

Functional Voice Disorders as Functional Neurological Disorders: Toward a Dimensional, Mechanism-Based Framework

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Introduction

Functional Voice Disorders (FVD) are common in voice clinics but remain poorly integrated into contemporary Functional Neurological Disorder (FND) models.

Classification systems for FVD are largely descriptive, dichotomous, and inconsistently applied.

Advances in FND neuroscience highlight shared disturbances in mechanistic processes across functional domains:

Agency, Attention, Interoception, Predictive processing

Aim

To argue for a dimensional, FND-informed framework for understanding, classifying, and researching Functional Voice Disorders.

What is a Functional Voice Disorder?

Definition: A disorder of voice production without a primary structural or neurological cause, characterised by reversible and variable disruption of voluntary laryngeal motor control.

Traditional Subtypes:

- Muscle Tension Voice Disorder (MTVD)** Gradual onset; Hyper- or hypo-functional laryngeal muscle patterns; strained, effortful or weak voice
- Psychogenic Voice Disorder (PVD)** Sudden onset; Aphonia or markedly impaired voice; Preserved reflexive phonation (cough, laugh)

FVD is not recognised as a distinct diagnostic entity in ICD-10, ICD-11, or DSM-5.

Epidemiology and Impact

Lifetime prevalence of all voice problem types: ~30%;
Point prevalence in adults: 6–10%;

FVD commonly reported in:

- Specialist voice clinics/professional voice users;
- Higher prevalence in women;
- Significant economic burden:~£200 million/year to UK economy (voice disorders overall)

Key gap: Reliable incidence and cost data for FVD are lacking due to classification inconsistency.

FND as a Mechanistic Framework

Contemporary FND models identify disruptions in interacting brain networks involving:

- Agency – sense of voluntary control
- Attention – symptom-focused vs flexible attention
- Interoception – sensing internal bodily states
- Predictive processing – mismatch between expectation and sensory feedback

FVD fits squarely within this framework

Emerging Evidence in FVD:

- Reduced interoceptive awareness in MTVD
- Increased symptom vigilance with reduced bodily accuracy
- Correlation between interoceptive deficits and voice handicap scores
- Disrupted sense of vocal agency

Suggests over-reliance on prediction and under-weighting of sensory feedback

Proposed Model: A Dimensional, FND-Informed, Mechanistic Framework

Traditional	Proposed FND-Informed Model
MTVD vs PVD	Single FVD category
Cause-based	Mechanism-based
Dichotomous	Dimensional
Discipline-specific	Transdisciplinary

Instead of MTVD vs PVD → Functional Voice Disorder (FVD) with specified dimensions:

(examples)

Degree of laryngeal tension / Variability across tasks / Sense of agency / Interoceptive accuracy / Attention / Psychosocial load



Phenomenology as a Research Tool

Phenomenology examines **how** symptoms are experienced, not just observed.

Relevant experiential domains:

- Agency (“It doesn’t feel like my voice”)
- Embodiment (“My throat feels alien / over-present”)
- Temporality (unpredictability, loss of flow)
- Identity and self-expression

Phenomenological findings align closely with:

- Predictive processing models
- Active inference accounts of FND

Research Agenda

1. Develop phenomenological questionnaires targeting: Agency / Interoception / Attention / Predictive mismatch
2. Integrate with: Behavioural voice measures/ Instrumental Interoceptive measures
3. Construct dimensional profiles across the FND spectrum
4. Enable cross-syndrome comparisons (voice, movement, seizures)

Clinical Implications

Clearer diagnosis using positive functional signs

Improved interdisciplinary communication

Mechanism-based explanation for patients

Targeted rehabilitation focusing on:

- Restoring agency
- Recalibrating prediction and sensory feedback
- Reducing maladaptive attention

Conclusion

Functional Voice Disorders align closely with contemporary FND models

MTVD/PVD distinction is conceptually outdated

A dimensional, mechanism-based framework:

- Improves diagnostic clarity
- Supports research integration
- Enhances patient outcomes

FVD should be recognised as a Functional Neurological Disorder of Voice

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