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Improving Outcomes for Clinical Difficulties in Children with Autism: Sleep, Pain and Self-injury

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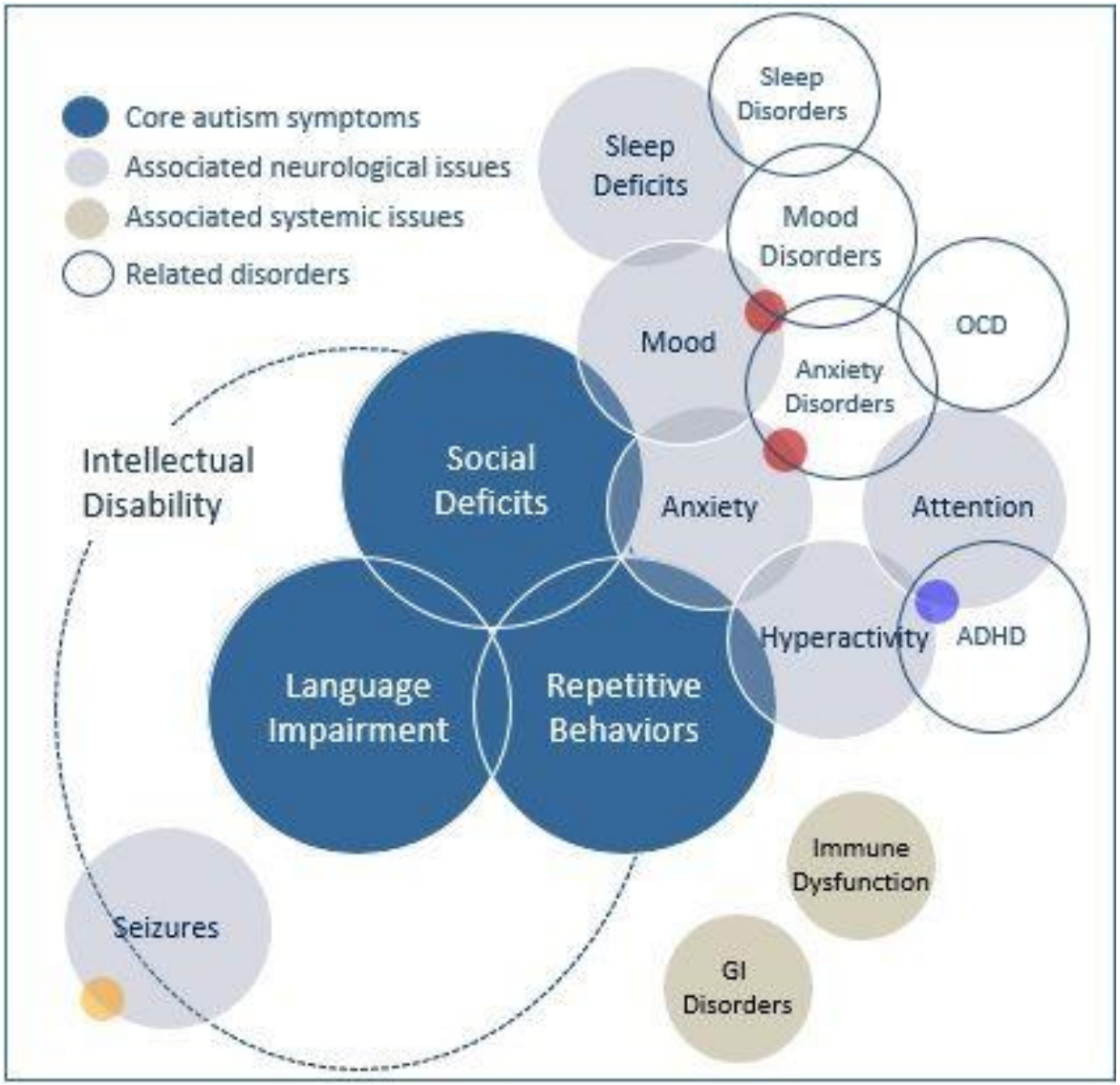

