



Extreme Low Gestational Age Newborns

Should we explore new limits?

SBP / BVK conference 2022



AT THE EDGE OF VIABILITY: INTENSIVE CARE BEFORE 24 WEEKS?

Chairs: L. Goossens (UZ Gent) & D. Kelen (ULB)

- ***A neonatologist view***

E. Shinwel, Ziv Medical Center, Tsfat Dean of Medical Education, Azrieli Faculty of Medicine, Bar-Ilan University Israel

- ***An ethicist view***

D. Wilkinson, University of Oxford, United Kingdom

Belgian guideline 2014

- $< 24^0$ weeks intensive care treatment usually not provided
 - $\geq 24^0$ and $< 26^0$ weeks individualized treatment
 - ≥ 26 weeks pro-active treatment
- ✓ Counseling from 23^5 weeks

Concerns

- Guideline based on data before 2012
- Data partially based on expectant non active treatment
- Wide variety in treatment policies between European countries
- Increasing parental requests for treating newborns < 24 weeks

Ethical issues in treating preterms < 24 weeks

- “Too many die or have severe neurocognitive impairment”
- “Parents don’t want treatment”
- “It costs too much”

right to live

vs

do no harm

Table 1 – Survival rates with increasing gestational age of livebirths 22–27 weeks' gestation in regional cohorts born in the post-surfactant era.

Country/Region	Years of birth	Age of survival	Gestational age (weeks)					
			22	23	24	25	26	27
Sweden ⁵⁹	1990–1992	1 year	0	8	28	54	71	73
Australia (Victoria) ³⁵	1991–1992	2 years	0	10	33	58	72	77
England (Northern Region) ³⁴	1991–94	1 year	0	2	17	35	53	70
Denmark ⁶⁰	1994–95	2 years	0	0	16	50	63	75
England (Trent Region) ⁶¹	1994–99	Discharge	0	10	20	47	ND	ND
UK (EPICure) ⁶²	1995	30 months	1	10	26	43	ND	ND
Sweden - north ⁶³	1995–99	1 year	13	41	70	85	80	86
Sweden - south ⁶³	1995–99	1 year	6	16	49	60	82	84
Netherlands ⁶⁴	1996–97	Discharge	0	0	42	64	83	85
Finland ^{42*}	1996–97	40 weeks PMA	5	11	50	67	70	ND
France ³⁸	1997	Discharge	0	0	31	50	56	71
Australia (Victoria) ⁴⁴	1997	2 years	7	45	41	77	88	88
Belgium ³⁹	1999–2000	Discharge	0	6	29	56	72	ND
Norway ⁶⁵	1999–2000	1 year	0	31	57	77	84	93
Finland ⁹	1999–2000	40 weeks PMA	0	24	47	73	73	ND
England (Trent Region) ⁶¹	2000–05	Discharge	0	9	36	59	ND	ND
Sweden ^{3,66}	2004–07	1 year	10	52	60	81	86	ND
Australia (Western Australia) ⁶⁷	2004–10	Median 59 months	5	46	77	72	ND	ND
Australia (Victoria) ⁴⁵	2005	2 years	5	22	51	67	81	88
England (EPICure 2) ¹	2006	Discharge	2	19	40	66	77	ND
Switzerland ⁶⁸	2005–09	Discharge	0	4	31	61	ND	ND
Netherlands ^{33,69}	2007–09	Discharge	0	0	13	55	69	ND
Australia (Victoria) ³¹	2010–2011	1 year	0	20	49	76	90	87
France (EPIPAGE-2) ⁵	2011	Discharge	0	1	31	59	75	82
Netherlands ³³	2011–2017	Discharge	0	0	34	59	75	ND
Norway ⁷⁰	2013–14	1 year	18	29	56	84	90	ND
Sweden ³	2014–16	1 year	30	66	79	88	92	ND
United Kingdom (MBRACE) ²⁸	2016	1 year	8	34	59	74	82	ND
Australia (Victoria) ⁵⁵	2016–17	2 years	0	27	72	88	89	94

Data are % survivors. ND- No data.

Survival extreme preterm newborns

% of livebirths

		23 wekers	24 wekers
Sweden	1990-1992	8	28
	1995-1999	16-41	49-72
	2004-2007	52	60
	2014-2017	66	79
Netherlands	1996-1997	0	42
	2007-2009	0	13
	2011-2017	0	34
France	1997	0	31
	2011	1	31
BELGIUM (Newborn college)	2020	9/13 (69)	32/52 (61,5)

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	2011		
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HIGH IMPACT OF ACTIVE PERINATAL TREATMENT

BEWARE OF SELF-FULLFILLING PROPHECY

Extremely Preterm Birth Outcomes Tool

*Gestational Age
(Best estimate in completed weeks)

23

*Birth Weight
(from 401-1000 grams)

550

* Infant Sex

Male Female

* Singleton Birth

Yes No

* Antenatal Steroids

Yes No

Clear

Submit

Infants Receiving Active Treatment

Average Survival:	49%
Hospital Range:	34 - 63%

All Infants, Including Infants Not Actively Treated

Average Survival:	42%
Hospital Range:	27 - 58%

Outcomes At 18-26 Months' Corrected Age Among Infants Who Survive: (About the Data)

Profound Neurodevelopmental Impairment	Moderate-Severe Neurodevelopmental Impairment	Blindness	Deafness	Moderate-Severe Cerebral Palsy	Cognitive Developmental Delay
3 - 6%	32 - 52%	< 1%	1 - 5%	6 - 15%	31 - 46%

Parents

When outcomes are ambiguous / uncertain parental preferences should guide decision making

- Are parents of potential 23 weeks always offered a choice?
- Generally, parents want more treatment than doctors and nurses find appropriate and more tolerant to neurocognitive impairment
- Parents perceive highly negative attitudes from professionals about active treatment

Cost-effectiveness

- Most babies survive and do well for many years
- Most extremely premature babies that die, do so in the first few days
- Compared to ICU's NIC is surprisingly cost-effective even for the most preterm and critically ill babies

Treatment options for severe ill children

Treatment options	Parents prefer / accept treatment	Parents do not prefer treatment
Treatment with clear advantage	Give treatment	Give treatment and evaluate the process
Treatment with uncertain advantage	Give treatment	Do not treat
Futile treatment	Give treatment accept when caregiver refuses	Do not treat

Treatment options for severe ill children

moral distress

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Treatment 22-24 weeks ???

Conclusion *(TM 2022)*

- The Belgian guideline 2014 is too rigid / outdated for practice in 2022
- Parental preferences should guide treatment in extreme preterm newborns also below 24 weeks GA
- Time has come to reconsider and rewrite the guideline together with our obstetric colleagues



time for

discussion