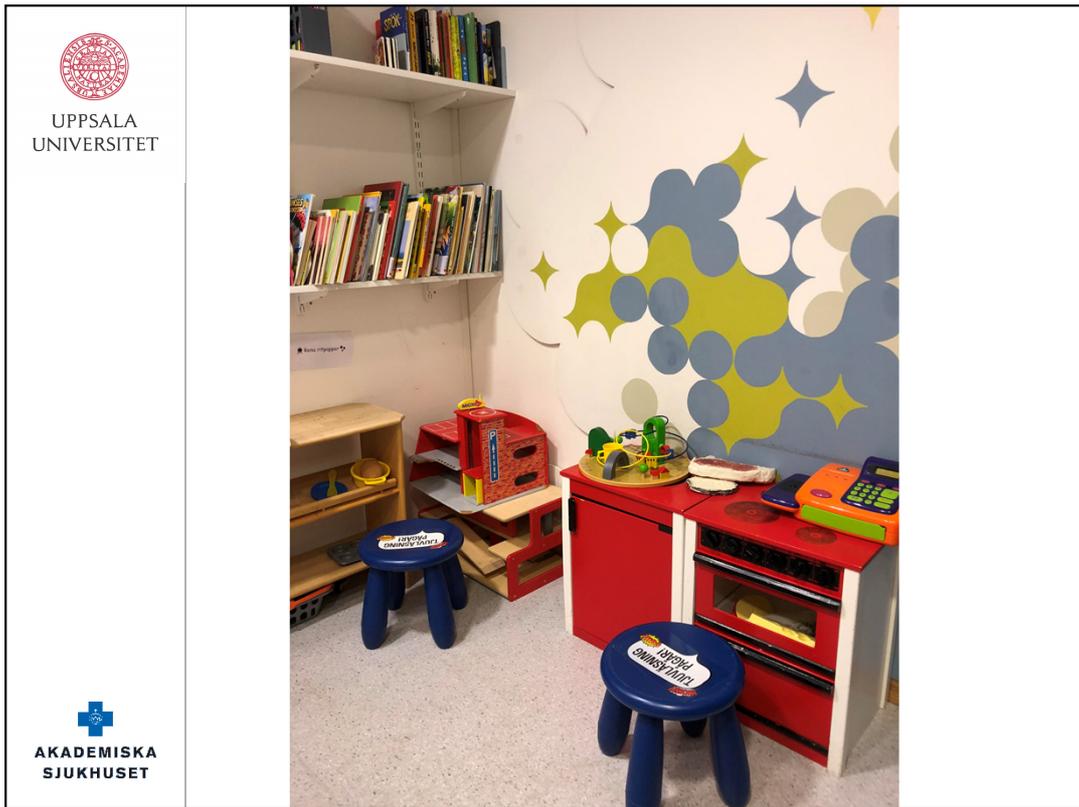
We see it as all staff's most important task every day to ensure that all infants are cared for by and, if possible, skin-to-skin, with their parents



We also have nine family rooms where the infants can be taken care of together with, and by, their parents as soon as they no longer need intensive care. In these rooms the infants can receive high flow oxygen cannula, CPAP, tube feeds, iv's... We have no weight limit or GA limit for which infants who are allowed to stay in these rooms.



We have try to create an environment in which parents can and have the energy to be in around the clock: This is a part of the parents kitchen. It's free to stay at the NICU, the parents and siblings receive breakfast, snacks and coffee. Lunch and dinner, they need to cook themselves.



This is an play area for siblings at the NICU



We also have play therapy and hospital school, where siblings can be



Here four generations! We have free visiting hours. It is the parents who decide for themselves if and when they want to receive visitors.

If parents during their infants hospitalization feel that they need help, support and relief, they are welcome to involve relatives and friends in the care of their infant.



