



# Exposure and response prevention for Tourette syndrome

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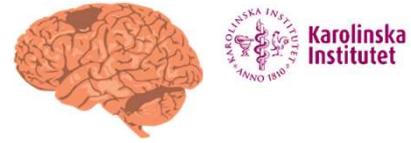
Behavioural Therapy Workshop for beginner participants, 13th European Conference on Tourette Syndrome and Tic Disorders, 1-2 October 2021

## Exposure and response prevention: ERP



- Background
- Treatment rationale
- Response prevention
- Exposure
- Demonstration film, 1 of 2
- Treatment overview
- Session by session
- Demonstration film, 2 of 2

## Behavior therapy (BT)



- BT is based on the assumption that tics have a neurobiological origin, but that their expression is influenced by environmental factors
- The goal is to change the symptom expression by using different behavioral strategies
- Out of such behavioral strategies (i.e., BT), there are most evidence for the two modalities habit reversal training (HRT) and exposure and response prevention (ERP)

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3

## HRT/CBIT or ERP?



- American treatment guidelines mainly recommend HRT/CBIT, while European guidelines recommend both HRT/CBIT and ERP. The recommendations are based on the same clinical trials, only the interpretation of the significance of the study results differ.
- There are several similarities between HRT/CBIT and ERP, mainly that both treatments instruct the patients to suppress/resist/stop their tics. In addition, the patients are also instructed to focus on their premonitory urges while suppressing the tics.
- The strategies for how the patient should suppress their tics differ (partially).
  - HRT/CBIT: Practice suppressing one tic at a time using a competing response.
  - ERP: Practice suppressing all tics at the same time without the help of a competing response.

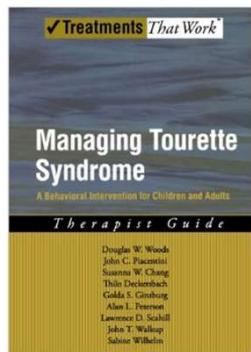


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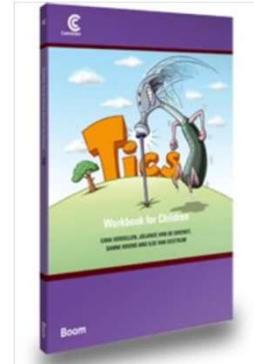
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4

## Treatment manuals



HRT/CBT: Woods, D. W. *Managing Tourette Syndrome: A Behavioral Intervention for Children and Adults Therapist Guide*. New York: Oxford University Press, 2008.



HRT and ERP: Verdellen, C., van de Griechdt, J., Kriens, S., & van Oostrum, I. *Tics: Therapist Manual*. Amsterdam: Boom Cure & Care, 2011

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5

## Exposure and response prevention (ERP)



- Two main components
  - Response prevention
  - Exposure

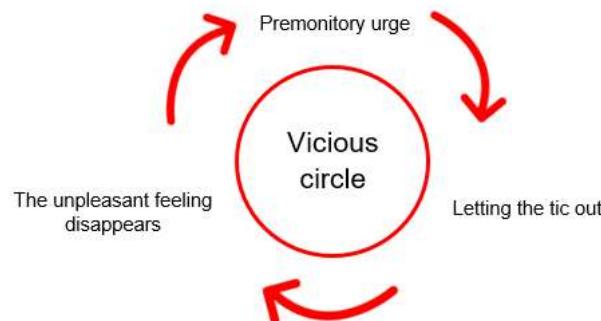


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6

## ERP: Rationale



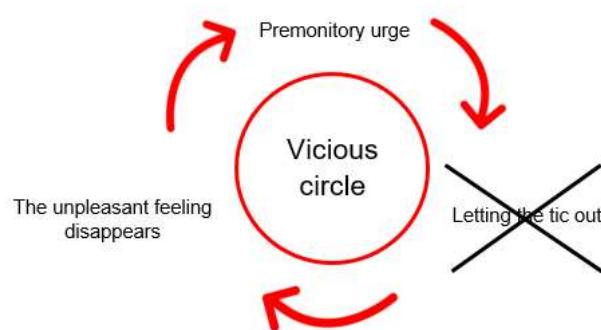
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7

## ERP: Rationale



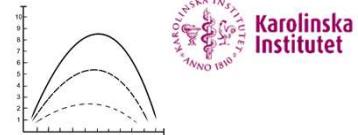
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8

## ERP: Rationale



- Most patients can already suppress their tics for at least a short period of time
- It is not certain whether patients habituate to the unpleasant premonitory urges when performing ERP
  - Possible to show a traditional SUDS exposure curve to the patient, it may be a good way to get the patient started with ERP
  - Important to mention that habituation will not occur as linear for everyone, some will become better at suppressing tics while still experiencing the premonitory urges

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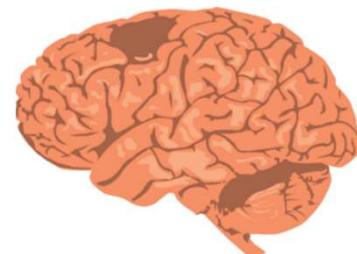
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9