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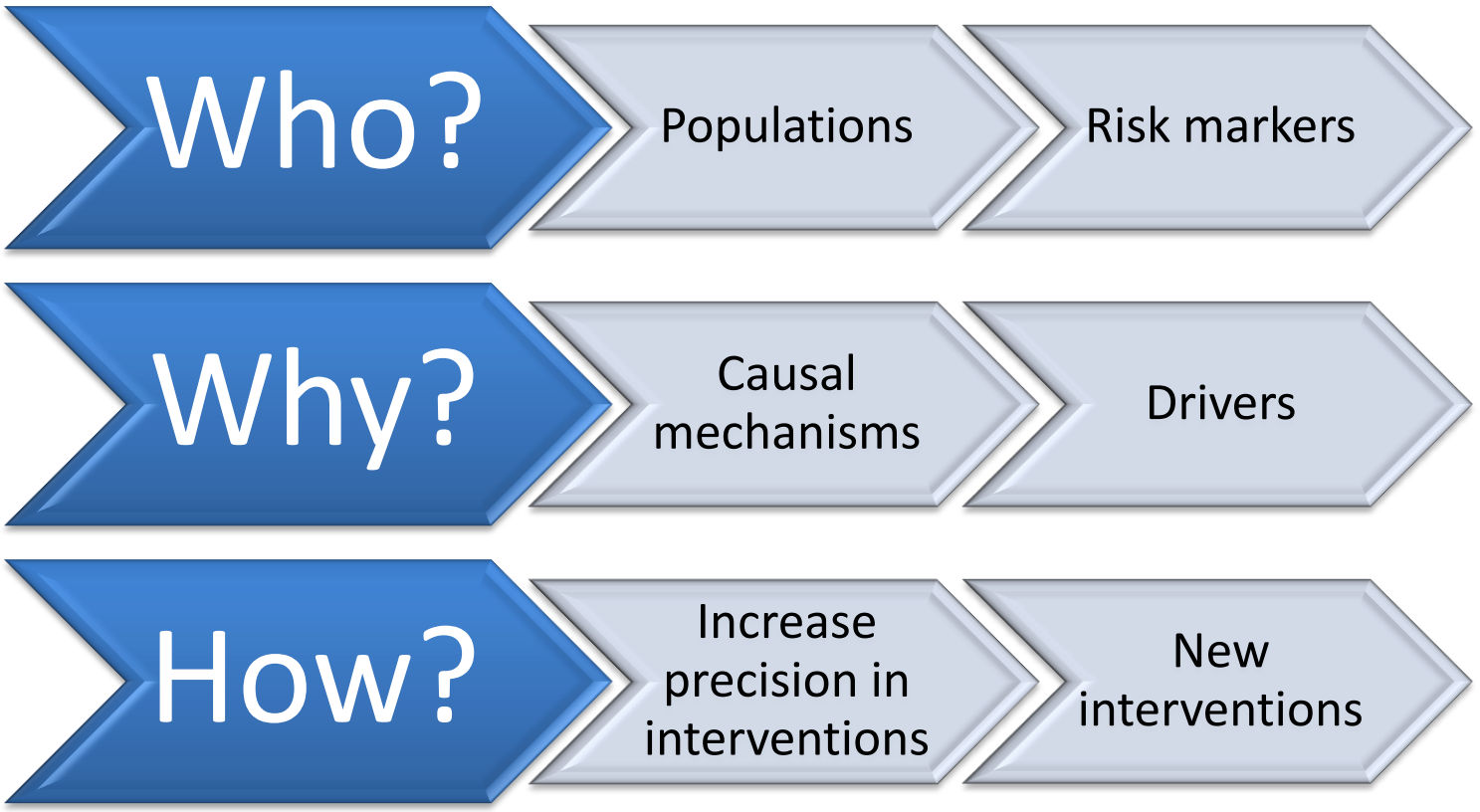
How do we reduce negative outcomes?



Matthew

- 9 years old
- Autism spectrum disorder
- Severe self-injury
  - hitting his body, head banging hitting himself with hard objects, biting his hand, biting hard objects, scratching his face
  - Would come ‘out of the blue’
  - Disrupted sleep
  - A & E visits

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JIDR Journal of Intellectual Disability Research
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Journal of Intellectual Disability Research doi: 10.1111/j.1365-2788.2012.01537.x

VOLUME 56 PART 5 pp 476–489 MAY 2012

Self-injurious behaviour in individuals with autism spectrum disorder and intellectual disability

Table 2 Percentage of individuals showing self-injury in each group

Test group	*n*	Percentage showing SIB	RR compared to ASD (95% CIs)	RR compared to Down syndrome (95% CIs)	RR compared to Fragile X syndrome (95% CIs)
ASD	148	50.0	–	**2.67 (1.45–4.91)**	0.92 (0.73–1.15)
Down syndrome	49	18.4	**0.38 (0.20–0.69)**	–	**0.34 (0.19–0.63)**
Fragile X syndrome	123	54.5	1.09 (0.87–1.37)	**2.91 (1.58–5.35)**	–

Relative risk (RR) statistics and 95% confidence intervals (CIs) are shown to demonstrate the likelihood of individuals in each group showing self-injury compared to the other groups. Bold text indicates a significant difference ($P < 0.05$).

