



BEING A TRAUMA INFORMED COMMUNITY

EPIGENETICS:

HOW EXPERIENCES INFLUENCE GENES

Epigenetics is a mechanism of how things are passed through generations through chemical markers in the DNA. These chemical markers don't alter a person's genes, but they can affect how that gene is expressed.

How can epigenetics affect so many in the family?

Our experiences, and experiences of previous generations, can have an impact on our epigenetics and therefore our genes. Epigenetics is a complex biological process. Put simply, it is the process by which certain genes in our DNA become switched on or off by either our own experiences, or the experiences of people from who we are descended.

For example, a person who experiences trauma, depression or ongoing drug use may have chemical markers resulting in their DNA which can then change the expression of particular genes.

As well as affecting the genes of the person with the direct experience, these chemical markers are passed on to their descendants; who may then experience things such as an unexplained predisposition towards drug use, vulnerability to develop mental health issues, or other symptoms of trauma.

You may have heard the old debate of nature vs nurture. Researchers who study epigenetics believe the truth is a combination of both:

Nature: the genetic info we inherit from our parents.
Nurture: the influence of our environment and experiences.



Therefore, if our parents or grandparents have experienced trauma or a traumatic lifestyle, we may inherit the predisposition (nature) and/or exposure through our environmental predisposition (nurture). Also see the Trauma Poster on Intergenerational Trauma.

Are epigenetic changes to our DNA permanent?

Luckily, the answer is no. The chemical markers caused by epigenetics do not damage or mutate the gene itself. Rather, they simply alter the way a gene may be expressed. This means that there are things we can do to combat the effects of epigenetics in ourselves, and the young people we care for. They include:

- > Knowing and understanding family history can provide information about potential predispositions.
- > Good lifestyle habits. For example, bush walking and outdoor activities, enjoying music and good food, plenty of rest.
- > A safe, secure, loving, and consistent living environment with good relationships. For example, a carer who is consistent, predictable and supports routines. Providing young people with love, acceptance and belonging is important.
- > Belonging in a wider safe community with social engagement. For example, community hobby or interest groups, school, the workplace.
- > Mindfulness and re-building the brain and nervous systems responses through professional therapeutic intervention.
- > Making use of available services. For example, Child and Family Centres, Lifeline and your General Practitioner (GP).

Note: The terms 'child' and 'children' also refer to 'young person' and 'young people'.

Here to help! Come and talk to us if you'd like more practical ways you can be trauma informed.

Sources:

- > Van Der Kolk, B. (2014). *The Body Keeps the Score*. Viking Press USA
- > Perry, B. D. (2002). Childhood experience and the expression of genetic potential: What childhood neglect tells us about nature and nurture. *Brain & Mind*, 3(1), 79–100.
- > Source image: Freepik.com



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