

DOWN SYNDROME AND DEMENTIA

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The “Health Benefits” of Down Syndrome

Decreased Risk of:

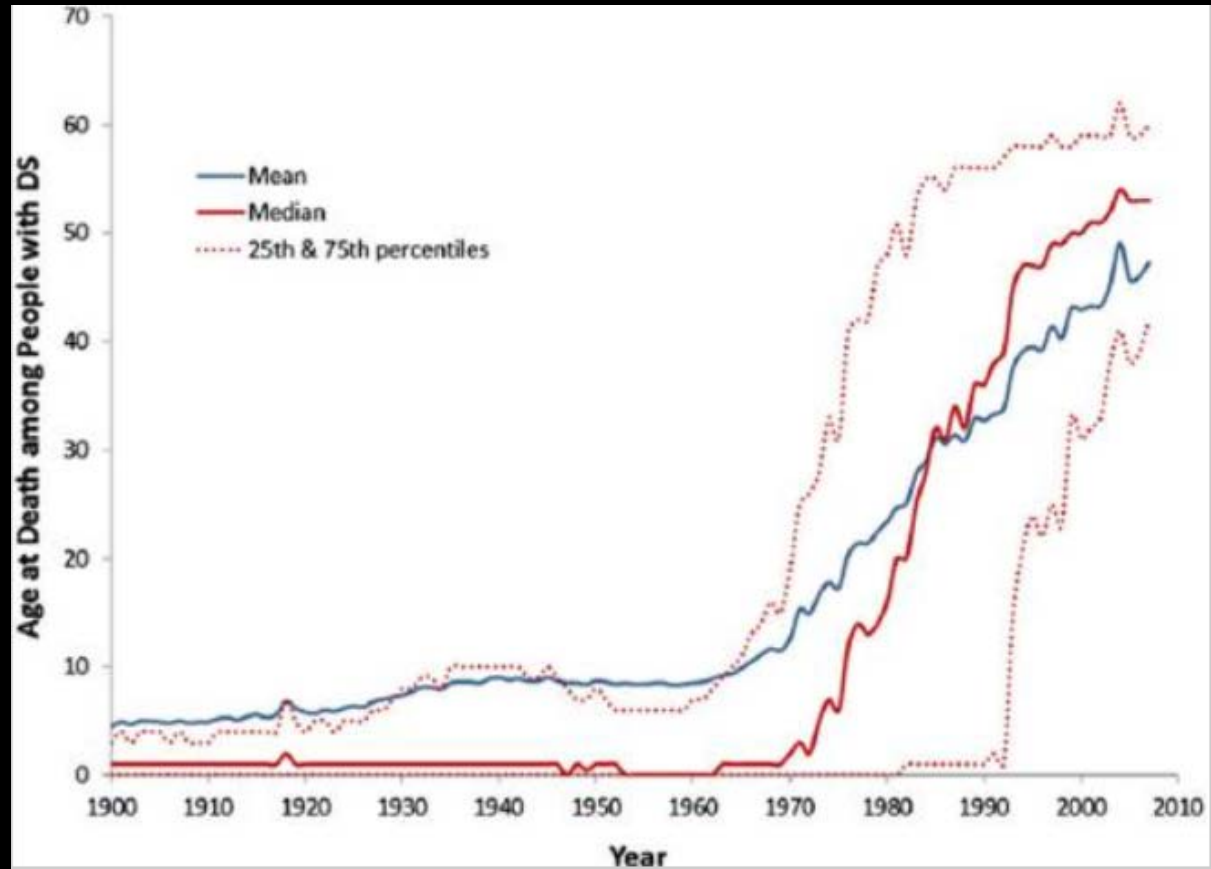
- *Coronary Artery Disease*
 - *Hypertension*
- *Solid tumors*



