

# The Impacts of Physical Maltreatment on Children

Dr. Anna Cheng Wai Fun

Associate Consultant

Department of Paediatrics and Adolescent Medicine

United Christian Hospital

MBCChB, MRCP(UK), MRCPC, FRCPC(UK), FHKAM (Paed), FHKCP, MPH (CUHK)

22 March 2024



## Definition of child maltreatment/abuse

- Child maltreatment is defined as any act of commission or omission that endangers or impacts the physical / psychological health and development of an individual under the age of 18

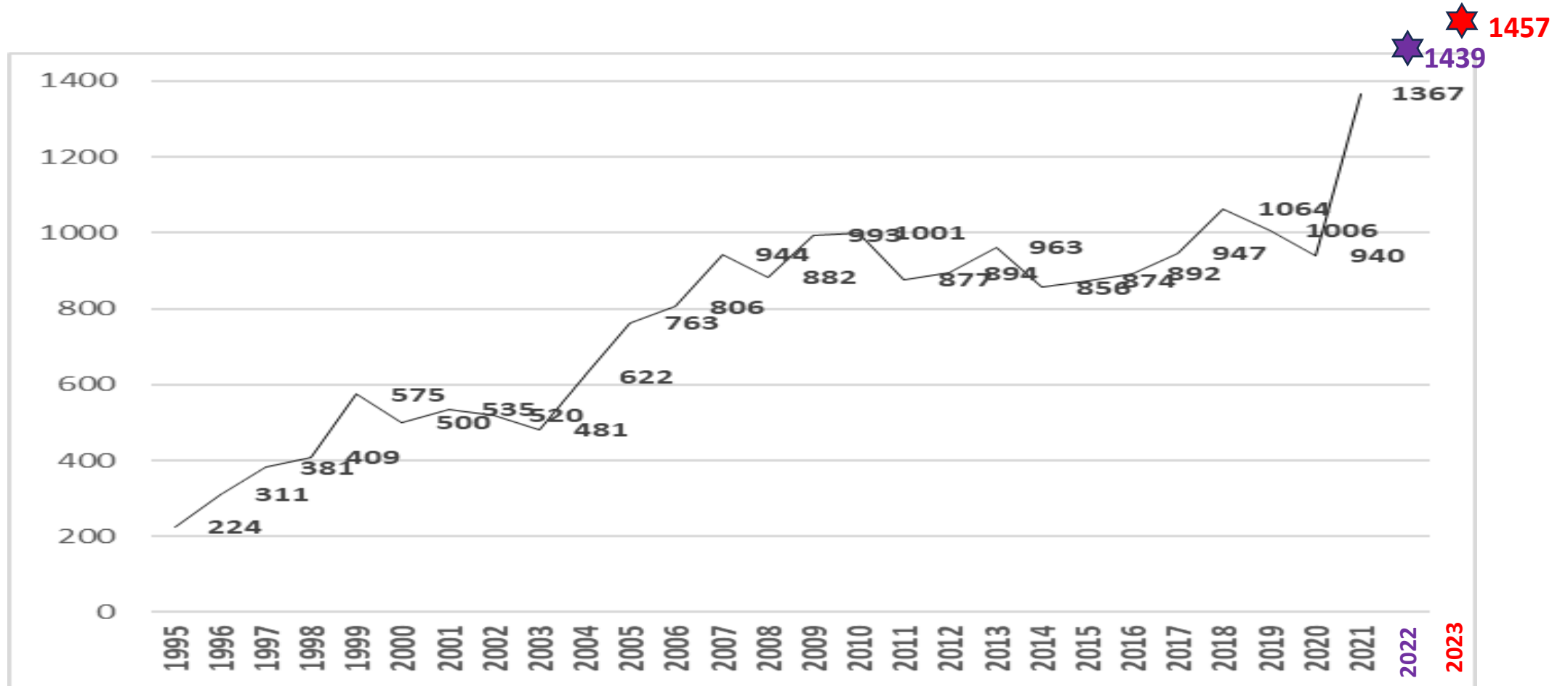
# Definition

- Child abuse and neglect /Child Maltreatment/ child victimization
- Caregiver's fails to provide for the child's health and wellbeing either by **causing an injury** or, as in neglect , by not meeting a basic need
- The unifying theme in all definitions of child maltreatment: Abuse and neglect in the context of either active or passive caregiving behaviour that is **destructive to the normal growth, development , and well-being of the child** (Ludwig 1993).

# Definition of physical abuse

- \*Physical injury or suffering inflicted on a child by violent or other means (punching and kicking , striking with an object, poisoning, suffocation , burning, shaking an infant, throwing, purposely dropping a child or Factitious Disorder Imposed on Another) , where there is a definite knowledge , or a reasonable suspicion that the injury has been inflicted non- accidentally.
- Medical child abuse (Munchausen's Syndrome by Proxy)
- *\*Adapted from the "Protecting children from maltreatment procedural guide for multidisciplinary cooperation, revised 2020"*

# Statistics in Hong Kong



Graph 1 Newly registered child abuse cases in Child Protection Registry - Hong Kong

(Source: Child Protection Registry Statistical Report, Social Welfare Department, HKSAR)

# Newly Registered Child Abuse Case in Child Protection Registry

	2017	2018	2019	2020	2021	2022	2023
Physical Abuse	374	493	430	389	593	652	602 (41.3%)
Sexual Abuse	315	297	305	313	448	443	509 (34.9%)
Neglect	229	237	237	201	275	276	310 (21.3%)
Emotional Abuse / Neglect	5	11	8	10	9	15	7 (0.5%)
Multiple Modalities	24	26	26	27	42	53	29 (2.%)
Total	947	1064	1006	940	1367	1439	1457

# Outcomes of **physical punishment** on children (narrative review summarizes the findings of 69 prospective longitudinal studies)

