

# Cognitive Assessment and Intervention

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# The challenges to Assessment

- ▶ Traditional assessment measurement tools require a way to measure response
- ▶ School experience with Rett Syndrome
- ▶ Variability day to day
- ▶ Assessing for knowledge vs. skills
- ▶ Social



# The Developing Brain

- ▶ “Child acts like a 2-year old”
- ▶ “What is this child’s developmental level?”
- ▶ A 2-year old vs. an 8-year old with Rett Syndrome
- ▶ Skills developing at different rates
- ▶ Underlying condition may interfere with typical development patterns



# Neuropsychology

- ▶ Every child has unique set of strengths and weaknesses
- ▶ Evaluation – attention, learning, memory, language, visuo-spatial skills, speed, mood, executive functioning (planning, organization, problem solving, emotional regulation, behavioral regulation, self-monitoring, cognitive flexibility)
- ▶ Determine individual pattern → recommendations



# Why?

- ▶ Assess STRENGTHS, learning style (not just cognitive or educational “deficit”)
- ▶ What maximizes participation?
- ▶ Recommendations for emerging skills
- ▶ Evaluate intervention effects
- ▶ Monitor change over time
- ▶ Track development



# When?

- ▶ Transitions in schooling
- ▶ Change in status
- ▶ Treatment changes (before and after)



# A Word About Seizures

- ▶ Some seizures can look like poor attn
  - no motor signs (i.e. tonic-clonic movements)
  - ARE associated with alteration in consciousness
  - Child won't respond to name, may be a bit confused immediately after
- ▶ Abrupt, random aggression or agitation
- ▶ Knocks out learning, new learning post-ictal



# Listen to the experts

- ▶ The expert on your child is YOU!!!
- ▶ Work with school to maximize communication
- ▶ Consistency across settings
- ▶ What works, what doesn't work, what child enjoys, attention span





# Basic needs – start simple

- ▶ Communicate needs before colors
- ▶ Talk at appropriate level
- ▶ Teach at appropriate level
- ▶ Emerging skills
- ▶ Variability
- ▶ Be creative



# Intervention

- ▶ Not a “right” answer
- ▶ More isn’t necessarily better
- ▶ Hands
- ▶ Attention (hemispatial?, aspects of attn)
- ▶ Simple – photos v pictures
- ▶ Button size
- ▶ Visual vs. Auditory
- ▶ Eye gaze (#, position)



# Beware of research

- ▶ Studies use averages
  - AVERAGE parent rating of behavior problems was typical for age (range went from far less than typical to far more than typical)
- ▶ Internet “common knowledge”
  - Good place to get ideas from other parents
  - Be careful of source
- ▶ Buyer beware – claims, cost, evidence



# How to interpret

- ▶ Don't just read the tagline
  - Who were the children in the study?
    - Age range (and how big a range)
    - Mutations combined
      - Early studies did, reduce N if separate
    - How many
  - How did they come to the conclusions?
    - Measures used
    - Limitations section
  - Conclusion of study vs. media interpretation

