

## Chronic Pain and Adverse Childhood Experiences: A Connection Worth Knowing About

Have you been diagnosed with a long-term pain disorder? If so, you have likely made the rounds between doctors, therapists, and pain specialists with no meaningful results. The complex nature of the pain is overwhelming and severely limiting your quality of life. It's possible that the pain you are struggling with as an adult has its roots in childhood trauma, maltreatment, or abuse. These negative events are often referred to as ACE, which stands for 'Adverse Childhood Experience.'

According to the Centers for Disease Control and Prevention, the percentage of US adults experiencing at least one type of ACE is quite high: approximately 61% in a survey of 25 US states. Sadly, almost 1 in 6 adults reported at least 4 types of ACEs. <sup>1</sup>

In this article, we delve into the medical research to explain how chronic pain and other diagnoses, such as fibromyalgia, could be related to numerous the types of ACE events. We then share some strategies that health care professionals are using to help patients overcome the potentially devastating consequences of life-long pain.

### Scientific Research

Researchers have drawn multiple correlations between ACEs and chronic pain in adulthood. These childhood events are generally categorized as abuse, family dysfunction, or neglect. Examples of ACEs are:

1. Physical, emotional, and/or sexual abuse.
2. Physical or emotional neglect.
3. The witnessing of traumatic events, e.g., a caregiver is abused, violence in the home, substance abuse, death, parental separation, incarceration. <sup>2,3</sup>

Particularly over the last several decades, there has been an increased understanding of how ACEs and other forms of childhood maltreatment have had a negative impact on health conditions in adulthood. <sup>4,5</sup>

The presence of ACEs can make children more vulnerable to pain disorders as an adult. <sup>6,7,8</sup> Although not a direct cause-and-effect relationship, <sup>9</sup> health experts have found that a large percentage of adults with chronic pain syndromes, fibromyalgia, even rheumatoid arthritis, have also been subjected various types of traumatic experiences as children. <sup>10,11</sup>

As the knowledge of healthcare professionals continues to grow, the connection between ACE events and numerous types of pain disorders has become even more well-documented. For example, we know about the disastrous effects of being bullied as a child.<sup>12,13</sup> A large study of over 2400 people indicated that bullying was a critical risk factor (along with other adverse events) in the occurrence of pain conditions as an adult. Of note is that the largest effect was on those who were victims of emotional abuse.<sup>14</sup> One of the many tragic results of childhood abuse could be a pain condition that is so disabling that the individual becomes limited in completing job tasks, managing a household, or even participating in leisure activities.<sup>15</sup>

### Upsetting a Delicate Balance

Under normal circumstances, any painful or uncomfortable sensation is in a sense, a good thing. It informs us that we have broken a bone, over-worked ourselves during an exercise routine, or need to change positions while we work at our desk. A series of sensory signals and/or chemical reactions sends messages to our brain, telling us that our body needs attention and healing. Inflammation can also occur, so as to increase blood circulation to the affected body part(s).

Adverse experiences in childhood can throw these normal healing processes out of balance.<sup>16</sup> The body's stress-response system, typically used to protect us from danger, is prevented from "turning off" and going back to normal. The Center on the Developing Child at Harvard University has described this unrelenting stress on the mind, brain, body connection as a condition of "toxic stress."<sup>17</sup> Eventually, toxic stress can cause abnormal changes to the developing brain, leading to life-long problems in physical and/or mental health.<sup>18</sup> Other types of traumas may have similar consequences: such as racism, bullying, and continued community violence.<sup>19, 20</sup>

Child maltreatment is associated with structural and functional changes in the brain's limbic system. Such changes can be present even decades later in adulthood. The limbic system is the part of the brain that is highly involved in emotions and memory formation. When the limbic system doesn't work well, it negatively affects how we think and feel. Ultimately, it can interfere with our ability to respond effectively to the present-day environment.<sup>21, 22</sup>

### Restoring the Proper Mind, Brain, and Body Connection

Fortunately, there are ways to counteract toxic stress responses that may lead to chronic pain conditions. Essentially, patients are taught by skilled clinicians to

“unlearn” habits or thought patterns that, although helpful or protective in the past, are no longer useful. The ability to alter these patterns can be a critical factor in relieving the devastating effects of chronic pain.<sup>23</sup>

