

Vaccines and functional neurological disorder: A complex story, say experts

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Videos of people experiencing severe neurological symptoms, including convulsions and difficulty walking, purportedly after receiving a COVID-19 vaccine, have surfaced on Facebook, YouTube and other

social media channels. The millions of people watching these videos might conclude that the vaccine is either quite dangerous to produce such symptoms or that the people in the videos are faking their symptoms. Both conclusions are incorrect, according to neurologist and psychiatrist David Perez, MD, MMSc, director of the Functional Neurological Disorders Unit at Massachusetts General Hospital (MGH).

In a *JAMA Neurology Viewpoint*, the authors explain that the COVID-19 [vaccine](#) may precipitate the development of functional neurological disorder (FND), a neuropsychiatric disorder with symptoms such as limb weakness, gait problems, jerky movements, tremor and facial spasms. "The spread of these videos could fuel vaccine hesitancy by giving an overly simplistic impression of potential links between the vaccine and major neurological symptoms," says Perez, the piece's senior author. "Instead, these are symptoms of a real, brain-based disorder that sits at the intersection of neurology and psychiatry."

FND is a disruption in the brain's normal mechanisms for controlling the body and can be triggered by physical or [emotional events](#), including head injury, a medical or surgical procedure, and vaccinations. "Some people with FND have a heightened awareness of their body and increased state of arousal and threat, which may hijack normal neural networks controlling voluntary movements," says Perez. "FND teaches us quite a bit about the complexities of the human brain."



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An individual's awareness of [motor control](#) may also be impaired with FND, adds first author David Dongkyung Kim, MD, clinical fellow in Behavioral Neurology-Neuropsychiatry at MGH: "The body is moving, but the individual doesn't experience a sense of agency over their movements, such as tremors or movements of the trunk."

Some, but not all, individuals vulnerable to developing FND may have experienced adverse life events or have chronic pain or a range of other medical or psychiatric conditions. "The biopsychosocial model involving an interplay of risk factors, triggering events, and perpetuating factors is how we currently understand FND," says Kim. FND can, however, be treated with education, physical rehabilitation and psychotherapy.

Neurologists and other [health care professionals](#) have an obligation to explain FND to the public, say the authors. "Helping people understand FND will bring this disorder into mainstream medical conversations, and transparently addressing concerns will better allow people to make informed decisions for themselves on receiving the COVID-19 vaccine," says Perez.

More information: David Dongkyung Kim et al, Helping the Public Understand Adverse Events Associated With COVID-19 Vaccinations, *JAMA Neurology* (2021). [DOI: 10.1001/jamaneurol.2021.1042](https://doi.org/10.1001/jamaneurol.2021.1042)

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