



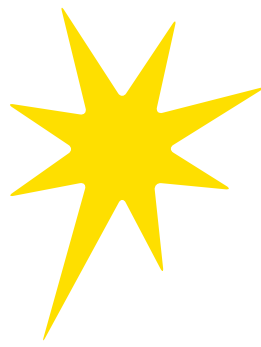
# Factsheet

Weighted Blankets for Sleep  
Difficulties in Children with  
Neurodevelopmental Conditions

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# Weighted Blankets for Sleep Difficulties in Children with Neurodevelopmental Conditions

Authors: Daniel Sutherland<sup>1</sup>, Dr Georgie Agar<sup>1</sup>, Dr Caroline Richards<sup>1</sup>

<sup>1</sup>School of Psychology, University of Birmingham.

## Aims

Sleep difficulties such as having problems getting to sleep or waking in the night are common in children with neurodevelopmental conditions<sup>1</sup>. Weighted blankets are sometimes suggested as an intervention to help improve sleep. However, information available online about weighted blankets can be mixed and confusing. The aim of this factsheet is to briefly summarise current scientific research about whether weighted blankets improve sleep in children with neurodevelopmental conditions. This factsheet is not intended to replace the advice of expert clinicians, but we hope that this summary of evidence will help parents and carers who are considering whether a weighted blanket might be appropriate for their child.

## What are Weighted Blankets?

There are no rules about how heavy a blanket must be to describe it as 'weighted'. This means that weighted blankets are available in a wide range of sizes, weights, and materials. However, some professionals recommend that they should be around 10% of a child's body weight<sup>2</sup>. It has been suggested that using weighted blankets at night may improve sleep by providing consistent sensory input, helping children to relax and settle to sleep. Some people believe that this could be particularly helpful for children with neurodevelopmental conditions, many of whom have differences in sensory processing.



# Safety

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It is important to note that safety concerns have been raised about the use of weighted blankets. The Royal College of Occupational Therapists recommend that they should not be used in individuals with respiratory problems, cardiac problems, uncontrolled epilepsy, serious hypotonia, skin problems, or circulatory problems<sup>2</sup>. Additionally, they recommend that children should be able to remove the blanket independently, that children should be supervised whilst using the blanket, and that the blanket should not be used for periods of longer than 20 minutes. This means that the Royal College of Occupational Therapists suggest children should not be sleeping with a weighted blanket for the entirety of a night.

## Do Weighted Blankets Improve Sleep in Children with Neurodevelopmental Conditions?

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Although weighted blankets are suggested to improve sleep, very little research has considered how often weighted blankets are used and whether they actually improve sleep in children with neurodevelopmental conditions. We conducted a systematic review of the published scientific literature in 2020 to identify the five studies that we describe here. These are summarised in Figure 1 on the next page.



The best way to test whether an intervention is effective is called a randomised controlled trial (RCT)<sup>3</sup>. In a RCT participants are randomly placed in two groups, one group receiving the intervention, and one acting as a comparison group. Only one RCT has investigated whether weighted blankets improve sleep in children with neurodevelopmental conditions<sup>4</sup>. In this study, 67 autistic children were separated into two groups. One group was supported to sleep with a weighted blanket for two weeks and then switched to a non-weighted blanket. The second group started with a non-weighted blanket for two weeks and then switched to a weighted blanket. Children's sleep was monitored throughout the study using actigraphy and parent-completed sleep diaries. Actigraphs are accelerometers which measure movement and can be worn around the wrist like a watch to assess an individual's sleep and wake patterns. The researchers found that when children used the weighted blanket, they did not sleep for longer, fall asleep more quickly or wake less often than when they used the non-weighted blanket. Despite the lack of difference in sleep measured by sleep diaries or actiwatches, the study also showed that more parents rated the weighted blankets as improving sleep compared to the non-weighted blankets.

One other smaller study of two autistic children measured whether weighted blankets improved sleep according to parent-completed sleep diaries<sup>5</sup>. The sleep of these two children was measured for one week before the intervention, then for two weeks whilst using weighted blankets, and finally for one week after removing the weighted blankets. The study found that the weighted blankets appeared to have no, or minimal, effect on the children's sleep or their morning mood.

