

## Video Transcript

# Measuring Cognition in Pediatric Oncology Trials: Topics, Trends and Key Takeaways from the Children's Oncology Group (COG) Fall Meeting

**By Adrian Schembri, PhD**  
Director, Clinical Science

I had the opportunity to attend and participate in the Children's Oncology Group meeting, held in Dallas, Texas. It was a fantastic meeting! I had the opportunity to meet with many of our collaborators who are working in pediatric oncology and speak about some of the studies that have been going on. Many of the studies incorporate a Cogstate Battery which is really exciting.

We learned there are many new studies coming through in a whole range of different areas, such as brain tumors, Leukemia, and Sickle Cell Disease, where the computerized battery demonstrated an ability to be a helpful tool in terms of measuring neurocognitive or neurotoxic effects in the context of pediatric oncology. It is interesting because study teams are using the battery in a range of different ways.

Some study teams are using the computerized tests around treatment for brain tumors, for example, post-surgery where children are going through a period of radiation therapy. The battery is administered several times in the months during that treatment, and then there are longer term follow ups, over 6, 12, or 24 months, post treatment. This provides really valuable data to the study teams, in terms of not only the immediate effects of that treatment, but also some of the longer-term effects.

We are also seeing a trend towards unsupervised assessments becoming part of these study designs. Whereas children will often go through short term treatment phases, having the ability to follow up with them and assess their cognition in an unsupervised or at home environment, is a valuable tool for study teams. It allows them to observe late effects or longer-term trends and measure cognitive trajectories in the children over time. This provides a sense of how the child is developing and whether they are maturing cognitively at a rate that is comparable to their peers.

One of the advantages to the computerized battery that COG study teams are using is how brief it is. It facilitates tolerability and bedside assessment by allowing the patients to complete these assessments at a time that is convenient for them, and they can do so in a battery that would typically take ten or fifteen minutes, so it is quite brief. When compared to other forms of more conventional pencil and paper assessments, those tests can often take up to an hour at times more. There are challenges associated with completing a battery which is quite time consuming. Particularly during a time in the child's life when they

may be feeling unwell, they are going through quite an extensive treatment, and they may be particularly stressed because of what is going on in their life. Having the time to not only do these assessments once, but over repeated times within a few weeks or a few months can be quite a burden.

What is really exciting is the variability in the types of studies in which we are working with COG. Some of these studies are exploratory and only incorporate a single site that requires only a single language, and the assessments are being administered over repeat assessments for quite a small patient group. Whereas other studies are really large in size. In fact, we have one study with over 200 sites participating, enrolling patients in ALL. We are finding that the scope and magnitude of coordinating a study like that one is much more substantial. But since the battery is able to be trained within these sites in a relatively brief period, we are finding that it is being adopted well and the data coming in is really informative and fruitful and we are excited about what the results of that study will show.

We are really enjoying our work with COG, and in particular the Behavioral Sciences group. The next twelve months are an exciting period, as results of the studies that we have been working with COG on begin to come through and some of that data begins to get published.