

Neurocognitive Impacts of Cancer and School Supports

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Speaker Disclosure

I have no actual or potential conflict of interest in relation to this presentation.

Agenda

- Neurocognitive Impacts of Cancer and Treatment
- Intro to Neuropsychology
- School Supports - 504 and IEP's
 - Differences
 - Eligibility
 - Process



Potential Neurocognitive Impacts of Cancer/Treatment

- “Cog fog” and limited mental stamina
- Learning rate
- Attention/focus
- Processing speed
- Executive functioning
- Memory
- Motor impacts
- Academic progress
- Emotional, behavioral, and social difficulties



Important Factors to Consider

Patient factors – age, previous development

Family factors – support during and after treatment

Disease factors – type of cancer, seizures, complications

Treatment factors – chemotherapy, radiation, surgeries/transplants

Cognitive/Developmental Supports during and after cancer



1. NEUROPSYCHOLOGICAL
EVALUATION



2. SCHOOL BASED SUPPORTS
AND ACCOMMODATIONS

What is neuropsychology?

- The study of brain and behavior relationships.
- Clinical neuropsychologists
 - Assess
 - Diagnose
 - Treat (in some cases)

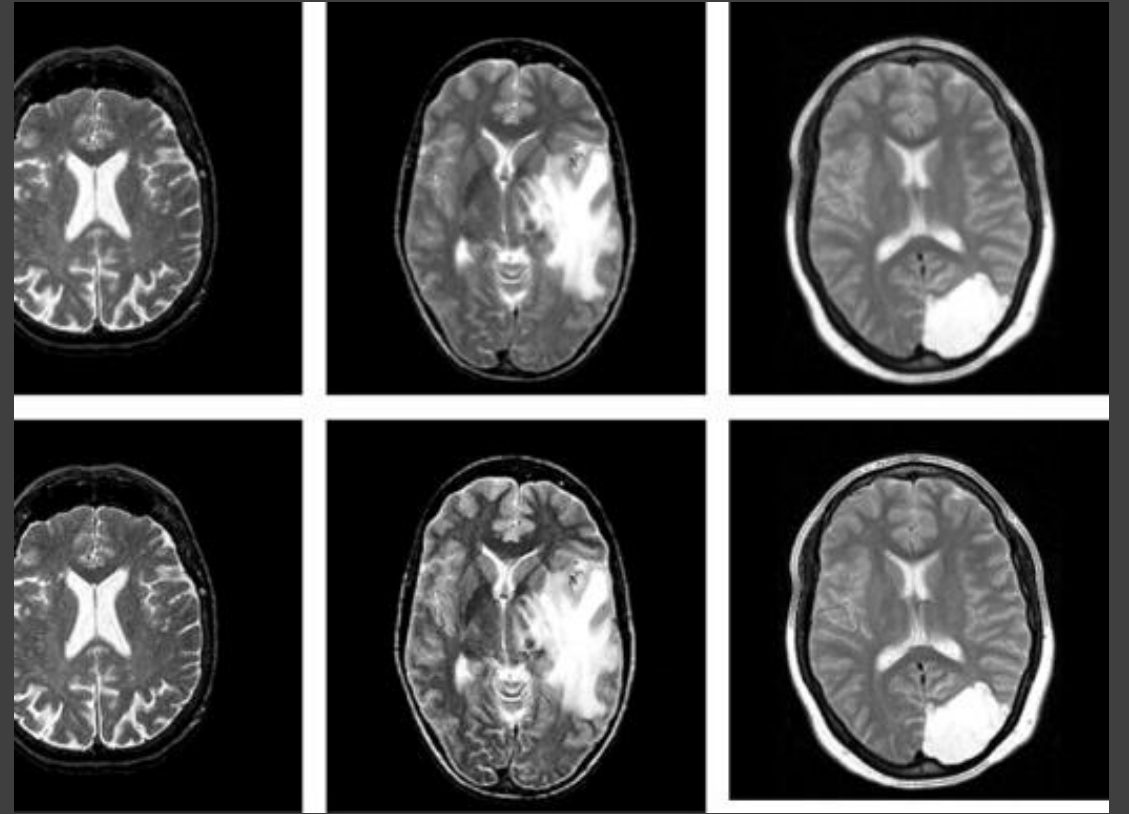


Clinical Neuropsychology



FIG. 2.
days after haemorrhage. Large left f
with extension to left frontal





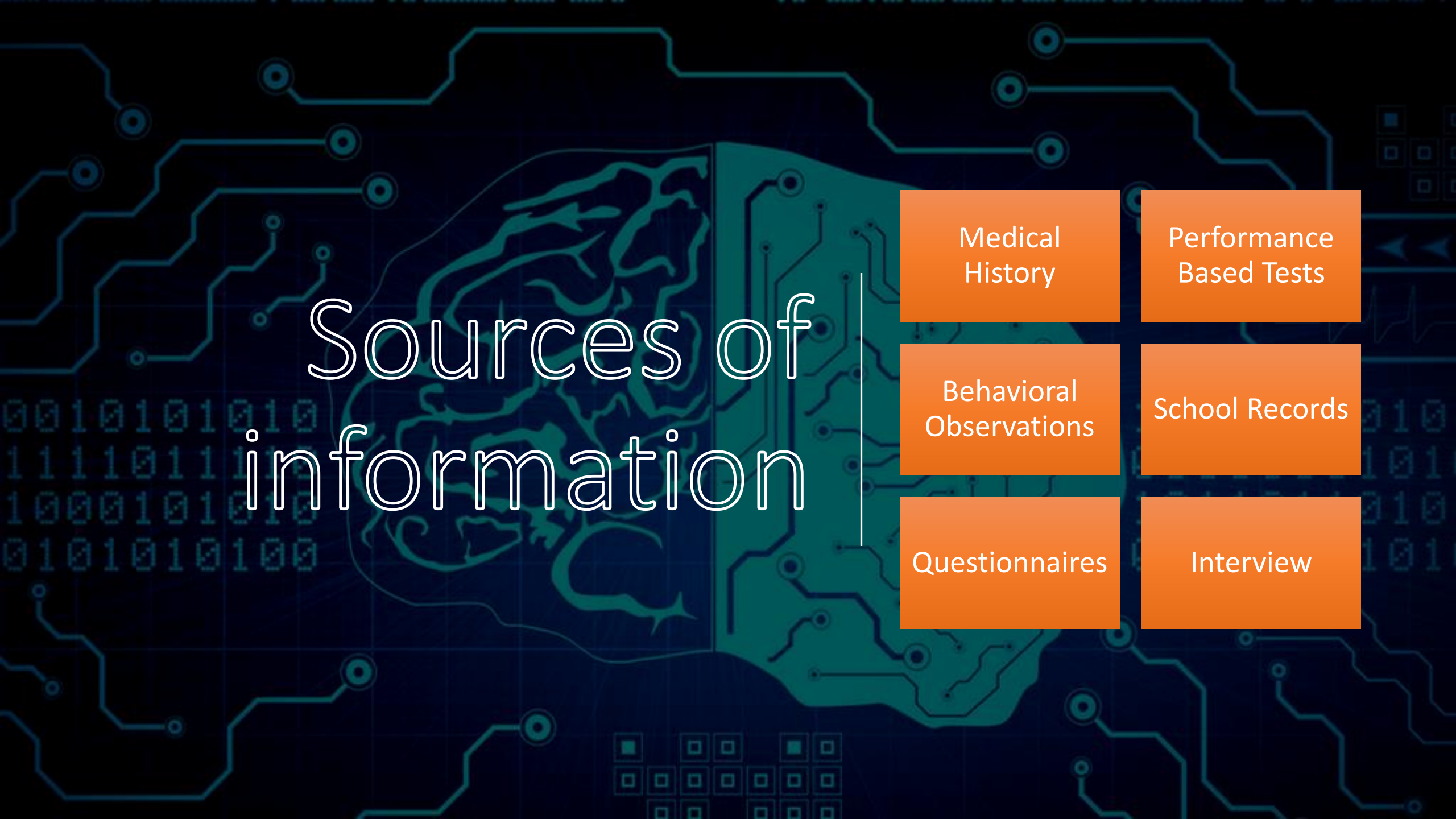
Time to shift gears

Modern Pediatric Neuropsychology Goals

- Identify strengths and weaknesses
- Determine impact of medical history
- Assist in localization of function and dysfunction
- Establish baseline cognitive functioning
- Diagnostic clarity
- Qualify for services
- Inform treatment plans and Individual Education Programs
- Treat cognitive disorders



Sources of information



Medical
History

Performance
Based Tests

Behavioral
Observations

School Records

Questionnaires

Interview



Domains

- Intelligence/IQ
- Attention/Processing Speed
- Executive Functioning
- Language/Communication
- Visuospatial/Visuoperceptual
- Sensorimotor
- Memory
- Emotional and Behavioral
- Academics
- Adaptive