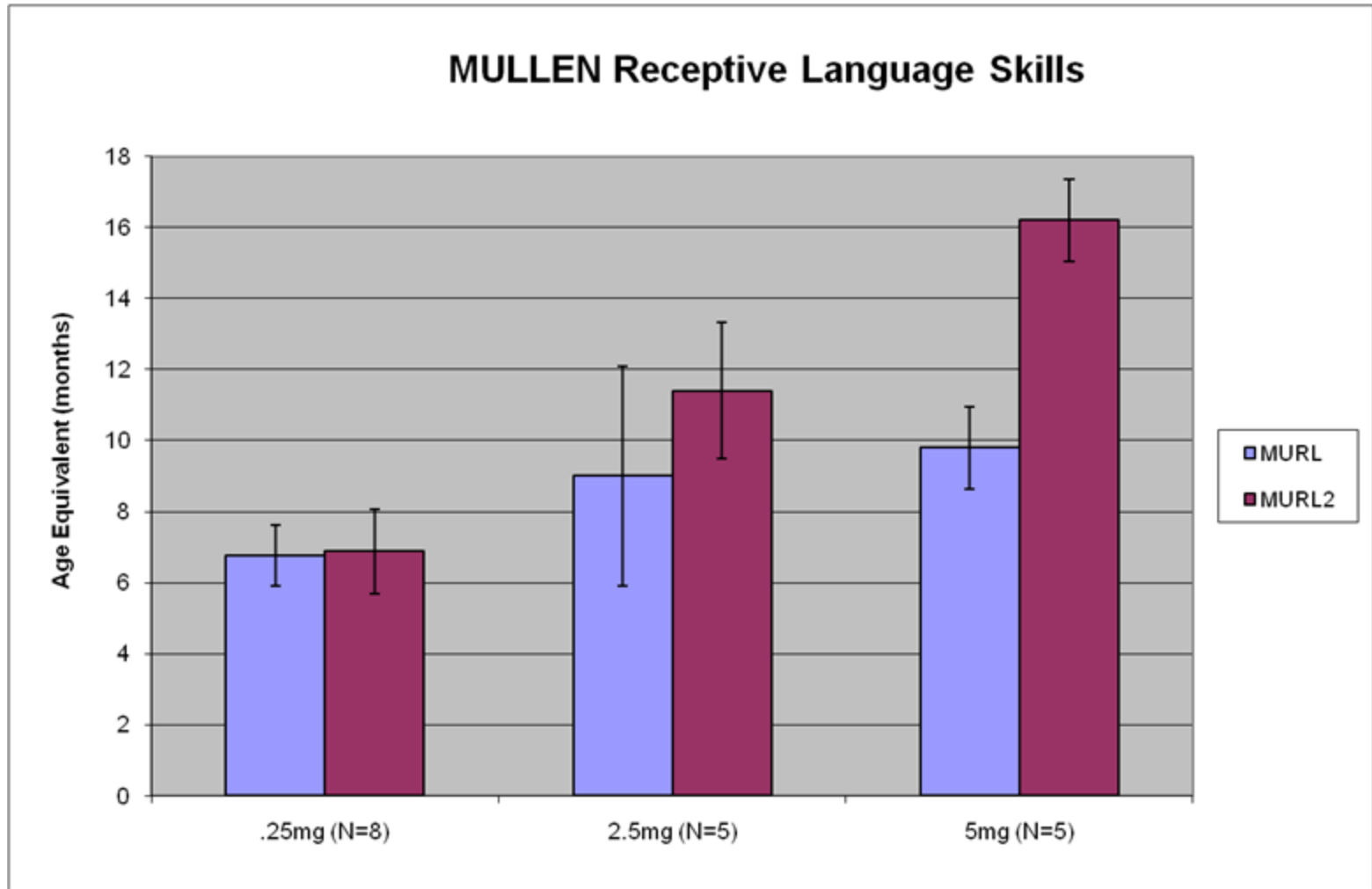


# The state of the science

- ▶ Well.... We're working on it?
- ▶ Eye gaze?
  - Baptista et al., 2006 (7 girls, 4–9, match, identify, categorize, 5 seconds)
  - Velloso et al., 2009 (10 girls, 4–12, color, shape, spatial, size, 3 seconds – 4 seconds)
- Working memory, some opposite findings, 3 negative for MeCP2 mutation vs. 2 not tested, exposure time

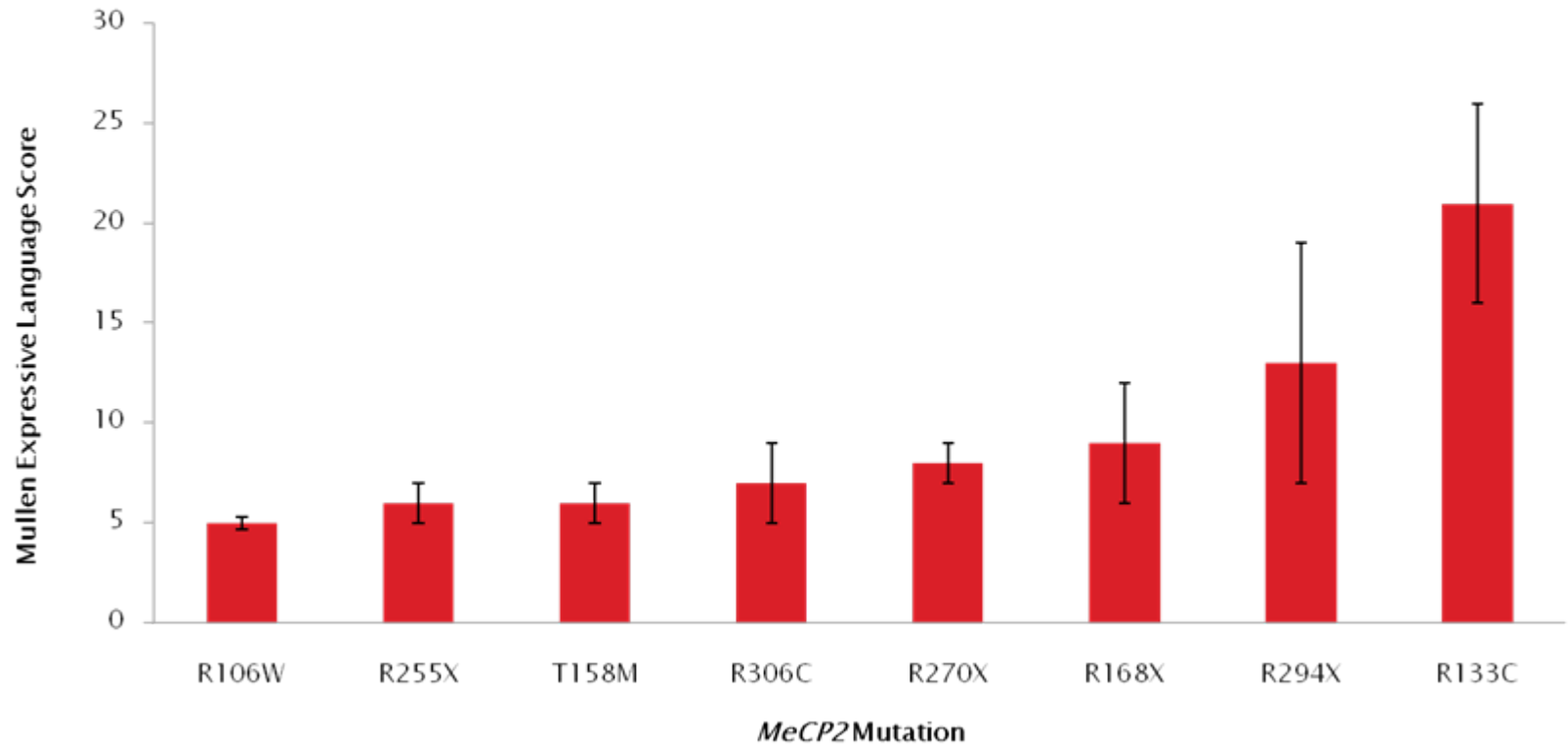


# Where we are going



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Figure 2: Mullen Expressive Language Scores by *MeCP2* Mutation



# What is our goal?





# Thank you

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