Richards *et al.*, 2012

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Richards *et al. Journal of Neurodevelopmental Disorders* (2016) 8:21
DOI 10.1186/s11689-016-9153-x

Journal of Neurodevelopmental Disorders

RESEARCH Open Access

Persistence of self-injurious behaviour in autism spectrum disorder over 3 years: a prospective cohort study of risk markers

Table 3 Percentage (point prevalence) of participants showing remission, incidence, persistence and no self-injurious behaviour

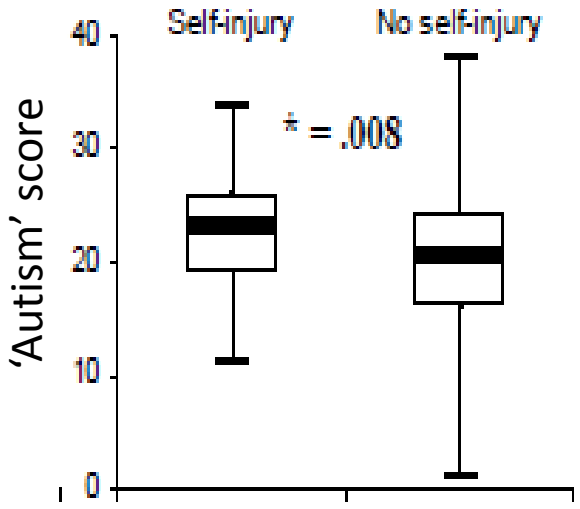
Behaviour	Absent (Absent at T_1, Absent at T_2)	Remission (Present at T_1, Absent at T_2)	Incidence (Absent at T_1, Present at T_2)	Persistent (Present at T_1, Present at T_2	*P* (2 tailed)	Remission in participants with self-injury at T_1[a]	Persistence in participants with self-injury at T_1[a]
Self-injury	49.3 (33)	9.0 (6)	10.4 (7)	31.3 (21)	1.00	22.2 (6)	77.8 (21)

Richards *et al.*, 2016

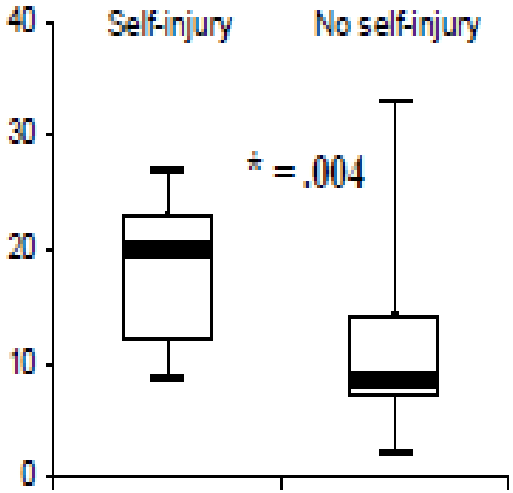
- What increases risk? Person characteristics

Moving beyond diagnosis… to 'autism' as an organising characteristic that **confers risk**

