

Tics, Tourette's and PANDAS

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Tic Disorders: Morbidity

- “It is like I am on stage 16 hours a day.”
- “Every waking moment I am trying not to tic when people are watching.”
- Social disability
 - Enduring criticism or withdrawing from activities
 - Prejudice in work and school settings
- Interruption of behavior and thought
 - Losing track of a conversation or slow to complete a task because of incessant interruptions by tics
- Self-injurious behavior
- Inadvertent injuries

Tic Disorders: Characteristics

- **Tic Definition**

- motor or phonic
- simple or complex
- recurrent
- non-rhythmic and stereotyped
- occurring in bouts/fractal
- never present while clearly asleep

Tics: Characteristics

	Simple	Complex
Motor		
Phonic		

Tics: Characteristics

	Simple	Complex
Motor	<ul style="list-style-type: none">• “Meaningless”• Single muscle group• Face, neck, extremities or abdomen	
Phonic		

Tics: Characteristics

	Simple	Complex
Motor	<ul style="list-style-type: none">• “Meaningless”• Single muscle group• Face, neck, extremities or abdomen	<ul style="list-style-type: none">• “Purposeful”• Gestures• Dystonic postures• Chorea-like• Self-abusive
Phonic		

Tics: Characteristics

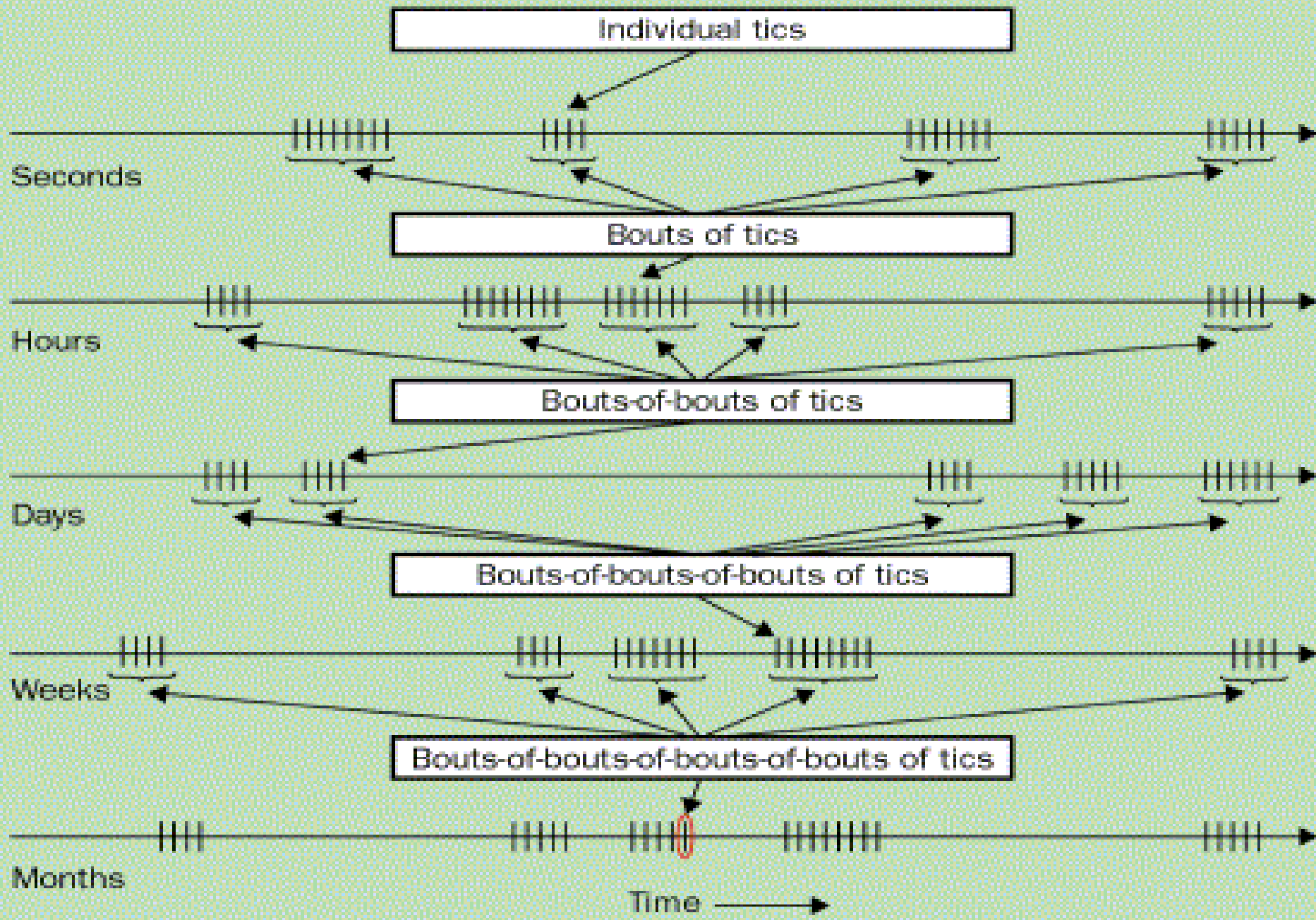
	Simple	Complex
Motor	<ul style="list-style-type: none">• “Meaningless”• Single muscle group• Face, neck, extremities or abdomen	<ul style="list-style-type: none">• “Purposeful”• Gestures• Dystonic postures• Chorea-like• Self-abusive
Phonic	<ul style="list-style-type: none">• “Meaningless”• “Allergy”-like• Grunt, squeak, click, hum• Animal noises	

