



ACE Score: 5

Adverse Childhood Experiences

A Toolkit for Specialists

ACEs – A Toolkit for Specialists

Dear Colleague,

Traumatic childhood events such as abuse, neglect, and household dysfunction, are risk factors for many of the leading causes of disease, death and social problems as adults. Known as adverse childhood experiences (ACEs), these types of events are common, with nearly two-thirds of adults reporting at least one ACE¹. ACEs can create dangerous levels of toxic stress that negatively impact a child’s developing brain, which in turn can increase the risk for coronary artery disease (CAD), chronic pain, alcohol use disorder, depression, and dozens of other illnesses^{1,2}. ACEs have also been associated with increased likelihood of hospitalization for autoimmune diseases, like idiopathic myocarditis and rheumatoid arthritis³, as well as more severe damage from systemic lupus erythematosus⁴. The health effects of ACEs have been described as “one’s biography becoming biology”⁵.

The good news is that studies show that increased resilience can bring back health and hope to a patient’s life. In the Kootenay Boundary, Shared Care and the Division of Family Practice have been supporting practitioners to understand ACEs, implement ACE history taking, and incorporate trauma-informed and resilience-building approaches into practice. Trauma informed care builds naturally on skills we already have as specialist care providers; listening, compassion, empathy and validation. This approach is a powerful tool for health care providers and their patients to overcome the effects of ACEs.

Thanks to the leadership of KB practitioners, over half of primary care practitioners in Kootenay Boundary participated in one or more learning sessions on ACEs and trauma informed care during 2019-2020. An understanding of ACEs is also important for us as specialists. We may often be one of the only medical points of contact for unattached or otherwise vulnerable patients. The addition of an ACE focused “lens” will help optimize the specialist care we already provide for our patients and their families, and support our primary care colleagues.

This toolkit is designed to help specialists understand how knowledge of ACEs can be incorporated into care and improve the patient experience. Together, we are all moving the needle on a fundamental recognition and incorporation of trauma as a determinant of health.

Sincerely,

Dr. Carolyn Stark FRCPC (Psychiatry), Dr. Shiraz Moola FRCPC (Ob/gyn)

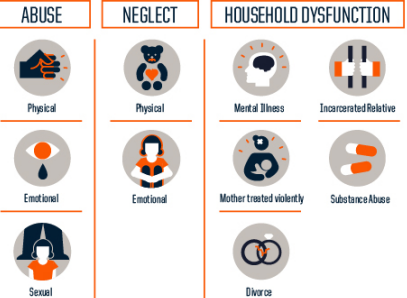
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THE TRUTH ABOUT ACEs

WHAT ARE THEY?

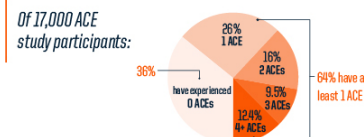
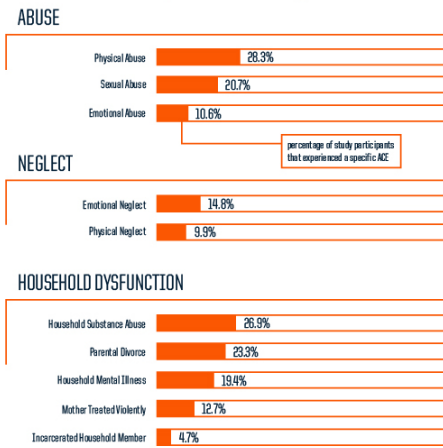
ACEs are
ADVERSE CHILDHOOD EXPERIENCES

The three types of ACEs include



HOW PREVALENT ARE ACEs?