Fragile X syndrome



Down syndrome



Richards *et al.*, 2012

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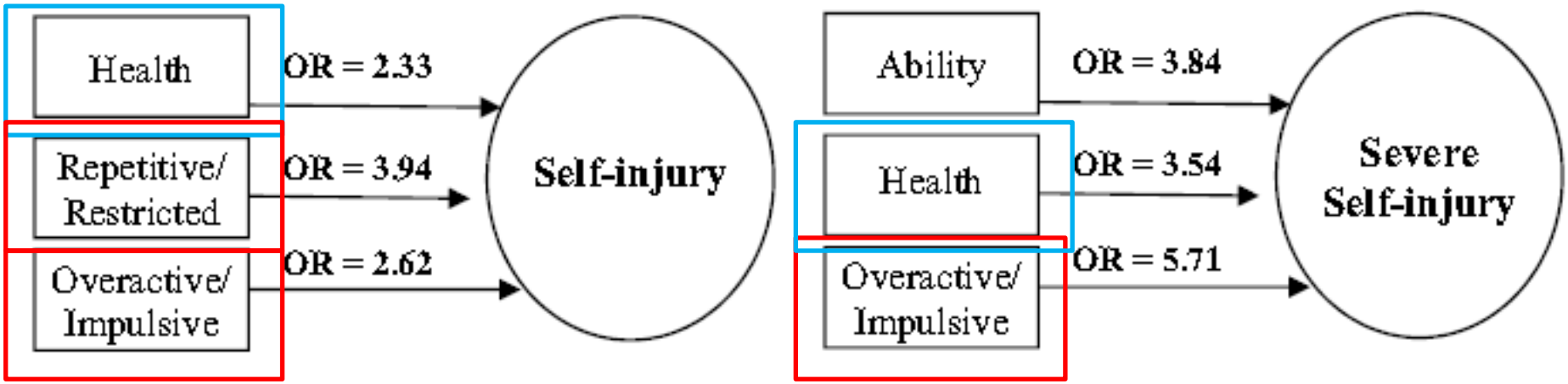
- What increases risk? Behavioural characteristics

J Autism Dev Disord
DOI 10.1007/s10803-016-3000-5

CrossMark

ORIGINAL PAPER

Predictors of Self-Injurious Behavior and Self-Restraint in Autism Spectrum Disorder: Towards a Hypothesis of Impaired Behavioral Control



Richards *et al.*, 2017

- We now know:
  - Self-injury is more common in autism
  - Self-injury is persistent in autism
  - Self-injury is predicted by observable characteristics
    - At a single time point
    - Over time

Hold that thought

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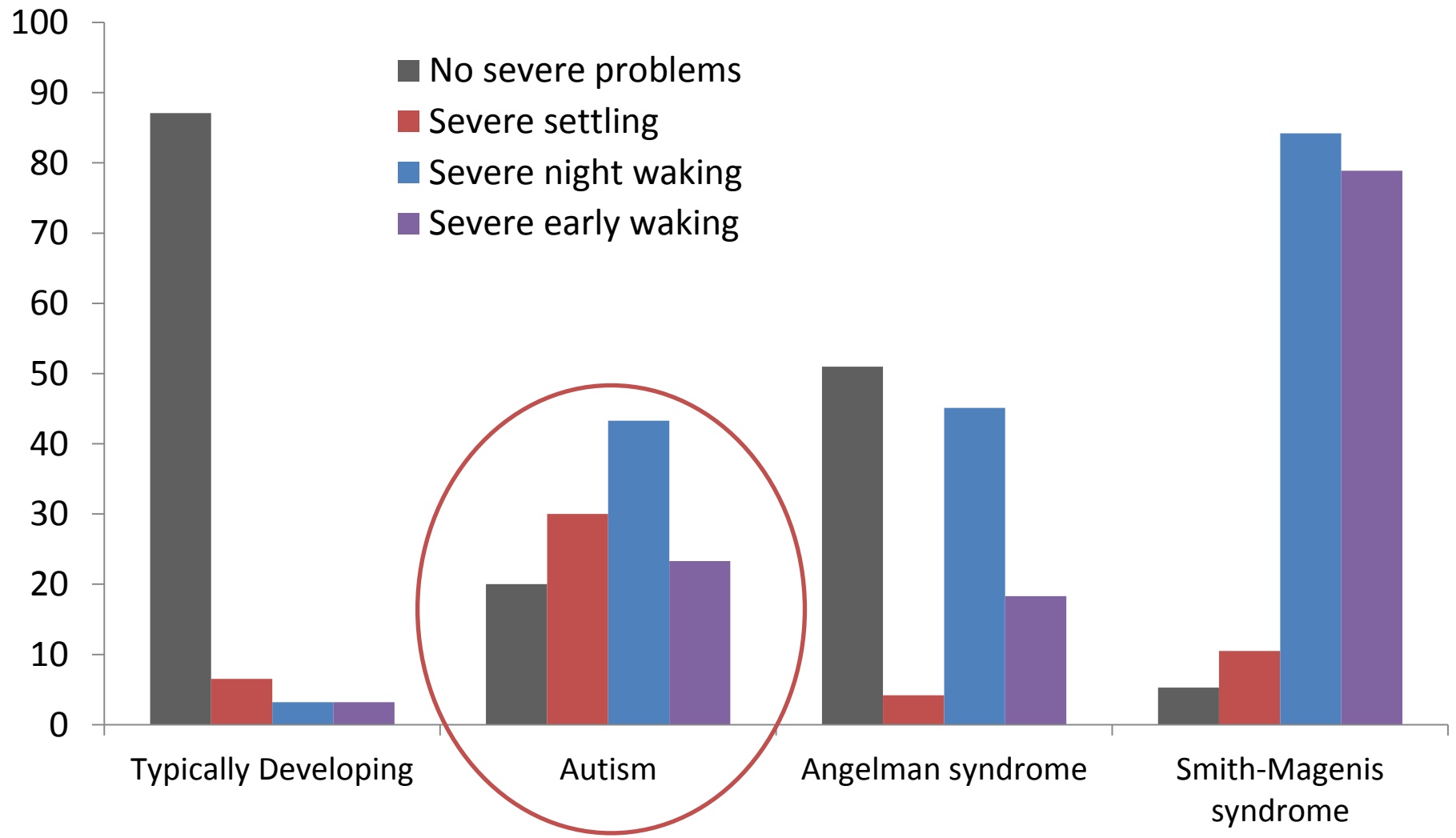