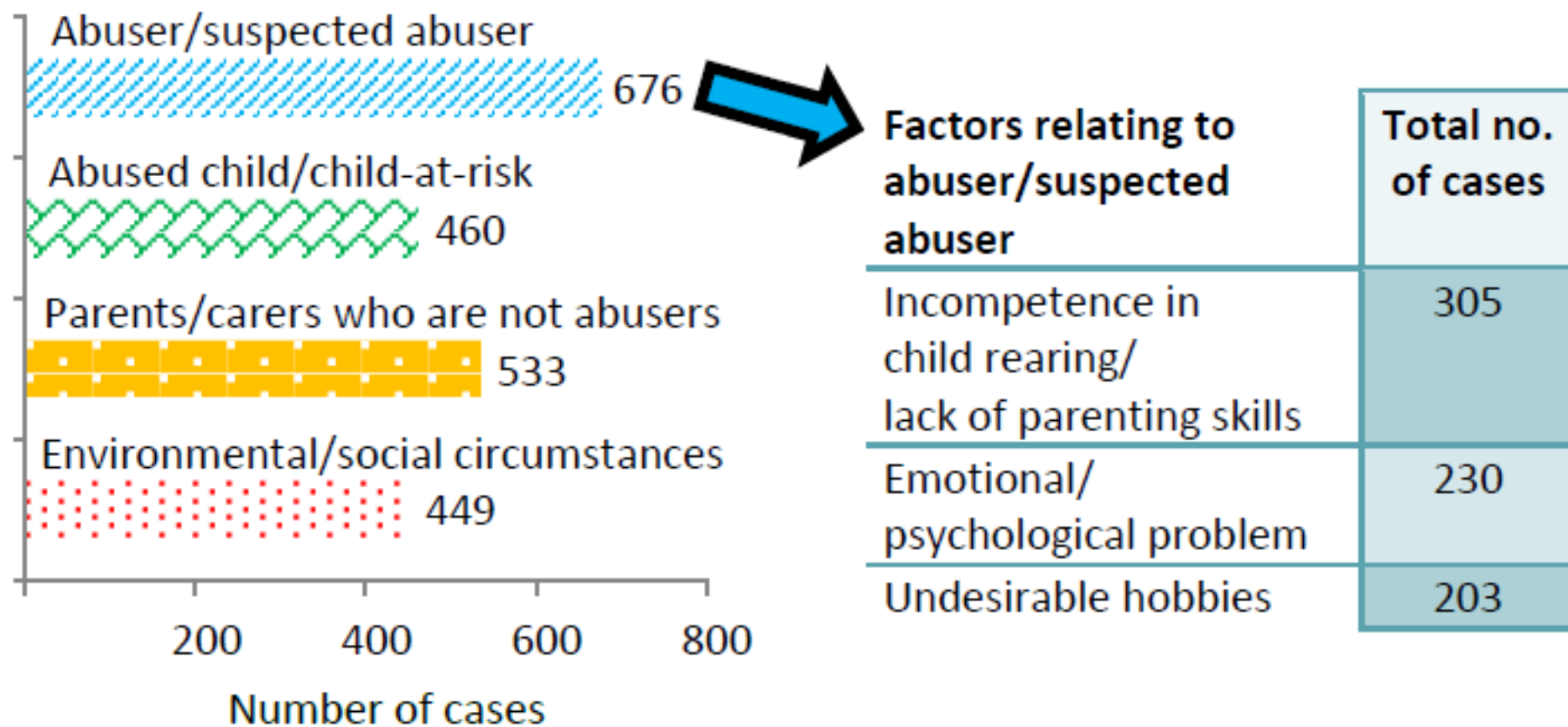
## 7 key themes:

- Consistently predicts **increases in child behavior problems over time**
- Is **not associated** with positive outcomes over time
- Increases the risk of involvement of with **child protection services**
- The **only evidence** of children eliciting physical punishment is for **externalizing** behavior
- Predicts **worsening behaviors over time** in quasi-experimental studies
- Associations between physical punishment and **detrimental child outcomes** are **robust across child and parent characteristics**
- Some evidence of **dose-response** relationship

Physical punishment and child outcomes: a narrative review of prospective studies.

*Lancet* 2021 July 24;398(10297): 355-364. doi.org/10.1016/S0140-6736(21)00582-1

**Figure 2 – Contributing factors of newly reported child abuse cases, 2017**



Note: One case may have more than one contributing factor.



# Helfer's clinical/developmental model of risk factors

## Caregiver factors

- Personal history
- Personality style
- Psychological functioning
- Expectations of the child
- Ability to nurture and assist the child's developmental progress
- Rearing practices modelled during the parent's own upbringing
- Degree of social isolation characteristics of the parent
- His or her ability to ask for and receive help from other individuals in the social network
- Support of the caregiver's partner in assisting with the parenting role
- Ability to deal with internal and external difficulty and coping strategies

# Helfer's clinical/developmental model of risk factors

## **Child factors**

- Prematurity and disability
- Poor bonding with caregiver
- Medical fragility
- Level of medical care of premature children
- Special needs of physically and mentally disabled children
- Child perceived as “difficult”

# Helfer's clinical/developmental model of risk factors

## **Environmental Factors**

- Poverty
- Significant life events
- Caregiver-child interaction patterns
- Caregiver role conflicts

# Mental health and maltreatment risk of children with SEN during COVID-19

- 417 SEN children vs 25427 children studying in mainstream schools,
- online survey in April 2023 in HK during school closures due to COVID-19.
- Children with SEN has significantly poorer overall quality of life (68.05 vs 80.65,  $p < 0.01$ )
- Over 80% children with SEN were victim of psychological aggression
- Over 20% Children with SEN had at least one episode of severe physical assault
- Children with mental disorders were vulnerable to severe physical abuse
- Higher parental stress led to higher risk of maltreatment with SEN

# Symptoms /signs of Physical Abuse

- **Superficial injuries/bruises –most commonest**
- Bone fractures
- Burn or scald
- Intracranial injuries: abusive head injuries/shaken baby syndrome
- Injuries to mouth
- Visceral injuries
- suffocation

# Impacts of physical maltreatment

- **Bodily harm:**
  - Injured children experience physical consequences that vary in severity depending on the type of injury, organ systems involved
- **Shaken baby syndrome**
- **Severe burns**



