



CHU Saint-Pierre  
UMC Sint-Pieter



# TIME FOR CHANGE: LET PARENTS ASSESS NEONATAL PAIN IN THE NICU.

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Respect — Innovatie — Engagement — Solidarité — Qualité



# Plan



- Introduction
- Methods
- Results
- Discussion
- Conclusion



# Introduction



- Pain in the NICU
  - 10-15 painful procedures / day
  - Immediate and longterm consequences
  - Lower pain thresholds
- Pain management
  - Efficient and accurate Pain Assessment tools
  - Non Pharmacological Pain Management

**1. PARENTS**

**2. ALPS-Neo**



# Methods



## Exclusion Criteria

<28 weeks PMA  
Parents <4 hours/day  
NICU stay <3 days  
Non french speakers

25 Patients



5 Refusals

20 Patients



Change of mind  
<3 days  
Not compliant

**14 Patients**

Mean PMA	32,7 +/- 3,13 weeks
Mean Birth weight	1823 +/- 633 grams
Mean hospital length of stay	40,5 +/- 21,8 days
Female : Male	8 : 6
Reason for Admission	Prematurity - 28-32w : 4 - 32-34w : 2 - 34-36w : 8
Mean participation time	8,79 +/- 4,49 days



# Methods



- EDIN Training by a professional
- Assessment
  - Min 2x/day
  - As much as wanted

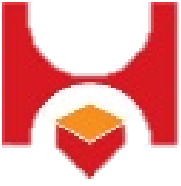
In parrallele



- ALPS-Neo **and** EDIN
- Assessment
  - Min 2x/day
  - As much as needed



# Results



- EDIN assessed by nurses (EDIN-N) vs parents (EDIN-M)

	EDIN - M	EDIN - N
Total Assessed	246	215
Mean EDIN	3,14	1,88
EDIN min	0	0
EDIN max	15	7
EDIN + ( $\geq 5$ )	47	5
EDIN - ( $< 5$ )	142	184

189 JOINTLY

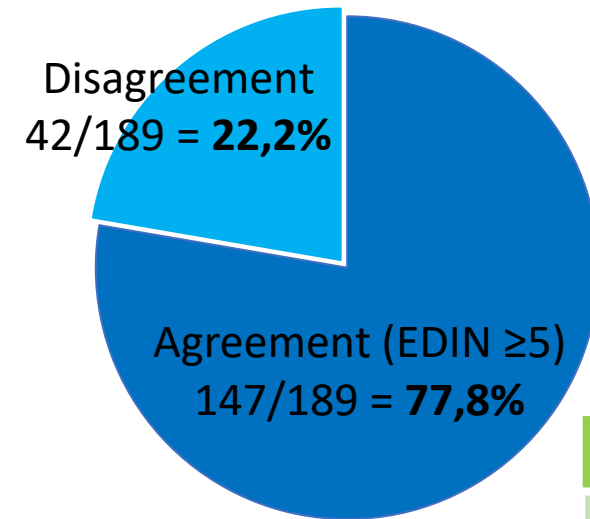
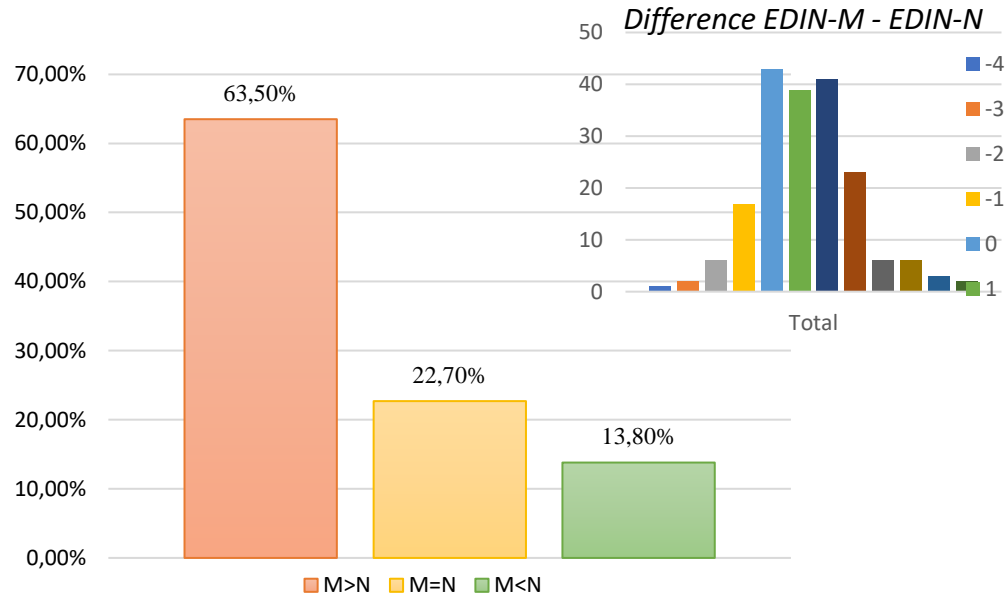
***P-value < 0,001***



