

# DELETIONS AND DUPLICATIONS OF DNA

A study by Cardiff University has found that deletions and duplications of DNA are responsible for wide-ranging developmental difficulties in children.

The team found that development, learning and thinking, motor coordination and sleep quality were affected in children with a range of conditions caused by slight changes in DNA known as copy number variants (CNVs). These changes also increased their risk of mental health problems.



# 258

# 13

The team looked at the impact of 13 different CNVs

The team visited 258 children with CNVs that increase the risk of developing mental health problems, as well as a comparison group of their siblings without these CNVs.

and how they affect development, movement and sleep problems, behaviour, IQ, memory and thinking processes, and increase the risk of mental health problems.

80% of the group with CNVs had at least one mental health problem.

These included ADHD, oppositional defiant disorder, anxiety disorder and autism spectrum disorder.



They have a 14 times increased risk of a mental health disorder compared to siblings without these deletions and duplications.

The conditions the team investigated included 1q21.1, 2p16.3, 9q34.3, 15q11.2, 15q13.3, 16p11.2, 22q11.2

We would like to thank all the children, caregivers and teachers who took part in this study, as well as all the support we have had from NHS Medical Genetic Clinics, and support charities including Unique and Max Appeal.

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