## ERP: Rationale



- For children: Use the **brain brakes** to stop the tics!
- More ERP practice makes the brain brakes stronger (draw a parallel to physical workout)



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10

## ERP: Rationale

- The goal of ERP is to learn to suppress the tics:
  - For longer and longer periods of time
  - When the premonitory urges are at their strongest
  - In various situations

## Response prevention

**The goal of ERP is to learn to suppress the tics:**

- No specific instruction other than trying to suppress the tics
  - Mentally rather than with a competing response (as in HRT)
- Suppress all tics at once
- Use a stop watch (phone)
- Write down high score times!
- Continue until the patient is able to suppress the tics during e.g. 15 minutes



## Exposure

**Exposure = Make the practice more difficult by suppressing tics when premonitory urges are intensified and/or by suppressing the tics in various situations**

- Provoke the premonitory urges (exposure to premonitory urges) and then practice to suppress the tics (response prevention)
- Suppress the tics in various environments/situations, for example situations where the tics are especially difficult to suppress or the patient is especially motivated to refrain from ticcing

## Example: Exposure to premonitory urges

- The patient focuses on their premonitory urges and where they are sensed in the body
- Someone asks the patient about their premonitory urges and tics
- Someone provokes the patient's premonitory urges
- Someone imitates the patient's tics
- The patient looks in a mirror and focuses on their premonitory urges

Ask the patient for more suggestions, s/he will probably know how to increase the intensity of the premonitory urge ☺

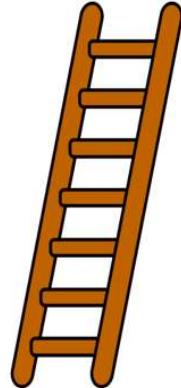
## Example: Exposure to situations

- Watch TV, play video games/mobile games
- Listen to loud music, dance to music
- Do something exciting
- Cook, bake
- Use public transportation (bus, train, metro)
- Be in school or at work
- Do homework, clean, do the dishes, go shopping
- Eat in the cafeteria, at a restaurant
- Do sports, yoga, take a walk
- Be at home with a friend, go on a date
- Go to the cinema or a swimming pool

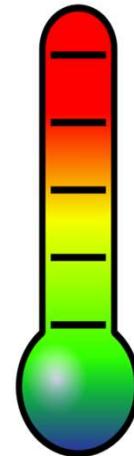
## Difficult exposures

- Do “half” of the tic - start doing the tic on purpose and then stop halfway
- Change activity during ERP practice, vary between active/passive (circle training)
- Do cognitively challenging activities (e.g. reading backwards or math)
- Do activities that creates excitement (e.g. play card games like "Hi Jack" where it is important to have quick reactivity)

## Exposure hierarchy (ladder)



- 10 - Go to the cinema
- 9 - Talk to a stranger in a store
- 8 - Walk by a group of people
- 7 - Eat with the family + mom imitates tics
- 6 - Eat with the family
- 5 - Sit in the car and drive somewhere
- 4 - Read a text out loud for mom
- 3 - Mom imitates my tics
- 2 - Mom comments on my tics
- 1 - Think about my premonitory urge



## ERP demonstration, 1 of 2

- Film demonstrating ERP (8 min)
  - A therapist (to the right)
  - A young patient (Kim) and her mother (to the left)
- In Swedish, subtitled
- Filmed during lockdown, which explains the visors...

## Treatment overview

- 8-10 sessions
- In the beginning every week, later more spread out
- Homework assignments
- Follow-up, booster-sessions if needed

## ERP: Sessions in detail

- Sessions should mainly be devoted to practicing ERP (with support of the therapist)
- Suggestions for homework:
  - Exercise at home: Practice ERP in situations where premonitory urges and tics usually appear (e.g. 15-30 minutes a day).
  - Exercise in other places: Every week, choose up to a few situations where the patient can practice ERP (for example on the bus).
- The goal is to gradually expand the ERP practice to more situations so that suppressing tics becomes more automated (and part of the patient's everyday life).
- But... no one can force the patient to practice ERP. It is of course up to the patient self if s/he wants to suppress tics in a given situation.

## Example: ERP session by session

- **Session 1:** Psychoeducation. Write list of current tics. ERP rationale. Begin response prevention. For children: reward chart.
  - Homework: Tics diary. Response prevention for at least 15 minutes daily.
- **Session 2:** Goal formulation (if needed). Response prevention (use a stopwatch, record the times). Functional analysis and interventions.
  - Homework: Response prevention for at least 15 minutes daily.
- **Session 3:** Define and identify premonitory urges, estimate the severity of premonitory urges. Add exposure to the response prevention (focus on premonitory urges and where they are felt in the body).
  - Homework: ERP with intensity ratings of the premonitory urges, for at least 15 minutes daily.

