

# SNP Array – What is it and what does it mean?

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Your child's doctor has suggested a test called a SNP array which may be helpful in investigating your child's difficulties. This leaflet aims to explain what this test is and what the results might mean.

## What are chromosomes?

DNA acts as our instructions, telling our bodies how to grow and develop. A gene is a section of DNA. Genes are stored on structures called chromosomes. If genes are like the recipe books, the chromosomes are like the bookshelves. The majority of cells in our body have 23 pairs of chromosomes (one inherited from each parent), and these are numbered from pair 1 to pair 22, with the final pair being the sex chromosomes (XX in girls and XY in boys).

## What is an SNP array?

SNP array stands for single nucleotide polymorphism array. It is a test that looks at our chromosomes in detail to see if there are any areas of the chromosomes with extra or missing genetic material which could explain the difficulties your child is experiencing. These tiny genetic changes are called microduplications (extra genetic material) or microdeletions (missing genetic material). This test does not look at every individual gene.

Many people have small changes on their chromosomes but not all of these changes cause difficulties. However certain changes may cause a variety of difficulties such as developmental delay, learning and behavioural problems and heart defects.

## How is the test done?

An SNP array is a blood test which is taken from your child. The blood sample is then sent away to a laboratory for analysis. This can take up to 12 weeks before a result is available.

## What results could we get?

The SNP Array may:

- 1) Be within normal limits.
- 2) Show a change in a chromosome with unknown significance.
- 3) Show a change in a chromosome which is likely to explain your child's symptoms.

## What if my child's SNP array is within normal limits?

If this is the case, there may be no significant change on your child's chromosomes but it does not entirely exclude the possibility of a genetic issue. It is possible that a more detailed test looking at a gene or group of genes could find a change that explains your child's difficulties. Your child's paediatrician will discuss with you if there are any indications for your child to have the more detailed genetic testing. This would not be appropriate for everyone.

## What does it mean if there is a change in a chromosome with unknown significance?

There is a lot that we do not currently understand about chromosome changes. The change in the chromosome may or may not explain your child's symptoms. It is possible to have changes in our chromosomes which do not affect us and how we develop. It is possible that in the future we may have more information about this change if new techniques or information become available to us.

## What does it mean if a change in a chromosome is found?

If the SNP array shows a change in a chromosome which is likely to explain the symptoms that your child has this may help us to understand:

- Why your child has difficulties
- If other parts of the body might be affected. This would allow us to monitor those things which may develop and treat them quickly.
- Allows you and your child to access support groups and talk to other families with children with the same condition if this would be helpful for you.

If any genetic change is identified, we will call you back into clinic to discuss this. We would talk to you about the result and advise referral on to the genetics team for your child and your family to discuss in more detail what the result may mean for your child and the rest of your family.

## Data Protection

Any personal information is kept confidential. There may be occasions where your information needs to be shared with other care professionals to ensure you receive the best care possible.

In order to assist us to improve the services available, your information may be used for clinical audit, research, teaching and anonymised for National NHS Reviews and Statistics.

Further information is available via Gateshead Health NHS Foundation Trust website or by contacting the Data Protection Officer by telephone on 0191 445 8418 or by email [ghnt.ig.team@nhs.net](mailto:ghnt.ig.team@nhs.net).

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