Seizures, Tics, and Unusual Movements

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Objectives

- Become familiar with unusual movements seen in autism and IDD
- Recognize features that warrant additional medical work up
- Be aware of unusual movements seen as medication side effects

Differential diagnosis of atypical movements

- Stereotypies
- Motor coordination
- Seizures
- Motor tics
- Obsessive-compulsive behaviors
- Catatonia
- Sleep-related
  - Periodic limb movements
  - Benign myoclonus of sleep
  - Restless legs syndrome
- Medication reactions
  - Dystonia
  - Dyskinesias
  - tremor
- Other

Stereotypies

- Typically begin age 18-36 months
  - Represents one of the “restricted interests and repetitive behaviors” of autism spectrum disorder (not seen in all cases)
- Increased with ADHD, learning disorders, OCD (but also in otherwise typical development)
- Typically lessen over time
- Rhythmic, can last seconds/minutes
- Consistent in pattern, but can change over time
  - Tendency to become more complex over time
- Increases when engrossed in an activity
- Can increase with anxiety but also when happy/excited
- “Euphoric” NOT “dysphoric” (do not need to suppress if not unsafe)
  - Criticism from self-advocates for efforts at suppressing to “look normal”

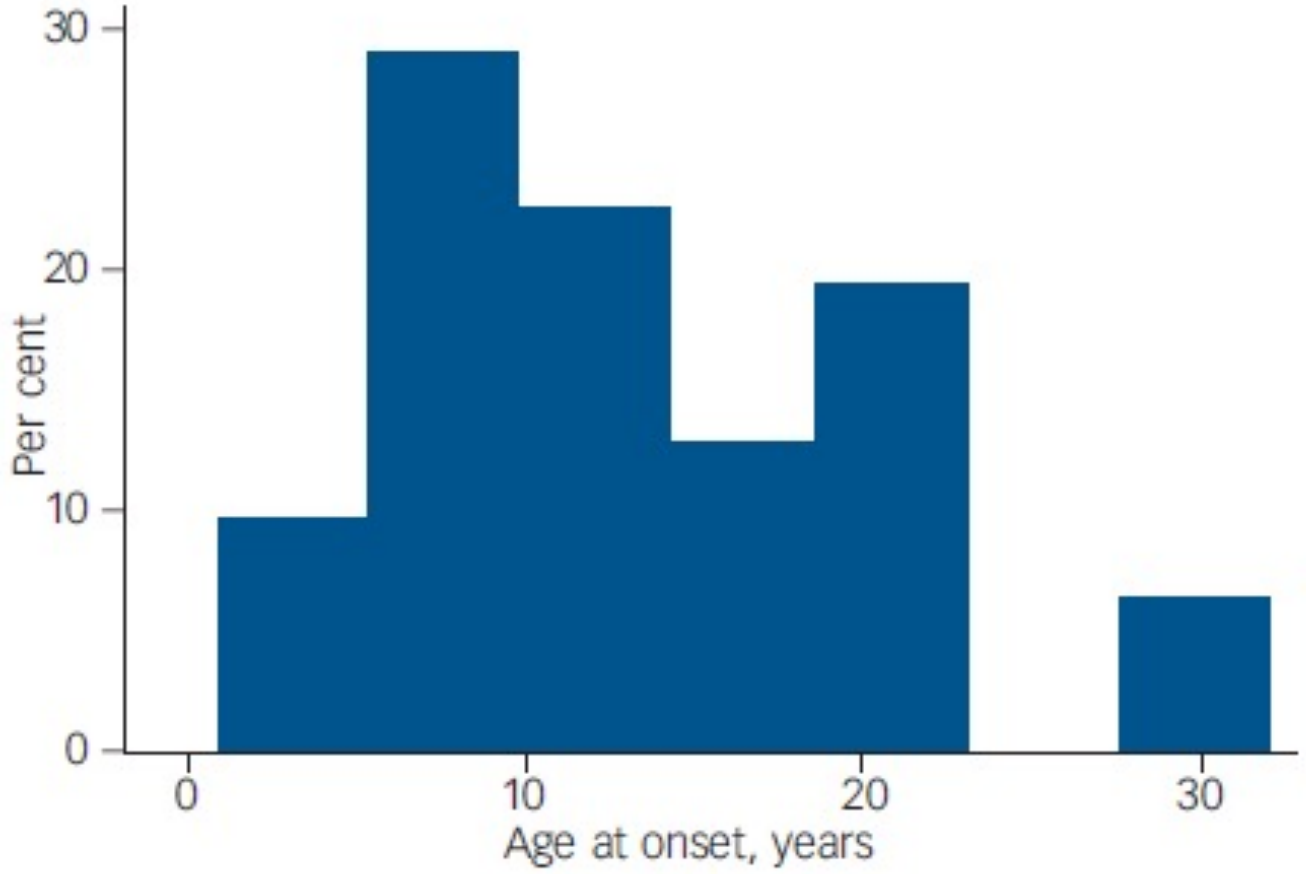
Motor coordination

- Motor impairment seen in 79-88% of children with ASD (Bhat, 2020)
- Correlates with increasing severity of core impairments in social-communication and repetitive behavior
- Also correlates with cognitive impairments
- Can involve *praxis (task-specific)*
- Categories of impairment include
  - Gross-motor (visuo-motor or multilimb coordination/planning)
  - Fine-motor
  - General coordination

