Comprehensive Behavioral Intervention for Tics

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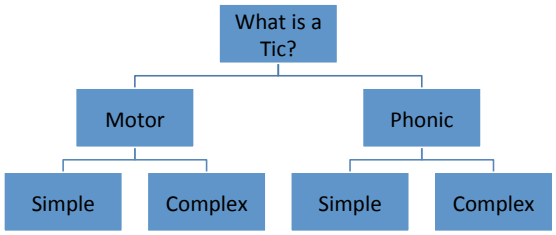


Motor tics

Simple - sudden brief, meaningless movements

- Eye blinking, eye movements, grimace, mouth movements, head jerks, shoulder shrugs

Complex - slower, longer, more "purposeful"

- Multiple simple tics occurring in an orchestrated pattern, facial gestures, touching objects or self, hand gestures, gyrating or bending, dystonic postures, copropraxia (obscene gestures)

Phonic Tics

Simple - sudden meaningless sounds or noises

- Throat clearing, coughing, sniffing, spitting, animal noises, grunting, hissing, sucking, other simple sounds

Complex - sudden, more "meaningful" utterances

- Syllables, words, phrases ("shut up", "stop that")
- Coprolalia (obscene, aggressive words)
- Palilalia (echo self)
- Echolalia (echo others)

Operational Definition

- Tourette's Disorder
  A. Both multiple motor and one or more vocal tics that have been present at some time during the illness, although not necessarily concurrently
  B. The tics may wax and wane in frequency but have persisted for more than 1 year since first tic onset
  C. Onset is before age 18 years
  D. The disturbance is not attributable to a substance or other medical condition

Operational Definition

- Persistent (Chronic) Motor or Vocal Tic Disorder
  A. Single or multiple motor or vocal tics that have been present at some time during the illness, but not both motor and vocal
  B. The tics may wax and wane in frequency but have persisted for more than 1 year since first tic onset
  C. Onset is before age 18 years
  D. The disturbance is not attributable to a substance or other medical condition
  E. Criteria have never been met for Tourette's disorder

Prevalence

- Tourette's is around 0.77% of children, 0.05% of adults
- Less severe Persistent Tic Disorder may be up to 2-3% for children
- Many more males than females diagnosed
  - 2-5:1 ratio seen

Tourette's Disorder

- Typical age of onset is 5-6 years old
  - Often starts with simple facial tics, then progresses to more complex and motor tics
- Associated with very high levels of comorbid disorders and symptoms

Tic Frequency

- 97.7% Simple motor tics
  - 43.2% Eyes
  - 43.2% Mouth
  - 34.1% Facial
- 75.0% Simple vocal tics
- 13.6% Coprolalia

Tourette's & Comorbidity

- Obsessions and compulsions – 50%
- Depression – 41%
- Attentional problems, hyperactivity – 50-75%
- Learning disabilities – 51%
- Panic attacks – 13%

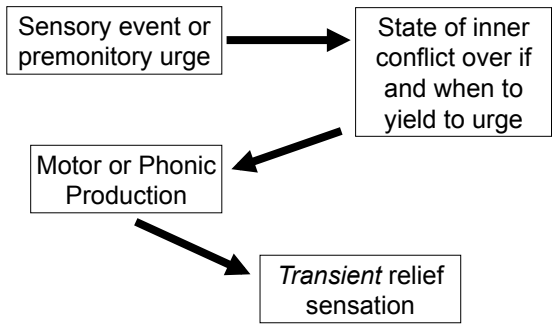
What Causes Tics?

- Appears to be an irregularity of the neurotransmitters dopamine and serotonin
- There is no "cure," but symptoms tend to decrease after adolescence in most people
- Treatment options include drugs and therapy
  - Anticonvulsants and neuroleptics are useful for some, but have very negative side effects

Can't They Control It?