Outcomes of Neuropsychological Evaluation



Feedback session with neuropsychologist



Written report



Explanation of strengths, weaknesses, and relationship to medical history

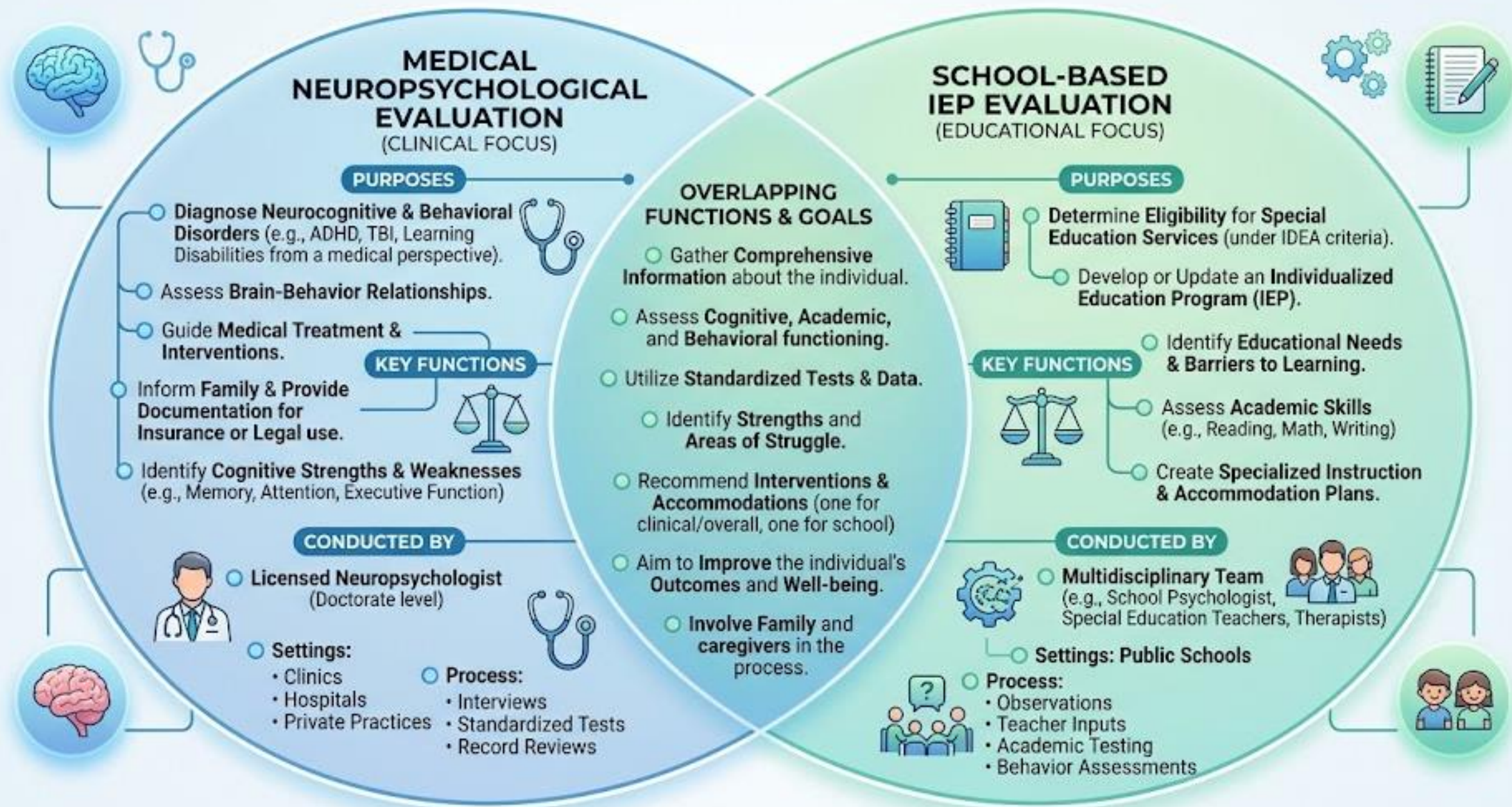


Diagnoses



Recommendations for therapies, medical intervention, school supports, etc.

COMPARING MEDICAL NEUROPSYCHOLOGICAL & SCHOOL-BASED IEP EVALUATIONS



School Based
Supports

Individualized
Education
Program/Plan

Section 504
Accommodation
Plan

Rates of IEP's/504's

Approximately 14-15% of US public school students have an IEP

3% have a 504 Plan only (without IEP)

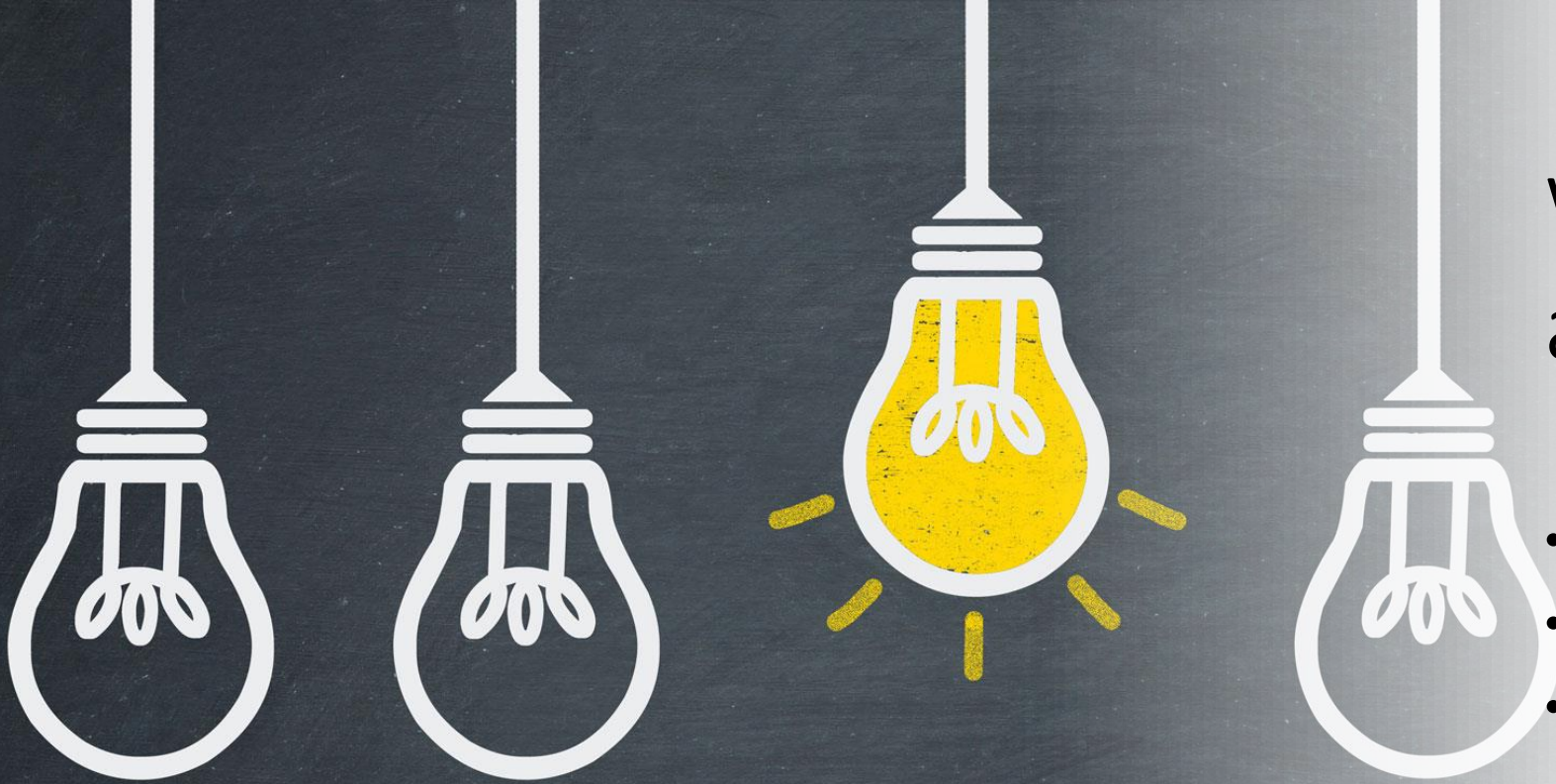
No clear data on what percent of cancer survivors require IEP, but studies indicate rates are higher than general population.