Seizures

- 22% of adults with autism (Bolton, 2011)
- Onset at time of diagnosis – think “syndrome”
- More commonly occurring in ASD with associated ID
- All seizure types can be seen
  - simple/focal motor, complex partial, absence, tonic-clonic, atonic/drop attacks
  - Features include short duration (seconds-minutes), lack of response during event, “post-ictal” fatigue
- If regression in skills/development – seizures are on the differential
- Be aware of non-epileptic psychogenic seizures (i.e., pseudoseizures)
  - Those with epileptic-type are especially prone to these as well
- Anti-epileptic drugs (AEDs) can sometimes influence behavior
  - Positive influence – valproic acid, lamotrigine, oxcarbazepine
  - Negative influence - levetiracetam

Epilepsy in Autism – Age of Onset



Bolton, 2011

Motor tics

- Brief, rapid movements or vocalizations (Tourette's)
- Non-rhythmic (unlike seizures and stereotypies)
- Can be temporary or can become chronic (> 6 mos)
- Most common are eye blinks, head jerk, shoulder shrug, vocal grunting, throat clearing ("complex" if involves multiple muscle groups)
  - For chronic, can vary over time; waxes and wanes, often increased in times of stress
- Often begins due to a sensory phenomenon (seasonal allergies, hairstyle, etc.)
- Can temporarily suppress voluntarily

Obsessive compulsive behaviors

- Onset later than stereotypies (typically pre-adolescence/adolescence)
- Typically, dysphoric (as opposed to euphoric for stereotypies)
- Family history of OCD in 25%
- Associated with functional impairment
- Typically, more complex behaviors
  - Cleaning, checking, repeating, counting, arranging, hoarding,

Catatonia

- Onset of developmental regression in adolescence
- Often begins with obsessive slowing of tasks, compulsive rituals
  - “freezing moments” (stuck in doorways, etc.)
- Often progresses to involve aggression and mood disturbance
- Features can include
  - Excessive motor unrest (akathisia) or immobility
  - Echopraxia/echolalia
  - New onset stereotypy
  - Verbally unresponsive or verbigeration
  - Fixed gaze/decreased blinking
  - negativism
  - Body part posturing; grimacing
- Weight loss is red flag
  - Can become a medical emergency; response to high dose lorazepam and/or ECT

Sleep related

- Restless legs syndrome (RLS)
  - Can disrupt sleep, sometimes occurs in awake state while resting/sitting
  - Iron deficiency can cause
- Periodic limb movements of sleep
  - While sleeping, related to RLS
- Benign myoclonus of sleep
  - Brief, sometimes whole body, occurring while drifting asleep
- Sleep terrors/sleep walking/sleep talking
  - Some frontal lobe seizures can look similar
- Cataplexy
  - A component of narcolepsy; looks similar to epileptic “drop attacks”

Medication side effects

- Dystonia
  - Abnormal muscle tone brought on by muscle activation
  - Can occur in conditions of CNS injury (CP, TBI, encephalitis)
  - Anti-psychotic meds – can be medical emergency
- Dyskinesias
  - Can occur acute, delayed (tardive), or during withdrawal of anti-psychotic med
- Akathisia (excessive motor unrest)
  - Can be a sign of catatonia, neuroleptic malignant syndrome (NMS) or serotonin syndrome (SSRIs)
- Tremor
  - More common in those with baseline motor impairment
  - Most common with valproic acid and lithium, but also anti-psychotics and SSRIs can cause

Other spells

- Breath-holding spells
  - Usually preceded by a loud cry; typical onset 6-18 months
- Syncope
  - Fainting spells; usually feel a pre-syncopal warning
- Staring spells
  - “daydreaming” – can usually break with light touch or voice; no associated facial or body movements; most common cause of ordering an EEG; more common in ADHD
- Hemiplegic and other migraine syndromes
  - Typical onset in teens
- Cyclical vomiting
  - Typically lasts days, age 4-7, some association with migraines
- Benign paroxysmal vertigo
  - Thought to be a migraine equivalent in young children (age 2-5)

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Questions

THANK YOU!

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