There has only been one study investigating the effect of weighted blankets on sleep in children with attention-deficit hyperactivity disorder (ADHD). In this study, the researchers measured the sleep of 21 children for seven days using actigraphy<sup>6</sup>. They then used the weighted blankets for fourteen days whilst sleep continued to be measured. Finally, they measured sleep for a further seven days where the children returned to not using the weighted blanket. They found that children fell asleep more quickly whilst using the weighted blanket, but that it had no effect on night waking or total sleep time. However, the children in this study had relatively mild difficulties with settling before using the weighted blankets. Therefore, the study may not tell us about whether weighted blankets help children with ADHD who have more severe difficulties falling asleep.

No other research has measured the effect of weighted blankets on sleep in children with neurodevelopmental conditions directly. However, two studies have explored parents' perceptions about whether weighted blankets are effective. The first was a survey of parents of children with CHARGE syndrome, a rare, genetic, neurodevelopmental condition associated with hearing and sight impairment. Researchers found that fifteen out of thirty parents of children with CHARGE syndrome reported using weighted blankets and on average believed that they were "slightly effective" at improving their child's sleep<sup>7</sup>. The second study involved interviews with fifty parents of children with Angelman syndrome, a rare neurogenetic syndrome associated with intellectual disability<sup>8</sup>. They found that three parents used weighted blankets, and all three felt that they were helpful for their child's sleep.

**Figure 1. A summary of the scientific literature on the effectiveness of weighted blankets in improving poor sleep**



# Summary

In summary, there is currently limited research into the effectiveness of weighted blankets to improve sleep in children with neurodevelopmental conditions. Most of this research suggests that weighted blankets have little effect on sleep timing (the time it takes to fall asleep, the total sleep time, the number and length of wakings), though one study does indicate some improvements to the time taken to get to sleep in children with ADHD. Alongside this, some research does suggest that parents perceive positive effects of weighted blankets. Better understanding of the value of weighted blankets would require more high-quality research such as RCTs that include direct measurement of child sleep (using actigraphy) and parent perceptions of child sleep and mood (using diaries and questionnaires). It is also important that parents and carers are mindful of their child's safety when deciding whether to use weighted blankets.

Based on existing research and safety guidance, there is some evidence that children may benefit from the use of weighted blankets in order to fall asleep. Given the concerns about safety and the lack of evidence that weighted blankets improve night waking or total sleep time, these should then be removed overnight. If you want more information about whether weighted blankets *may* be appropriate for your child, we recommend discussing this with a health professional such as an occupational therapist or doctor.

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# About the authors

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Dr Caroline Richards, Senior Lecturer in Neurodevelopmental Disorders, is a Clinical Psychologist and researcher at the University of Birmingham. Her research focuses on reducing negative clinical outcomes for children. Caroline is leading a programme of sleep research in the [Cerebra Network for Neurodevelopmental Disorders](#). This research will help us to understand why sleep problems occur in children with rare genetic syndromes and help families to find solutions to these sleep difficulties.

Dr Georgie Agar is a post-doctoral research fellow at the University of Birmingham. Georgie leads work on the Sleep Impulsivity Behaviour project, which aims to improve understanding of sleep and executive functioning in relation to self-injurious behavior in children with autism and intellectual disability. Georgie's recently completed PhD work was funded by Cerebra, investigating poor sleep in individuals with rare genetic syndromes associated with intellectual disability, with a particular focus on Smith-Magenis syndrome and Angelman syndrome.

Daniel Sutherland is a MSci student at the University of Birmingham. He has been researching the strength of the evidence for weighted blankets to improve sleep for children with neurodevelopmental conditions.

# About the reviewer

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Dr Andrew Surtees is a Lecturer in Psychology at the University of Birmingham and a Clinical Psychologist with Birmingham Women's and Children's NHS Foundation Trust. His research focusses on the relationship between everyday difficulties, such as sleep and anxiety, and social understanding. He is interested in how we can improve the lives of children with neurodevelopmental conditions by improving their sleep and mental health. In his clinical practice, he specialises in autism assessment for children and young people with mental health conditions.







The findings of this report are those of the author, not necessarily those of Cerebra.

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## Postal Address

Cerebra

The MacGregor Office Suite

Jolly Tar Lane

Carmarthen

SA31 3LW

Tel: 01267 244200

Freephone: 0800 328 1159

[www.cerebra.org.uk](http://www.cerebra.org.uk)

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