Private schools are not legally required to provide these supports, but some do a great job!

Individualized Education Program/Plan (IEP)

- For students with disabilities
- Document of instruction and services
- Legal document
- Tailored to child and needs
- Special Education





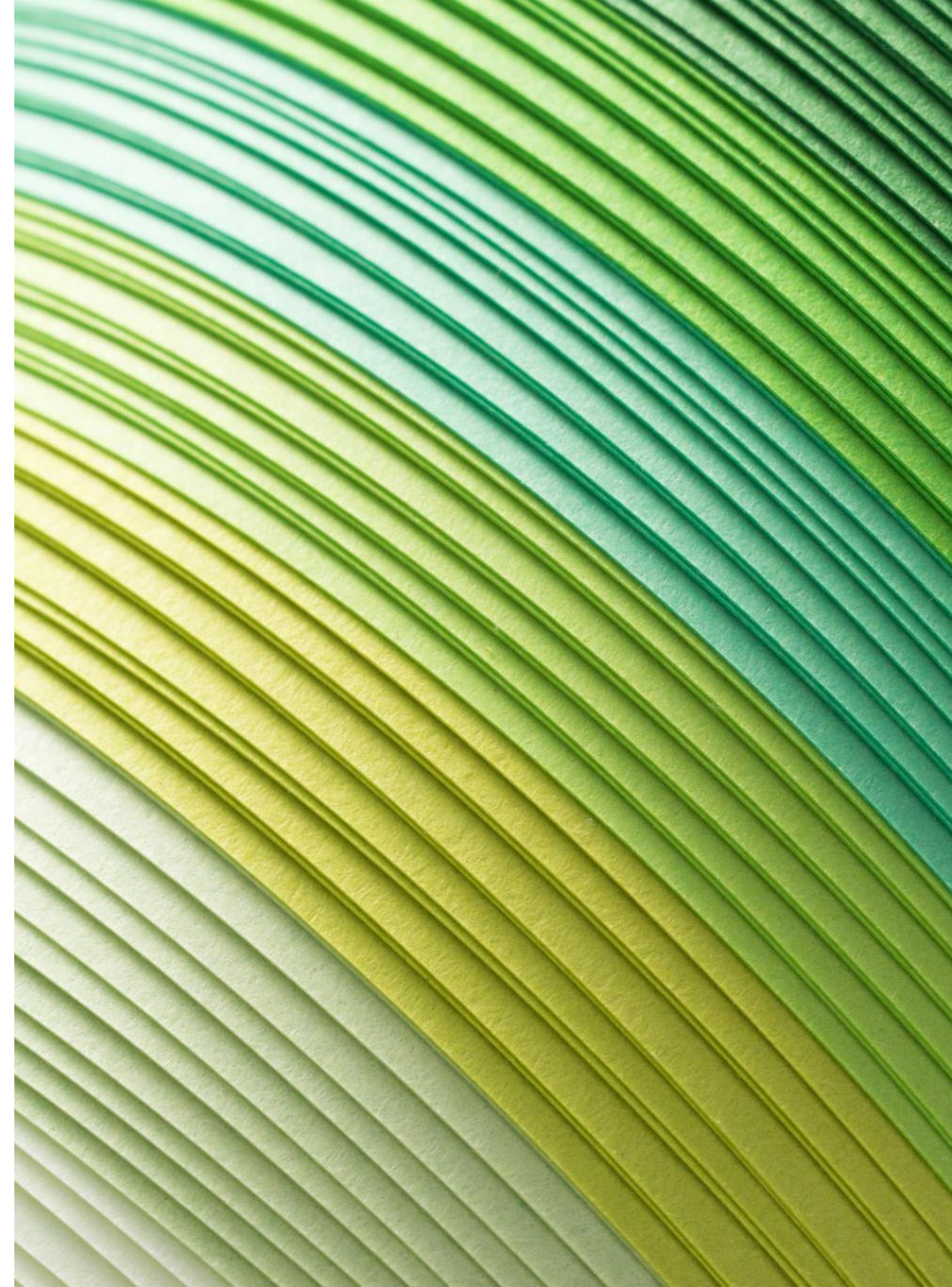
Who qualifies for an IEP?

