

ESSTS

Functional Tics Introduction and diagnostics

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Introduction

- ← Functional neurological disorders/ functional tics
- ← Diagnostics
 - Differentiate functional tics from neurological tics
- ← Treatment options
 - Psychoeducation, stressreduction
 - Symptom reduction (BT/hypnosis/catalepsy)

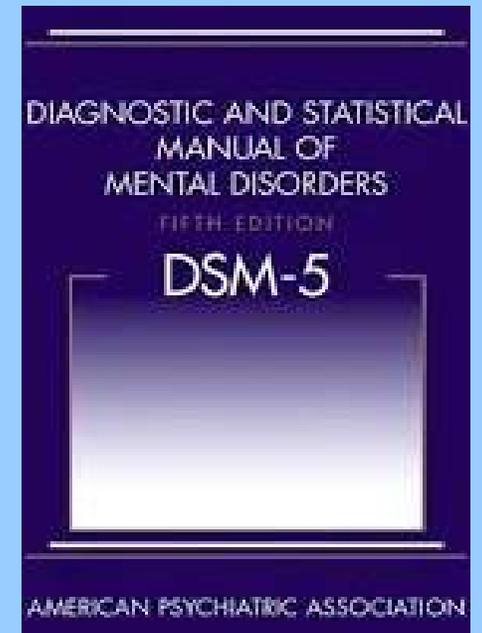
Functional Neurological Disorder (FND)

- Previously referred to as conversion disorder
- Neurological symptoms that can't be explained by a neurological disease or other medical condition
- Abnormal function in a system which can be demonstrated to be capable of normal function
- Prevalence up to 40/100.000 (Krem, 2004)
- Not uncommon in neurological practice (3-16% in neurological outpatient clinics; Ferrara & Jankovic, 2008; Stone, 2009)
- More common in women than men; most commonly in adults (Anderson, 2019; Edwards, 2012)

DSM-5 Somatic symptom and related disorders

Functional neurological symptom disorder

- One or more symptoms of altered voluntary motor or sensory function
- Clinical findings provide evidence of incompatibility between the symptoms and recognized neurological or medical conditions
- The symptom or deficit is not better explained by another mental disorder
- The symptom or deficit causes clinically significant distress or impairment in social, occupational, or other important areas of functioning



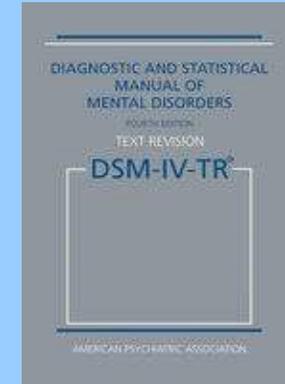
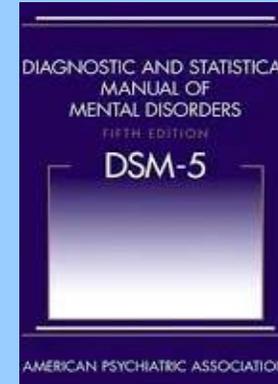
Specify symptom type:

- Weakness or paralysis
- **Abnormal movement**
 - eg tremor, dystonic movement, myoclonus, chorea
- Swallowing symptoms
- Speech symptom
 - eg dysphonia, mutism, aphonia
- Attacks or seizures
- Anesthesia or sensory loss
- Special sensory symptom
 - eg visual or hearing disturbance
- Mixed symptoms



Specify if: Acute/persistent episode
(less/more than 6 months)

Specify if: With/without psychological stressor
(specify stressor)



- DSM-IV-TR “Psychological factors are judged to be associated with the initiation or worsening of symptoms” **is removed in DSM-5** (American Psychiatric Association, 2013): **a preceding psychological stressor is not required anymore**
- The term **‘functional neurological disorder’ was added** in DSM-5 next to the term ‘conversion disorder’ to emphasize the functional nature of symptoms (Stone et al., 2010).
- The aim of this change is to move the focus away from an emphasis on a psychological cause and a mind-body dichotomy **towards a functional and neutral aetiology and focusing primarily on how symptoms develop instead of why.**
- This also helps to **improve patients’ and clinicians’ understanding and acceptance** of the FND diagnosis (Demartini et al., 2016; Ding & Kanaan, 2017).

Functional Tics

- Observed in a small proportion of patients with FND
- Resemble organic tics. Clinical features can help to differentiate
- Also called *pseudo-tics, non-organic, psychogenic, atypical, functional motor tics, psychogenic movements resembling tics (PMRT)*
- Both neurological and functional tics can occur in one patient (Dooley ea, 1994; Eng-King, 2004, Kurlan ea, 1992)
- ‘Tic attacks’ (episodes of sudden bouts of tics, lasting from 15 min to several hours) reflecting a combination of tics and functional neurological movements that occur in the context of anxiety (Robinson & Hedderly, 2016)



