

# MEASURING CHILDREN'S BRAIN ACTIVITY

*Our brains naturally generate electrical signals as we do basic tasks such as thinking and working. We measure this activity in the form of event-related potentials or **ERPs**. We can "see" these ERPs—or the brain's responses to sights and sounds—using sensors, or electrodes, that rest on the surface of the scalp as children participate in our tasks.*

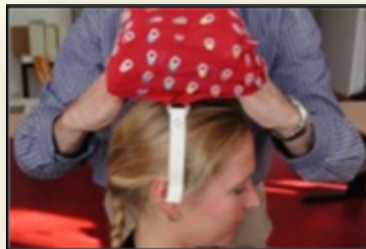


A young child in  
an ERP cap

- Children will wear an ERP sensor cap while playing games that involve paying close attention while they look at simple pictures (fish, trees, hearts).
- The cap fits comfortably on the head like a swimming cap. Each cap has 32 tiny sensors that rest on the child's head. Members of our research team will place the cap on the child's head, and will adjust it to make sure that it fits comfortably.
- Once the cap is on, children will play computer games that involve doing simple tasks, like remembering a string of words or pushing buttons when certain pictures appear. These games take about 45 minutes to complete.

## Applying the ERP Cap

### 1. Fit the cap



### 2. Apply gel to each site with a dropper



### 3. Place electrodes & connect them to the computer



- A small amount of odorless, hypoallergenic water-based gel is carefully applied to each electrode site to better record brain activity.
- This procedure is completely non-invasive! All recording is done on the surface of the head.
- All materials that come into contact with each child have been thoroughly cleaned and sterilized.
- The sensors simply record the child's brain activity as it naturally occurs.
- If the child wants to stop at any point or doesn't want to wear the cap, that's okay, we can stop the study at any point.