

JUNE 2023 – CAPSULE 33

Adverse Childhood Experiences and Cardiovascular Disease Risk

CONTRIBUTING AUTHORS: Kristen Berg, PhD, Case Western Reserve University; Susan De Luca, MSW, PhD, Case Western Reserve University, on behalf of Team Best Practices

CAPSULE

Adverse childhood experiences (ACEs) are traumatic events during childhood, such as experiencing abuse, or witnessing violence. ACEs are commonly experienced, with one in four adults experiencing four or more ACEs, though females and racially minoritized individuals are identified as being most at risk of reporting four or more ACEs.¹

When children experience intense, prolonged adversity without support from safe and trusted adults, a toxic stress response can occur, including neurological, endocrine, and immunological reactions. This repeated activation of stress response systems can lead to chronic physiological dysregulation including abnormal cortisol response, living in a persistent inflammatory state, or even alterations in gene expression which are linked to the development of risk factors for CVD, such as diabetes, sleep and mental health problems, hypertension, and obesity.²⁻⁴ Adults with four or more ACEs are nearly twice as likely to develop cardiovascular disease (CVD) than adults without ACEs.²

While research suggests a link between ACEs and CVD, widespread screening for ACEs is not currently standardized or recommended in CVD risk assessment. ACEs screening and intervention is likely most useful during childhood itself, and further research is needed on whether ACEs screening and intervention in adulthood leads to beneficial future outcomes.⁵ Nurturing supportive environments for families can help prevent childhood trauma, potentially improving health in adulthood by preventing illness and risky health behaviors.

If a positive screen identifies a history of adversity for which psychological support is currently needed and desired, care plans may include referrals or warm hand-offs to mental health treatment or resources.⁵ The Office of the California Surgeon General's **ACEs Aware Provider toolkit** provides further resources for primary care providers and care teams who opt to screen for and respond to ACEs.



When screening adults for ACEs, effective conversation starters include the following:⁵

- “Researchers have discovered that some stressful things that occur during childhood may be linked to the development of heart disease later in life. The more we understand about you and your family, the better we can support you.”
- “You marked on the questionnaire that you experienced some difficult events. Many people in our community have been through a lot.”
- “Are there events that occurred in your childhood that shouldn’t have happened to you or anyone?”

References

1. Centers for Disease Control and Prevention. Adverse Childhood Experiences (ACEs). <https://www.cdc.gov/vitalsigns/aces/index.html>. Updated August 23, 2021. Accessed June 2, 2023.
2. Godoy LC, Frankfurter C, Cooper M, et al. Association of adverse childhood experiences with cardiovascular disease later in life: a review. *JAMA Cardiol*. 2021;6(2):228-235. doi:10.1001/jamacardio.2020.6050.
3. Danese A, McEwen BS. Adverse childhood experiences, allostasis, allostatic load, and age-related disease. *Physiol Behav*. 2012;106(1):29-39. doi:10.1016/j.physbeh.2011.08.019.
4. De Hert M, Detraux J, Vancampfort D. The intriguing relationship between coronary heart disease and mental disorders. *Dialogues Clin Neurosci*. 2018;20(1):31-40. doi:10.31887/DCNS.2018.20.1/mdehert.
5. Suglia SF, Koenen KC, Boynton-Jarrett R, et al. Childhood and adolescent adversity and cardiometabolic outcomes: a scientific statement from the American Heart Association. *Circulation*. 2018;137(5):e15-e28. doi:10.1161/CIR.0000000000000536.

The Ohio Cardiovascular and Diabetes Health Collaborative is funded by the Ohio Department of Medicaid and administered by the Ohio Colleges of Medicine Government Resource Center. The views expressed in this document are solely those of the authors and do not represent the views of the state of Ohio or federal Medicaid programs.

For more information head to [Cardi-OH.org](https://cardi-oh.org).

© 2023 Cardi-OH