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**Title**

Diagnosis of Conditions Mimicking Neurological Disease

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**Abstract****Introduction:**

A vexing problem for clinicians in the emergency department is the presentation of a patient who exhibits the symptoms and signs of neurological disease that merit immediate life-saving interventions. Clinicians must consider conditions without apparent pathology that resemble neurological disease requiring urgent care.

**Methods:**

Reviewing the literature on neurological disease and conditions displaying symptoms and signs that may resemble neurological disease produced a framework to characterize traits to distinguish neurological disease and mimics.

**Results and Discussion:**

Neurological disease, an involuntary movement, must be differentiated from conversion disorder [functional neurological symptom disorder (FND)], a condition characterized by symptoms and signs without apparent pathology that may resemble neurological disease. Although FND represents involuntary movements, voluntary pathways generate the symptoms and signs. FND requires an interview and examination to make a positive diagnosis. Treatments include physical, occupational, speech, and cognitive-behavioral therapies.

Neurological disease must also be differentiated from voluntary disorders including emotional expressions such as *zaghrouta*, ululation expressed at happy events in the Middle East, and fabricated conditions, such as malingering and factitious disorder.

**Conclusions:**

Awareness of specific characteristics of neurological disease and conditions without an apparent pathological basis that may be confused is crucial to the accurate diagnosis and treatment of patients who present with symptoms and signs suggesting neurological disease. Application of appropriate diagnostic assessments will provide the basis for the application of precision medicine tailored to the needs of the individual patient.

**Keywords**

culture; electrophysiology; emotion; factitious disorder; functional neurological symptom disorder (FND); neurological disease; neuroimaging; precision medicine; signs; symptoms