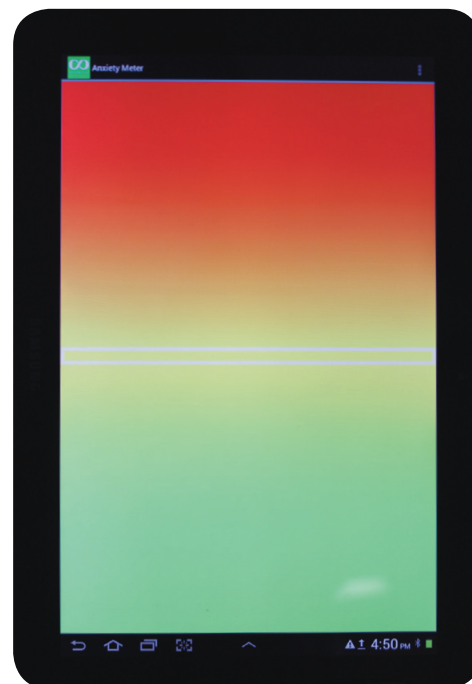




Measuring anxiety in children with autism

Children with autism are at an increased risk for experiencing impairing anxiety symptoms. Yet, treatments for anxiety in autism are very limited. To address this important health issue, researchers in the Autism Research Centre at the Bloorview Research Institute in Holland Bloorview Kids Rehabilitation Hospital have designed a wearable device to detect states of anxiety in children and youth with autism to empower self-awareness of anxiety and improve health outcomes.



The Anxiety Meter

Developed by scientists Drs. Azadeh Kushki and Evdokia Anagnostou, and funded by the Ontario Brain Institute, the Anxiety Meter is an app that detects states of anxiety in children with autism by measuring heart rate and converting it into a visual representation of a person's anxiety level. The app wirelessly connects to wearable sensors.

Children and youth with autism and their families can use the app to track changes in heart rate based on interactive screen graphics. Use of colour (green and red) signifies opposing states of anxiety – an indication in the green range represents a relaxed state, while red indicates the need to apply a calming strategy.

The Anxiety Meter was developed with the intent to complement behavioural therapy in autism by improving self-awareness for children and youth that experience anxiety and giving them the tools to identify and manage symptoms as they occur.



Anxiety and autism

Anxiety can have a negative impact on an individual's physical and mental health and can increase risks of other psychiatric disorders, including depression, and cause social challenges and difficulties.

Research from the University of Amsterdam in 2011 reviewed 31 studies that focused on the presence of anxiety disorders in children under 18 years old with autism, and deduced that ~40% of these kids had at least one diagnosed anxiety disorder including specific phobias, obsessive compulsive disorders, social anxiety disorders, separation anxiety disorders and panic disorders.

The Anxiety Meter addresses a need for children and youth with autism and their families, which is further enhanced by a child or youth with autism having difficulty identifying that they are anxious or recognizing the symptoms of anxiety.

For more information about the Autism Research Centre or about ongoing research projects, please contact Azadeh Kushki at akushki@hollandbloorview.ca