# 屯門被虐B女小雪兒甦醒 半邊頭至腳癱瘓 醫生指情況不樂觀



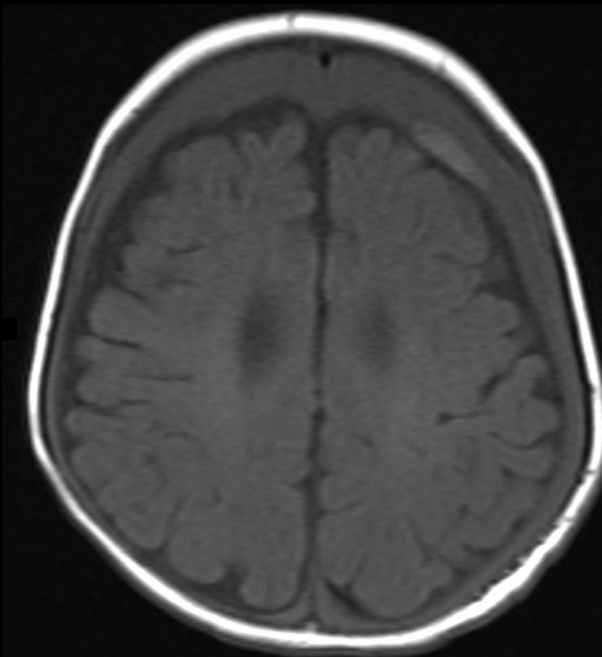
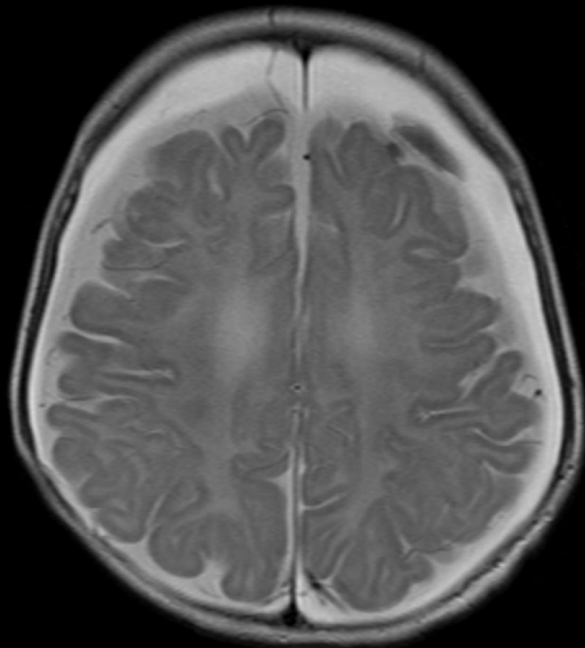
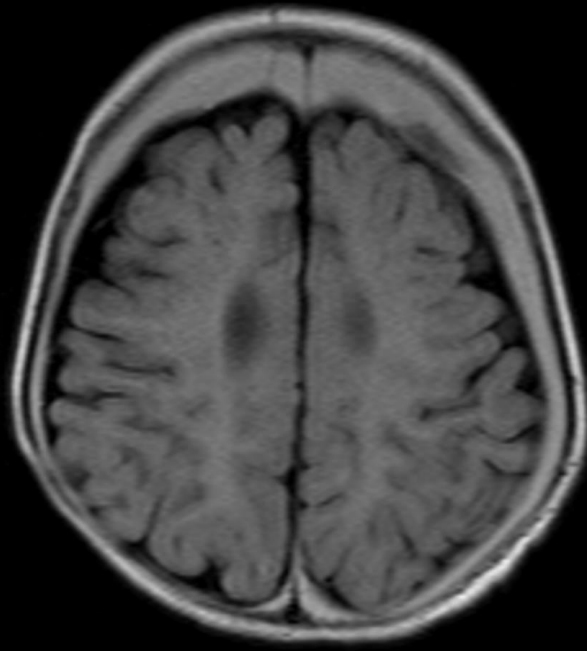
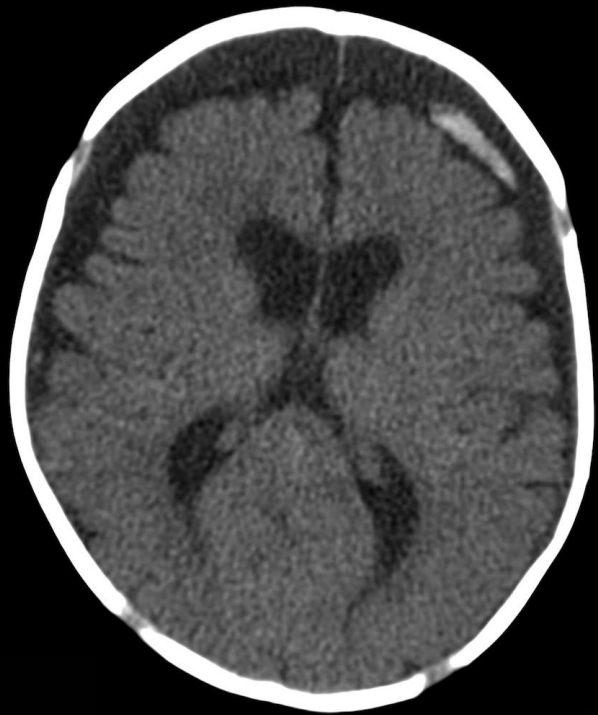
on.cc 東網

2024年3月15日週五 下午12:26



【on.cc東網專訊】屯門一名9個月大女嬰小雪兒，早前交予一名女保母照顧時突然昏迷，母親帶她到醫院求診後發現其腦部有血塊，且左眼腫脹，疑曾遭不恰當對待。其父母今日(15日)向東網表示，女嬰現已甦醒，但醫生指女嬰現時情況並不樂觀。人稱「貓貓校監」的呂校長亦回應東網表示，女嬰已甦醒有喊，但無人知道她是因「睇唔到嘢抑或唔舒服而喊」，又指女嬰現時半邊頭至腳癱瘓，未知會否影響另一邊，情況非常惡劣。屯門醫院發言人表示，小雪兒現時情況穩定，較入院時有明顯進展，該院會繼續密切監察其情況並提供適切治療及支援。





## ILLUSTRATIVE CASE

### High-Impact Trauma Causing Multiple Posteromedial Rib Fractures in a Child

Sarah D. Bixby, MD,\* Alyssa Abo, MD,† and Paul K. Kleinman, MD\*

**Abstract:** Rib fractures in infants and young children are highly associated with abuse. Fractures near the costovertebral junction carry a high specificity for abuse because they result from excessive anteroposterior chest compression, which may occur when a child is gripped around the chest by an assailant. This results in excessive levering of the posterior ribs over the vertebral transverse processes, resulting in fracture near the rib head or neck. We describe a young child involved in a motor vehicle collision who sustained multiple posteromedial and lateral rib fractures in identical locations to those found in victims of abuse. In this patient, the presumed mechanism of injury was consistent with the compressive forces that cause rib fractures in abused infants and young children. This case illustrates how a high-impact traumatic event may cause rib fractures that would otherwise point strongly to abuse.

**Key Words:** child abuse, rib fractures, trauma

(*Pediatr Emer Care* 2011;27: 218–219)

boarded and collared. The patient was brought to a local hospital, where a head computed tomography (CT) scan was obtained and interpreted as normal. Radiographs of the chest, pelvis, and femur were obtained. The right femur x-ray revealed a minimally displaced and angulated distal femur fracture. A chest radiograph demonstrated multiple right-sided rib fractures involving both the posterior and lateral ribs (Fig. 1). The rib fractures included posterior fractures near the costotransverse process articulations of the right fourth through eighth ribs, as well as lateral rib fractures also involving the fourth to eighth ribs (Figs. 2 and 3). The left-sided ribs were intact.

The patient was then transferred to a children's hospital and level 1 trauma center for treatment of his femur fracture. On physical examination, the patient was crying but consolable with stable vital signs, respiratory rate of 29 breaths/min, oxygen saturation 96% on room air, with a normal heart rate and blood pressure. Examination was significant for abrasions on the right



**FIGURE 1.** Anteroposterior chest radiograph in a 13-month-old boy after a motor vehicle accident demonstrates posteromedial (black arrowheads) and lateral (white arrowheads) rib fractures involving the right fourth through eighth ribs. Increased opacity in the right lower lobe is consistent with contusion.



**FIGURE 3.** Three-dimensional reformatted image from a CT of the chest using bone window technique demonstrates multiple fractures of the posteromedial ribs at the costotransverse process junctions (white arrowheads).

- Rib fractures in infants and young children are highly associated with abuse.
- Fractures near the costovertebral junction carry a high specificity for abuse because they result from excessive anteroposterior chest compression, which may occur when a child is gripped around the chest by an assailant.

