

Nonepileptic seizures: psychiatric framework, treatment, and outcome

Elizabeth S. Bowman, MD

Article abstract—Nonepileptic seizures (NES) are usually psychiatrically classified as conversion seizures, but NES can also represent misdiagnosed symptoms of panic, dissociation, or traumatic flashbacks. This article offers analogies for explaining NES to patients, steps for initial neurologic management, discussion of common categories of underlying psychiatric diagnoses, an outline of psychiatric treatments for NES, and an overview of prognostic predictors of better and worse outcomes.

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Terminology and analogies for nonepileptic seizures. Nonepileptic seizures (NES) are also called pseudoseizures, conversion seizures, psychogenic seizures, and hysterical seizures. Psychiatrically, they are usually classified as a conversion disorder. This article outlines common psychiatric diagnoses associated with NES, initial management by neurologists, psychiatric treatment approaches, and the prognosis for improvement. Precipitating stresses and the psychological conflicts in NES patients are discussed elsewhere.^{1,2} The purpose of this article is to help neurologists understand the initial steps they can take to manage NES.

The first step in managing NES is to explain these symptoms to the patient. Because psychosomatic illnesses are difficult for patients to understand, I suggest using two analogies that explain NES. The first analogy is that NES are a communication of distress sent in a nonverbal form—a coded message that needs deciphering. NES are utilized when people cannot consciously sense painful feelings or when they are in “unspeakable dilemmas,”³ situations about which they feel they cannot speak.

The second analogy is that NES are like a pressure cooker pop-off valve. I explain this to NES patients in this manner: “Your body is like a pressure cooker. Life stresses are like the heat under the kettle, and the steam that life stresses generate is your feelings. You are having these seizure spells because the outlet for the steam (your feelings) is blocked in some way, causing an increase of pressure from feelings trapped inside of you. The seizures are a way of periodically letting out some of the feelings (steam) via physical symptoms. They are like the pop-off valve that jiggles on top of a pressure cooker to reduce the steam pressure. That helps for a while, but if the problem that is causing the feelings is not

addressed, the feelings build up again, and another seizure occurs.”

The pop-off valve analogy conveys the concept that NES are intermittent symptoms that are not consciously produced. This analogy can also guide the psychiatric evaluation of NES, which can follow the paradigm of looking for “the heat” (life stresses), “the steam” (feelings rising from stress), and “the blockage” (internal conflicts that block expression of distress).

Psychiatric classification of NES symptoms. In the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition⁴ (DSM-IV), most NES are classified as Conversion Disorder with Seizure or Convulsions. Conversion disorders are the “conversion” of mental distress from a verbal or emotional mode of expression to a sensory or motor physical mode. Their occurrence is preceded by conflicts or stressors and they are not consciously produced.⁴ However, not all NES should be classified as conversion disorders. Some “NES” episodes are actually misdiagnosed panic attacks, dissociative trance episodes, or flashbacks of trauma^{2,5,6} that are better diagnosed as Panic disorder, Dissociative Disorder Not Otherwise Specified, or Post Traumatic Stress Disorder (PTSD).

Co-morbid psychiatric diagnoses. In addition to conversion disorder, NES patients usually suffer from co-morbid psychiatric illnesses in a variety of diagnostic categories.⁷ Neurologists and mental health professionals have limited time to conduct evaluations, so I suggest focusing on several of the five categories of psychiatric illnesses that are commonly associated with NES: affective, anxiety, dissociative, somatoform, and personality disorders. These illnesses contribute to feelings of distress that are expressed via NES.

From the Department of Psychiatry, Indiana University School of Medicine, Indianapolis, Indiana.

Address correspondence and reprint requests to Dr. E.S. Bowman, 541 Clinical Drive, Room 291, Indianapolis, IN 46202.

Depression. Depression is the most common co-morbid psychiatric diagnosis in NES patients, occurring in 12⁸ to 100%.⁹ Depression in NES patients may be mild (Dysthymic Disorder), but is usually Major Depression, a more severe depressive illness.⁴ The most systematic studies of NES patients report current major depression in 45 to 47%^{6,7} and prior major depressions in 50¹⁰ to 80%.⁷

Depression and NES may represent responses to the same life stresses: personal losses, unresolved bereavement, sadness over traumas, employment distress, health problems, or inescapable conflict.¹¹⁻¹⁶ NES patients often have multiple life stresses.