Tics: Characteristics

	Simple	Complex
Motor	<ul style="list-style-type: none">• “Meaningless”• Single muscle group• Face, neck, extremities or abdomen	<ul style="list-style-type: none">• “Purposeful”• Gestures• Dystonic postures• Chorea-like• Self-abusive
Phonic	<ul style="list-style-type: none">• “Meaningless”• “Allergy”-like• Grunt, squeak, click, hum• Animal noises	<ul style="list-style-type: none">• “Linguistic”• Syllables• Words, counting, obscenities (coprolalia)• Imitative (“echoic”)

Tics: Characteristics

- **Fractal quality**
 - Tics occur in bouts over:
 - seconds
 - minutes
 - weeks
 - months
 - years



Tics: Characteristics

General evolution of tics

rostral → caudal

midline → peripheral

simple → complex

(motor vs. phonic not predictable)

Tic Disorders: Characteristics

- **Premonitory urge**
 - 80 to 90% of people describe a premonitory urge occurring some of the time.
 - 1/3 of people describe that every tic is associated with a preceding urge.
- **Tics can usually be suppressed**

Clinical Course

- Hyperactivity often precedes tics
- Head and neck tic onset age 6 to 7
- Vocal tics age 8 to 9
- Tend to wax and wane over a course of six months to two years
- Significant lessening by adulthood (less than 20% with impairment in quality of life)

Tourette's Disorder

- **DSM-IV-TRTM Criteria**
 - Multiple motor + 1 or more vocal
 - Many times/day & at least 1 year
 - Onset before 18 years
 - Not due to substance or medical condition

Tics: Differential Diagnosis

- Myoclonic seizures
 - Can be present during sleep
 - Not suppressible
 - Behavior arrest
- Chorea (including Sydenham's)
 - Dance-like
 - Writhing (athetoid)
 - “Flows through muscle groups”
 - Milkmaids sign

Tics: Differential Diagnosis

- Stereotypies
 - Usually begin before 3 years old
 - More rhythmic and less random
 - Associated more with engrossment (rather than premonitory urges)
 - More stereotypic with less waxing and waning
- Allergies

Comorbidities

KEY POINT!