Jayne Trickett, PhD

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	Bedtime resistance	Parasom-nia	Sleep-disordered breathing	Daytime sleepiness	Night waking	Sleep onset latency	Sleep anxiety
Angelman	-	O	O	-	O	+	-
TSC	O	O	-	-	O	-+	O
ASD	++	O	-	-	O	++++	+
SMS	O	+	++	++++	+	-	O

+ statistically significantly higher score than one other disorder
O no statistically different score from other disorders
- statistically significantly lower score than one other disorder

Jayne Trickett, PhD

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- How do these sleep problems impact on everyday life?

Child sleep characteristics

Daytime behaviour

Parental impact and wellbeing

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- We now know
  - Sleep problems are common in autism
  - They predict behaviour the next day
  - They may be caused by pain

What next?

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Health problem	% (N)		Chi square	p value
	SIB (N=95)	No SIB (N=112)		
Eye problems e.g., infections	3.2 (3)	3.6 (4)	–*	0.500
Ear problems e.g., infections	8.4 (8)	2.7 (3)	3.36	0.034
Dental problems e.g., cavities, gum problems	10.5 (10)	7.1(8)	0.62	0.215
Digestive problems e.g., reflux, stomach problems	18.9 (18)	7.1 (8)	**5.83**	**0.008**
Skin problems e.g., eczema, dry skin	25.3 (24)	9.8 (11)	**7.93**	**0.003**
Other problems[a]	8.4 (8)	9.8 (11)	0.15	0.352

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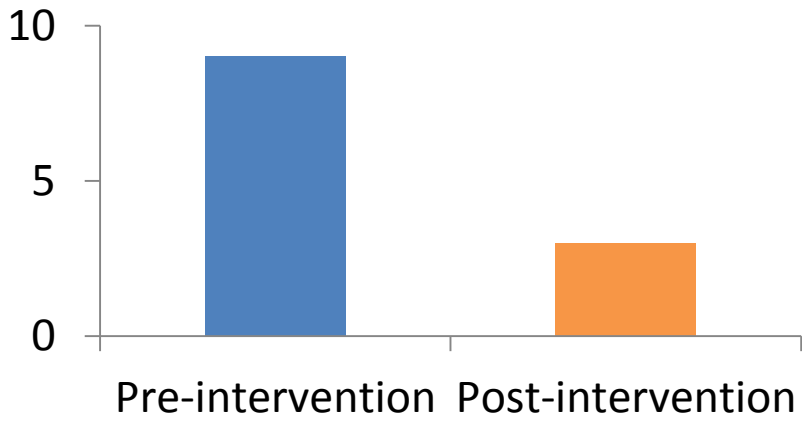
Matthew



- GI problems?
- Treatment ->
  - Reduction in self-injury
  - Improvements in sleep

Could have been avoided by proactive, risk-informed intervention

Right child, Right time, Right intervention

Thank you

Children and Families:

Collaborators:

Dr Andrew Bagshaw , University of Birmingham
Dr Jennifer Cook, University of Birmingham
Professor John Rose, University of Birmingham
Professor Chris Oliver, University of Birmingham
Professor Anna Phillips , University of Birmingham
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Dr Helen Heussler, University of Queensland
Professor Petrus de Vries, University of Cape Town
Dr Joseph McCleery, The Children's Hospital of Philadelphia

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The Castang Foundation
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