

DECEMBER 11, 2014

- [THERAPEUTIC-APPLICATION](#)

**The Neurobiology of Christmas – 10 things Parents and Carers can do to help a traumatised child cope with this holiday season**

*This article was co-authored by T'Meika Knapp, Nicole Littler and Caroline Brown, Child Trauma Service Tasmania, at the Australian Childhood Foundation.*

The holiday period around Christmas is a time of celebration and joy for most families. However for many children who have experienced abuse and neglect and are living in alternative care, it can be a stressful and sad time sometimes evoking memories of past (e.g. very little food, no gifts, witnessing arguments, violence, drug/alcohol abuse, feelings of loneliness/isolation). It is also a time when children can become acutely aware of being in foster care. Some of the reasons why include:

- Changes in daily routines & being away from home
- Awareness of others stress levels resulting in further destabilisation
- Reconnecting with family
- Meeting new people
- Visiting new places
- Parties and celebrations
- Sensory overload
- Additional demands on key adults which challenges their capacity to stay attuned

In fact, although a joyful time for many, it is a stressful time for most! Below we have outlined how two children might experience a typical Christmas family gathering at a neurobiological level. The first example is that of a child who has not experienced trauma, and the second shows a child who has.

<b>A child who has not experienced trauma</b>	<b>A child who has experienced trauma</b>
I walk into the lounge room and see a group of people I haven't met very often. Before I know it my Amygdala has clicked into action, sent messages directly back to my motor area in the cerebellum and I've frozen	I'm already a little anxious, and hypervigilant, because due to my higher baseline levels of adrenaline and cortisol that's just what I'm like, plus I'm in a strange house and I'm not sure what all this Christmas fuss is about – apparently we get presents and heaps of food?!?
My hypothalamus is helping me to produce the stress	I walk into the lounge room and see a group of people I

<p>hormones of adrenaline and cortisol in case I need to engage a survival response</p>	<p>haven't met very often before – before I know it my Amygdala has clicked into action, sent messages directly back to my motor area in the cerebellum and I've frozen</p>
<p>Sensory information is being pumped into my thalamus as separate, discrete, pieces of information</p>	<p>My hypothalamus is helping me to produce more stress hormones but unfortunately, this extra influx on top of my already elevated baseline levels is triggering a strong stress response.</p>
<p>My hippocampus scans the situation and compares it to past experiences. Yes this could potentially be a threat, it matches previous experiences of being with unfamiliar people and this definitely warrants further attention</p>	<p>Sensory information is being pumped into my thalamus as separate, discrete, pieces of information each with an overwhelming spike of intensity</p>
<p>My limbic system is cautious; I really don't like groups of people, and definitely not ones I don't know. However, as I do not have a trauma overlay, this is within my window of tolerance for stressful events – my thalamus is not overwhelmed by the stress hormones or the sensory information it's receiving – I am able to bind this information together and send it via the hippocampus to the cortex for an appropriate response.</p>	<p>If my hippocampus is not yet shut down, it's scanning the situation and comparing it to past experiences. But things are starting to look scary. I don't like this feeling. I've felt it before I feel like I'm in danger; therefore I must be in danger</p>
<p>This level of stress is actually useful – as a precaution my body is instructed to get ready for a potential threat. My breathing is quickening, my heart rate is elevating, blood is beginning to pump to my legs in case I need to run away, my pupils are dilating</p>	<p>My lower brain structures start to hijack my thinking processes. My thalamus is inundated, my hippocampus is having trouble defining this as a safe situation, my amygdala is yelling FIRE FIRE and my hypothalamus is continuing to ask for more</p>

<p>to enable me to see better. But because this does not go outside what I am able to tolerate, I am able to remain calm and engage my rational brain. I can process this in a top down way.</p>	<p>stress hormones to be released. Due to the influx of hormones my breathing quickens, my heart rate increases, my pupils dilate. I'm responding in a bottom up way</p>
<p>My cortex sends back the rational message to be brave; this doesn't look life threatening, 'let's just calm down and look at this situation a little better'. So I take a deep breath, slow my heart rate a little, and take a step forward to have a closer look.</p>	<p>At this point my brain begins to shut off from the top down, I can no longer engage my cortex and I can't rationally look at the situation further. My own body is telling me that there's a threat, I have no time to check if I'm right or not (my hippocampus is going offline as well), I just have to trust what my body is telling me, my thalamus sends overwhelming spikes of information straight to the amygdala and I go into a full survival response</p>
<p>Here I see my favourite aunty, I'm reminded of that awesome summer we spent down at her beach house and good memories come flooding back. I smile, take a big breath in relief, move over and say hi.</p>	<p>I might lash out and throw something across the room towards the strange enemies (I can't rationally process who these people are). I might turn and run in the opposite direction. I may stay frozen on the spot, fearfully watching. I may completely shut down and disengage from the world or I may do a combination of these things</p>
<p>While I may be hypervigilant for a little while because there are some unfamiliar people here (and I can't remember some of their names!) this experience is not likely to have any long lasting effects. My hormone levels will decrease relatively quickly to normal baseline amounts. My stress response systems will settle (I can handle this level of excitement) and I will be able</p>	<p>Whatever my survival response is, this experience is likely to have a large impact on my day. I will need help to calm. My stress hormones are going to take a long time to fall and will stay elevated if I continue to be triggered. I'm also likely to remain even more hypervigilant than normal for an extended period.</p>

to continue on for the rest of the day	
---	--

The children we are all working with, especially those who are in alternative care will likely require additional support and understanding at Christmas time. Common behaviours observed around this time are:

- A return to behaviours that had previously resolved
- Poor impulse control (e.g. opening presents before Christmas or eating the chocolate decorations!)
- Difficulty following instructions and remembering rules
- Increased levels of arousal and rapid mood shifts (excited can quickly become overwhelmed)
- Excessive eating, loss of appetite or food hoarding
- Asking lots of questions
- Clingy and fearful of separation
- Sleep difficulties and nightmares

The great news is that there are things that we as safe adults can do to help break the trigger cycle and co-regulate these children. By doing these ourselves and/or encouraging carers to, we can assist traumatised children to have a safer experience of Christmas:

1. Develop an understanding of the stress responses of ourselves, and the children we are caring for. This helps us to respond to their behaviour as a manifestation of them needing help and not knowing what to do with what their feelings.
2. Keep as many routines as possible – we all cope better when we feel we can control or predict our day, and traumatised children are no exception. With busy, full days, the anchor points at the beginning and end become particularly important.
3. Prepare the child for any changes to normal routines in advance with as much detail as possible ie where you are going, why, who will be there, what to expect.
4. Allow extra time to prepare the child for transitions, such as going from one house to another
5. Have open and honest conversations with children regarding their family if they wish
6. Identify a safe person at any parties that the child can stay with
7. Develop a “special sign” with the child so that they can indicate when they need some support
8. Build opportunities for quiet time and relaxation in every day
9. Help them to organise and name their emotions and body sensations by using “time in” strategies

10. Make sure to find time for self-care – take time to self soothe and calm which will promote co-regulation

With these strategies in place we hope everyone one has a safe and happy Christmas!