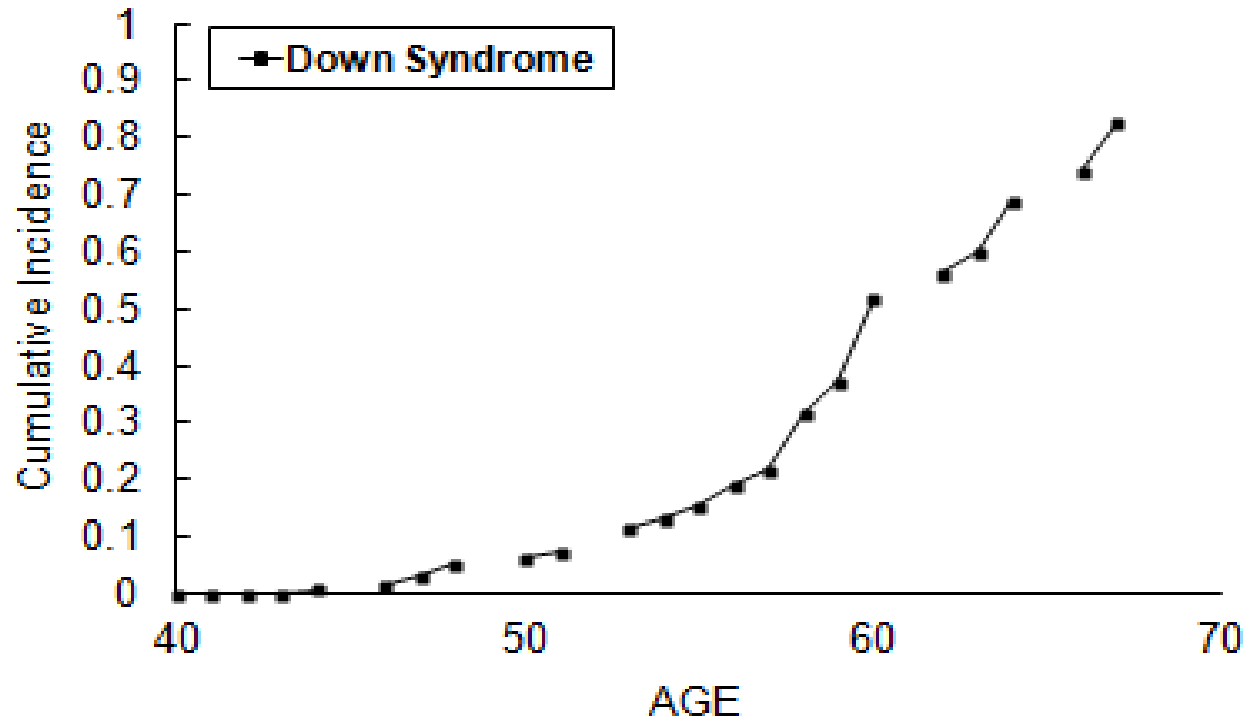
Increase in Life Expectancy for people with Down syndrome