Functional Tics

- Mainly case studies (Baizabal-Carvallo ea, 2014; Demartini ea, 2014)
- Percentages vary from 0-35% in populations with neurological tics or FND
- 2% (29/1245) of FND (Lang ea, 2006)/ 5% (9/184) of FND (Baizabal-Carvallo & Fekete, 2015)
- Can also present in the context of *mass psychogenic/sociogenic illness* (MPI/MSI; Baizabal-Carvallo & Fekete, 2015)
- Increase is seen during COVID-19 pandemic
- Also triggered by 'eco-anxiety' (climate change)?
- Spread via social media (YouTube/TikTok)? "*Mass social media-induced illness*" (MSMI; Müller-Vahl ea, 2021). 21th century expression of a culture-bound stress reaction of our post-modern society



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Differentials

Feature	Organic tics	Functional tics
Age at onset	Childhood	Adulthood
Gender	More male	More female
Sudden onset	Rare	Frequent
Premonitory sensations	Common	Uncommon/atypical
Suppressible	Yes	Uncommon
Distractable	Partial	Common
Suggestible	Partial	Common
Wax and wane course	Yes	Atypical/paroxysmal
Localization	More commonly head	Less commonly head/face (trunk, arms, legs)
Other (functional/ psychiatric) disorders	ADHD, OCS, impulsivity	Pseudoseizures, psychogenic tremor, depression, anxiety, stress
Family history of TS	Common	Rare
Anti-tic medication	Positive response	No response
	<p>Demartini ea, 2014. A positive diagnosis of functional tics. <i>European Journal of Neurology</i>. Baizabal-Carvallo ea, 2014. The clinical features of psychogenic movement disorders resembling tics. <i>Journal of Neurology, Neurosurgery and Psychiatry</i>. Ganos ea, 2016. I swear it is Tourette's! On functional coprolalia and other tic-like vocalizations. <i>Psychiatry Research</i>.</p>	

Video Demonstration

Is it functional?
Signs?

Video Demonstration

Feature	Organic tics	Functional tics	Functional?
Age at onset	Childhood	Adulthood	18 y
Gender	More male	More female	+
Sudden onset	Rare	Frequent	+
Premon. sensations	Common	Uncommon/ atypical	+
Suppressible	Yes	Uncommon	+
Distractable	Partial	Common	+
Suggestible	Partial	Common	+
Wax and wane course	Yes	Paroxysmal/atypical	+
Localization	More common head	Less common head (trunk, arms, legs)	+
Other (functional/ psychiatric) disorders	ADHD, OCS, impulsivity	Pseudoseizures, psychogenic tremor, depression, anxiety, stress	<i>anxiety</i>
Family history of TS	Common	Rare	+
Anti-tic medication	Positive response	No response	?

Treatment of FND

- A wide variety of treatments, including physical therapy and BT, have been proposed for treatment of FND (Ruddy & House, 2005; Moene ea, 2003)
- Research on treatment outcome has been scarce and has only begun to increase in recent years (Nicholson ea, 2020)
- No consensus on what is most effective
- Waiting list control trial (n=44): 10 sessions hypnosis-based interventions in FND: 90% improved vs 22% of WL group (Moene ea, 2003)
- Ongoing pilot trial (n=64) in the NL into efficacy of BT in FND (hypnosis & catalepsy) (Tibben ea, in preparation). Based on protocol of Hoogduin ea (2017)
- Traditional BT for functional tics is hampered by non-suppressibility of the tics



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FND and Tic disorders

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Group work
Hypnosis / Catalepsy

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Functional Tics - Hypnosis

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Hypnosis

Dissociation theory Kihlström (1992)

Conversion symptoms are the result of a dissociation or disconnection between **explicit** and **implicit** information processes

- **Explicit:** intentional system, aimed at planning and programming activities
- **Implicit,** automatic system, aimed at performing activities

This dissociation can result from stressful events

While the implicit, automatic information processes stay relatively intact (you *can* walk), problems are experienced in the explicit, intentional information processes (you don't know *how* to walk).

- **Solution:** apply an alternative search strategy that uses implicit associative connections (hypnosis as 'bypass')
- Neurophysiological and neuropsychological research supports the dissociation theory (Roelofs 2002; Ejareh & Kanaan, 2016; Vroon ea, 2016).

What is hypnosis

A state of *altered consciousness* in which subjects show an increased willingness to *respond to suggestions* with changes of perception. Hypnosis creates the possibility to experience a *change in perception* (Orne, 1980)

The therapist, in collaboration with the patient, looks for an *incompatible response*, eg a movement that does not correspond to the symptoms. During hypnosis, for example, it is possible to loosen and relax an arm and spasm following suggestions of *heavy feelings* in this arm.

The patient practices hypnosis at home and as a result of rehearsal and *cue-conditioning* only by *thinking* of this heavy feeling in the hand, the spasm disappears.

Features of hypnosis

- Deep relaxation
- Permissive suggestions

- Induction
- Suggestion of incompatible feeling
- Provoke symptoms → relaxation and regain control
- Deduction
- Post-hypnotic suggestions

- Most people find hypnosis a bit scary



Exercise




**KEEP
CALM
AND
GET
HYPNOTISED**