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Siblings are allowed to be at the NICU. And they are important! It will not be good if parents have to choose between their children. Which of them should they be Together with? We try to help keep the family together



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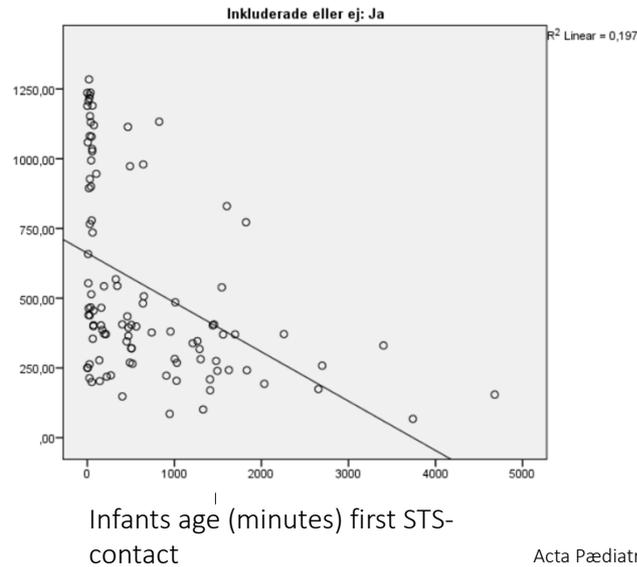
Acta Pædiatrica ISSN 0803-5253

REGULAR ARTICLE

## Initiation and extent of skin-to-skin care at two Swedish neonatal intensive care units

Ylva Thernström Blomqvist (ylva.thernstrom.blomqvist@akademiska.se)<sup>1</sup>, Uwe Ewald<sup>1</sup>, Maria Gradin<sup>2</sup>, Kerstin Hedberg Nyqvist<sup>1</sup>, Christine Rubertsson<sup>1</sup>

STS-time m  
minutes/day



Acta Pædiatrica 2013 102,22–28

Early start - We know, from our experience and from research we made, that the start is so important. It's like paint the picture for the parents. If we start with separation between the infant and its parents, it will be easy to continue so. And the opposite; If we start with togetherness; by for example skin-to-skin contact immediately after delivery, then this will be the norm for the parents and they will continue with this.

In this study, we found that the earlier after birth, the parents start to perform STS, the more time the infant will be cared for STS throughout the whole NICU stay





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ORIGINAL  
ARTICLES

www.jpeds.com • THE JOURNAL OF PEDIATRICS

### Early Skin-to-Skin Care in Extremely Preterm Infants: Thermal Balance and Care Environment

Victoria Karlsson, RN, Ann-Britt Heinemann, RN, Gunnar Sjörs, MD, PhD, Kerstin Hedberg Nykvist, RN, PhD, and Johan Ågren, MD, PhD