The ACE study* revealed the following estimates:

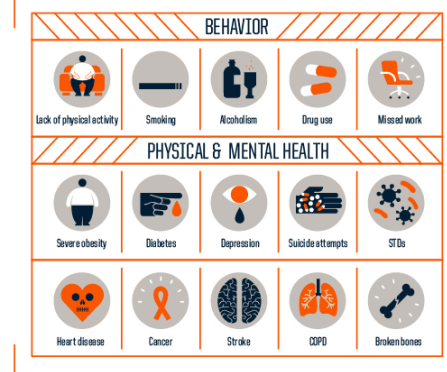


WHAT IMPACT DO ACEs HAVE?

As the number of ACEs increases, so does the risk for negative health outcomes



Possible Risk Outcomes:

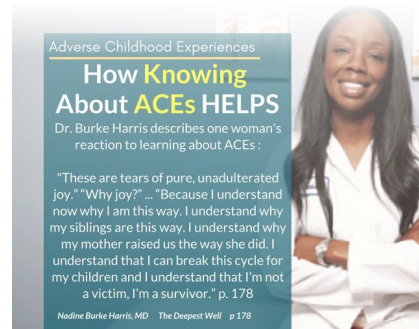


What is the ACE Questionnaire?

The Adverse Childhood Experience (ACE) Questionnaire asks about ten experiences before age 18. One point is assigned to each question answered “yes” and the total represents an individual's ACE score.

Five ACEs are personal:	Five ACEs are related to family members:
<ul style="list-style-type: none"> • Verbal abuse • Physical abuse • Sexual abuse • Physical neglect • Emotional neglect 	<ul style="list-style-type: none"> • Caregiver who had problematic substance use • Family member incarcerated • Family member diagnosed with a mental illness • Incidence of domestic violence in the home • Disappearance of a caregiver through divorce, death or abandonment

The ACE Questionnaire focuses on these ten childhood events as they were found to be the most common experiences of childhood trauma. There are, of course, other types of childhood trauma beyond these ten. If your patient experienced other types of toxic stress over months or years, those will also likely increase risk of negative health outcomes as well. It is also important to note that the overall score is what is important, not the individual questions, as each type of adverse experience has been shown to be equally impactful ⁶.



What impact does a history of adverse childhood experiences have on health?

The ACE score has an independent, cumulative, dose-response relationship with numerous negative physical and mental health outcomes later in life. Studies suggest that patients with a history of ACEs may be at risk of higher rates of particular surgeries and increased postoperative complications and decreased overall improvement after recovery ^{7,8}. Certainly it is clear that patients with greater ACEs are more likely to suffer chronic health ailments ⁹ which then in turn may require specialist care.

Rates of liver disease, COPD and coronary artery disease are higher in patients with greater ACEs. Strong relationships have been reported between ACE score and coronary artery disease, **even AFTER correcting for all the conventional risk factors like smoking, cholesterol, etc⁶**. Similarly, childhood abuse is associated with significantly increased lung cancer risk, even when adjusting for smoking ¹⁰, and the odds of liver disease was higher in those with elevated ACE scores after controlling for major risk factor behaviours ¹¹.

The table below shows the increased risk of health problems or chronic disease of someone with an ACE score of 4 compared to someone with an ACE score of 0 ¹.

Health Problem	Adjusted* Odds Ratio	Disease Condition	Adjusted* Odds Ratio
Current Smoker	2.2	Ischemic heart disease	2.2
Severe obesity	1.6	Any cancer	1.9
Depression	4.6	Stroke	2.4
Ever attempted suicide	12.2	Chronic bronchitis	3.9
Self-reported alcohol use disorder	7.4	Diabetes	1.6

* Adjusted for age, sex, race, and educational attainment

Neuroscience tells us that there are two mechanisms by which adverse childhood experiences transform into biomedical disease:

- Adoption of maladaptive coping behaviours (e.g. over-eating, problematic substance use)
- Chronic stress response resulting in increased allostatic load, which negatively impacts health and wellbeing, **even without the presence of health risk behaviours.**

As well as the above, a variety of other negative health and social problems are associated with a history of ACEs.