When depression is present, it creates additional emotional distress that furthers the likelihood that NES is being utilized to express the distress. Therefore, treating co-morbid depression is essential for management of NES. At times, this alone will reduce the frequency of NES. All NES patients should be screened for major depression with a written questionnaire such as Zung's Self-Rating Depression Scale,¹⁷ the Beck Depression Inventory,¹⁸ or a clinical interview.

Anxiety disorders. These are common and are found in 11 to 80% of NES patients.^{19,20} Most NES studies have found anxiety disorders other than PTSD in one-tenth to one-fifth of NES patients. Studies that include PTSD report anxiety disorders in 36 to 47% of NES patients.^{7,21,22} Life stresses and a history of trauma or abuse contribute to anxiety in NES patients. Generalized shaking from panic, or generalized anxiety, can be misinterpreted as seizure activity, as can the movements of traumatic flashbacks in PTSD. Therefore, it is important to screen NES patients for these three disorders, bearing in mind that they may be mistaken for seizures or be present in addition to conversion seizures.

Panic Disorder includes symptoms that can resemble epilepsy or NES: trembling, nausea, dizziness, depersonalization, derealization, and paresthesias. Approximately 20% of NES patients have panic disorder, which may be mistaken for seizures or may be an unrelated co-morbid condition.^{6,7,21,23}

Post-traumatic stress disorder symptoms are common (about 35 to 49%^{7,23}) in chronic pseudoseizure patients, probably because chronic NES patients report high rates of trauma. Neurologists are rarely trained to diagnose PTSD, but they can and should specifically ask mental health professionals to assess this.

Generalized Anxiety Disorder (GAD) symptoms (tremulousness, anxiety, symptoms of autonomic arousal) are also seen in pseudoseizure patients, but only one-tenth meet full DSM-IV criteria for GAD.^{4,7} Neurologists should inquire about general anxiety symptoms and refer the patient for treatment with psychotherapy and anti-anxiety medications. Treatment with benzodiazepines alone is not recommended because it risks addiction without solving the underlying problem.

Dissociative disorders. These are very common in NES patients (90%)⁷ because dissociation is the mechanism of action of conversion disorders.²⁴ Dissociation involves alterations of memory and consciousness in which aspects of experience are split off from consciousness so that the mind has two or more concurrent parallel systems of awareness. A normal example is being unaware of using driving skills while focusing on conversing with a passenger. People can dissociate behaviors (re-enacting combat while amnesic), emotions (sequestering rage from awareness, then losing control), physical sensations (conversion numbness), and knowledge (amnesia for trauma). Amnesia, depersonalization, and derealization are frequently part of conversion seizures. When they are experienced by NES patients outside of seizures, they are diagnosed as Dissociative Disorder NOS. Often NES in these patients show evidence of dissociated feelings of terror or rage, or dissociated flashbacks of trauma. Often, dissociated ego states that contain feelings about trauma are responsible for the NES symptoms.² Commonly, unresponsive states (dissociative trances) are misdiagnosed as petit mal epilepsy, then later are called "NES."^{23,24}

Dissociation of conscious mental functions from physical functions is the very core of conversion disorders.^{24,25} The dissociated mental content expressed via NES is most commonly affect (e.g., fear, anger, sadness, or guilt), psychological conflicts (e.g., feeling trapped, guilty, shamed, hateful), or behavioral reliving of traumatic experiences. An example of dissociated mental content expressed via NES is pelvic thrusting in a rape victim.

Neurologists or mental health clinicians should assess dissociation with the self-report Dissociative Experiences Scale²⁶ or by inquiring about episodes of childhood and adulthood amnesia, derealization, and depersonalization not associated with seizures (see Steinberg et al.²⁷ for interview questions about dissociative disorders). Persons with NES may not volunteer dissociative symptoms, so you must ask about them.

Somatoform disorders. Many psychosomatic symptoms are common in persons with trauma and with conversion disorders, including NES.^{3,7,28-30} A life history of nonseizure types of conversion disorder is found in 42 to 93% of NES patients.^{13,31} Some type of somatoform disorder is found in about 20 to 100% of NES patients.^{10,19} Somatoform pain, especially severe headaches, is common in NES patients and often accompanies a dissociative disorder.^{3,29} Conversion seizures are usually one of many somatic symptoms in NES patients and are a clue that the patient has few nonsomatic forms of emotional expression. Somatoform disorders are highly associated with abuse experiences and may be related to expression of dissociated affect about trauma.³² Mental health clinicians should inquire about abuse and trauma in NES patients with somatoform disorders.