## Example: ERP session by session

- **Session 4 and onwards:** Design an exposure hierarchy (ladder), practice ERP based on the hierarchy steps. Gradually make the practice more difficult.
  - Homework: ERP based on the exposure hierarchy for at least 15 minutes daily. Suppress tics even outside of the a priori planned situations. Generalization.
- **Last session:** Go through the tics diary. Follow up on goals. Relapse prevention plan.
- **Booster and follow-up:** Follow up the patient after the end of treatment. Add booster-sessions if needed.
  - Tics wax and wane naturally

## Tips

- Try to make the practice as varied as possible! Encourage the patient to practice in a variety of situations, both at home and elsewhere.
- Just like with other exposures (e.g. anxiety), it is important to practice regularly to have an effect, the patient should preferably practice for at least 15 minutes daily.
- Eventually, the patient can be encouraged to suppress the tics in as many situations as possible during the day.
- Get the practice into everyday life, make a rule, e.g. always suppress the tics at breakfast / in the shower / on the way to work / first lesson at school.
- Make the ERP practice fun!

## Tips for children

- Make ERP practice a game, a fun activity together with the family
  - "Hide and seek", "Follow the leader", "Musical chairs", "Do this, do that" (with tic-like movements)
- Tic bingo / draw a note
- Tic free zones
- Schedule for practice
- Reward chart
- Avoid parents nagging about practicing, make a clear agreement on when and how parents should remind
- Ask for help from the child's teachers, coaches, grandparents etc.

## ERP demonstration, 2 of 2

- Film demonstrating ERP, playing the game “Do this, Do that” (4 min)
  - One therapist (to the right)
  - A young patient (Kim) and her mother (to the left)

## Social support

- The role of parents (relatives/partners)
  - Encourage work with the treatment
  - Remind about practicing ERP
  - Participate in ERP exercises
  - Participate in exercises based on functional analysis, i.e. functional interventions

## Reasonable expectations from ERP (and HRT)



- There is currently no treatment that can completely cure the diagnosis (ensure that the patient's tics go away completely). Inform the patient about what to reasonably expect from the treatment:
  - Increased control over the tics (the patient can more easily control in which situations s/he has tics and not)
  - Reduced tics?
  - Reduced premonitory urges?
  - Reduced tic-related impairment

## Summary of ERP



- Response prevention: Tic suppression, use a timer
- Exposure: Make the tic suppression more difficult, by intensifying the premonitory urge and practicing in various situations
- Sessions should primarily consist of ERP practice
- Vary the ERP practice, and make it fun!
- Family and friends are good support!

## Break!



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2021-06-15 29

## Functional interventions



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## Functional analysis

- Examine in which situations the tics occur the most
  - At what times?
  - In what places?
  - During which activities?
  - With which people?
  - When feeling which emotions?

## Example: Functional analysis

<u>Time</u>	<u>Situation</u>	<u>Behavior</u>	<u>Short-term consequences</u>	<u>Long-term consequences</u>
Friday the 24th of May	At home at the dinner table, tired after a long day at school	Many motor tics such as facial grimacing, shoulder shrugging and arm movements	Parents say that the child (the patient) has to leave the table, escapes, tics decrease in the moment	Tics are at risk to increase or continue at the next family dinner, child does not eat enough, risk for more tics in the evening because of hunger and fatigue

## ”Basic rule”

- ”Basic rule” for family, friends, teachers etc.
  - If avoidable, do not openly pay attention to or comment on the tics. Such attention may increase the frequency/intensity of the tics. Family etc. should not comment, nag or tell the patient to stop performing the tics (if the patient could, he would of course already have stopped). If the patient himself wants to talk about the tics, then it is okay.
  - Family etc. should instead focus on reminding the patient to use strategies from the treatment (but not so frequently that it becomes annoying).

## Example: Functional interventions

- Lesson in school → Possibility to take a break. Seating in the classroom. Inform classmates and teachers about tics.
- Screen usage → Reduce screen time. Do physical activities prior to screen usage.
  - NOTE! It is not always desirable to remove fun activities.
- Homework → Divide the homework. Schedule. Do homework when the patient is most alert. Many breaks. Sit in a certain place. Help with homework.
- At the dinner table → Early dinner. Siblings should not comment or tease.

## Example: Functional interventions

- Getting out of the house in the morning → Write down the morning routine. Prepare clothes and pack the bag the night before. Try to have plenty of time in the morning.
- Bedtime routine → Go to bed earlier. Calm activities prior to bedtime e.g. listen to calm music, massage. Evening walk.
- Being with friends and the patient gets exhilarated → Do not necessarily take action in this situation if the patient does not want to. However, you can encourage the patient to suppress the tics (use ERP).
- In general, stress and fatigue tend to increase tics → Trying to reduce stress and fatigue can be beneficial to the patient.

## Example: Functional interventions

- The patient avoids/escapes from tasks due to tics, e.g. do not have to do house chores, do not do homework, do not attend activities
  - Risk to do the patient a disservice. The patient should not escape things because of tics, however, family etc. can help so that the conditions are as optimal as possible for the patient.
- Relatives comfort/comfort/pay attention to the patient in response to tics
  - Do not comfort/comfort/pay attention to the patient as a direct reaction to the tics
  - Family etc. should instead focus on providing positive attention regardless of tics, e.g. decide a priori that the child (daily) will get a massage during bedtime

## Questions about the workshop (both Ewgeni's and Per's parts)



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37



# Thank you for your attention!

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2021-06-15

38