- Child with a disability
- Adverse educational impact
- Unique needs that cannot be addressed exclusively through education in general education classes, with or without individual accommodations
- Needs special education and related services

**INDIVIDUALIZED
EDUCATION PROGRAM**

IEP Disability Categories

Autism	Deaf-blindness	Deafness	Emotional Disturbance
Hearing Impairment	Intellectual Disability	Multiple Disabilities	Orthopedic Impairment
Other Health Impairment	Specific Learning Disability	Speech or Language Impairment	Traumatic Brain Injury
Visual Impairment			





Components of IEP

- Current level
- Goals
- Measures of progress/Alternative assessments
- Services – location, duration, frequency
- Modifications/Accommodations
- Assistive tech
- Adaptive PE
- Gen Ed inclusion
- Transition plan



Timeline of IEP



Request for
evaluation



10 days to provide
permission form



60 days - complete
evaluation

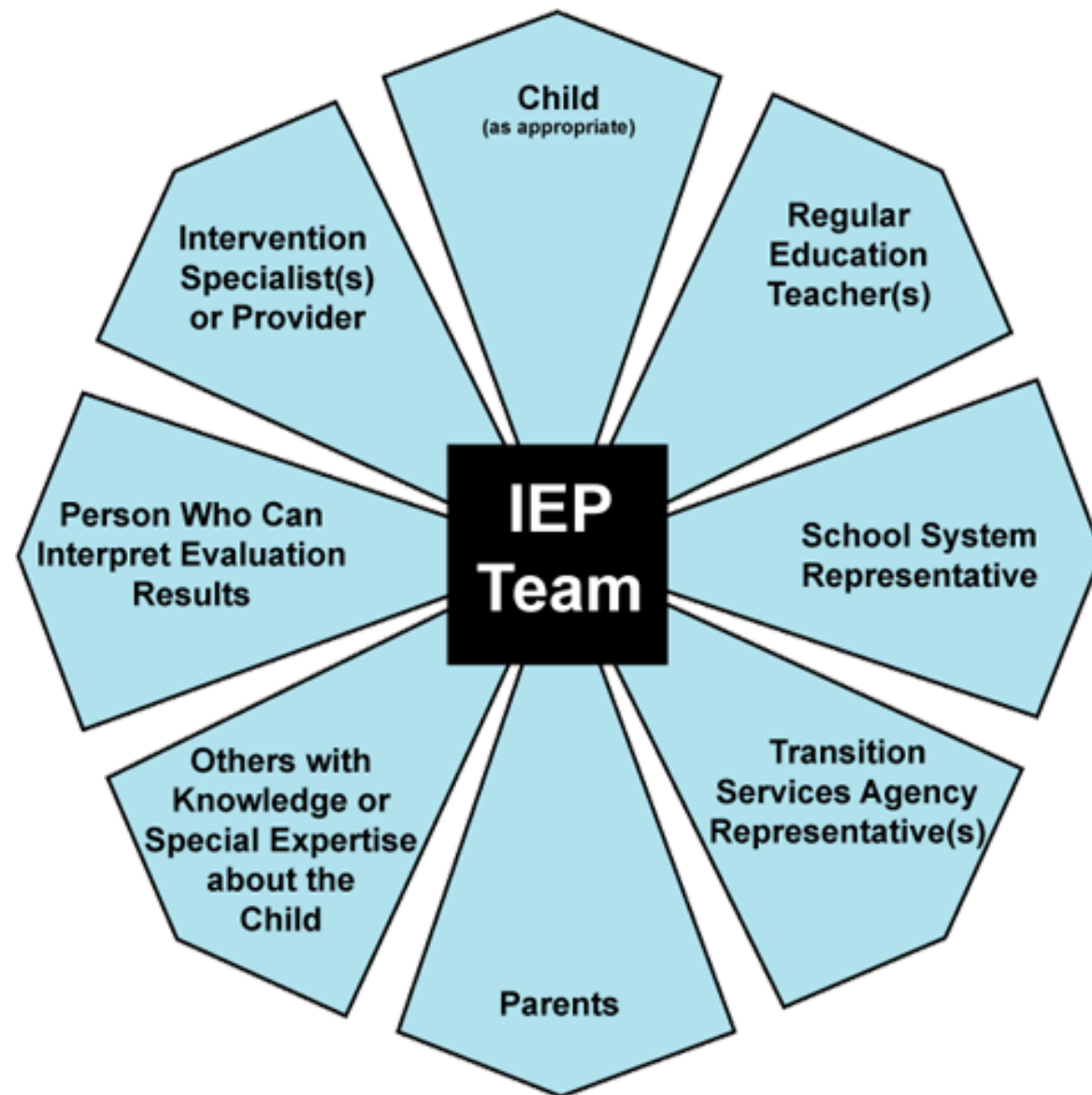


10 days - report



30 days - first IEP
meeting

IEP Team



Behavior and the IEP

- Functional Behavior Assessment
- Behavior Intervention Plan



Reviewing and Revising the IEP

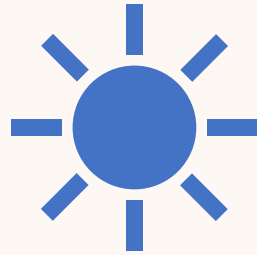
- Review/Revise - At least once per year
- Re-evaluate – At least once every 3 years:
 - Continue to meet eligibility criteria
 - Additional services
 - Present levels