Personality disorders. One-third to two-thirds of people with NES have a personality disorder, but

there is no single personality style associated with NES.^{7,33,34} The most common types are borderline, avoidant (fearful of rejection), histrionic, and dependent. Persons with chronic NES are more likely to have personality disorders than those with acute onset of NES in response to clearly identifiable stressors.

Interventions by the neurologist. After the neurologist has established the diagnosis of NES, the goals of further interventions are as follows: (a) to help the patient understand and begin to accept the psychological nature of the seizure symptoms; (b) to conduct emergency psychiatric interventions to reduce mental distress until mental health treatment can be obtained; and (c) to get the patient to accept psychiatric referral. These tasks are not always easy, but are critical to a good clinical outcome. I suggest the following four steps.

Explanation. It is crucial to explain what NES are (see the analogies suggested above) and what they are not (e.g., epilepsy, faking, attention seeking). Patients find this diagnosis embarrassing, so explain nonjudgmentally. Patients need reassurance that the NES diagnosis does not mean they are "crazy" or fakers. I suggest using the pressure cooker analogy because patients respond to it with relief that their problem is simply human inability to bear too much emotional pressure. Don't aggressively confront patients who deny the diagnosis. Be gently firm while being empathetic and supportive. Above all, don't waffle about the psychological etiology of NES. Waffling encourages patients to cling to a physical explanation and to avoid mental health treatment.

Exploration. Neurologists cannot conduct extensive psychiatric exploration but they should carry out preliminary explorations of general stressors that might contribute to the NES. A substantial minority of recent-onset NES patients are aware of conflicts or traumas that contribute to their seizures. Elucidation of these begins the patient's process of thinking about the seizures in psychological terms. If a current conflict is not obvious, ask basic screening questions about depression and anxiety, about expressing emotions, and about childhood or adulthood abuse or trauma. Exploration of emotional distress underscores the idea that NES are psychological in nature and require psychiatric treatment.

Exportation (for treatment). Refer the patient to mental health colleagues. Preliminary data indicate that NES patients who receive mental health treatment have reasonably good outcomes. Explain the need for referral by telling patients that they need to learn different ways to cope with stress, or how to identify feelings and express them verbally so their feelings don't "come out" in physical symptoms. Tell them that it takes time to learn to do this and recommend that they continue treatment for at least 6 months. Emphasize that mental health treatment is the treatment of choice for NES and that psychiatric medications may be used but that psychotherapies

are the mainstay of treatment. Mental health clinicians with psychodynamic or analytic training are best trained to treat NES.

Do not exile. Don't cut off your relationship with the patient after psychiatric referral. Many patients do not follow through with treatment referrals, so it helps to see patients a few more times to support them, encourage treatment compliance, and to keep them off of unnecessary anticonvulsants. On follow-up, ask if the patient sought help and how treatment is going. Many mental health personnel know little about conversion, so patients may need encouragement to seek a second mental health opinion. If patients refuse referral, the neurologist should treat symptoms of depression and anxiety pharmacologically and keep an open dialogue about the need for psychiatric treatment. Refusal of treatment may be diminished by involving family in explanations about NES and recruiting their support of treatment.

Psychiatric treatments for NES. A wide variety of modalities have been reported as effective in eliminating NES, but there are no controlled treatment outcome studies.³⁵ Consequently, agreement is lacking about which treatments are most effective. Psychiatric treatments for NES consist of two basic categories, pharmacotherapy and psychotherapies. A minority of patients can be treated with pharmacology alone, but most require psychotherapy. Treatment modalities should be tailored to the unique problems that cause each person's NES.

Pharmacotherapy. Patient's whose NES are primarily an expression of depression may achieve remission with antidepressants alone. Selective serotonin reuptake inhibitors (SSRIs, such as fluoxetine, paroxetine, and sertraline) are helpful for panic disorder as well as depression. Benzodiazepines help patients whose NES are primarily anxiety based, but they should be viewed as a temporary solution until psychotherapy effectively helps the person cope better. In NES patients, avoid using anti-anxiety agents without referring for psychotherapy.