母有吸冰習慣 死因庭裁死於不幸  
智障童誤服毒亡 官質疑社署無及時接管  
更新時間 (HKT): 2016.03.17 05:20



法庭：冰毒開奶餵B 綜援漢認虐兒

【本報訊】卅八歲綜援漢與同居女友兩度  
將九個月大的兒子「倒樹葱」搖晃，約一  
毒溝水沖奶餵兒子，醫院驗出其兒子的屍



# Fatal & Severe Child Abuse Cases

5歲女疑受虐亡 | 專家證人：女童胸腺  
萎縮如老人 倘吃糞喝尿屬實料承受龐  
大壓力發育倒退 (16:40)



作供醫生拒加個人評論 只望審訊讓父母反思教導孩子的方式

看見不義之事因而氣憤難平，乃屬人之常情，**兒童科顧問醫生關日華在庭上講  
解女童傷勢時**，亦不禁語帶哽咽。但當他於庭外被記者追問「你覺得最匪夷所  
思嘅傷勢係點」、「係咪你見過最嚴重嘅個案」時，他卻堅決拒絕加以個人評  
論，**反而希望審訊能讓父母反思教導孩子的正確方式。**

【林林被虐】7歲女童被疏忽照顧變植物人 母罪成官斥判最高  
10年監禁也不夠



- 大小便均失禁
- 四肢癱瘓
- 身體皮膚多處潰爛，部分深至見骨

本案屬最差的忽略兒童個案，判女被  
告最高10年的監禁刑罰也不足夠。

法官 薛偉成

7歲林林被虐 變植物人醫院渡餘生

5歲女疑受虐亡 | 專家證人何栢良料女  
童生前經常腳痛跌倒 長時間跪地



5歲女童遭虐殺 何栢良引聖經指惡人不得善報 望事件不再重演

望事件喚醒各界留意虐兒事件

他又指，案件是一件不折不扣的人間慘案，兒童應該是未來的主人翁，卻不幸遭到長  
時間的虐待，最終死亡，**悲傷的是期間沒有人施以援手**。何在貼文續指，希望事件可  
以喚醒社會，特別是老師、鄰舍、醫護人員，**要多加留意虐兒事件，勿再「各家自  
掃門前雪」**，在他們有需要的時候及時施以援手，救兒童一命，防止同類不幸事件  
再度發生。

最後，他指公義得到彰顯，亦希望Z可以釋懷，早日安息。

兒科醫生盼家長知應如何教導子女

兒科醫生關日華在作供後指，希望本案給予訊息予家長，**如何正確教導子女**。關指  
出，本案是比較嚴重的個案，但不評論涉案的親父和繼母。

# Adverse Childhood Events

Childhood events varying in severity and often chronic, occurring within a child's family or social environment that cause harm or distress, thereby disrupting the child's physical or psychological health and development

(Kalmakis and Chandler, 2014)

Ten most common adverse exposures: child physical, sexual, and emotional abuse; emotional and physical neglect; parental violence; household mental illness and substance use; parental separation or divorce; and incarcerated household member

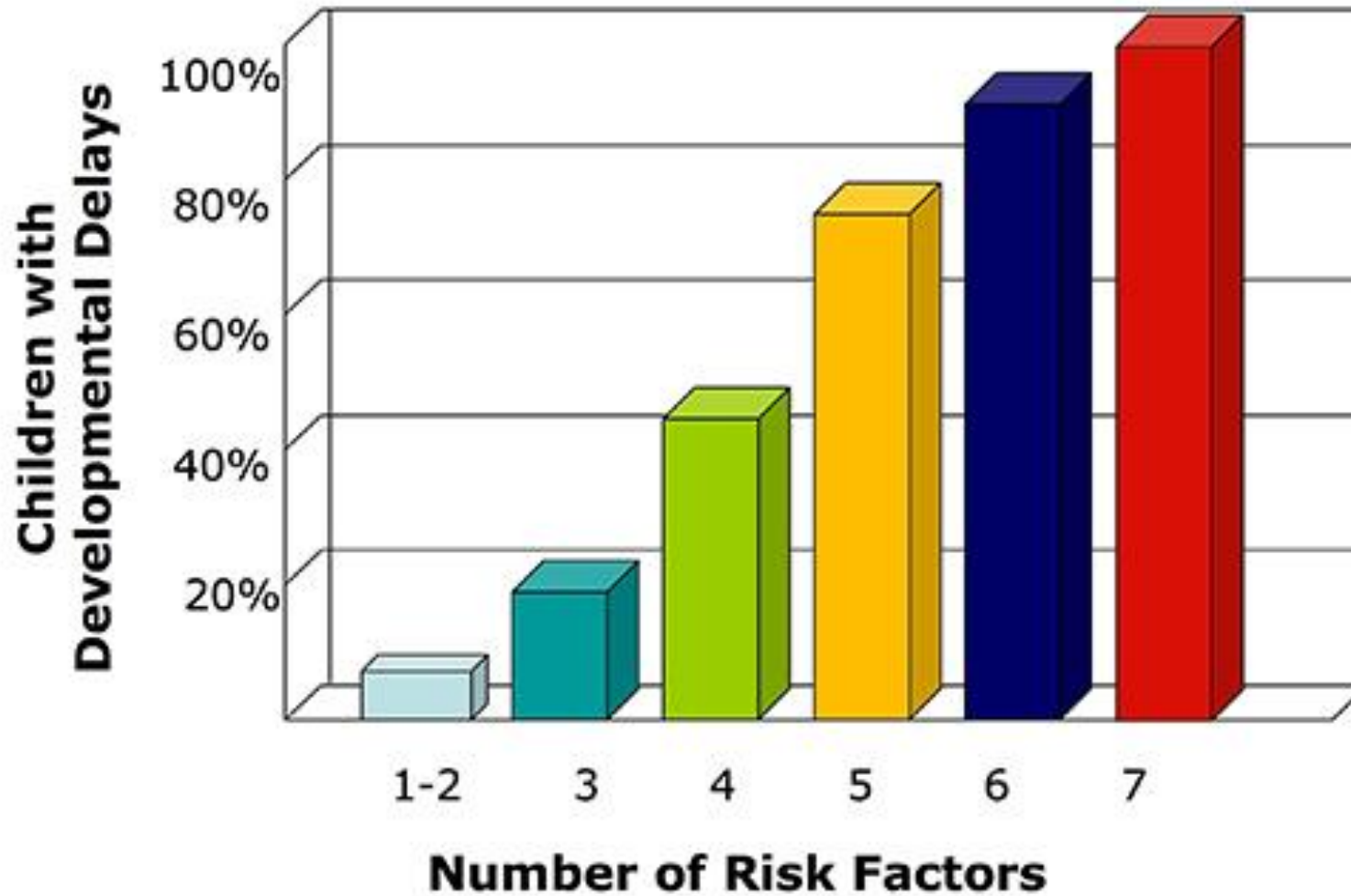
(Dube et al., 2001)