Other important IEP considerations



1. Least restrictive
educational environment



2. Summer services



3. Transition plan

Section 504 Plan

- Services through Gen Ed only
- Eligibility: Physical or mental impairment that substantially limits one or more major life activities



504 Process



REFERRAL



EVALUATE OF
ELIGIBILITY



DEVELOP 504 PLAN



IMPLEMENT 504
PLAN



PERIODICALLY RE-
EVALUATE STUDENT

Section 504 Plan Components

Typically brief

Lists responsible parties

Includes accommodations – allow the student to access the general education learning goals

Not modifications – changes the learning goals

IEP vs 504

504

- Civil rights law
- No separate funding
- No categories
- Requires substantial limitation on major life activity
- Caregiver participation recommended (not required)

Both

- Provide accommodations and modifications to school environment

IEP

- Federal Grant Program
- State and federal funding
- Disability/eligibility categories
- Requires adverse educational impact & need for specially designed instruction
- Caregiver is required IEP team member

504 Example - Allergies

Part 2. Section 504 Plan

Student Name:	[REDACTED]	504 Eligibility:
Current Section 504 Case Manager:	[REDACTED]	

- Participants: Document in a Report of Conference.
- The following accommodations have been agreed upon by school staff, parent(s) and student as being necessary for the student to have an educational opportunity equal to the average student in the general population.

Date(s) Accommodations Started and Stopped		Substantial Limitation as evidenced by:	Academic / School Accommodation:	*Identify Person Responsible
Date Start	9/15/10		Food free classroom except lunch boxes	teacher
Date Stop				
Date Start	9/15/10		Use cleaning wipes before + after all activities / especially if it involves	teacher
Date Stop				
Date Start	9/15/10		She is to be ~~separated~~ food separated from Class at lunch, her own area	teacher nurse cafeteria custodian
Date Stop				
Date Start	9/15/10		parents will attend all parties	teacher parents
Date Stop				
Date Start	9/15/10		parents will provide all of Jillian's snacks	teacher parents
Date Stop				
Date Start	9/15/10		Every staff member who works with Jillian will carry the fenny pack w/ EpiPen.	teacher specials nurses teacher
Date Stop				
Date Start				
Date Stop				

*Specify teacher(s), administrator, counselor, nurse, parent, student, or other responsible for implementing the accommodation.

504 Example - ADHD

SAMPLE 504 PLAN

Student: Brendan Davis
Date of Birth: June 23, 2004
Grade: 4th
Date of Plan: September 4, 2013
Projected Date of Review: September 1, 2014
Mental/Physical Impairment: ADHD

Area of Educational Needs	Accommodations	Person or Persons Responsible	Frequency of / When Accommodation is to be Implemented
Work Completion	Have student complete either even or odd problems	Teacher	When written work or homework is assigned
Organization	Assign a "buddy" to work with student at end of day to make sure all needed materials and books are brought home	Student, Student Buddy, Teacher (responsible for assigning buddy)	Every day—10 minutes before the end of the school day
Behavior	Use positive redirects when behavior becomes inappropriate	Teacher and other staff depending on location (librarian, etc.)	Whenever needed
Inattention	Preferential seating – have student sit in or near the front of the classroom, away from the door	Teacher	Daily
	Provide a quiet area for the student to complete work	Teacher	Whenever needed
Test Taking	Allow extra time to complete tests	Teacher	Whenever needed
	Allow the student to complete test in library or resource room	Teacher	Whenever needed

Approved:
Date:
Parents:
Teachers:
Other School Personnel
Name

Title

IEP Example

Student Name: _____ Meeting Date: _____

_____ABC_____SCHOOL SYSTEM
INDIVIDUALIZED EDUCATION PROGRAM (IEP)

IEP Meeting Date: 4/11/11	Purpose of IEP Meeting : Initial ☐ Annual Review ☐ Amendment ☐
Student Name: Bob Smith	Date of Birth: 1/11/03 GTID#
Eligibility Category(s): Specific Learning Disabilities and ADHD	Most Recent Eligibility Date(s): 10/10/08
School: DEF School	Grade: 3.0 School Year: 2010-2011
Parent(s): M/M Smith	
Address:	Email:
Phone (home):	(work): (cell phone):

TEAM MEMBERS IN ATTENDANCE

REQUIRED MEMBERS	ADDITIONAL MEMBERS
Parent: Mr. John Smith	Name/Title:
Parent: Ms. Mary Smith	Name/Title:
Local Education Agency Representative (LEA): Dr. Jones, Principal	Name/Title:
Special Education Teacher: Ms. Jones	Name/Title:
Regular Education Teacher: Mr. Williams	Name/Title:
Student (age 18 or if transition is being discussed):	Name/Title:
Agency representative (responsible for transition services):	Name/Title:

I. PRESENT LEVELS OF ACADEMIC ACHIEVEMENT AND FUNCTIONAL PERFORMANCE

Results of initial or most recent evaluation and results of state and district assessments:
CRCT Math: 801 (800 is passing) CRCT Reading: 780 (800 is passing)
Numbers and Operations Vocabulary
Measurement Comprehension
Algebra Information
Data Analysis and Probability
Description of academic, developmental and/or functional strengths:
Positive responses to positive reinforcement programs
High level in mathematics
Desire to do well
Gets along with others well
Description of academic, developmental and/or functional needs:
Reading fluency at 89 words correct per minute (below grade level); inconsistent use of vowel digraphs; two and three letter blends in words of two, or more, syllables; difficulty spelling the same vowels and consonants noted in reading; difficulty writing a paragraph with introduction, middle, end
Bob also mispronounces: [s, sh, l, r] and short vowels [e, i oo]. He forgets to hand in homework that has been completed; has difficulty getting started on work; and difficulty organizing work into manageable steps.
Often understands the material, but frequently performs poorly on tests; comes to class unprepared with materials, assignments, etc.
Parental concerns regarding their child's education:
Below grade level in reading
Difficulties with spelling and writing
Takes extended amounts of time to complete homework each night
Forgets assignments or materials/books to complete assignments
Impact of the disability on involvement and progress in the general education curriculum (for preschool, how the disability affects participation in appropriate activities):
Bob's reading fluency problems make it impossible for him to read grade level books to understand the material. His spelling problems hinder his writing; he tends to write only what he can spell. Although he has good ideas for writing paragraphs, he has difficulty organizing his thoughts into a Beginning, middle, and end.

What can parents do to support students?

Document	Request	Share	Participate	Learn
Keep a medical/educational binder	Request an evaluation in writing (if there are learning concerns)	Share the medical documentation with the school	Participate on the IEP team (when applicable)	Learn more – resources on next slide

Resources

- [Washington Education Ombuds](#) assists students and parents/guardians who have questions or concerns about Washington's K-12 public schools.
- [Office of Superintendent of Public Instruction \(OSPI\)](#) works with parents/guardians and school districts to resolve disagreements about a student's special education program.
- [PAVE](#) offers support, information and training to families on topics including school supports.
- [The Arc of Washington State](#) supports individuals with developmental disabilities and their families on issues including school supports.
- [Sound Options Group](#) supports families through special education facilitation services.
- [Patient and Family Resources from School Services at Seattle Childrens](#)

References



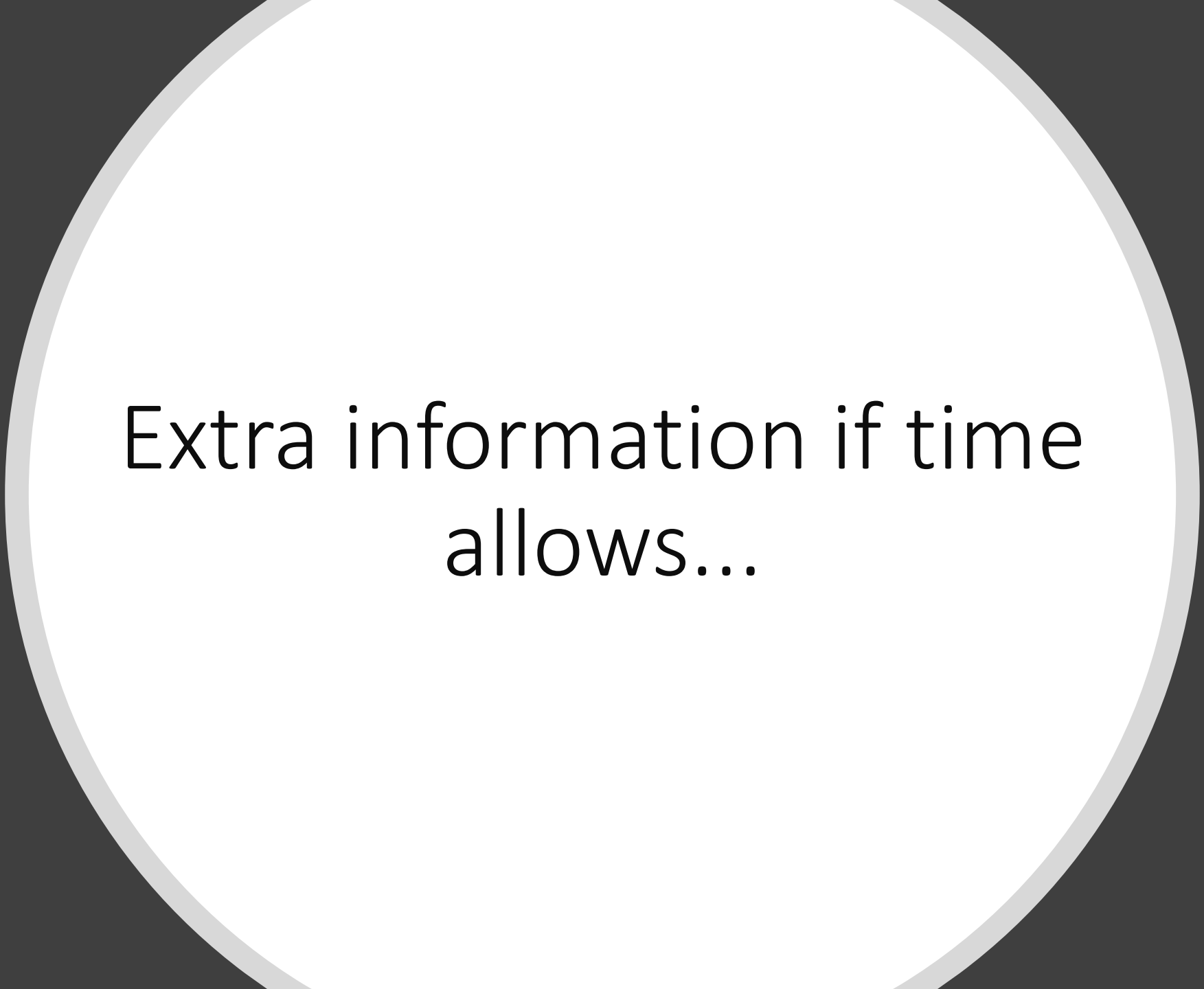
[Individualized Education Programs \(IEP\) | Washington State Governor's Office of the Education Ombuds](#)



