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## 'Circumcision pain' unlikely to cause autism

Claims by Frisch and Simonsen<sup>1</sup> that 'circumcision pain' increases risk of autism spectrum disorder are flawed. They dredged Danish medical records of 342,877 boys aged 0–10 years looking for an adverse effect of circumcision. Marginal significance was apparent for autism spectrum disorder at age 0–4 years for 28 Muslim boys circumcised before the age of 2 years. Since HR was 1.54 (95% CI, 1.03–2.31), the circumcision effect involved approximately 10 boys. In 0–4-year-old circumcised non-Muslim boys they noted six autism spectrum disorder diagnoses and three hyperkinetic disorder diagnoses.

Of 337 Muslim boys aged 0–10 years with autism spectrum disorder, only 10.9% were 'circumcised', 89.1% being 'intact', which is improbable and undermines their findings.

The authors cite a survey that found pain was high in 4% of infants during six weeks post-circumcision. Since the Danish study was about pain why didn't Frisch and Simonsen examine other painful conditions? Urinary tract infections are associated with excruciating pain, are common and very much higher in uncircumcised male infants and boys.<sup>2</sup> If the authors' pain hypothesis were correct, then autism spectrum disorder should be associated with urinary tract infections and therefore being uncircumcised.

Anaesthetics are neurotoxic to the developing brain. Systemic use in children aged under 3 years is associated with later cognitive impairment.<sup>3</sup> Could unnecessary general anaesthesia, not pain, have contributed to autism spectrum disorder?

They cite a study correlating autism spectrum disorder and circumcision prevalence post-1995, but fail to state that this was actually a study of paracetamol usage, circumcisions being merely a proxy.<sup>4</sup> That 'hypothesis generating exploratory analysis' was prompted by the difference in paracetamol metabolism in immature brains that might produce neuronal damage in susceptible infants.

Most likely, both autism spectrum disorder diagnosis and early circumcision reflect parental conscientiousness.

## Declarations

Competing interests: None declared

## References

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## Brian J Morris

School of Medical Sciences, University of Sydney, Sydney, New South Wales, Australia  
Email: [brian.morris@sydney.edu.au](mailto:brian.morris@sydney.edu.au)

## Thomas E Wiswell

Center for Neonatal Care, Florida Hospital, Orlando, FL, USA

## Circumcision-autism link needs thorough evaluation: Response to Morris and Wiswell

Morris and Wiswell express concern over small numbers of circumcised boys with autism spectrum disorder (ASD) and hyperkinetic disorder in non-Muslim families, apparently unaware of the fact that our findings were statistically significant despite the limited statistical power of these analyses, not because of it. Also, without substantiation, our critics consider the overall proportion of boys in Muslim families who were ritually circumcised by Danish doctors (10.9%) 'improbable', although no one knows the exact proportions of ritual circumcisions