Often, simply talking about these stressful childhood events with a counselor or psychiatrist and how they might impact present-day life can be very therapeutic. An empathetic ear and an acknowledgement may be all that’s needed to lay the foundation for recovery<sup>24</sup>

There are many non-intensive habits that can help individuals reduce the effects of toxic stress, such as:

- Meditation
- Breathing exercises
- Physical/recreational pursuits
- Social supports<sup>25</sup>

Some ACE survivors may benefit from more formalized therapeutic intervention with guidance by a properly trained professional counselor, psychiatrist, or other licensed clinician. These may include Cognitive Processing Therapy (a type of Cognitive-Behavioral Therapy), Eye-movement Desensitization and Reprocessing, and Present-Focused Group Therapy.<sup>26</sup>

## Conclusion

Thankfully, health care professionals know much more about the complexities of treating chronic pain disorders than previously. Although medication can certainly help in pain management, the root of the problem may be due, at least in part, to adverse experiences during the childhood years. Proper attention to psychosocial and spiritual issues may very well be a necessary component of recovery.<sup>27</sup>

## **Key Points to Remember**

- *A US survey revealed that 61% of the respondents experienced at least one ACE during childhood.*
- *Traumatic events do not necessarily need to occur in the home, but also within the community in the form of violence, racism, or bullying.*
- *Fibromyalgia and other types of chronic pain disorders can be linked to ACE events.*
- *The body’s stress response system and/or structures within the brain can be altered as a result of ACE events.*
- *We can learn how to change our thought processes and habits as adults to more effectively manage chronic pain symptoms.*

*Finally, it’s important to remember that a dysfunctional or abusive childhood does not consign you to a life of chronic pain or other post-traumatic battles. Although you didn’t have control of your upbringing as a child, you do indeed have the power and fortitude as an adult to overcome the challenges. They will never be insurmountable.*

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## REFERENCE LIST

- <sup>1</sup> Centers for Disease Control and Prevention [CDC]. (2021, April 6). Preventing adverse childhood experiences – fast facts. [https://www.cdc.gov/violenceprevention/aces/fastfact.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Facestudy%2Ffastfact.html](https://www.cdc.gov/violenceprevention/aces/fastfact.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Facestudy%2Ffastfact.html)
- <sup>2</sup> Ibid.
- <sup>3</sup> Center on the Developing Child (Harvard University) (n.d.) What Are ACES? And how do they relate to toxic stress? Retrieved from: <https://developingchild.harvard.edu/resources/aces-and-toxic-stress-frequently-asked-questions/>
- <sup>4</sup> Felitti, V.J., Anda, R.F., Nordenberg, D., Williamson, D.F., Spitz, A.M., Edwards, V., Koss, M.P., Marks, J.S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of deaths in adults. *American Journal of Preventive Medicine*, (14)4, 245-258. <https://www.ajpmonline.org/action/showPdf?pii=S0749-3797%2898%2900017-8>
- <sup>5</sup> Jackson, W.C. (2021, May 11). Connecting the Dots: How Adverse Childhood Experiences Predispose to Chronic Pain. Practical Pain Management. <https://www.practicalpainmanagement.com/treatments/psychological/connecting-dots-how-adverse-childhood-experiences-predispose-chronic-pain>
- <sup>6</sup> Beal, S.J., Kashikar-Zuck, S., King, C., Black, W., Barnes, J., Noll, J.G. (2020) Heightened Risk for Pain in Young Adult Women with a History of Childhood Maltreatment: A Prospective Longitudinal Study. *Pain*, 161(1). 156-165. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6923597/pdf/nihms-1540428.pdf>
- <sup>7</sup> Ford, J.D., Courtois, C.A. (2015). *Educational resources and evidence-based treatment for adults. academy on violence and abuse*. (2015) Adverse Childhood Experiences: Informing Best Practices [Online collaborative living document]. Retrieved from: [http://www.avahealth.org/aces\\_best\\_practices/](http://www.avahealth.org/aces_best_practices/)
- <sup>8</sup> Sachs-Ericsson, N., Kendall-Tackett, K., Hernandez, A. (2007) [Childhood abuse, chronic pain, and depression in the National Comorbidity Survey - ScienceDirect](https://doi.org/10.1016/j.chab.2007.04.005) [Abstract]. *Child Abuse & Neglect*, 31,(5). <https://www.sciencedirect.com/science/article/abs/pii/S0145213407000889>
- <sup>9</sup> Beal, S.J., Kashikar-Zuck, S., King, C., Black, W., Barnes, J., Noll, J.G. (2020) Heightened Risk for Pain in Young Adult Women with a History of Childhood Maltreatment: A Prospective Longitudinal Study. *Pain*, 161(1). 156-165. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6923597/pdf/nihms-1540428.pdf>
- <sup>10</sup> Academy on Violence and Abuse. (2007, April 6) *Lecture on child maltreatment and brain consequences, by David McCollum, MD*. [Video], [Uploaded 2011, January ]. <https://www.bing.com/videos/search?>