# Impacts

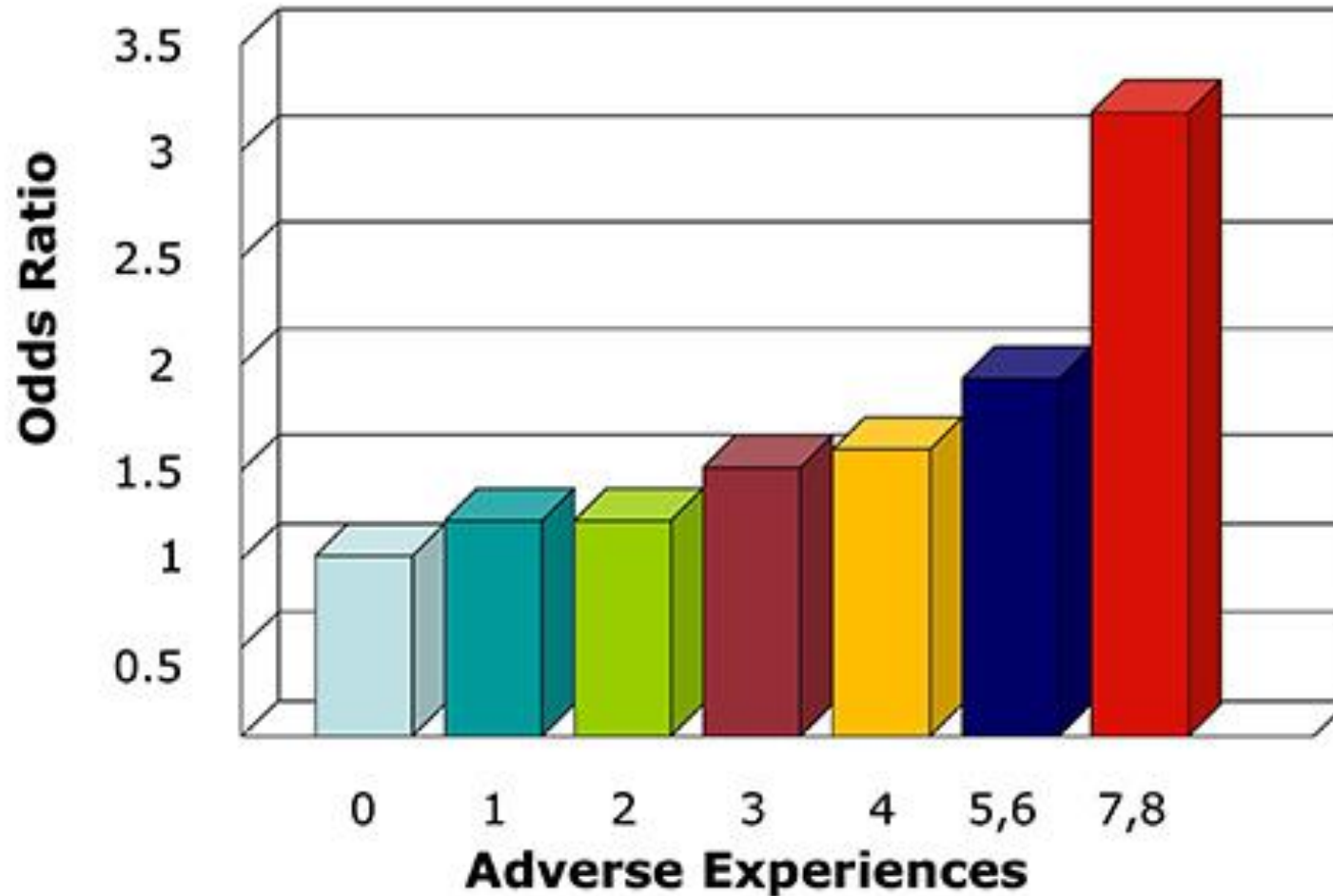
- Felitti et al (1998) ACE studies
- 17421 subjects
- 67% with one ACE
- 12.6%with four or more ACEs

Adverse Childhood experience led to a life course-type approach to understanding the connection of early adversity in childhood to later poor health and early mortality (ACE pyramid).

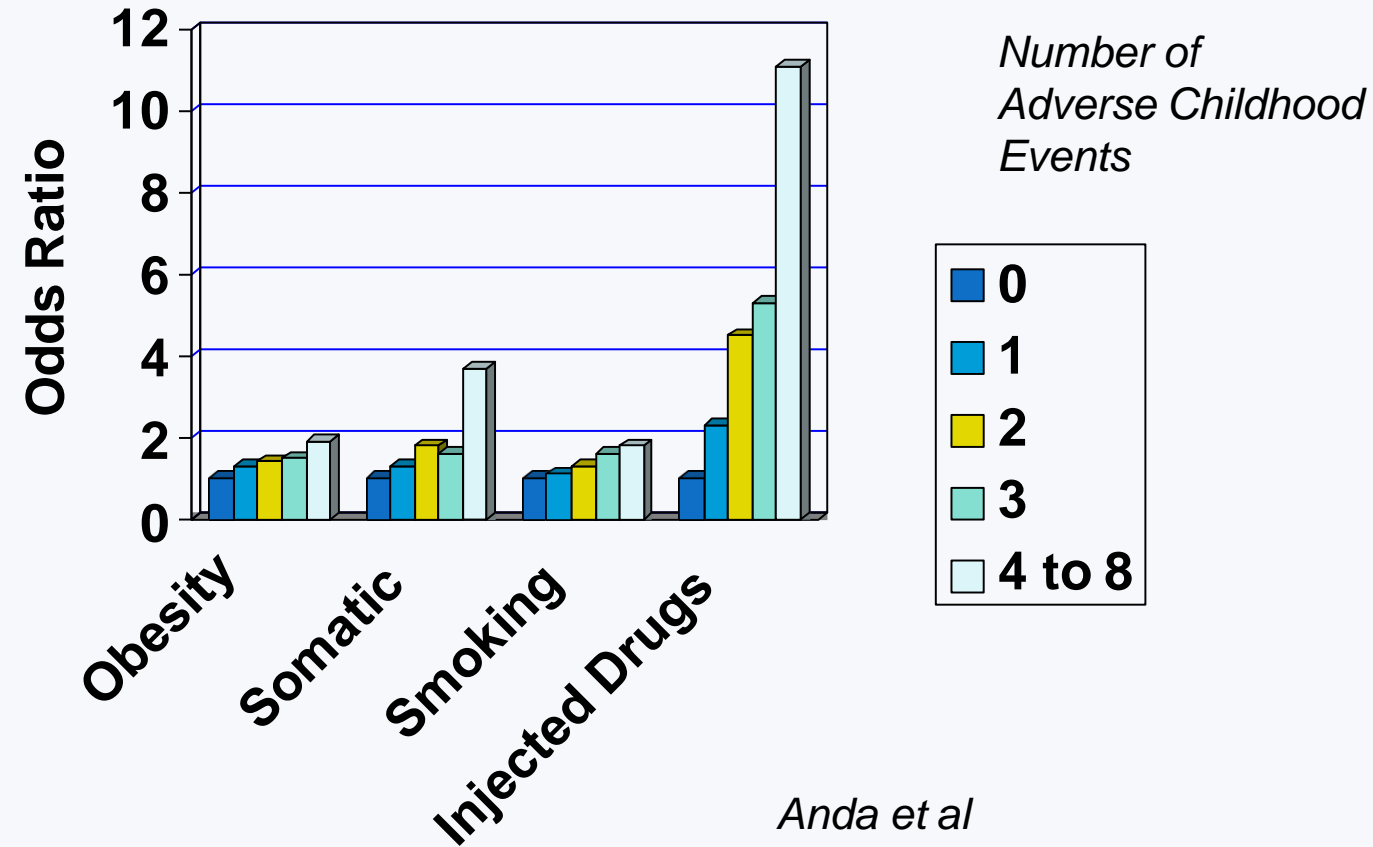
## Significant Adversity Impairs Development in the First Three Years