# Results



- EDIN assessed by nurses (EDIN-N) vs parents (EDIN-M)



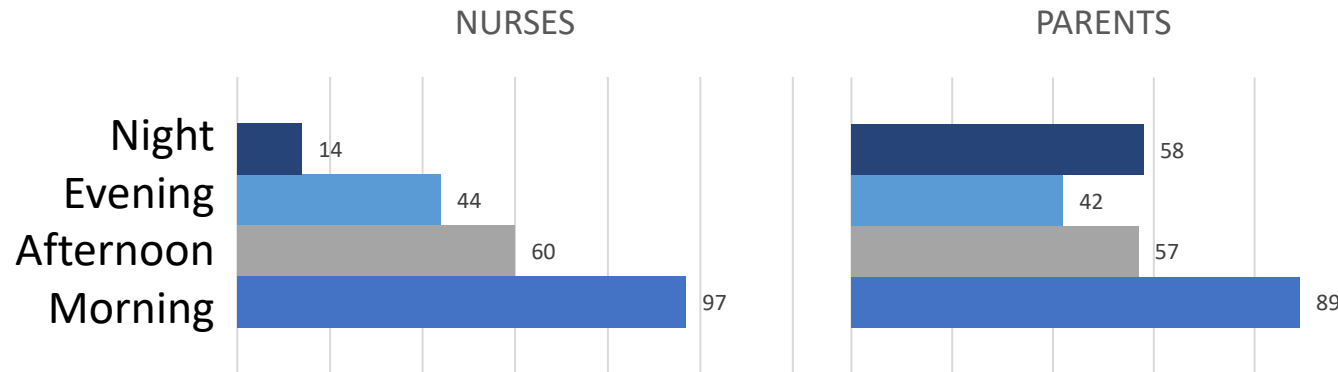
		EDIN-M		TOTAL
		+	-	
EDIN-N	+	5	0	5
	-	42	142	184
TOTAL		47	142	189

# Results



- Time of day

- Majority of EDIN-N assessed in the morning (45,12%)
- EDIN-M more constant during the day
- More EDIN-M + during the night (P-Value <0,05)





# Results



- Painful procedures

- 79 EDIN scores assessed around a painful procedure
- EDIN-M influenced by painful procedure (P-Value <0,001); not EDIN-N

	Painful Procedure	EDIN +	EDIN -	Total
<b>M</b>	Yes	41 (51,9%)	38 (48,1%)	79
	No	6 (5,5%)	104 (94,5%)	110
<b>N</b>	Yes	4 (5,1%)	75 (94,9%)	79
	No	1 (0,9%)	109 (99,1%)	110

P<0,001



# Results



- Comparison EDIN / ALPS-Neo

	EDIN-N -	EDIN-N +	TOTAL
ALPS-Neo <3	166	0	166
$3 \leq$ ALPS-Neo < 5	36	3	39
ALPS-Neo $\geq$ 5	8	2	10
TOTAL	210	5	215



# Results



- Comparison EDIN / ALPS-Neo

	EDIN-N -	EDIN-N +	TOTAL
ALPS-Neo <3	166	0	166
ALPS-Neo ≥ 3	44	5	49
TOTAL	210	5	215

No pain missed

More pain detected



# Results



- Comparison EDIN / ALPS-Neo

	EDIN-N -	EDIN-N +	TOTAL
ALPS-Neo <3	166	0	166
ALPS-Neo ≥ 3	44	5	49
TOTAL	210	5	215

Pharmacological treatment (ALPS-Neo ≥ 5 two times in a row at 5 minutes interval)	2
No Pharmacological treatment	3