[q=childhood+abuse+chronic+pain+youtube+brain+changes&qsn=&sp=-1&pq=childhood+abuse+chronic+pain+youtube&sc=0-36&sk=&cvid=D2E8B0D8436F4719AE5DB7B1813F5C50&sid=10A628DA1C0D6084322D385A1D3061C5&jsoncbid=0&ru=%2fsearch%3fq%3dchildhood%2520abuse%2520chronic%2520pain%2520youtube%2520brain%2520changes%26qs%3dn%26form%3dQBRE%26sp%3d-1%26pq%3dchildhood%2520abuse%2520chronic%2520pain%2520youtube%26sc%3d0-36%26sk%3d%26cvid%3dD2E8B0D8436F4719AE5DB7B1813F5C50%26sid%3d10A628DA1C0D6084322D385A1D3061C5%26format%3dsnrjson%26jsoncbid%3d0&view=detail&mmscn=vwrc&mid=FD37AD09769678221B4DFD37AD09769678221B4D&FORM=WRVORC](https://pubmed.ncbi.nlm.nih.gov/19111111/)

<sup>11</sup> Tietjen, G.E., Brandes J.L., Peterlin, B.L., Eloff, A., Dafer, R.M., Stein, M.R., Drexler, E., Martin, V.T., Hutchinson, S., Aurora, S.K., Recober, A., Herial, N.A., Utley, C., White, L., Khuder, S.A. (2009). Childhood maltreatment and migraine (Part III): Association with comorbid pain conditions. <https://headachejournal.onlinelibrary.wiley.com/doi/full/10.1111/j.1526-4610.2009.01558.x>

<sup>12</sup> Lazenblatt, A. (2010) The impact of abuse and neglect on the health and mental health of children and young people. [Research Briefing]. *National Society for the Prevention of Cruelty to Children*. [www.nspcc.org.uk/inform](http://www.nspcc.org.uk/inform)

<sup>13</sup> Brown, R.C., Plener, P.L., Braehler, E., Fegert J.M., Huber-Lang, M. (2018). Associations of adverse childhood experiences and bullying on physical pain in the general population of Germany. *Journal of Pain Research*, 11, 3099-3108. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6287510/>

<sup>14</sup> Ibid.

<sup>15</sup> Powers, A., Fani, N., Pallos, Stevens, J., Ressler K.J., Bradley, B. (2014). Childhood abuse and the experience of pain in adulthood: The mediating effects of PTSD and emotion dysregulation on pain levels and pain-related functional impairment. *Psychosomatics*, 55(5). 491-499. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3997632/>

<sup>16</sup> Danese, A., Caspi, A., Williams, B., Ambler, A., Sugden, K., Mika, J., Werts, H., Freeman, J., Pariante, C.M., Moffat, T.E., Arseneault, L. (2011). Biological embedding of stress through inflammation processes in childhood. *Molecular Psychiatry*, 16 (3) 244-246. doi: 10.1038/mp.2010.5

<sup>17</sup> Center on the Developing Child (Harvard University) (n.d.) What Are ACES? And how do they relate to toxic stress? Retrieved from: <https://developingchild.harvard.edu/resources/aces-and-toxic-stress-frequently-asked-questions/>

<sup>18</sup> Center on the Developing Child [Harvard University](n.d.) In brief: The science of early childhood development. <https://46y5eh11fhgw3ve3ytpwxt9r-wpengine.netdna-ssl.com/wp-content/uploads/2007/03/InBrief-The-Science-of-Early-Childhood-Development2.pdf>

<sup>19</sup> Center on the Developing Child (Harvard University) (n.d.) What Are ACES? And how do they relate to toxic stress? Retrieved from:

<https://developingchild.harvard.edu/resources/aces-and-toxic-stress-frequently-asked-questions/>.