## Risk Factors for Adult Heart Disease are Embedded in Adverse Childhood Experiences

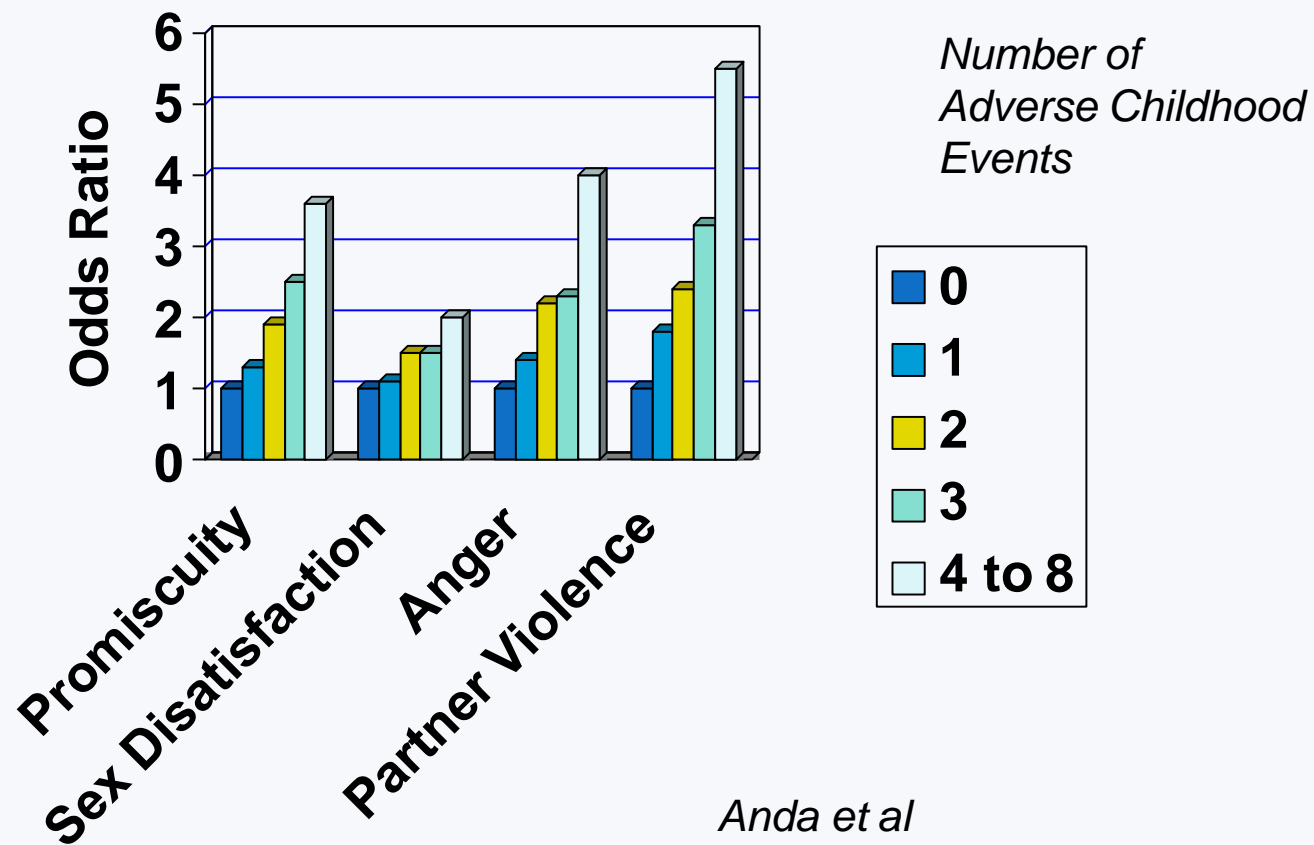


# Number of Adverse Childhood Events Increases Risk for Other Problems





# Number of Adverse Childhood Events increases Risky & Violent Behavior

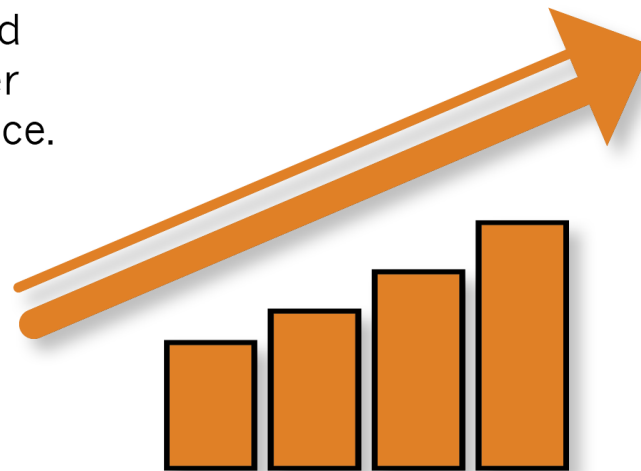
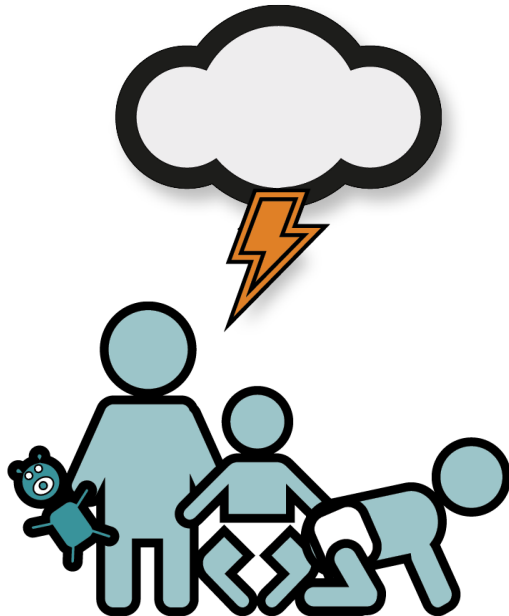


Anda et al

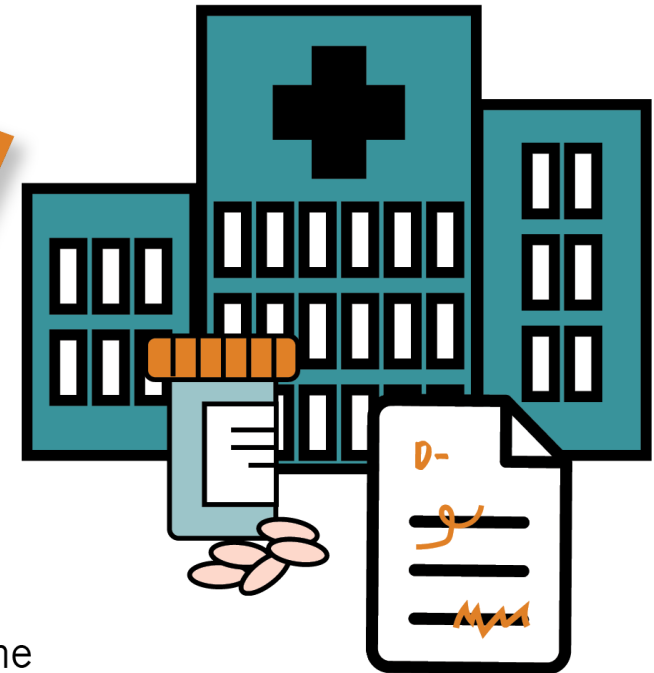
# WHAT ARE ACES?