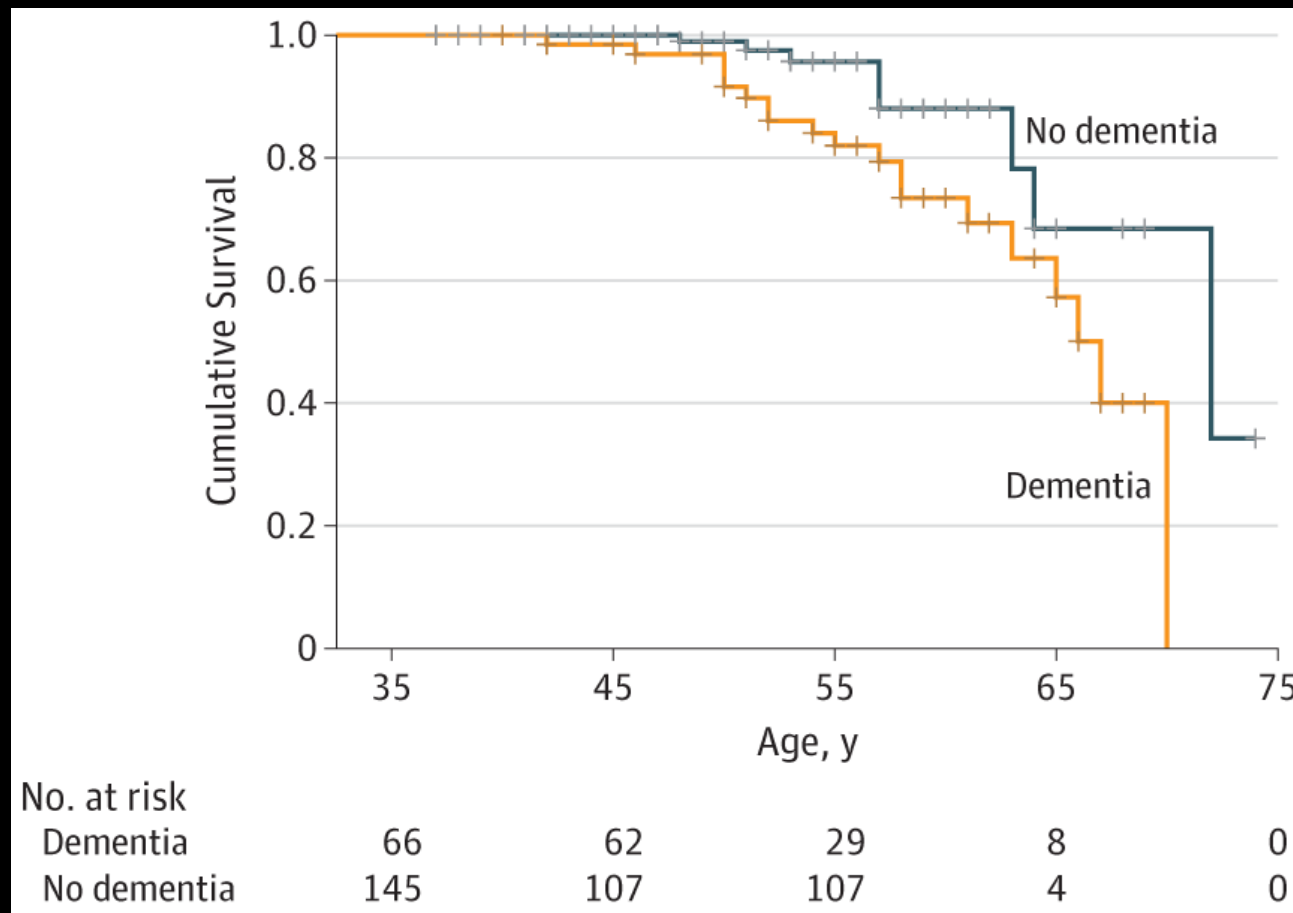
Mean and Median Life Expectancy



Cumulative Incidence of Alzheimer's Disease in DS



Dementia was associated with mortality in 70% of those with Down syndrome over 35 years old



Take Home Point

- Dementia is the most significant issue facing adults with Down syndrome over the age of 40



Clinical Issues

- Proactive care
- Recognition
- Management
- Family Support
- Research



Proactive Care

- Hospitalizations
- Critical Illness
- Life Changes



Recognition

- Seizures
- Gait changes
- Balance disturbance
- Urinary incontinence
- Major personality changes



