

Neurodevelopmental Evaluations: A Guide for Parents/Caregivers



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What is a Neurodevelopmental Evaluation?



- Involves a series of tests given to better understand a person's functioning in different areas
 - Compared to expectations for that person's age level
- Goal is to better understand a person's unique learning style
 - Strengths and weaknesses
- Helps in developing individualized plans to help children reach potential in school and other areas
- Helps parents/caregivers and professionals (e.g., doctors, teachers, therapists, etc.) plan and provide treatment and interventions

Reasons for Neurodevelopmental Evaluation



- Individuals are referred for testing for many reasons
 - To find out current level of functioning
 - To help identify problems with learning, memory, or attention
 - To find out strengths and weaknesses for school plans
 - To find out if a person has a specific diagnosis/disorder
 - ✦ Learning disability, ADHD, Autism, etc.
 - To help doctors and therapists better understand patients
 - To make recommendations for treatment and interventions
 - ✦ May result in referrals for other therapy or other specialists
 - To look at a person's development over time
 - ✦ Track how a person develops new skills

At What Age Do We Perform Evaluations?



- Complete evaluations are for children age 6 and up
- Emerging skills can be measured in young children
 - Shorter evaluations for preschool children (age 4-5)
 - Preschoolers have not developed many skills yet
- Infants and toddlers (ages 0-3) are given brief developmental evaluations
 - Measure of how the baby is developing in three areas:
 - ✦ Problem solving: exploring and learning about their environment
 - ✦ Language: talking and responding to others
 - ✦ Motor skills: crawling, walking, running, etc.

How Often Do We Evaluate?



- For infants, about every 6 months to track development
- For children, about every 2-3 years
 - More often if requested by parent, doctor, school
 - Less often if child is doing well and has no issues
- For adolescents, at major transition points
 - Entering high school, college, employment
 - Transitioning from pediatric doctor to adult doctor
 - If experiencing symptoms or concerns
- Psychologist meets with patient at least once per year to check in and see if testing is needed

What is the Process?



- Tests performed by psychologist with experience and specialized training in assessment
- Collect information from many sources:
 - Parents/caregivers provide information about the child's developmental history, and any difficulties they are having
 - Doctors and medical records give information on medical history and any issues that may affect cognitive functioning
 - Teachers and school records give information on how person is doing in school, and any difficulties they are having
- One full day of testing – usually 4-6 hours
 - Paper/pencil tests, computer tasks, answering questions, and solving puzzles
 - Less time for younger children, more time for older adolescents
 - Sometimes is divided up over two appointments
- Written report of all findings and recommendations is provided by psychology
- Feedback session with parents/caregivers is last step

What is Evaluated?



- **Primary focus is cognitive functioning**
 - How the person thinks, learns, and solves problems
- **Look at many different areas:**
 - Intelligence (IQ)
 - Language
 - Memory
 - Attention
 - Organization and planning skills
 - Visual and motor coordination
 - Academic skills
- **Behavior and emotional factors are considered**
 - Issues may affect performance on tests
 - But are not main focus of evaluation

Intellectual Ability (IQ)



- Overall measure of current cognitive ability
- Contains a series of subtests
 - Some are verbal with oral questions and no time limits
 - Some are visual and involve solving puzzles, with time limits
- Performance is compared to other children the same age to obtain scores
 - Identify individual areas of strength and weakness
- IQ is good predictor of school achievement
- IQ tests are limited
 - Do not measure character, motivation, humor, curiosity
 - It is one tool to help understand a child

Language



- Looks at the child's ability to understand language and communicate with others
- Two areas:
 - Receptive language:
 - ✦ How well can the child understand what they hear?
 - ✦ Can they understand and follow directions?
 - Expressive language:
 - ✦ How well can the child express his/her thoughts?
 - ✦ How big is their vocabulary?
 - ✦ Can they find the words they are looking for to express themselves?

Memory



- Looks at the child's ability to remember information
- How does person learn best?
 - Verbal or visual learner?
 - Does the child need additional time to learn and remember?
 - Does the child need extra repetition to learn and remember?
- Two areas:
 - Verbal memory:
 - ✦ How well can a person remember what they hear?
 - ✦ Can they remember simple, short information, but have trouble with more complicated information?
 - Visual memory:
 - ✦ How well can person remember what they see?
 - ✦ Can they remember details or spatial information better?