## AND HOW DO THEY RELATE TO TOXIC STRESS?

“ACEs” stands for “Adverse Childhood Experiences.” These experiences can include things like physical and emotional abuse, neglect, caregiver mental illness, and household violence.



The more ACEs a child experiences, the more likely he or she is to suffer from things like heart disease and diabetes, poor academic achievement, and substance abuse later in life.





## Three Levels of Stress

### Positive

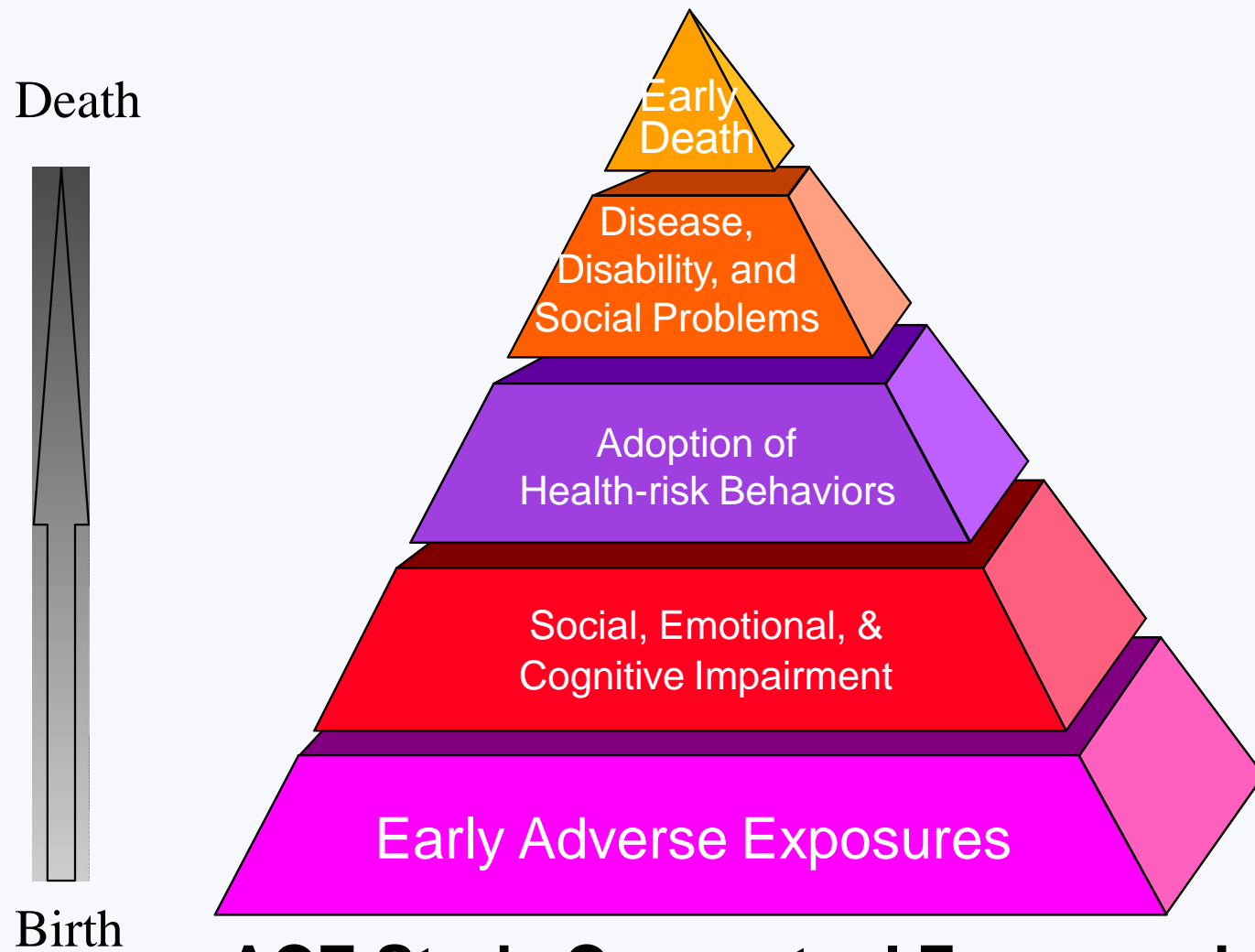
Brief increases in heart rate,  
mild elevations in stress hormone levels.

### Tolerable

Serious, temporary stress responses,  
buffered by supportive relationships.

### Toxic

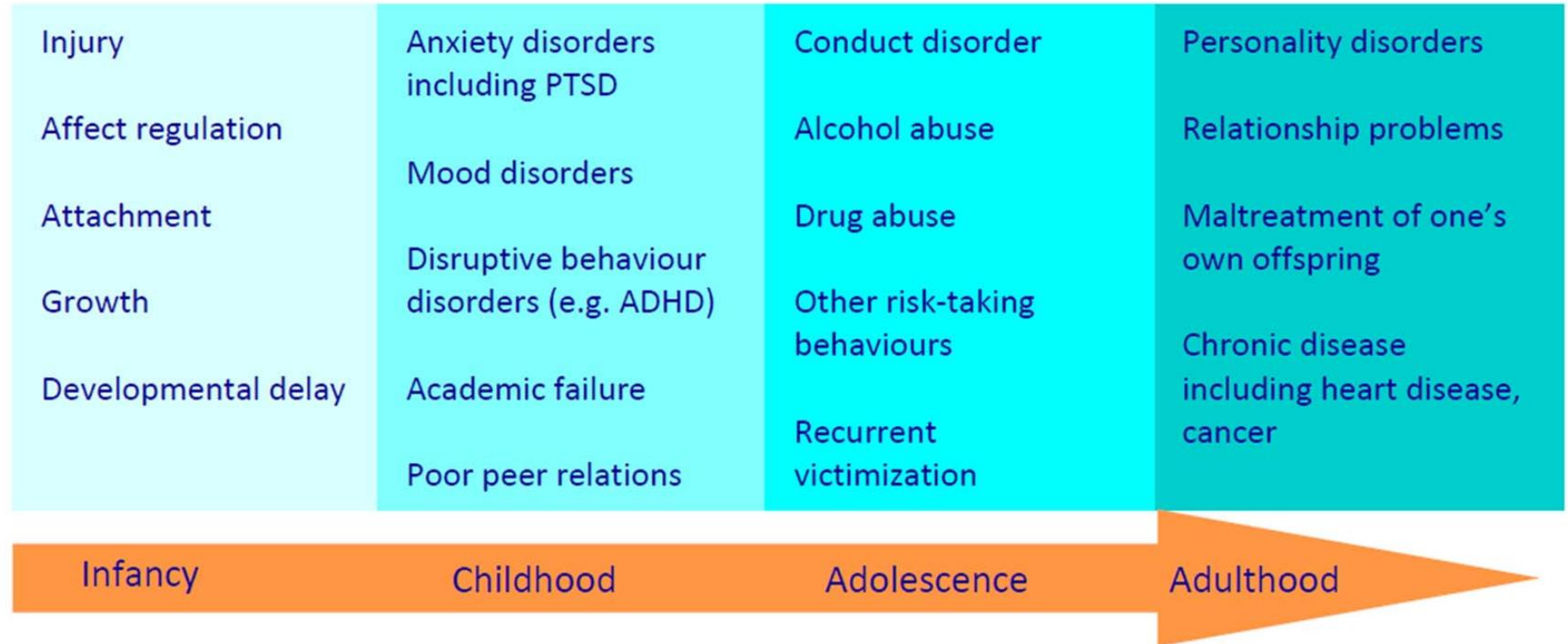
Prolonged activation of stress response systems  
in the absence of protective relationships.