Why hard to diagnosis Dementia in DS

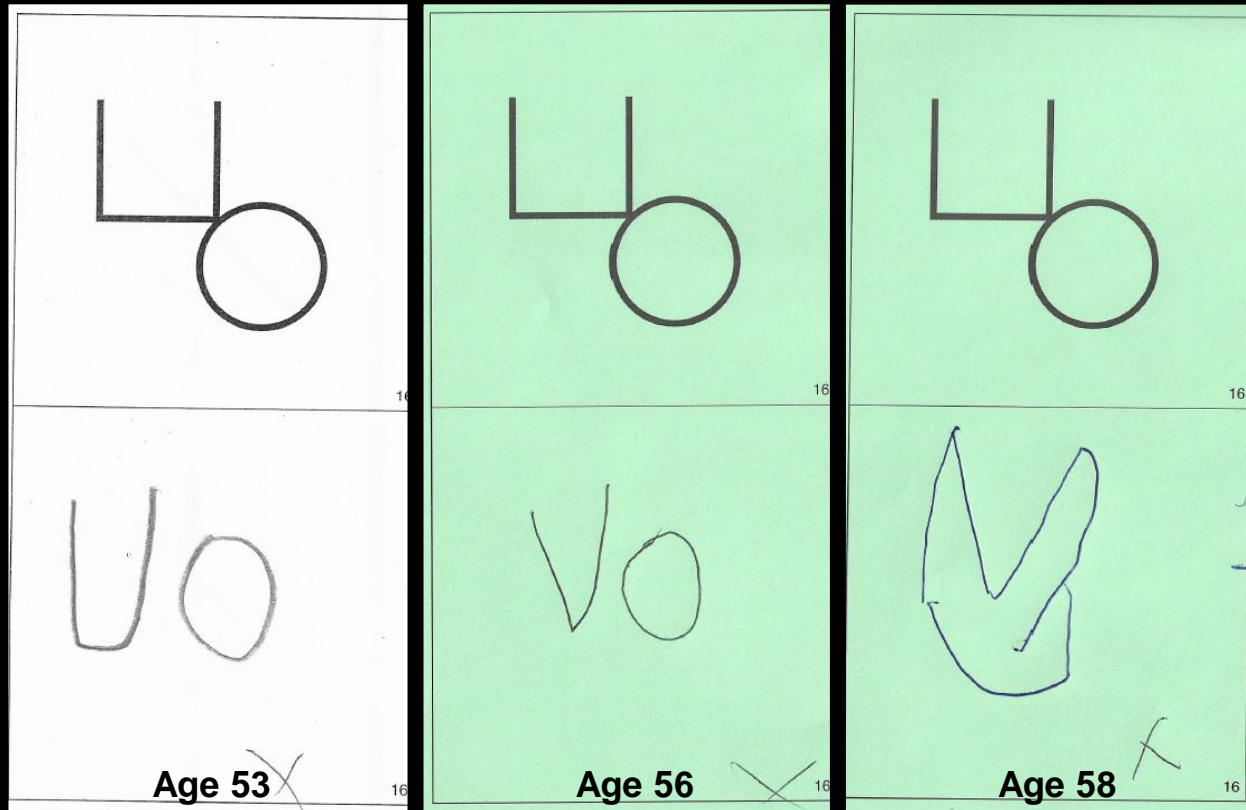
- Variable levels of baseline functioning
 - Limited standardized assessment tools
 - Some age-related deficits in functioning
 - Often depends on caregiver report
 - Change in functioning may be due to a range of other issues
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Areas of early deficit

- Research suggests behavioral and psychological symptoms of AD may appear earliest
 - Executive dysfunction also occurs early
 - Memory loss follows
 - Recommendation to establish a baseline level of functioning by age 35
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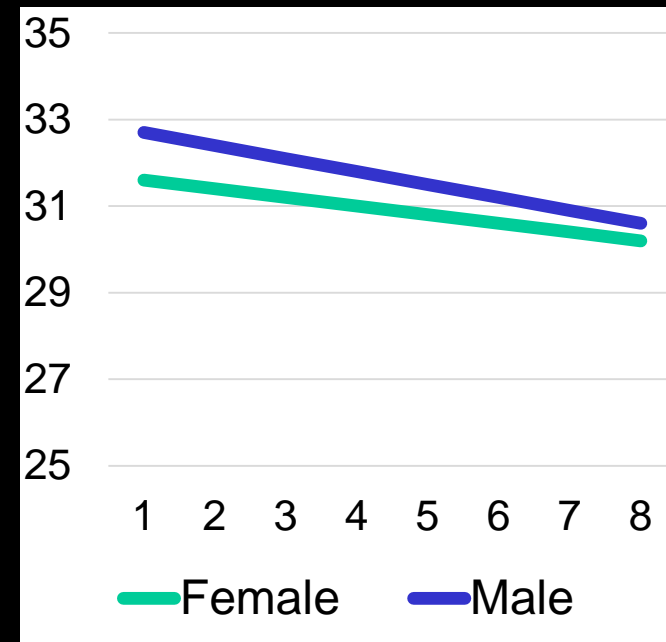