Always assess for non-tic comorbidity

50-75% occurrence if tics mild

80-90% occurrence if tics severe

Comorbidities

- Anxiety Disorders
- ADHD
- Learning Disabilities
- Behavioral Disorders
- Pervasive Developmental Disorders
- Other Mood Disorders

PANDAS

Pediatric

Autoimmune

Neuropsychiatric

Disorder

Associated with

Streptococcal infections

PANDAS

1. Presence of Obsessive-compulsive disorder and/or a tic disorder
2. Pediatric onset of symptoms (age 3 years to puberty)
3. Episodic course of symptom severity
4. Association with group A Beta-hemolytic streptococcal infection (a positive throat culture for Strep or history of Scarlet Fever.)
5. Association with neurological abnormalities (motoric hyperactivity, or adventitious movements, such as choreiform movements)

The National Institute of Mental Health (NIMH)

PANDAS – FAQ

See: www.McIntoshNeurology.com/blog

1. Is there a test for PANDAS?
2. What are the diagnostic criteria for PANDAS?
3. What is an episodic course of symptoms?
4. Are there any other symptoms associated with PANDAS episodes?
5. My child has had strep. throat before, and he has tics and/or OCD. Does that mean he has PANDAS?
6. Could an adult have PANDAS?
7. My child has PANDAS. Should he have his tonsils removed?
8. What exactly is an anti-streptococcal antibody titer?
9. What does an elevated anti-streptococcal antibody titer mean? Is this bad for my child?
10. When is a strep. titer considered to be abnormal, or "elevated"?
11. Should an elevated strep. titer be treated with antibiotics?
12. What are the treatment options for children with PANDAS?

Management

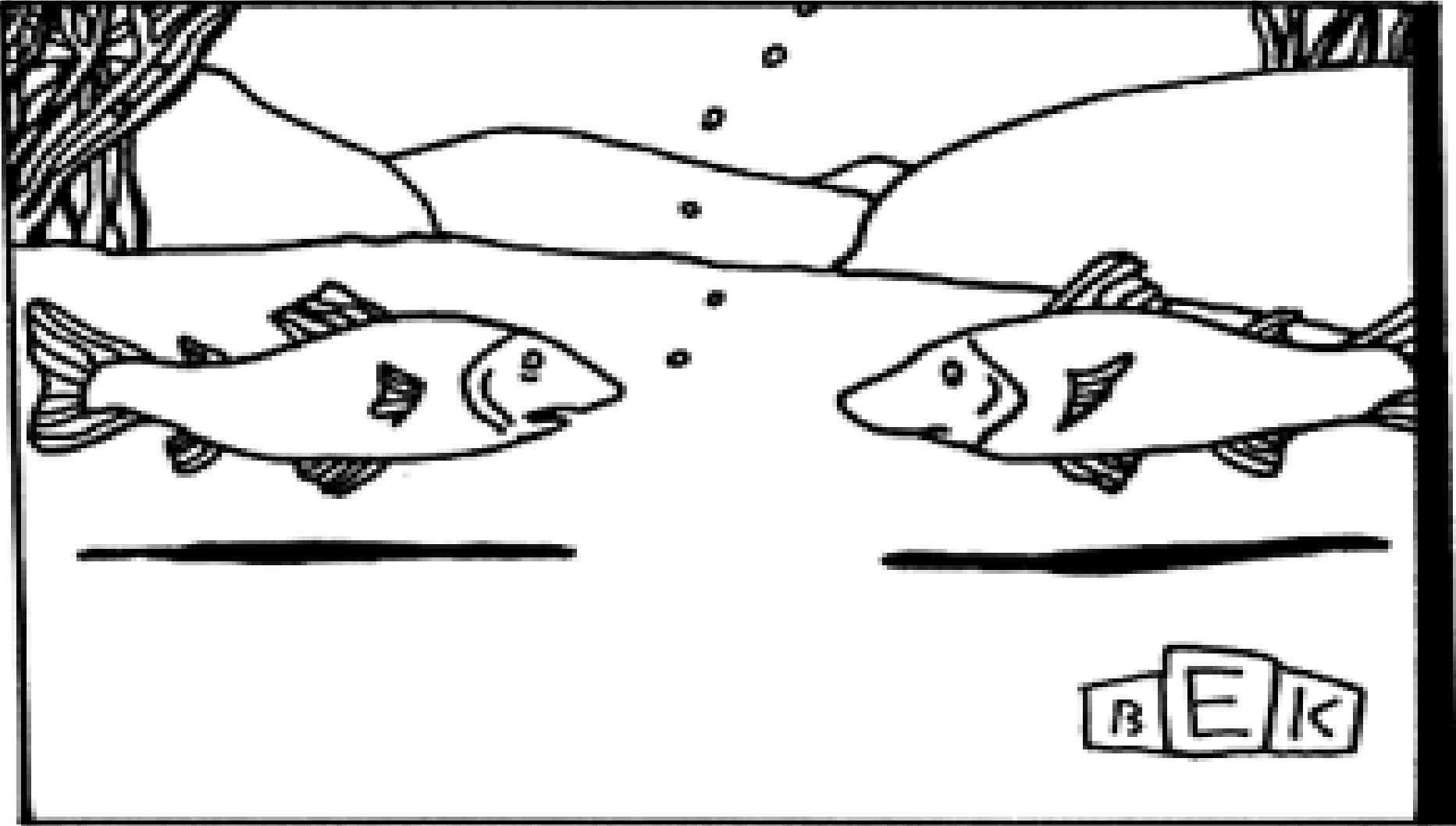
- **Education**
- **Lifestyle changes**
- **Complementary and alternative medicine (CAM)**
- **Habit reversal training (HRT)**
- **Pharmacotherapy**
- **Treatment of comorbidities**

