



## Repetitive Movements: Chorea and Tics

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# Tics

- ◆ Spontaneous, brief sudden movements or sounds that interrupt normal actions
  - ▶ Simple or Complex
- ◆ Key aspect: Preceded by an urge or discomfort that is relieved by doing the tic (burning in eyes, dry throat)
- ◆ Key aspect: suppressibility
- ◆ 25% of children have tics, boys more frequently than girls
- ◆ Wax and waning course
- ◆ Worsened by sleep deprivation, illness or stress

# TICS

[https://www.youtube.com/watch?v=e8HtTb0Vk\\_o](https://www.youtube.com/watch?v=e8HtTb0Vk_o)

# Causes of Tics

- ◆ No other neurologic or developmental concerns: transient tics or primary diagnosis of Tourette's disorder
- ◆ Exacerbated by stress, excitement, boredom, fatigue or heat
- ◆ Secondary causes: infection (PANS) trauma, cocaine and neuroleptic exposure
- ◆ Infection often group A beta-hemolytic streptococcal infections

# Tic Diagnoses

- ◆ Tourette's Syndrome
- ◆ Persistent Chronic Motor/Vocal Tic Disorder
- ◆ Provisional Tic Disorder (less than one year)

# Medications for Tics

- ◆ Treatment Algorithm
- ◆ Ignore when possible
- ◆ Suppress when necessary
- ◆ Psychotherapy to learn habit reversal
- ◆ Medications (in addition to treatment for cause)
- ◆ Alpha-agonists: clonidine and guanfacine
- ◆ FDA Approved: Pimozide and haloperidol
- ◆ Off-label: Risperidone, SSRIs when co-morbid anxiety/OCD
- ◆ Clonazepam
- ◆ Botulinum toxin type A
- ◆ Ongoing investigations- N-acetyl cysteine

# Chorea

- ◆ Involuntary, abrupt, irregular, purposeless movements. Travel from one part of the body to another, can occur during rest and sleep
- ◆ In case of Sydenham's Chorea from Group A beta-hemolytic strep
- ◆ onset is acute, usually 4-8 weeks post-strep infection (could be as long as 8 months after)
- ◆ Typical age is 8-9 years old and female predominance
- ◆ Wide spectrum of disability from mild to severe
- ◆ Speech differences
- ◆ Other medical: cardiac, arthritis
- ◆ Obsessive compulsive symptoms

# Video of Chorea

- ◆ <https://www.youtube.com/watch?v=-Os3T6Yz7w0>

# Causes of Chorea

- ◆ Inherited
- ◆ Medications (oral contraceptives, neuroleptics, anticonvulsants, amphetamines)
- ◆ Immune/Infectious (ie. Sydenham Chorea- most common cause in children, Group A beta-hemolytic strep )
- ◆ Metabolic
- ◆ Neoplasms
- ◆ Brain injury- vascular, cerebral palsy
- ◆ Rule out other causes to dx SC- MRI, lumbar puncture

# Treatment of Chorea

- ◆ Sydenham's chorea: penicillin and penicillin prophylaxis until age 21 years old
- ◆ No FDA approved medications
- ◆ Valproic acid often first-line and risperidone, carbamazepine, methylprednisone

# Stereotypies

- ◆ Repetitive, non-purposeful gestures or movements of hands. Often rhythmic pattern and prolonged
- ◆ Partially suppressible
- ◆ Commonly associated with ASD, OCD, schizophrenia, sensory deprivation ie., blindness
- ◆ Age of onset younger
- ◆ Less responsive to pharmacotherapy

# Video of Stereotypes

- ◆ <https://www.youtube.com/watch?v=iDuAugAykcc>

# Managing the Differential Diagnoses

- ◆ Who do you go see?
- ◆ Pediatrician->Neurologist->Immunologist/PANS->Psychiatrist and/or Psychologist
- ◆ What do they want to know from you...just a start...
- ◆ When did movement start
- ◆ How did it start- abrupt or gradual
- ◆ Any other changes you noticed in your child? Speech, behavior, appetite, etc.
- ◆ What can/does your child tell you about the movement
- ◆ Recent illnesses in child or family?
- ◆ Anyone other relatives have similar movements or neurologic, immune or developmental disorders?
- ◆ Child's developmental history

# References

- ◆ [Child and adolescent neurology for Psychiatrists](#). Walker, Kaufman, Pfeffer and Solomon.

# ***What about OCD?***



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