- Short answer: No
- Control and severity waxes and wanes over the day
- Best analogy for most people is a sneeze
  - You can feel it coming on, can hold it off for a little while, but ultimately you have to let it out
  - The longer most people hold it in, the greater the severity when it is let out

How a Tic Happens



Tourette's Related Problems

- Lowered overall quality of life
- Academic problems
- Impaired social interactions
- Number of home-life impairments
  - Increased marital difficulties, substance abuse, family conflict, and parenting frustration

Tourette's Related Problems

- 88% of those with tics report a negative impact on their daily functioning
- Higher unemployment rates and lowered income as adults
- Self-esteem and social anxiety
- Physical damage

Common Triggers for Tics

- Being upset or anxious
- Watching TV
- Being alone
- Social gatherings
- Stressful life events
- Hearing others cough
- Talking about tics

CBIT Outline

- Psychoeducation
- Functional Intervention
- Habit Reversal Training
- Reward System
- Relaxation Training

CBIT Psychoeducation

- Phenomenology of tics
- Prevalence of tics
- Natural history of tics
- Common comorbids
- Causes of tics
- Psychosocial impairments

Inside & Outside

- The effects of the environment are unique to the individual, so to develop a useful treatment external *and* internal factors must be addressed
- External factors are addressed through function-based interventions
- Internal factors are addressed through habit reversal training

Function-Based Intervention

- Purpose:
  - To isolate the factors that make tics worse for the patient
  - To modify those factors to bring about tic reduction and decrease impairment

Function-Based Intervention

- Factors that can make tics worse:
  - Antecedents
    - Internal (anxiety, anticipation, excitement, anger, etc.)
    - External (certain settings, activities, or presence of certain people)
  - Consequences
    - Events that occur in reaction to tics

Function-Based Intervention

- Two-Stage Process
  - Function-Based Assessment
  - Selecting the Function-Based Interventions based on results of assessment

Conducting a Function-Based Assessment

Structured Functional Assessment Interview

- Interview between therapist, patient, and parents
- Functional Assessment Form (FAF)
- Discuss all antecedents & consequences

Functional Assessment Self-Report

- Patient and/or parents monitor important variables over the following week
- Will supplement the Functional Assessment Interview

Potential Antecedants

- Classroom Tics
- After School Tics
- Public Places Other Than School
- Watching TV or Playing Games
- Tics while playing sports
- During Meals
- Bedtime Tics
- In-Car Tics

Potential Consequences

- Social attention
  - Telling person to stop the tic
  - Comforting when tic occurs
  - Laughing when tic occurs
  - Answer for person when being teased or asked about the tic
  - Peers/non strangers reacting to tic
- Escape behaviors
  - Being encouraged to leave the classroom
  - Being sent to room at home
  - Not participating in social activities
  - Avoidance of social situations

Principles of Function-Based Interventions

- When possible, minimize or eliminate situations or settings that increase the likelihood of tic
- Eliminate events that happen in response to the tic
- When entering situations where tics are likely remind the child to use HRT strategies
- When entering situations that are not as easily modifiable, the child should learn strategies to minimize their own reactions that may contribute to tics
- Minimize the impact of tics on the child

Habit Reversal Training

- Most well-researched method to date
- Three critical components
  - Awareness training
  - Competing response training
  - Social support

Awareness Training

- Involves making clients more aware of when and where the tic is most likely to occur
- First step is a complete operational definition of the tic(s)
  - Describe where it occurs, what it looks like, typical location(s), typical mood state(s)

Awareness Training

- Then, any environmental functions of the behavior need to be identified
  - Socially mediated positive reinforcement
    - Gaining attention
  - Socially mediated negative reinforcement
    - Escaping from unwanted situations/actions
  - Automatic reinforcement
    - Physical/emotional changes that happen from behavior

Awareness Training

- For homework, clients are to keep an ongoing log of all tics
- Typically includes severity, duration, triggers, emotions, sensations, thoughts, location

