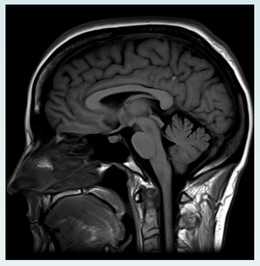
MRI Scanners: Pediatric Cohort with and without Developmental Challenges

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Introduction

- Children that experience anxiety, health disorders, and may be developmentally challenged may have trouble with a magnetic resonance imaging (MRI) scanner.
- MRI is a type of imaging technology that produces thorough images of the body without using ionizing radiation.
- Although any child is susceptible to experiencing anxiety, individuals with autism spectrum disorder may encounter more challenging factors such as sensory or communication concerns.

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What is Autism?

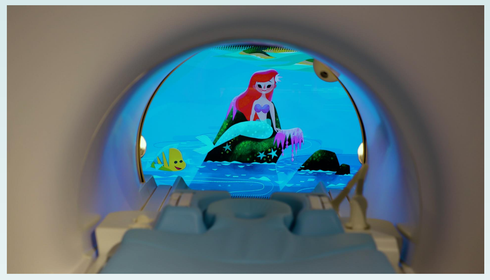
- Autism is a disorder characterized by conditions relating to brain mechanisms and development.
- A MRI scanner can be frightening for children of all ages, but especially children that have neurological disabilities.
- According to the Centers for Disease Control and Prevention, “about 1 in 31 (3.2%) children aged 8 years has been identified with ASD.”
- People diagnosed with autism experience sensory concerns and obstacles, causing potential risk factors such as noises or confined spaces to occur during an MRI.

Pediatric Cohort Study

- A study that was previously conducted demonstrated a visual/audio introduction focusing on pediatric interests to determine if it would show signs of calmness.
- With the help of The Walt Disney Company Limited, children were provided with clips featuring Mickey Mouse, Ariel, Winnie the Pooh, etc., which included slow paced content for the children to allow their mind to focus on the images.
- Results of this study indicated stress levels were at their highest point prior to the scan, calmed down during it, and their lowest stress level was after the MRI completed.
- Due to the positive outcome of the visual and audio study that was previously conducted in pediatrics, testing out this strategy for children with ASD may show an effective result.

Statistics

- All children may experience a variety of emotional, physical, or mental feelings when getting MRI imaging.
- By utilizing and incorporating an approach that has expressed positive outcomes in children can show overwhelming response when treating ASD patients.
- Children diagnosed with autism face many hardships in healthcare, which can lead to negative effects in their life quality.
- Autistic children deserve the same quality of care as any other individual.



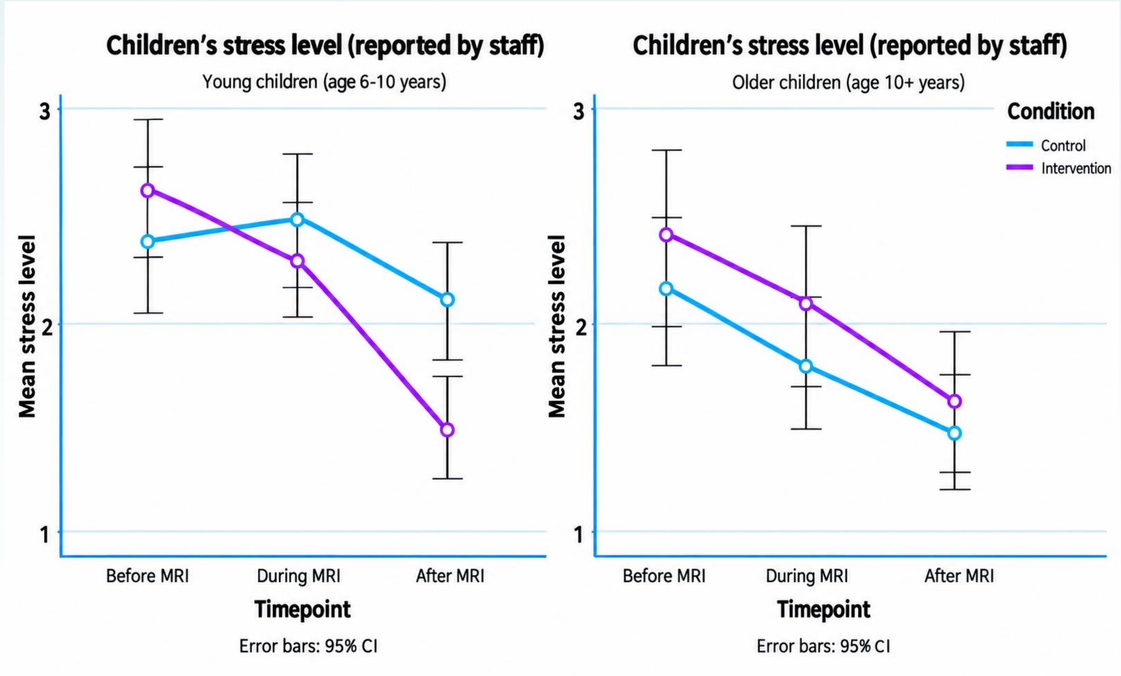


Figure 1. Stress Level Indicators for Magnetic Resonance Imaging
Source: Van der Vleuten-Chraibi, 2025

Conclusion

- Autism can be a difficult disorder for individuals to decipher because each child has their own autistic needs.
- Since their brains are constantly evolving, it can be obscuring to grasp what they might be thinking.
- Due to the lack of resources when imaging autistic children, researching previous indicators can help create a plan of action.
- All children may experience a variety of emotional, physical, or mental feelings when getting MRI imaging.
- Directing attention to previous positive studies can help introduce new ideas when imaging autistic children.

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