



**Western Cape
Government**

BETTER TOGETHER.



**LONG TERM DEVELOPMENTAL OUTCOMES OF 30 INFANTS
WITH HYPOXIC ISCHEMIC ENCEPHALOPATHY WHO RECEIVED HYPOTHERMIA
AT GEORGE PROVINCIAL HOSPITAL, SOUTH AFRICA**



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Ethical clearance: UCT, HREC REF 261/2012**



HIE: Introduction and background

- **Definition:** HIE is an acquired syndrome of acute brain injury₁
- **Incidence:** 3-5 per 1000 live births in developed countries₂
- **Scoring:**

Modified Sarnat	Score	Development outcome
Mild HIE	1-10	Normal outcome
Moderate HIE	11-15	Unpredictable outcome
Severe HIE	16 -22	Grave outcome (death or disability)

- **What is Hypothermia?**
- **George Provincial Hospital: selective head cooling**
- **Rational for the study**



Study: 1/09/2011 to 19/3/2019

Method, Tools and Analysis

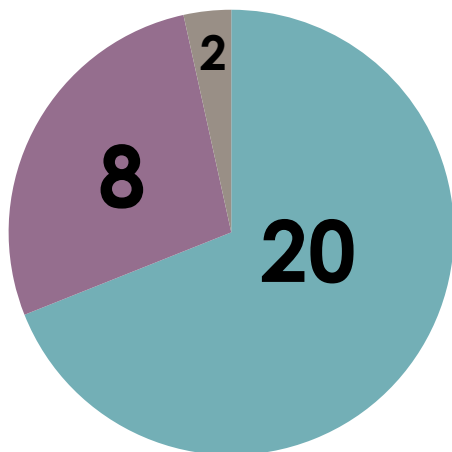


- **Quantitative study**
- **Tools:**
 - Developmental data:
 - Strive Towards Achieving Results Together (START)
 - Early Childhood Developmental Criteria (ECDC)
 - Gross Motor Function Measure (GMFM-88)
 - Parent questionnaire
 - Summary data
- **Statistical analysis: Fischer's exact test**

Preliminary results : Development and Cerebral Palsy

Overall Development N=30

- Normal Development
- Cerebral Palsy
- Lost to follow up



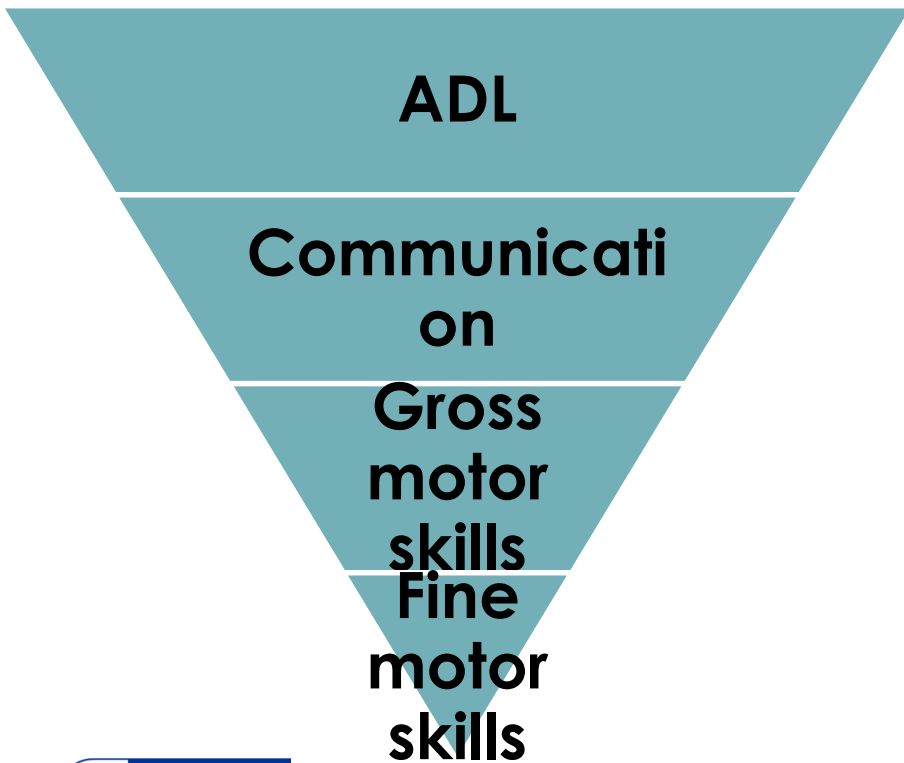
Cerebral Palsy N = 8

CP	Sarnat HIE Score	GMFCS – E&R
6	Severe	Level 5
1	Moderate	Level 1
1	Mild	Level 5

Preliminary results: START and ECDC

START

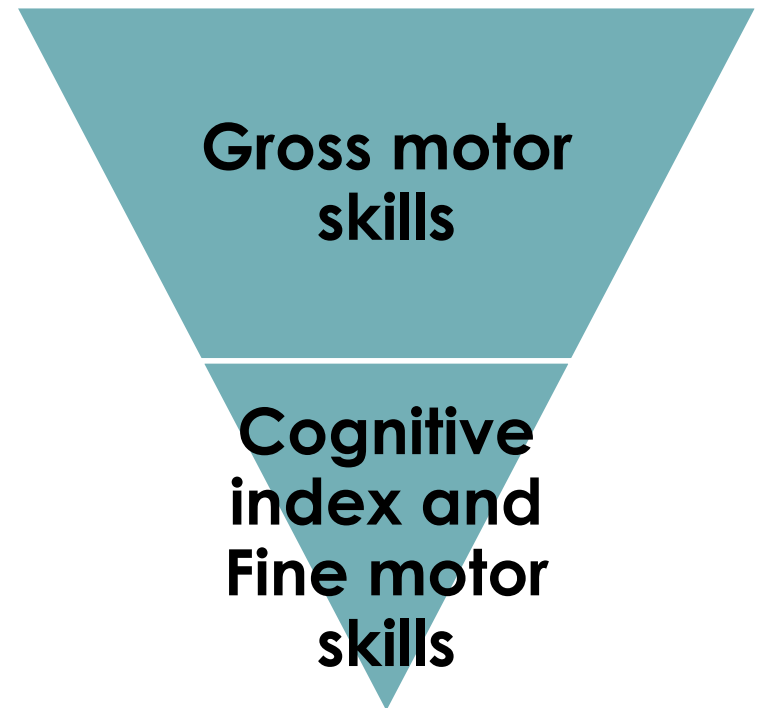
36 months N = 16



ECDC

4 years N = 14

5 years N = 11



Preliminary results: Summary and Social Data

•Social Data:

- Age of the mother N = 30
- Family income N = 27

•Summary Data:

Significant	Not Significant
HIE score	Gender
	Apgar score at 5 minutes
	Apgar score at 10 minutes
	HIV exposed

Correlation:

	Normal development	CP	P-value
Severe HIE score	1	6	0.008

Discussion

- **Severe HIE score correlate with Cerebral Palsy**
- **What matters is HIE score not HIE exposure**
- **Development: Mild HIE score vs socio-economic status**
- **Brick vs informal housing: lost to follow up**
- **Gross and fine motor skills: South Africa vs UK studies₃**
- **SA landscape of Early Childhood Services (0-5yrs)**
- **Access to standardised tools**



Thanks to parents, children & George
Provincial Hospital staff