Competing Response Training

- In this phase, you teach and practice doing behaviors that are physically incompatible with the tic
- Ultimate goal is to desensitize client to the "urges" that often occur, as well as continue to raise awareness

Competing Response Training

- CRT is very similar to doing EX/RP for OCD – it's all about prevention of typical responses and letting discomfort naturally dissipate
- May need to get highly creative to develop appropriate competing responses

Competing Response Training

- Typically begins by doing "practice" phase where spend 30 minutes a day practicing tic and doing CRs
- Identify the most problematic tic to target first

Competing Response Practice

1) Based on prior operational definitions, you begin the tic
2) Start the tic, but do not complete it
3) Do CR immediately
4) Hold the CR for 1 minute or until urge goes away, whichever is longer
5) Rinse and repeat

Social Support

- Involves bringing loved ones and family members into the therapy process to:
  - Provide positive feedback when the individual engages in competing responses
  - Cue the person to employ these strategies
  - Provide encouragement and reminders when the individual is in a "trigger" situation

Session Breakdown for HRT

- Session 1 - Interview
- Session 2 - Awareness training
- Session 3 – Competing Response Training
- Session 4 – CR Generalization

Session 1 - Interview

- Functional assessment of tics
- Assessment of comorbid issues
- Establish ongoing assessment plan
- Discuss treatment outline

Yale Global Tic Severity Scale

Ever	Current	Age of onset [In Years]	The patient has experienced, or others have noticed, involuntary and apparently purposeless bouts of:	Ver
			-eye movements.	
			eye blinking, squinting, a quick turning of the eyes, rolling of the eyes to one side, or opening eyes wide very briefly.	
			eye gestures such as looking surprised or quizzical, or looking to one side for a brief period of time, as if s/he heard a noise.	
			-nose, mouth, tongue movements, or facial grimacing.	
			nose twitching, biting the tongue, chewing on the lip or licking the lip, lip pouting, teeth baring, or teeth grinding.	
			broadening the nostrils as if smelling something, smiling, or other gestures involving the mouth, holding funny expressions, or sticking out the tongue.	
			-head jerks/movements.	
			touching the shoulder with the chin or lifting the chin up.	
			throwing the head back, as if to get hair out of the eyes.	
			-shoulder jerks/movements.	
			jerking a shoulder.	
			shrugging the shoulder as if to say "I don't know."	
			-arm or hand movements.	
			quickly flexing the arms or extending them, nail biting, poking with fingers, or popping knuckles.	
			passing hand through the hair in a combing like fashion, or touching objects or others, pinching, or counting with fingers for no purpose, or writing tics, such as writing over and over the same letter or word, or pulling back on the pencil while writing.	
			-leg, foot or toe movements.	
			kicking, skipping, knee-bending, flexing or extension of the ankles; shaking, stomping or tapping the foot.	
			taking a step forward and two steps backward, squatting, or deep knee-bending.	

Session 2 - Awareness training

- Provide rationale for awareness training
- Get detailed description of tics
- Discuss “warning signs” of tics, establish 1-3
- Therapist simulates tic, client has to acknowledge tic

Session 2 - Awareness training

- Repeat process with warning signs
- Homework is to do self-monitoring of tic behavior for the next week

Practicing Describing the Tics

- Watching this video, first write down all the tics you see
- Then, break them down into different categories
  - Phonic
    - Complex vs simple
  - Motor
    - Complex vs. simple

More Assessment

- We are going to do the same with this video
- What was difficult in doing a description of the tic?
- How detailed does the description need to be?