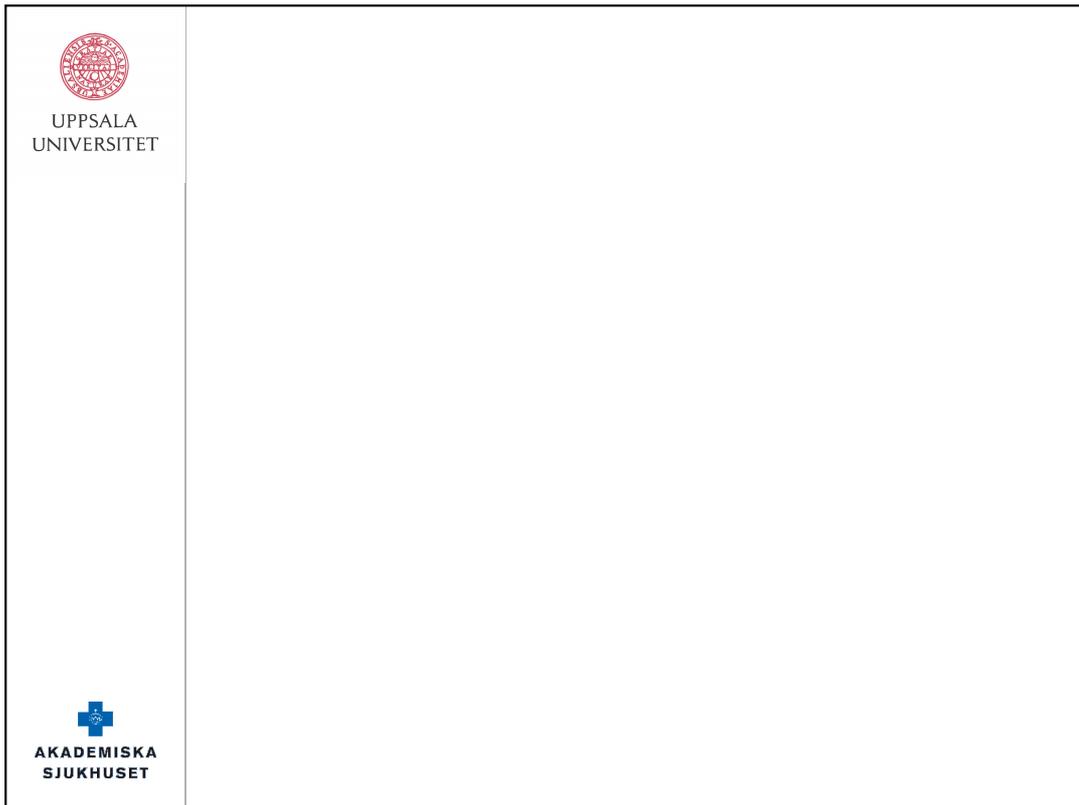


J Pediatr 2012;161:422-6

  
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In infants less than 28 weeks STS care can be safely applied from a few days after birth. By taking care to ensure proper transfer, the inevitable drop in temperature can be limited. Also STS need to be long enough to allow for the gradual return of body temperature before moving back to the incubator again. You can be assured by data from numerous studies, including ours that heat will be delivered to the baby and guarantee thermoneutrality. SSC can be safely used in extremely preterm infants. SSC can be initiated during the first week of life

and is feasible in infants requiring neonatal intensive care, including ventilator treatment. During SSC, the conduction of heat from parent to infant is sufficiently high to compensate for the increase in evaporative and convective heat loss. The increased water loss through the skin during SSC is small and should not affect the infant's fluid balance.



This is a girl born after 23 weeks, here 2 weeks old.

The smallest infants we transfer to and from the incubator in their nest.

Two people; one lifts the child and one ensures that all the wires are in order



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When the infant, in the nest, is on the parent's breast, one person lift up the infant and the parent takes away the infant's nest.

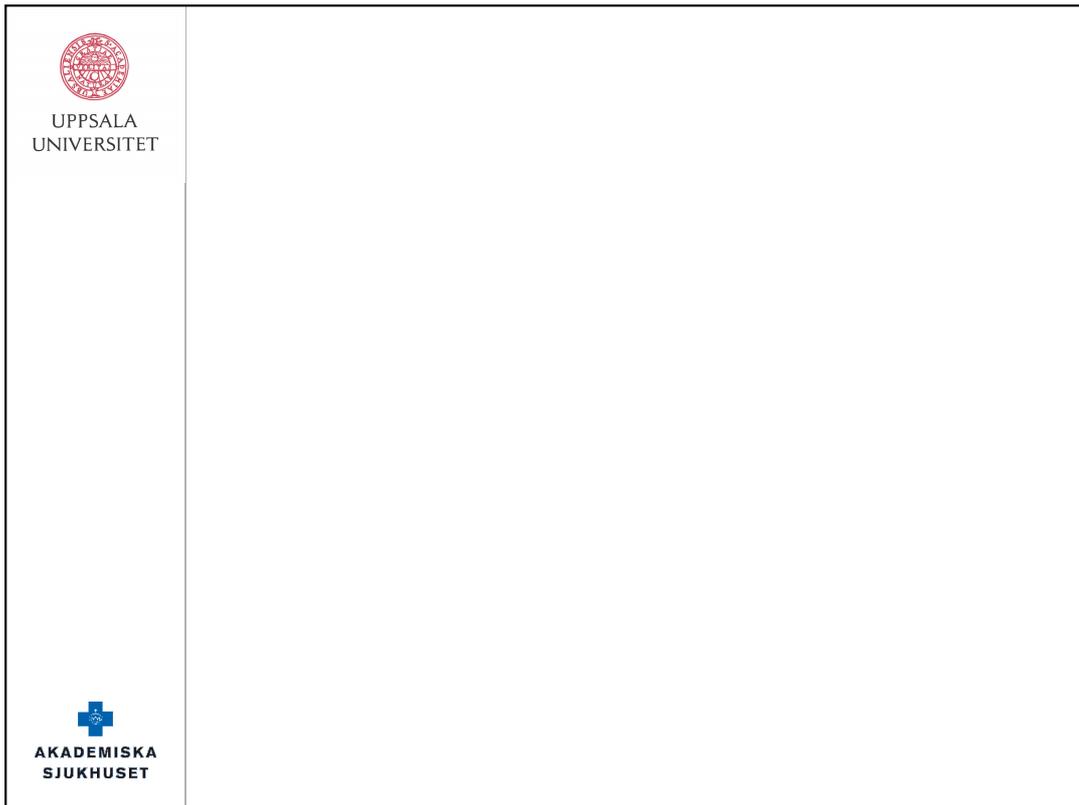


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these small infants we are very careful to cover with blankets so that they keep the heat with the help of the parent's heat, In addition, we are careful to avoid cross draft at the infant, since we know that this can cool off the infant very quickly. It is important that the blankets around the infant do not gape somewhere



