



ABC·CT

Autism Biomarkers Consortium for Clinical Trials

Study Update

Geraldine Dawson, Ph.D.

Duke University

ABC-CT PI: James McPartland, Ph.D.

Yale Child Study Center



ABC-CT: Study Design

- Multi-site, naturalistic study
- 200 children with ASD and 75 typical development
 - Ages 6-11 years
 - IQ 60-150
- Three time points (Baseline, 6 weeks, 24 weeks)
- Biomarkers of social-communicative function
 - EEG
 - Eye-tracking
- Standard clinical assessments
- Blood draw

ABC-CT: Biomarker Assays

- **EEG**

- Resting EEG*
- Visual evoked potentials
- Biological motion
- ERPs to faces*

- **Eye-tracking**

- Biological motion*
- Activity monitoring
- Interactive social task
- Pupillary light reflex*
- Static social scenes*

* *EU-AIMS harmonized paradigm*

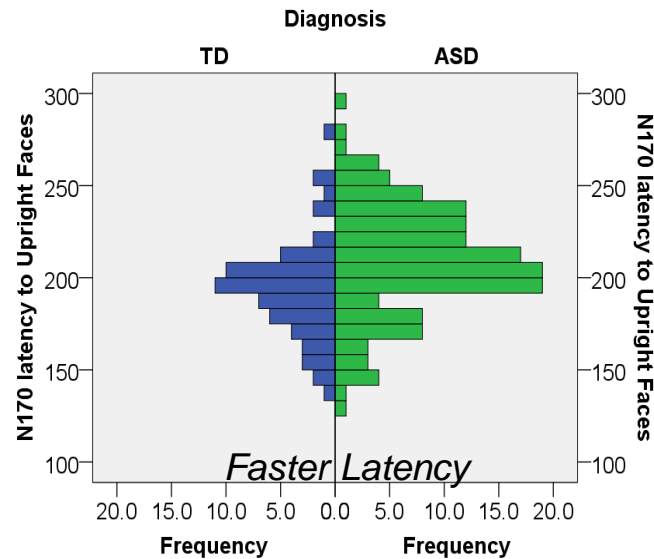
ABC-CT: Interim Analysis

- High success rates across biomarker assays
 - EEG: 96% valid data
 - Eye-tracking: 100% valid data
- Blood draw
 - Probands: 76.8%
 - One or both parents: 85.0%
- Promising results: Discriminant validity, Test-retest reliability
 - ERP: N170 latency to faces
 - Eye-tracking composite
 - Activity monitoring
 - Interactive social task
 - Static social scenes

ABC-CT: Interim Analysis

N170 latency to upright faces

	Whole sample (N=203)	TD (N=60)	ASD (N=143)	Test TD vs ASD	<i>p</i>
Mean	204.8	194.3	209.2	F(1,201)=10.7	<.01
SD	30.2	26.8	30.6		



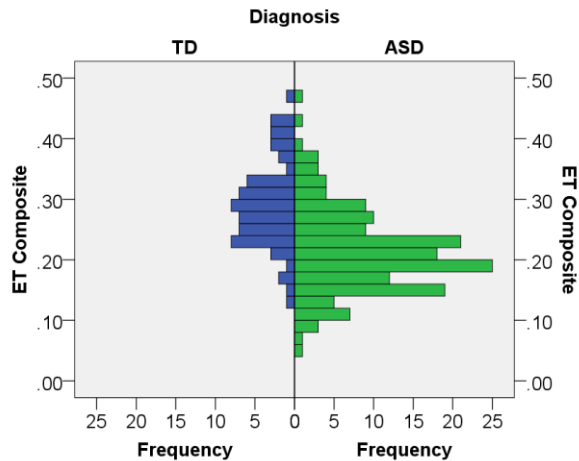
	Overall	TD	ASD
Test Retest reliability ICC	.68	.66	.66

ABC-CT: Interim Analysis

Eye-tracking composite

	Whole sample (N=221)	TD (N=64)	ASD (N=157)	Test TD vs ASD	<i>p</i>
Mean	.236	.290	.213	F(1,220)=51.5	<.01
SD	.225	.073	.070		

Histogram of ET Composite



TD Participants # ASD Participants

	Overall	TD	ASD
Test Retest reliability ICC	.83	.83	.79

Admin Core

Julie Holub

Helen Seow

Michael King

DCC

Cynthia Brandt

Jim Dziura

Alyssa Gateman

Leon Rozenblit

Sites

Raphael Bernier

Kasia Chawarska

Geraldine Dawson

Susan Faja

Charles Nelson

Shafali Jeste

Scott Johnson

DAAC

Gerhard Helleman

April Levin

Michael Murias

Adam Naples

Michael Platt

Fred Shic

Damla Senturk

Catherine Sugar

Sara Webb