Adult negative health outcomes associated with history of ACEs*

Health Problem	Social Problems
COPD	Obstetrical complications
Gastrointestinal disease	Concurrent mental health conditions and substance use disorders
Headaches	Post-traumatic stress disorder
Sleep disturbance	Borderline personality disorder
Fracture	
Somatic pain	
Anxiety	
	Challenges at work and school
	Intimate partner violence
	Sexual violence
	Unintended pregnancy
	Poor quality of life
	Psychological distress
	Low socioeconomic status

* From the *Adverse Childhood Experiences (ACEs) and Trauma-Informed Practice* [Draft Guidelines - GPAC BC March 2020](#)

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The ACE Questionnaire should not be thought of as a diagnostic tool, as some people with high ACE scores are nevertheless resilient, while some people with low ACE scores struggle with complex health challenges in adulthood. The impact of ACEs events depends on the individual's resilience, support system, and available resources. What one person experiences as traumatic may not be traumatic for another. Rather, understanding a patient's trauma history opens the door for a deeper understanding of our patients, and helps change the narrative from "what's wrong with this patient" to "what happened to this patient?"

"Sometimes it's more than the tool, it's about helping people understand the big picture. I use it when it's going to be helpful in moving the conversation." – Dr. Cindy Loukras

"Recognition that a patient's biography influences their current and future biology gives us another lens by which we can focus our specialist skills to optimize their care" – Dr. Shiraz Moola

"I find patient's feel much safer and trusting when their past trauma experiences are recognized and identified. The ACEs questionnaire is an excellent tool to explore this. I can't imagine truly understanding a patient without this key element of their history" – Dr. Carolyn Stark

"It's really important [for physicians] to be super compassionate to people who have been through trauma in their childhood and who have experienced health issues. It's really difficult, a long road. I feel a little compassion and a little kindness can go a long way in a person's life when they're struggling with health issues and stuff." – KB patient



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Identifying history of ACEs in a referral

When receiving a referral letter, you may see ICD9 code V154 "Personal history of psychological trauma presenting hazards to health" in the problem list, which indicates a history of ACEs. Primary care practitioners are recording the history of ACEs in their EMR in the same way that other risks like smoking or alcohol consumption are recorded.

ACEs have a graded effect, meaning the higher the ACE score, the greater the impact on negative health outcomes. Common practice of coding in the EMR occurs when the ACE score is 4 or more. An ACE score of 1-3 may also be coded if it is determined that the trauma history is negatively impacting the patient's life and wellbeing.

Recording ACEs in the EMR allows it to be drawn automatically into referral letters, allowing important information to be shared between the primary care provider and specialist. Although V154 does not code perfectly, this is the ICD9 code that was identified as the best fitting for a history of ACEs. Some primary care providers may also record an ACE score under social history in the patient's chart rather than ICD 9 coded.

How do I incorporate knowledge of ACEs into treatment?

Creating experiences of safety, validation, and relationship-based connection can help facilitate trauma healing and improve patient experience¹². If you have a patient with a history of ACEs, these are some simple things that can be incorporated into your approach:

- **Offer choice** – Give as much control and choice to the patient as possible about what happens and when.
- **Explain** – Take time to explain what each procedure is and obtain consent before you perform any physical examination. Be clear that the patient may pause or end the exam or procedure at any time.
- **Encourage** – Encourage your patient to ask questions. Be straightforward and generous with information.
- **Validate** – Use validating statements to reassure the patient that concerns they may have are understandable and normal.

Examples of Validating Statements

"I can see this is important to you."

"I can see that you are [upset, sad, frightened, scared]"

"Here's what I'm hearing you say" [Summarize with fact checking]

"I know you're scared. It's going to be hard... and I know you will figure it out."

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- **Be flexible** – Ask your patient if they would like to have a support person in the room for a consult.
- **Create safety** – Ask your patient if they have any worries about any aspect of the exam or medical intervention. The patient might also feel safer with the door ajar, opened, or closed, if it's possible.
- **Listen** – Listening and accepting is itself an intervention that can support patient health outcomes and promote healing.