Management - Education

- Teacher in-service
 - Resources on www.tsa-usa.org
 - http://www.tsa-usa.org/images/IHaveTourettesTeachers_GuideTSAHBO.pdf
- Classroom education
- Teacher as role model
- Tic breaks/sanctuaries
- Testing accommodations
- Opportunities for movement

Management - Lifestyle changes/CAM

- Ignore the tic
- Anxiety relieving activities
 - Unstructured play
 - Vigorous exercise
 - Tae kwon do, yoga, deep breathing
- Adequate sleep/sleep hygiene
- Magnesium/B6 and/or fish oil?



*“With all these omega-3 fatty acids,
you’d think I’d feel better.”*

Common Sense Approach to CAM

Effective?

Safe?

	YES	NO
YES	Recommend	Tolerate
NO	Monitor closely or discourage	Discourage

Source: Cohen MH & Eisenberg DM, *Ann Intern Med* (2002)

Specific Treatment Indications

- Physical discomfort
 - Headache, sore throat, muscle aches, etc.
- Functional impairments
 - Poor handwriting, athletic performance, etc.
- Social difficulties
 - Bullying, school refusal, anxiety
 - “It’s a tic, just something I do.”
 - “That’s my business”; “It’s none of your business”

Management - Habit reversal training (HRT)

- Multiple RCT's have demonstrated efficacy for HRT
 - Awareness Training
 - Relaxation
 - Competing response during tic or premonitory urge
 - Praise for lessened tics

Management - Pharmacotherapy

KEY POINTS!

- Do not assume medication is necessary
- Address comorbid conditions
- Complete tic remission is rare
- Stimulants are *generally* safe

Management - Pharmacotherapy

For liability reasons I've removed these slides for online publication.

Specific information about pharmacotherapy for tic disorders can be found at:

http://www.tsa-usa.org/Medical/images/cntped0804_038-049T2R1.pdf

Management - Comorbidities

- OCD & other anxiety disorders
- ADHD
- Learning disabilities
- Behavioral disorders
- Sleep disturbances
- Other self-injurious behaviors
- Family dysfunction

Summary

- Tics are disabling and tend to occur when they are least wanted.
- Social impairment is often underestimated by family and physicians.
- Comorbidities are common
- For mild tics, the best treatment is education, ignoring the tic and basic lifestyle changes.
- Indications for specific tic treatment include:
 1. Social difficulties
 2. Physical discomfort
 3. Functional impairment
- Often, treatment of underlying comorbidities is more effective than symptomatic tic treatment.
- Most commonly prescribed medications are not FDA approved and should be prescribed by a specialist.