→ Less pharmacological treatment



# Discussion



- EDIN Score Assessment:
  - Parents are able to assess pain scores
  - Higher EDIN in Parents group
    - Parent's sensitivity
    - Influence of painful procedures (88,1% of disagreement)
  - Agreement on Positive Scores
  - Results consistent with N. Simeone findings

	Results	Simeone
M>N	63,5%	64%
M=N	22,7%	24%
M<N	13,8%	12%

**"The EDIN pain scale administered by the mother in NICU. Validation of a new pain assessment model "**

*Natascia Simeone*\*, Elena Baudassi\*\*, Sara Grandi\*\*, Francesca Fabbri\*, Tania Pesaresi<sup>o</sup>, Marco Salonia<sup>oo</sup>, Sandra Lazzari<sup>^</sup>, Anna Tarocco\*\*, Alessandra Montesi§, Elisa Facondini§, Gina Ancora\*\*\*

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NICU Ospedale Infermi, Rimini, Italy*



# Discussion



- Parent's pain assessment is more constant during the day
- Caregivers assess pain mostly during the morning
  - Importance of family centred approach in NICU
  - Importance of NICU accommodations

## **Parents' presence and parent–infant closeness in 11 neonatal intensive care units in six European countries vary between and within the countries**

Simo Raiskila (simo.raiskila@utu.fi)<sup>1</sup>, Anna Axelin<sup>2</sup>, Liis Toome<sup>3,4</sup>, Sylvia Caballero<sup>5</sup>, Bente Silnes Tandberg<sup>6,7</sup>, Rosario Montirosso<sup>8</sup>, Erik Normann<sup>9</sup>, Boubou Hallberg<sup>10</sup>, Björn Westrup<sup>10</sup>, Uwe Ewald<sup>9</sup>, Liisa Lehtonen<sup>1</sup>

- Importance of pain assessment by nurses during the night

## **BMJ Open Does neonatal pain management in intensive care units differ between night and day? An observational study**

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Romain Guedj,<sup>1,2</sup> Claude Danan,<sup>3</sup> Patrick Daoud,<sup>4</sup> Véronique Zupan,<sup>5</sup> Sylvain Renolleau,<sup>6</sup> Elodie Zana,<sup>7</sup> Sophie Aizenfisz,<sup>8</sup> Alexandre Lapillonne,<sup>9</sup> Laure de Saint Blanquat,<sup>10</sup> Michèle Granier,<sup>11</sup> Philippe Durand,<sup>12</sup> Florence Castela,<sup>13</sup> Anne Coursol,<sup>14</sup> Philippe Hubert,<sup>15</sup> Patricia Cimerman,<sup>16</sup> K J S Anand,<sup>17</sup> Babak Khoshnood,<sup>1</sup> Ricardo Carbajal<sup>1,2,18</sup>





- ALPS-Neo vs EDIN

- More efficient and precise in pain detection in NICUs
- More supportive of non-pharmacological pain management
- Validated for Continuous evaluation AND procedural pain
- Validated for Preterm AND Term sick newborns

> [Acta Paediatr.](#) 2014 Aug;103(8):833-9. doi: 10.1111/apa.12672. Epub 2014 May 26.

## Development and psychometric properties of the Swedish ALPS-Neo pain and stress assessment scale for newborn infants

Pia Lundqvist <sup>1</sup>, Agneta Kleberg, Anna-Karin Edberg, Björn A Larsson, Lena Hellström-Westas, Elisabeth Norman

Epub 2023 Mar 28.

## ALPS-Neo pain and stress assessment scale for neonates-A measure for procedural pain

Bente Johanne Vederhus <sup>1</sup>, Merete Susan Olsen <sup>1</sup>, Geir Egil Eide <sup>2 3</sup>, Hanne Storm <sup>4</sup>, Hans Jørgen Guthe <sup>1</sup>



# Conclusion



- Include parents in pain detection and management
- Improve NICU accommodations for parents
- Consider ALPS-Neo as a validated score for continuous AND procedural pain assessment
  - Appropriate tool for parents to assess their newborns' pain.
- Larger samples needed : long-term study in progress in Saint-Pierre University Hospital







**THANK YOU**