

## I. The Adverse Childhood Experiences (ACE) Studies

The adverse childhood experiences (ACE) studies show that trauma in childhood increases risk for autoimmune <sup>1</sup> and other chronic diseases, additional health problems later in life <sup>2</sup> and in future generations. A [Kaiser-CDC study](#) with over 17,000 participants identified this connection. Results have been reproduced in other studies with different populations <sup>3</sup> and a continuation of the original study with over [400,000 patients](#).

The key point from this body of research is that the effects of childhood trauma are not just psychological. Trauma alters brain development, function and structure; autonomic nervous system regulation; physiology, stress responses <sup>4-6</sup>, and gene function (epigenetics) <sup>7</sup>. The [American Academy of Pediatrics](#) has used this and other research to develop a new policy <sup>4</sup>, [assessment tools](#), and a [trauma toolbox](#) for primary care. For more info: [WHO](#), [CDC](#) <sup>8</sup>, [RWJ](#), [PBS](#) <sup>9</sup>, [NPR](#) <sup>10</sup>, [New York Times](#) <sup>11</sup>, [CBS 60 minutes](#), and news site [ACES Too High](#).

## II. ACEs Increase Risk for Chronic Illnesses and Poor Physical Health <sup>1,2,12</sup>

Asthma	Irritable Bowel Syndrome	Rheumatoid arthritis
Cancer	Inflammatory Bowel Disease	Sjogren's
Celiac disease	Liver Disease	Sleep Disorders <sup>14</sup>
Chronic Fatigue (ME/CFS)*	Lung Disease (Asthma, COPD)	Stroke
Coronary heart disease	Lupus	Thyroid, Grave's
Diabetes, type 1 & type 2	Multiple Sclerosis	Thyroid, Hashimoto's
Fibromyalgia (FMS)*	Myasthenia Gravis	Poor self-related health
Hypertension <sup>13</sup>	Obesity	** more listed on <a href="#">website</a>

\* similar findings in articles on chronic fatigue (ME/CFS) <sup>15</sup>, fibromyalgia <sup>16</sup> & unexplained symptoms

## III. How Are ACEs Measured? ACE Score is based on a maximum of 10 points

The ACE questionnaire asks about exposure to 10 specific types of trauma from 0-18 years of age. Original Qs were drawn from areas in public health for which national programs were being developed in the 1990s. Other types of trauma also increase risk (accidents, unsafe neighborhood, etc). 1 point for any event per category.

1 _ Physical abuse (Stats: 1 in 3.5 Americans)	6 _ Loss of a parent from divorce or separation
2 _ Sexual abuse (1 in 5)	7 _ Violent treatment of mother (1 in 10)
3 _ Emotional abuse (1 in 9)	8 _ Member of household mental illness (1 in 5)
4 _ Physical neglect	9 _ Member of household jailed (1 in 30)
5 _ Emotional neglect	10 _ Member of household substance abuse (1 in 4)

## IV. ACE & Chronic Illness Facts & Stats

- 63% of population In U.S. has ACE score  $\geq 1$ ; 25% an ACE score of 2; 12.5% ACE  $\geq 4$  <sup>2</sup> (see [CDC](#))
- Life expectancy Is 20 years shorter if ACE  $\geq 6$  <sup>2</sup>; premature death 2x higher with ACE  $\geq 4$  <sup>12</sup>
- Dose response Risk increases with additional ACEs <sup>2</sup>; age of onset decreases <sup>6,17</sup>
- C reactive protein Indication of inflammation, is higher with a history of ACEs <sup>1</sup>
- Amplifies risk ACEs may increase sensitivity to other risk factors such as infections <sup>1</sup>
- Multigenerational Maternal ACEs increase child's risk physical / emotional health conditions <sup>4,18</sup>
- Treatment When Drs ask about ACEs it validates, removes blame <sup>19,20</sup>, & offers [new tools](#)
- Book & How To ACEs Overview & how one medical Dr screens for ACEs: [The Deepest Well](#) <sup>21</sup>
- Autoimmune disease 20% increased risk with each additional point in ACE score <sup>1</sup>; A [recovery story](#) <sup>22</sup>
- Hospitalizations  $\geq 70\%$  higher for autoimmune disease with ACE of  $\geq 2$  vs ACE of 0 <sup>1</sup>

## References

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## Adverse Childhood Experience (ACE) Questionnaire

1. Did a parent or other adult in the household often or very often... Swear at you, insult you, put you down, or humiliate you? or Act in a way that made you afraid that you might be physically hurt?  
No \_\_\_ If Yes, enter 1 \_\_\_
2. Did a parent or other adult in the household often or very often... Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured?  
No \_\_\_ If Yes, enter 1 \_\_\_
3. Did an adult or person at least 5 years older than you ever... Touch or fondle you or have you touch their body in a sexual way? or Attempt or actually have oral, anal, or vaginal intercourse with you?  
No \_\_\_ If Yes, enter 1 \_\_\_
4. Did you often or very often feel that ... No one in your family loved you or thought you were important or special? or Your family didn't look out for each other, feel close to each other, or support each other?  
No \_\_\_ If Yes, enter 1 \_\_\_
5. Did you often or very often feel that ... You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?  
No \_\_\_ If Yes, enter 1 \_\_\_
6. Were your parents ever separated or divorced?  
No \_\_\_ If Yes, enter 1 \_\_\_
7. Was your mother or stepmother: Often or very often pushed, grabbed, slapped, or had something thrown at her? or Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard? or Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?  
No \_\_\_ If Yes, enter 1 \_\_\_
8. Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?  
No \_\_\_ If Yes, enter 1 \_\_\_
9. Was a household member depressed or mentally ill, or did a household member attempt suicide?  
No \_\_\_ If Yes, enter 1 \_\_\_
10. Did a household member go to prison?  
No \_\_\_ If Yes, enter 1 \_\_\_

**Now add up your "Yes" answers: \_\_\_\_\_ This is your ACE Score**

**NOTE:** In addition to the 10 specific types of trauma on the ACE questionnaire, other serious life events also increase risk for chronic illness, mental health conditions and other difficulties. Such events include the death of any close relative (when a parent, sibling or grandparent dies, for example, it affects a parent's experience and consequently their ability to be emotionally present and available to their children etc); abuse of any member of the household and not only the mother; and much more.

As [neurologist and traumatologist Dr. Robert Scaer](#) states, "any negative life event occurring in a state of relative helplessness--a car accident, the sudden death of a loved one, a frightening medical procedure, a significant experience of rejection--can produce the same neurophysiological changes in the brain as do combat, rape, or abuse. What makes a negative life event traumatizing isn't the life-threatening nature of the event, but rather the degree of helplessness it engenders and one's history of prior trauma.