**ACE Study Conceptual Framework:  
Whole Life Perspective**

## ***Effects of child maltreatment***

Child maltreatment may not be directly causal, but it has been associated with the following:

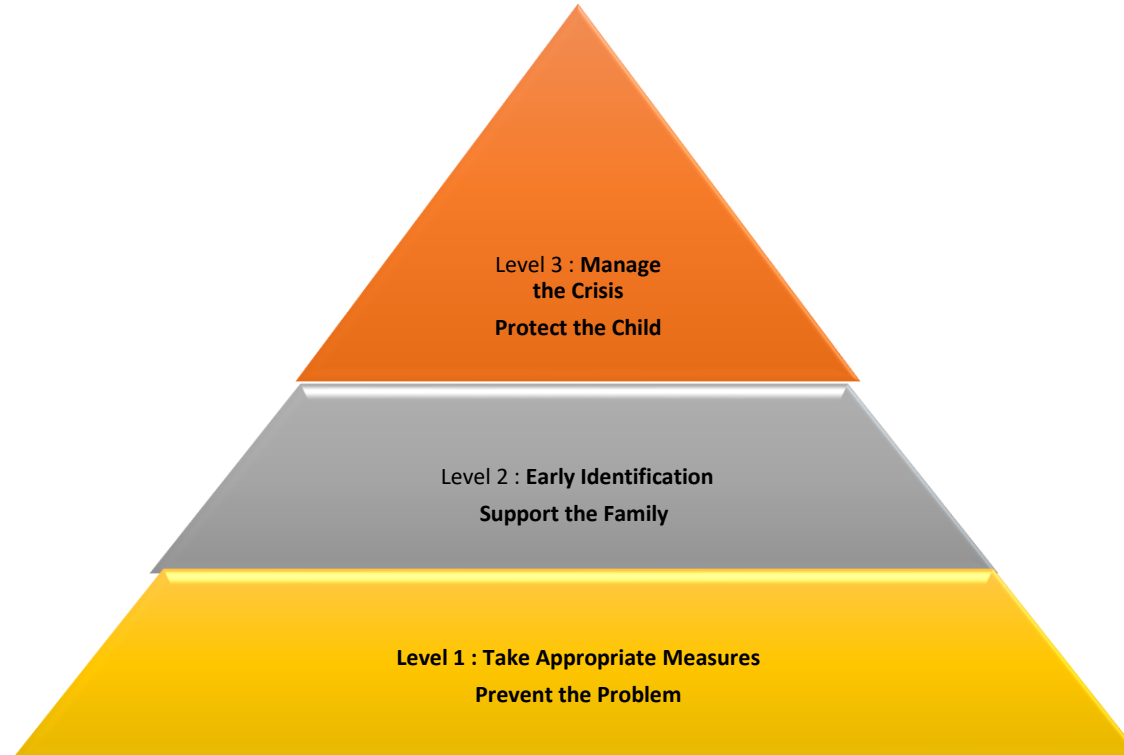


# Costs

- Impacts on the child and family
- Also community and society
- Direct costs(immediate needs): hospitalizations, mental health service, child protection and law enforcement
- Indirect costs long-term needs): special education, juvenile justice, physical healthcare, mental healthcare, adult criminal justice and lost of productivity to the society
- Prevention !!!!!

# Importance of Early intervention

- Three-pronged strategy on safeguarding children's safety (Child Protection Guide, 2020)



# Three levels of Prevention

- **First level of Prevention.**
- Programs, services and resources by different sectors on family life education and primary health care are available in Hong Kong, contributing to the prevention of child maltreatment.
- SWD has launched **district-based programs** to raise the public awareness on the importance of family harmony and cohesion, prevention of domestic violence and child maltreatment. SWD/ACA have also initiated various campaigns with messages to avoid physical punishment, verbal abuse and neglect on children .
- **A non-statutory Child Fatality Review Panel** has been set up since 2011 for reviewing fatal cases of children under 18 years of age who died of natural and non-natural causes, with the aim to make recommendations for enhancing inter-sectoral collaboration and multidisciplinary cooperation to prevent the occurrence of avoidable child deaths (SWD, 2021).



## The Letters in **PURPLE** Stand for



The word **Period** means that the crying has a beginning and an end.

# Three levels of Prevention

- **Second Level of Prevention**
- To identify those children with **higher chance** of being maltreated and **provide the appropriate support and/or timely interventions to their families**, which can ameliorate the serious and long-term impacts on these children.
- There are **certain characteristics in the parents'/carers'** background, life experience, attitudes and behaviors affecting their parenting capacity.
- The **Comprehensive Child Development Service**, in addition to a spectrum of services provided by SWD, NGOs, DH and HA can offer appropriate support and timely intervention to the children and families.
- DH, HA and SWD have developed a **Manual of Parenting Capacity Assessment Framework (0-72 months)** which is used as a reference for the social workers to provide good-enough parenting practice and to identify early the family with risks of child maltreatment.

# Three levels of Prevention

- **Third level of Prevention**
- **To prevent the recurrence of child maltreatment** through actions taken in handling suspected child maltreatment cases and **welfare plan** as recommended in the Multidisciplinary Case Conference on child protection.
- The FCPSU of the SWD, the Child Abuse Investigation Units of the Hong Kong Police Force and the Medical Co-ordinators on Child Abuse of the HA **are specialised units/personnel involved in handling suspected child abuse cases**. Relevant training has been organized to enhance other personnel in different organizations to handle suspected child maltreatment cases.
- With the reference to a **strength-based and safety-focused approach**, the goal of establishing a safety plan among professionals and family members for the best interests of the children can be achieved. While statutory supervision or out-of-home care are required for those children with higher risk of maltreatment, **intensive family-focused therapy under multidisciplinary collaboration** is offered to the families so that a **permanency plan** for these children can be formulated and implemented.



Thank You!

