

## What is Prevention: Genetic Factors

Substance use disorders can run in families.<sup>1</sup> Research suggests that **genetics account for about ½ of a person's likelihood of developing a substance use disorder.**<sup>2</sup>

Genes are the functional units of our DNA that direct the development and functioning of every cell in our bodies.<sup>1</sup>

Some diseases, such as sickle cell anemia or cystic fibrosis, are caused by a “mutation” in a single gene.<sup>2</sup>

But many diseases, such as cancer, heart disease, and substance use disorder, involve variations in many different genes that contribute to a person's overall level of risk and are also profoundly influenced by lifestyle and individual choices.<sup>3</sup>

While we can't change our genetics, knowing about family history of addiction empowers us to make different decisions about using addictive substances.<sup>1</sup>

Addiction has a ripple effect – when a person is struggling with substance use, it affects the lives of their family, friends and community.<sup>4</sup> But because of the stigma surrounding this disease, many families have kept experiences with addiction a secret and sometimes even from one another for fear of being judged or discriminated against.

**Information is power** when it comes to genetic risk.<sup>1</sup> Be honest with young people if they have a familial history of addiction and help them reduce their risk of developing a substance use disorder, by doing things like:

- **Delaying substance use until your brain has matured.**<sup>5</sup>
- **Learning skills to help you cope with stress and express emotions in a healthy way,**<sup>6</sup>
- **and practicing ways to refuse drugs or alcohol if they are offered to you.**<sup>5</sup>

Caregivers can help to strengthen protective factors for a young person who has a genetic risk for addiction by

- **setting clear expectations around no alcohol, tobacco, or drug use,**
- **helping them to find and pursue activities they're passionate about, such as music, sports, or art,**
- **and investing in resilient, healthy communities where young people can thrive and feel a sense of belonging.**<sup>5</sup>

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[www.addictionpolicy.org](http://www.addictionpolicy.org)

## Sources

- <sup>1</sup> National Institute on Drug Abuse (NIDA) 2016, Drug Facts: Genetics and Epigenetics of Addiction <https://www.drugabuse.gov/publications/drugfacts/genetics-epigenetics-addiction>
- <sup>2</sup> National Institute on Drug Abuse (NIDA), 2016 <https://www.drugabuse.gov/publications/drugfacts/genetics-epigenetics-addiction>
- <sup>3</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2715956/>
- <sup>4</sup> NIH National Institute on Drug Abuse: Drug Use and Other People <https://easyread.drugabuse.gov/content/drug-use-and-other-people>
- <sup>5</sup> The National Center on Addiction and Substance Abuse at Columbia University. (2011, June). Adolescent Substance Use: America's #1 Public Health Problem. Retrieved from <https://www.centeronaddiction.org/addiction-research/reports/adolescent-substance-use-america%E2%80%99s-1-public-health-problem>.
- <sup>6</sup> National Institute on Drug Abuse, (NIDA) 2014, Drug Facts: Lessons from Prevention Research <https://www.drugabuse.gov/publications/drugfacts/lessons-prevention-research>

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