Decline by Sex

- No significant difference in initial score
- No significant difference in rate of change per year

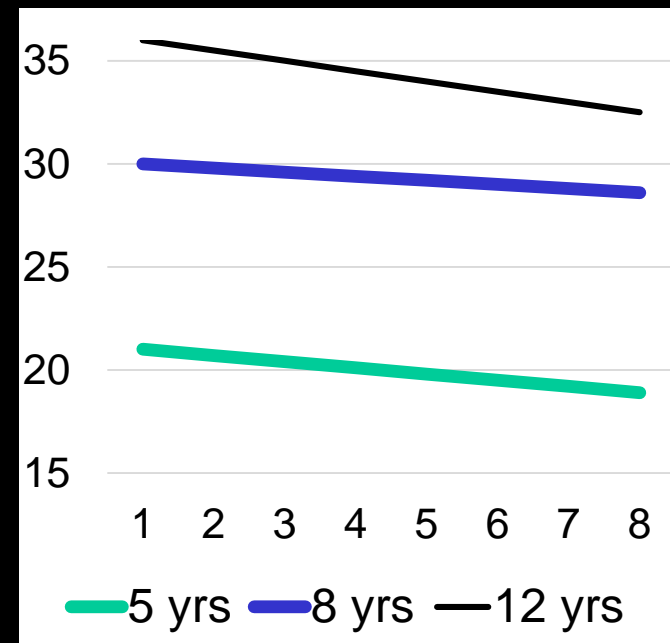
Free and Cued Recall



Decline by Mental Age (PPVT)

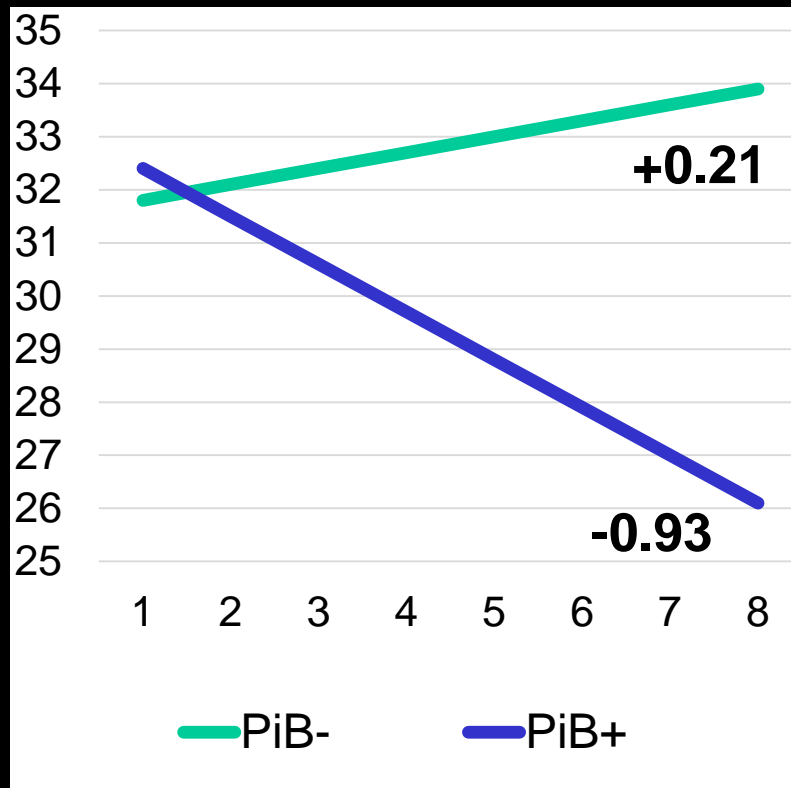
- Marked significant difference in initial score
- No significant difference in rate of decline by mental age at baseline