Psychotherapies. These are the primary treatment recommended by most clinicians and are probably the best prophylaxis against chronic NES. The techniques employed are diverse but their aims are similar: to assist NES patients in identifying stresses and emotions, in identifying blocks/conflicts that prevent emotional expression, and in expressing emotions verbally rather than physically. Some therapies (e.g., family or marital therapy) are aimed at reducing the underlying stresses.

Individual psychotherapy. Anecdotal reports indicate that this is very effective when abuse/trauma is the cause of the NES. A supportive/expressive individual therapy for identifying and expressing emotions is helpful when NES are caused by chronic suppression and repression of emotions. Individual therapies that provide support during stress and actively teach assertion and problem-solving are helpful for people who are overwhelmed with many

stressors and have difficulty asserting themselves. **Family therapy.** This is most useful for children and adolescents whose NES are often a symptom of family conflict, but it can also be useful with some adults. It is often combined with individual therapy to reinforce better coping mechanisms. Family therapy can help families stop reinforcing NES symptoms.

Marital therapy. This is useful when marital conflict or inadequate communication of feelings in a marriage is the cause of the NES. It can be combined with individual therapy.

Hypnosis. This can be very helpful with conversion symptoms and in persons with dissociative disorders and PTSD. It helps identify dissociated feelings or internal conflicts leading to seizures. It can be used to teach people that they can start and stop seizures and to teach relaxation to manage stress.

Behavioral treatments. These are helpful with low-IQ patients. Behavior modification is most feasible with inpatients, group home residents, or with a cooperative family. It attempts to reduce environmental rewards for seizure behaviors and enhances attention for more healthy behaviors. Biofeedback has been successfully used to diminish NES onset in response to anxiety.³⁶

Prognosis for NES cessation. In considering NES outcomes, remember these caveats: It is difficult to compare NES outcome studies because they differ widely in criteria for improvement, chronicity of seizures, inclusion of persons with concomitant epilepsy, and length of follow-up.^{34,37-41} Remember that conversion disorders are episodic, so seizure cessation does not mean that NES have been resolved forever. They stop when emotional distress is relieved but tend to recur years later when stressors recur. Most outcome data contain mixtures of treated and untreated patients, but adequate comparison studies of treatment effects are lacking.

Children and adolescents have better prognoses than adults. A study by Wyllie et al.³⁰ found that about half had immediate seizure cessation and 78% were seizure-free after 2 years. Three-fourths had received treatment. Among adults, 20 to 50% of patients are seizure-free at 1 year.^{22,33,37} At 2 years, the figure improves to 62%³⁸ but falls at 5 years to 29 to 45%.^{34,39,40} Overall, the prognosis for seizure cessation is about 20 to 50%. Reduction of seizure frequency appears to range from 20³⁷ to 45%.³³ About 20³⁷ to 56%³⁴ of NES patients show no improvement. They often have chronic NES.

Prognostic indicators. The NES literature indicates that the following factors usually worsen the prognosis for NES cessation: a long duration of NES (e.g., more than 2 years), a persistently somatizing or disbelieving patient, serious personality disorders, significant monetary or psychological secondary gain, families that seek disability or disbelieve the

seizures are psychological, a socially chaotic environment, ongoing incest or domestic violence, marital or family dynamics that encourage dependency or illness, occurrence of NES without obvious precipitants, and an extensive history of psychiatric illnesses and failed treatments. The following factors are associated with a better prognosis (derived from the NES literature and my clinical observations): a family that encourages autonomy, presence of psychological insight into the etiology of the seizures, higher ability for emotional expression, high motivation for recovery, not on disability or actively seeking it, recent onset of NES (generally less than 1 year), onset after a definite stressor, at least normal intelligence, receiving formal psychiatric treatment, absence of coexisting epilepsy, presence of an independent lifestyle, female gender, and children and adolescents.

Summary: implications for neurologists. Neurologists who are faced with a newly diagnosed NES patient should thoroughly explain NES, then screen for current stresses, interpersonal conflicts, depression, anxiety, and past trauma. Refer to mental health clinicians for screening for PTSD and dissociative disorders. Neurologists are encouraged to maintain a relationship with NES patients until they are firmly in psychiatric treatment. Pharmacologic treatment for depression and for severe anxiety should be started immediately, with follow-up planned via a psychiatric referral. Emphasize the need for psychotherapeutic treatment.

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