But of course we also have some infants as we fail to care for STS, perhaps we see them as no stable enough... perhaps because many wires



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But we still know that spending time with and being close to the infant allows feelings of parenthood to grow, both for mothers and for fathers. To hold their infant with gentle hands is important. Many parents may need to help dare this

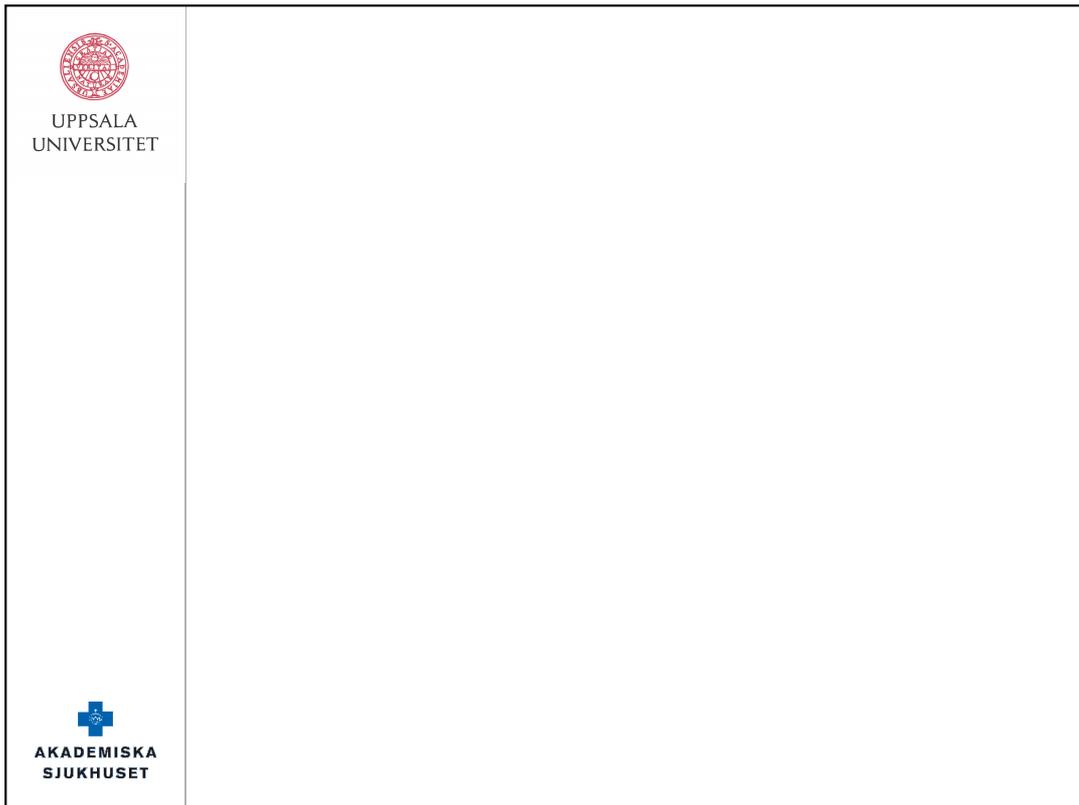


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Infant with cooling/hypothermia treatment can have their infant in their arm, but not STS



So, combining intensive care with STS, is primarily about simply changing the infant's care place, from the incubator or crib to as much as possible in the parent's arms, STS.

And during this time the parents can rest / sleep



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## To summarize

What you do often you will be good at!

- Parent's presence
- Involve parents
- Early start
- Avoid control of infants achievements



To summarize

Remember - What you do often you will be good at! Think about what you want to be good at!

Make sure that **parent's are (or maybe can be) presence**

Have a Welcoming NICU environment with space for parents around the clock

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Involve and welcoming Siblings and relatives

**Involve parents** and let them actively participate in the infants care. **Give them important things to do at the NICU, with their infant; STS, tube feeding and so on**

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Thank you!



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