Free and Cued Recall

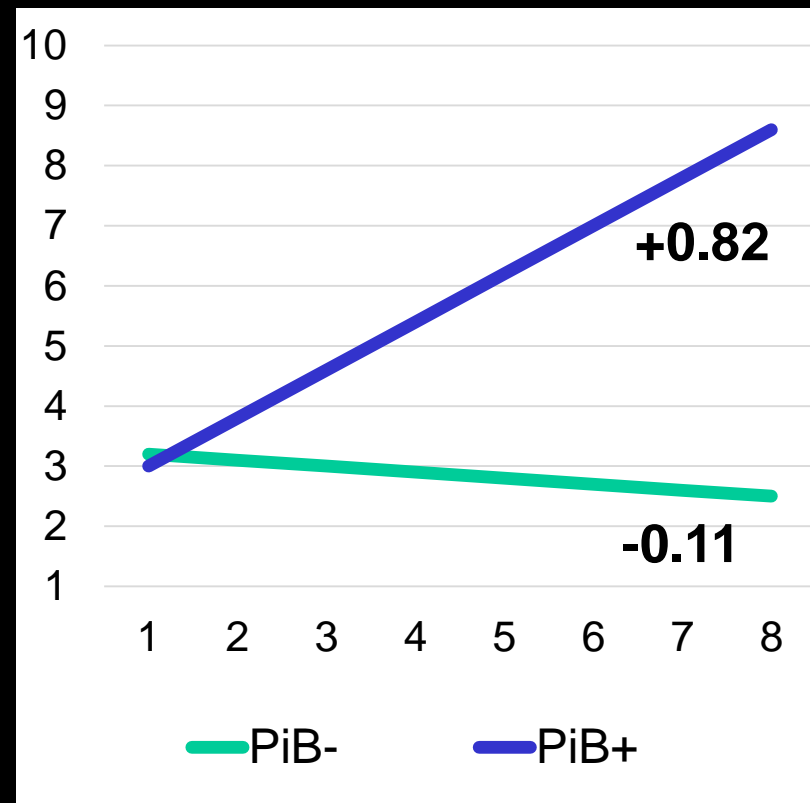


Cognitive Decline by β -Amyloid

Free & Cued Recall

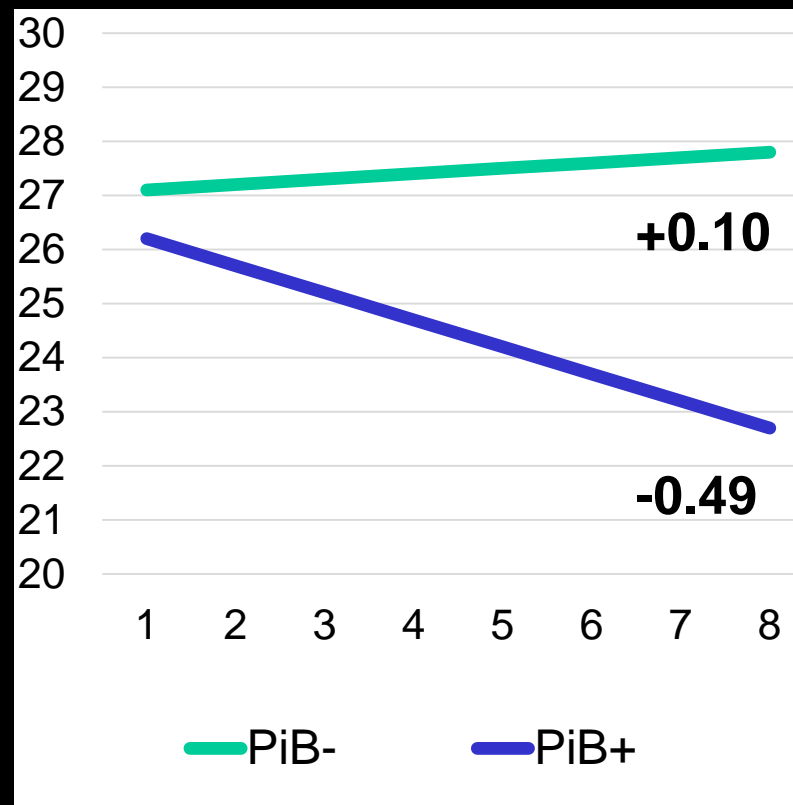


Cued Recall Intrusions



Cognitive Decline by β -Amyloid

Block Design



Cognitive measures summary

- Decline starts in 40s (stable or increasing pattern in 30s), and becomes more marked in 50s
- Decline greater in following β -amyloid
- No differences in rate of decline by sex or mental age
- Episodic memory/working memory, executive functioning, and motor coordination and planning



Management

- Small group of caregivers
- Behavioral interventions
- Medications

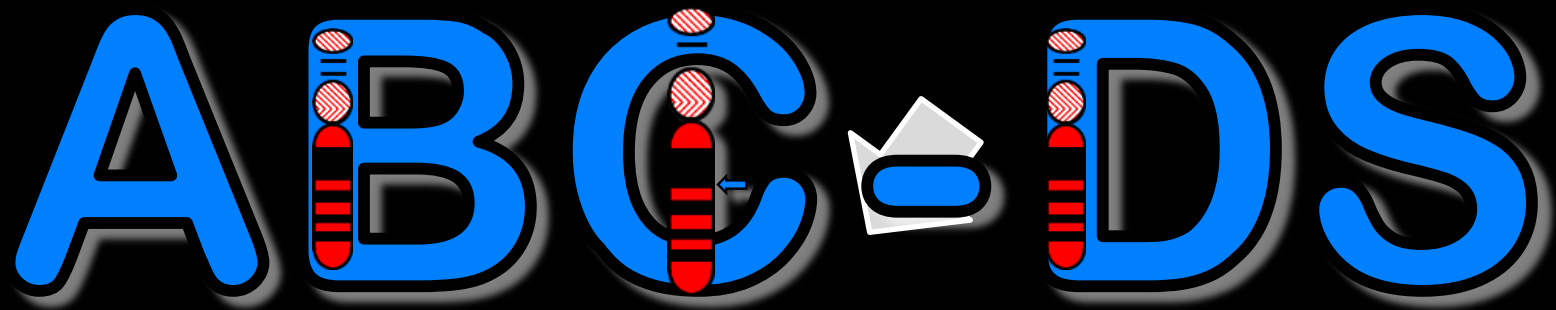


Support

- Family resources



The Alzheimer's Biomarkers Consortium- Down Syndrome Study



ABC-DS

Performance Sites

Site	Location	Original Study
University of Pittsburgh*	Pittsburgh, PA	
University of Madison	Madison, WI	
University of Cambridge	Cambridge, UK	
Washington University	St Louis, MO	
Barrow Institute	Phoenix, AZ	
Mass General Hospital/Harvard	Boston, MA	ADDS
University of California Irvine	Irvine, CA	ADDS
Columbia University*	New York, NY	ADDS

*Coordinating Site





University of Pittsburgh

Patient presentation: Evaluate for Alzheimer's

- 44 year old male with 'Seizure Disorder'
- -Daily Events with Syncope and 'Tremor'
- -No response to anti-seizure meds