Attention



- Looks at how well the child can focus attention on one task
 - Can identify if child has trouble concentrating or focusing
- Attention is necessary for learning and academic success
 - Can the child pay attention for the entire length of a class presentation?
- Two areas:
 - Auditory attention:
 - ✦ Can the child pay attention to oral material (e.g., teacher's lecture)?
 - ✦ Can they ignore other noises and distractions to pay attention to specific information?
 - Visual attention:
 - ✦ Can the child maintain focus and complete tasks (e.g., homework)?
 - ✦ Can they focus on one task, even if it is not interesting or fun?

Organization and Planning



- **Executive function: ability to analyze situations, plan and take action, focus and maintain attention, and adjust behaviors as needed to get a job done**
 - Part of brain that is like the director of a movie– coordinating many actions to be able to perform a task
 - Some children have difficulty in one or more areas causing issues in everyday life
- **Executive function allows us to:**
 - Make and keep plans and appointments
 - Keep track of time and finish work on time
 - Keep track of more than one thing at once
 - Evaluate ideas and reflect on our work
 - Ask for help or seek more information when we need it
 - Wait to speak until we're called on

Visual and Motor Coordination



- Three areas:
 - Visual perception:
 - ✦ How well can the child organize what they see?
 - ✦ Does the child see a figure as an integrated whole or as unrelated details?
 - Important for some math skills, understanding maps/graphs
 - Motor skills:
 - ✦ Looks at speed and coordination of small muscles in hands
 - ✦ Important for handwriting, typing, etc.
 - Eye-hand coordination:
 - ✦ Important for daily living tasks (e.g., driving, buttoning clothes, etc.)
 - ✦ Does the child have trouble that affects handwriting, note-taking, or “hands-on-work”?

Academic Skills



- Looks at how well the child is doing in academic areas
- Three main areas:
 - Reading:
 - ✦ Can the child read at their grade level?
 - ✦ Can the child understand what they read?
 - Math:
 - ✦ Can the child complete written math problems (e.g., multiplication, division, fractions)?
 - ✦ Can the child apply math skills to daily life (e.g., using money, telling time, etc.)?
 - Writing:
 - ✦ Can the child spell correctly?
 - ✦ Can the child compose sentences and essays at their grade level?
- For older adolescents and adults, looks at skills required to understand written medical instructions, gain employment, and perform everyday tasks

Results and Report



- Scores are obtained by comparing the child's performance to what would be expected based on his/her age
- Psychologist looks at all the information to find areas of strengths and weaknesses and patterns in the scores
- Results are presented in a written report
- Report includes
 - Summary of the background information of the child
 - List of all the tests given
 - Details of each score obtained, with actual scores and/or descriptive words (e.g., "average", "above average")
 - Summary of the interpretation and findings
 - Information about any diagnosis the child meets criteria for
 - Detailed recommendations

Recommendations



- Provides specific suggestions to parents/caregivers, doctors, school, etc.
- Individualized for every child based on their needs
- For parents/caregivers, can provide information on how to use child's areas of strength and manage areas of weakness
 - Referrals for counseling, therapy, or behavioral management to address behavior or emotional problems that were identified during the evaluation
- For schools, can provide information on how to best provide instruction to help child learn and succeed in the classroom
 - Specific suggestions for how a child can be taught to read, do math, or write
 - Suggestions for “accommodations” in the school setting (e.g., extra time to complete work, use of books on tape, use of calculators)
- For doctors, can provide information on how to best provide information and treatment for specific patient
 - Can include referrals to other services (e.g., speech/language therapist, occupational therapist, audiologist, etc.)

Feedback Session



- After evaluation and report are completed, psychologist will meet with parent/caregiver
 - Meeting lasts from 30-60 minutes
- Psychologist explains the evaluation results, discusses recommendations, and answers questions
- If diagnosis is given, parents/caregivers are provided with information on what this means
- Parents/caregivers encouraged to ask questions so that the information can be understood
- Psychologist provides support and guidance for next steps
- If needed, psychologist will speak with school to provide results and recommendations
 - Will always receive permission from parents before doing this
- Psychologist will update medical team (e.g., doctors, social workers) on evaluation results
 - With permission from parent



Thank you!