Session 3 – Competing Response Training

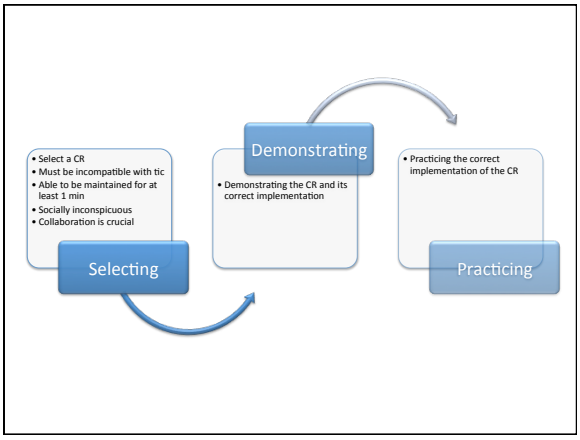
- Review monitoring HW
- Choose a competing response
- Clinician models CR
- Address concerns about CR
  - Situations it will not possible, worries about it feeling uncomfortable

Choose a CR

- Based on the most tics displayed in the videos, work with a partner to develop a CR for each tic
- What was challenging or difficult?

Session 3 – Competing Response Training

- Teach client the CR
- Social support training
  - Identify support person
  - Have client demonstrate CR
  - Have support person praise (based on therapist modeling)
- Homework is to practice CR for 20-30 minutes daily and continue self-monitoring



Session 4 – CR Generalization

- Review HW, troubleshoot as needed
- Assess self-monitoring data
- Review CR to ensure it's being done correctly
- Ask support person about any problems

Session 4 – CR Generalization

- Introduce use of CR outside of practice
- Determine how support person(s) will let client know when to do the CR (if they don't catch it themselves)
- Practice in session
- Homework – continue self-monitoring and practice, implement general CR use

Sessions 5+

- Review and troubleshoot progress using CR and practicing
- Repeat awareness and CR process for other tics
- Space sessions out to provide contact as needed; typically monthly for at least next 3 months post-treatment

Behavioral Reward System

- Introduction
  - To motivate child to…
    - Attend sessions
    - Participate in session activities
    - Complete homework assignments
    - Increase general compliance
- Rationale
  - Describe purpose and emphasize that we are not reinforcing tic reduction

Behavioral Reward System

- Identify Rewards
  - (try to use immediately deliverable rewards, but could use larger rewards… earn points toward delivery of larger rewards)
  - Use Behavioral Reward Form
- Identify Exchange
  - What behavior will produce which reward?
  - Collaborative effort, but therapist should determine target behavior to reinforce

Behavioral Reward System

- Review Date
  - End of session can be marker for delivery of reinforcers for session attendance, good participation, completion of previous week's homework

CBIT Behavioral Reward Form
Version 1.0- Page 1 of 2

Completed by Therapist: __ __ __ __ Subject ID __ __ __ __ __ __
Session #__ __ Date of Session __/__/__ __

"If you could choose some activities or privileges you would like to earn, what would they be?"

_____

"If you could choose some items you would like to have, for example books, magazines, trading cards, small toys, games, or stickers, what would you want?

_____

"Now looking at all of the things that you listed, I would like you, me, and your parents to order them from most to least rewarding, and that are possible to do on a consistent basis. Then, we'll write them down on this list."

Reward Hierarchy

1._____

2._____

CBIT Behavioral Reward Form
Version 1.0- Page 2 of 2

Completed by Therapist: __ __ __ __ Subject ID __ __ __ __ __ __
Session #__ __ Date of Session __/__/__ __

"Next, we'll have you choose a reward you can earn for coming to session, doing your homework, and working hard in session. We'll talk about what you can earn, what you have to do to earn it, and when you'll find out if you've earned it."

Target Behavior #1 (Attending Session)

Reward:_____

Exchange:_____

Review Date:_____

More Functional Strategies

- For tic-prone situations that are not easily modifiable, teach patient strategies to minimize the impact of that situation
  - Teaching relaxation strategies for high stress situations
  - Teaching cognitive restructuring
  - Teaching scheduled activity or breaks
- Minimize the impact of the tics on the child
  - Educate peers, teachers and relatives about the child's condition