Should specialists be doing ACE history taking?

While ACE history taking might not be the right fit for all types of specialist practices, if you are interested in learning more about ACE history taking and how it can be introduced into your specialist practice, please see the **ACE Toolkit for Family Practitioners**: bit.ly/KBACES

Additional Resources for Practitioners

Alberta Youth and Family Wellness: The Brain Story Certification
albertafamilywellness.org/training

ACES Connection: acesconnection.com/

San'yas Indigenous Cultural Safety Training from the Provincial Health Services Authority: sanyas.ca

Resources for Patients, Online Resources/Crisis Phone Lines:

B211: bc211.ca

- An online resource directory providing information and referral regarding community, government and social services in BC.

Anxiety Canada: anxietycanada.com

- Includes the MindShift App, video library, online workshops, resource links and more for children, teens and adults.

Mental Health Information Line: 310-6789

- Toll-free, 24 hours a day, 7 days a week phone line with provincial access to confidential emotional support, information and resources specific to mental health.

Interior Crisis Line Network - West Kootenays: 1-888-353-2273

- Toll free, 24 hours a day, 7 days a week phone line answered by trained staff and volunteers who are available to listen, provide information, referral and support in an anonymous and confidential manner. Offers suicide intervention, information about community services and non-judgemental support during challenging times.

KB Fetch: kb.fetchbc.ca

- A website for the communities of the Kootenay Boundary with information on: health services, mental health/counselling, substance use/addictions, basic needs/supports, abuse/neglect, children, youth & families, seniors, education, employment development, legal advocacy and cultural, recreation and social supports.

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KB Searchlight: bit.ly/KB-searchlight

- Interactive map of Kootenay Boundary Child and Youth Mental Health Substance Use Services. Whether you are dealing with mild anxiety, depression, eating disorders, substance use, or suicidal thoughts, KB Searchlight can help link you to the right services in your community.

Section: References

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12. Purkey E. et al. Primary care experiences of women with a history of childhood trauma and chronic disease. *Canadian Family Physician* Mar 2018, 64 (3); p. 204-211. bit.ly/ACEsWCT

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ACE Questionnaires

For Adult: bit.ly/ACEsAdult (see below)

For Children: bit.ly/ACEsChildren

For Youth (Self-Report): bit.ly/ACEsYouthSR

For Youth (Parent/Caregiver): bit.ly/ACEsYouthPC

Appendix A: Adverse Childhood Experiences (ACEs) Questionnaire

Self-rating: PLEASE CHECK ALL THAT APPLY USING CIRCLES BELOW

While I was growing up, before I turned 18:

1. A parent or other adult in the household would often swear at me, insult me, put me down, humiliate me, or act in a way that made me fear I would be physically hurt.
2. A parent or other adult in the household would often push, grab, slap, or throw something at me or would hit me so hard that I had marks or was injured.
3. An adult or person at least 5 years older than me touched or fondled me or had me touch their body in a sexual way or tried to or actually had oral, anal, or vaginal sex with me.
4. I often felt that no one in my family loved me or thought I was important or special or that my family didn't feel close or support or look out for each other.
5. I often felt that I didn't have enough to eat, had to wear dirty clothes, and had no one to protect me or that my parents were too drunk or high to take care of me or take me to the doctor if I needed to go.
6. I experienced a parental death, separation, or divorce.
7. My mother was often pushed, grabbed, slapped, or had something thrown at her or sometimes kicked, bitten, hit with a fist or something hard, or ever repeatedly hit over at least a few minutes or threatened with a gun or knife.
8. I lived with someone who was a problem drinker or alcoholic or who used street drugs.
9. A household member was depressed or mentally ill or attempted suicide.
10. A household member went to prison.

Write the total number of YES answers: _____