

Neurological Disorders Frequently Associated with Tourette Syndrome

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Tourette Syndrome (TS) is a neurological movement disorder characterized by uncontrollable movements and vocalizations referred to as Motor and Vocal Tics. It is also now commonly known as a spectrum disorder, which means that it is very frequently accompanied by other neurological disorders. Below is a list of these common co-morbid disorders and a brief description of the characteristics of each one.

Attention Deficit Disorder (ADD) / Attention Deficit Hyperactivity Disorder (ADHD)

ADHD / ADD are disorders that are very common seen with TS. May be the most problematic aspect of TS because it is often interpreted exclusively as a behavior problem. Children with ADHD are often:

- Inattentive
- Impulsive
- Hyperactive
- Disorganized
- Socially Immature

If a child is diagnosed with just ADD, the hyperactivity component will not be present.

Obsessive Compulsive Disorder (OCD)

OCD is often described as “Tics of the mind”. An obsession is an intrusive and recurring thought, image or impulse that your mind gets stuck on, which is unpleasant, and disrupts functioning. A Compulsion is a behavior that is used to reduce the anxiety accompanying the obsessions. OCD shares the chronic waxing and waning course of TS. It is also exacerbated by stress, excitement and fatigue just like the tics. Even the simplest tics and obsessions can be extremely interfering to a child who is trying to pay attention and get their work done. Below is a list of common obsessions and compulsions but certainly not an exhaustive list.

- Need for symmetry and perfectionism
- Neatness
- Counting
- Checking things over and over
- Constant doubt or worrying
- Germ obsessions

- Transition Difficulties
- Ritualistic behavior
- Anxiety
- Obsessive Sense of Justice
- Anxiety / Panic attacks
- Irrational fears / Phobias - Fear of acting on an impulse to harm others, Fear of violent or horrific images in one's mind

Less common obsessions and compulsions can include:

- Hoarding
- Collecting Things
- Compulsive Stealing (Kleptomania)
- Unwanted Sexual Thoughts: Forbidden or perverse sexual thoughts or images, forbidden or perverse sexual impulses about others, obsessions about homosexuality
- Religious Obsessions (Scrupulosity)
- Superstitions: Lucky/unlucky numbers, certain colors

Learning Disabilities

Any learning disabilities can be present and we urge schools to evaluate the child for all learning disabilities. However, persons with TS tend to struggle with what we refer to as Non-Verbal Learning Disabilities, which can include the following:

1) Dysgraphia. Handwriting Deficits

Dysgraphia is a non-verbal learning disability. Characteristics could include:

- Slow and laborious writing
- Hand and finger cramping
- Sloppy handwriting – uneven spacing – irregular margins, inconsistent lettering
- Inability to copy correctly from book to paper or chalkboard to paper (Visual Motor)
- Difficulty with written expression - getting thoughts onto paper
- Letter reversal
- Difficulty with punctuation and capitalization
- Interfering tics, OCD and sensory issues
- Difficulty with note taking
- Waxes and wanes like tics and obsessions

2) Auditory Processing Disorder (APD)

Characteristics of APD include:

- Difficulty following directions - simple and complicated
- Difficulty processing abstract information (Math word problems)
- Difficulty following conversations
- Difficulty with noisy environments
- Slow processing speed
- Difficulty remembering information - directions, lists

- Difficulties hearing the difference between sounds or words that are similar
- Difficulty with higher level listening tasks

3) Executive Dysfunction Disorder

Simply put, executive function is a set of mental skills that help you get things done. These skills are controlled by an area of the brain called the frontal lobe. Students with Executive Dysfunction will have difficulty:

- Keeping track of their belongings
- Organizing their materials
- Getting started on a task/staying on task
- Breaking down long assignments/projects
- Sequencing information
- Forming goals
- Writing down homework assignments
- Managing their time
- Working memory
- Switching focus
- Remembering details
- Performing to their potential

Children with Executive Dysfunction will often:

- Lose their homework and other materials
- Come to class unprepared
- Have disorganized desks and lockers
- Fail to finish anything
- Have difficulty managing workload
- Become quickly overwhelmed

Social Skills Deficits

Children with Social Skills Deficits often:

- Are often socially immature
- Have a social/emotional age that is often about 2/3 of their actual chronological age
- Have difficulty with social interactions with children their own age
- Prefer playing with younger children
- Respond in a manner that is not age appropriate

This could range from mild social delays to full-blown Autism Spectrum Disorder (ASD). They will have difficulty:

- Interacting with peers
- Understanding social "rules"
- Establishing eye contact
- Understanding social nuances and picking up on social cues
- Perceiving the feelings of others

They will tend to:

- Interact normally with adults but cannot do likewise with their peers.
- Experience social anxiety
- Prefer activities they can do alone
- Demonstrate lack of judgment
- Experience social rejection
- Be able to explain what they need to do in social situations but cannot demonstrate it in the real situation.

Sensory Processing Disorder (SPD)

SPD is the constant bombardment of sensory input that is neither perceived nor interpreted correctly. It can affect any of the senses and cause great anxiety/pain for the child. They may vacillate between being hypersensitive to hyposensitive. The child may be extremely sensitive to light touch, jerking away from a soft pat on the shoulder, while being rather indifferent to pain. It can affect any of the senses. Hyposensitivity makes them:

- Appear sluggish
- Have self-abusive behaviors
- Pick at skin, biting nails, scratching oneself, etc.
- Repeatedly touch surfaces or objects that are soothing
- Crave rocking or strong sensory input

The child with hypersensitivity will:

- Sensitive to sudden touch, the feel of certain fabrics
- Need to have tags cut out of clothes or socks without seams
- Very sensitive to bright or florescent lights
- Can't tolerate the texture of certain foods in their mouth
- Very sensitive to certain smells
- Over reactive to certain sounds
- Melt down in noisy chaotic environments

Rage / Meltdowns Associated with TS

- Some students with TS and ADHD exhibit a short fuse and a low frustration tolerance that can lead to all-out loss of control. They may go into uncontrollable rages/meltdowns for what appears to be no reason
- These behaviors are often the result of one or more of their neurological disorders
- Unfortunately, This can often lead to a diagnosis of an emotional disorder and/or Oppositional Defiant Disorder (ODD)

It is critical to ascertain how the behavior relates to the neurobehavioral disorder in order to provide an appropriate and effective behavior plan. Common triggers for behaviors associated with TS are:

- OCD - The child is stuck and can't move on

- SENSORY ISSUES - The child is on sensory overload
- ADHD - Impulsive behaviors
- TICS that appear purposeful but are not
- DYSGRAPHIA or other learning disabilities - The child becomes frustrated because they simply cannot do what is required of them.

Other Disorders Seen with TS

Mood Disorders/Depression

Eye Tracking Problems

Sleep Disorders

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