<sup>20</sup> Lazenblatt, A. (2010) The impact of abuse and neglect on the health and mental health of children and young people. [Research Briefing]. *National Society for the Prevention of Cruelty to Children*. [www.nspcc.org.uk/inform](http://www.nspcc.org.uk/inform)

<sup>21</sup> [Pressman. \(2019, November 24\). \[Blog Post\] The Functions of the Limbic System. Very Well Health. https://www.verywellhealth.com/the-limbic-system-2488579](https://www.verywellhealth.com/the-limbic-system-2488579)

<sup>22</sup> Dannlowski, U., Stuhrmann, A., Beutelmann, V., Zwanzger, P., Lenzen, T., Grotegerd, D., Domschke, K., Hohoff, C., Ohrmann, J. B., Lindner, C., Postert, C., Konrad, C., Arolt, V., Heindel, W., Suslow, T., Kugel, H. Limbic Scars. (2012). *Biological Psychiatry*, 71, 286-293.

<https://www.biologicalpsychiatryjournal.com/action/showPdf?pii=S0006-3223%2811%2901021-3>

<sup>23</sup> Jackson, W.C. (2021, May 11). Connecting the Dots: How Adverse Childhood Experiences Predispose to Chronic Pain. Practical Pain Management.

<https://www.practicalpainmanagement.com/treatments/psychological/connecting-dots-how-adverse-childhood-experiences-predispose-chronic-pain>.

<sup>24</sup> Academy on Violence and Abuse. (2007, April 6) *Lecture on child maltreatment and brain consequences*, by David McCollum, MD. [Video], [Uploaded 2011, January ]. <https://www.bing.com/videos/search?q=childhood+abuse+chronic+pain+youtube+brain+changes&qsn=&sp=-1&pg=childhood+abuse+chronic+pain+youtube&sc=0-36&sk=&cvid=D2E8B0D8436F4719AE5DB7B1813F5C50&sid=10A628DA1C0D6084322D385A1D3061C5&jsoncbid=0&ru=%2fsearch%3fq%3dchildhood%2520abuse%2520chronic%2520pain%2520youtube%2520brain%2520changes%26qs%3dn%26form%3dQBRE%26sp%3d-1%26pq%3dchildhood%2520abuse%2520chronic%2520pain%2520youtube%26sc%3d0-36%26sk%3d%26cvid%3dD2E8B0D8436F4719AE5DB7B1813F5C50%26sid%3d10A628DA1C0D6084322D385A1D3061C5%26format%3dsnrjson%26jsoncbid%3d0&view=detail&mmscn=vwrc&mid=FD37AD09769678221B4DFD37AD09769678221B4D&FORM=WRVORC>

<sup>25</sup> Center on the Developing Child (Harvard University) (n.d.) [Infograph Text]. What Are ACES? And how do they relate to toxic stress? Retrieved from:

<https://developingchild.harvard.edu/resources/aces-and-toxic-stress-frequently-asked-questions/>

<sup>26</sup> Clarke, D., Schulman, E., McCollum, D., Felitti, V. (2015). Clinical Approaches for Adult ACE Survivors Experiencing Unexplained Physical Symptoms and Health

Problems. Adverse Childhood Experiences: Informing Best Practices [Online collaborative living document]. Retrieved from: [http://www.avahealth.org/aces\\_best\\_practices/](http://www.avahealth.org/aces_best_practices/)

<sup>27</sup> Jackson, W.C. (2021, May 11). Connecting the Dots: How Adverse Childhood Experiences Predispose to Chronic Pain. Practical Pain Management. <https://www.practicalpainmanagement.com/treatments/psychological/connecting-dots-how-adverse-childhood-experiences-predispose-chronic-pain>