[AlbertsonSection 504 Handout.pdf \(wa-schoolcounselor.org\)](#)

Questions?





Extra information if time
allows...

Overall Cognitive Abilities/ IQ



Intelligence or IQ



Verbal reasoning



Visual-spatial reasoning



Nonverbal reasoning (pattern recognition, novel problem solving, fluid reasoning)



Processing speed



Working memory

Attention and Executive Functioning

- Sustained attention
- Divided attention
- Inhibitory control
- Cognitive flexibility
- Working memory
- Processing speed
- Planning and organization
- Parent report of cognitive regulation, emotional regulation, and behavioral regulation



Language and Communication Skills



Speech



Receptive language



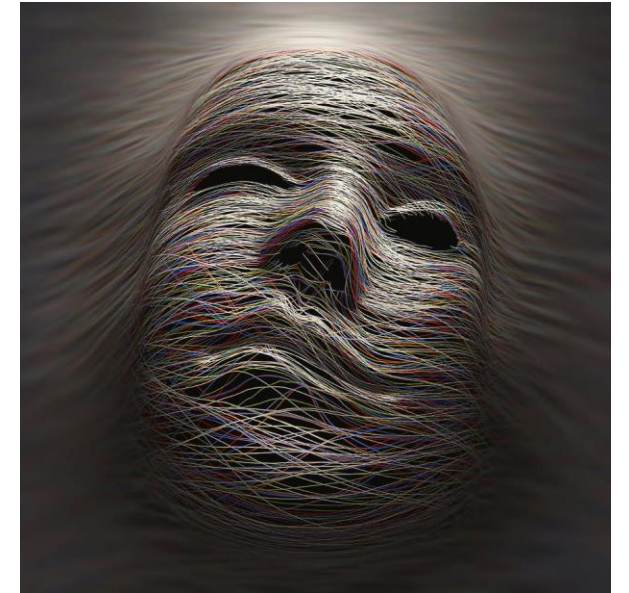
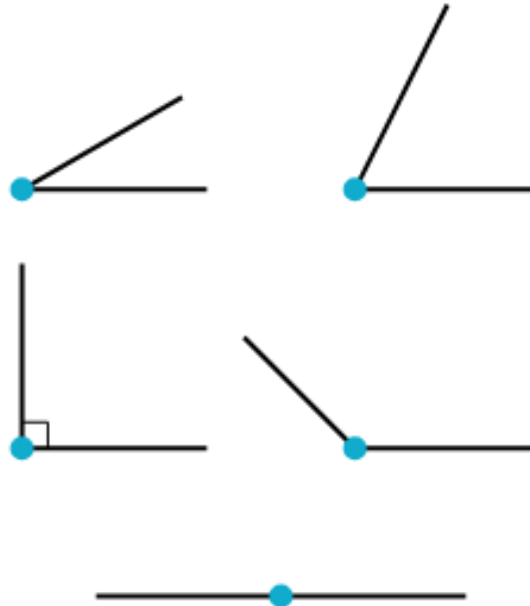
Expressive
language



Social-
communication

Visual-Spatial/Perceptual

- Testing brains ability to process and organize information
- Tested by having patients match pictures, copy figures, name objects that have been distorted, and judge the orientation of lines at different angles
- “What” vs. “Where” pathway



Sensorimotor

- Testing for lateralized difference that indicate dysfunction in one hemisphere
- Tested by observing gait and having patients complete fine motor tasks
- Key is difference in left vs. right functioning



Memory



- We test short-term (working memory), learning slope, encoding, retention, recall, and recognition
- Tests use variety of list learning, story memory, pictures, location in space, and abstract designs
- Lateralizing value is less reliable but still important

Academics

- Lower priority in neuropsych evaluation
- Standardized tests of reading, writing, and mathematics
- Can help identify learning disorders



Emotional/Social/Behavioral

- Assessed via interviews and questionnaires
- Diagnoses may be provided or deferred
- Treatment recommendations

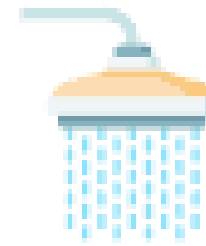


Adaptive Skills

- Assess via interview, observation, standardized questionnaires with parents and/or teachers
- Extremely important for disability qualification



Brushing teeth



Having a shower



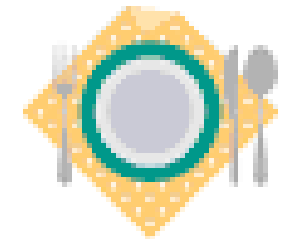
Getting dressed



Packing school bag



Making the bed



Setting the table