

Functional Symptoms in Neurology: Diagnosis and Management

Around one third of all new neurology outpatients report symptoms such as dizziness, weakness, tingling and blackouts that have little or no disease to explain them.^{1,2} This fact is often startling to medical students who imagine neurology is all lesion localisation, but is usually greeted with heavy hearted recognition by anyone who has been in the speciality for a while. In this article we try to offer some guidance on how patients with these symptoms can be diagnosed and effectively managed in the short space of time available for a typical neurological consultation. We will focus on the management of patients with the more severe symptoms of functional paralysis and non-epileptic attacks. This approach can however be modified for those with different or less severe symptoms.

What should we call these symptoms?

There is a baffling array of terms, to list a few: 'non-organic', 'psychogenic', 'hysterical', 'somatisation', 'conversion disorder' and (the title we were given for this review) 'unexplained neurological symptoms'. We prefer the old term 'functional' symptoms because: (a) it doesn't offend the patient by implying their symptoms are 'all in the mind'; (b) it sidesteps unhelpful and illogical dualistic debates about whether symptoms are in the mind or the brain; (c) functional imaging studies are beginning to discover the neural correlates for some symptoms; (d) neurologists can diagnose them reliably and on positive criteria; and (e) it provides a useful explanation to the patient for why things have gone wrong ('Your nervous system is not damaged but it is not functioning properly') and what might be done to improve them ('These are the things that you can do to help your nervous system function again') in a way that gently opens the door to psychological treatments and potential drug treatments. But more of that later....

Patients with functional symptoms – why bother?

For a neurological readership, this is a question that unfortunately still needs to be addressed. Functional symptoms receive scant attention from authors of textbooks or in training. Despite making up such a large proportion of the workload, many neurologists consider these patients to be merely an irritation and 'not proper neurology'. The following concerns about these patients often arise to defend this point of view:

- 1. Are they making it all up?** – Distinguishing malingering (where symptoms are under voluntary control) from hysteria (where they are not) is extremely difficult since both diagnoses rely on inconsistency. The only reliable way of telling the two apart is to obtain a confession or uncover an example of gross inconsistency between the consultation room and other situations (for example a wheelchair bound patient who is filmed playing tennis). In favour of the idea that most patients are not making their symptoms up are long term follow up studies that find most patients remain symptomatic and disabled in the long term,^{3,7} the similarities in the way patients describe their complaints and the keenness of most patients to pursue investigations. There is no doubt that some patients who simulate symptoms do find their way in to NHS neurology clinics, although many more of these will be seen in medico-legal assessments. However, we take the approach that (a) outside medical legal practice it is our job simply to help the patient and not to detect those malingering for financial gain and (b) simulating symptoms solely in order to obtain medical care (factitious disorder) is itself a sign of a significant problem. Finally if a patient is apparently exaggerating their symptoms it is worth asking yourself whether they might be doing this to try to convince you, as a sceptical doctor, that there is something wrong.
- 2. Are they really treatable?** Studies of neurological symptoms have lagged behind other functional symptoms but there is systematic review level evidence for the effectiveness of cognitive behavioural therapy⁸ (similar to treatment given by neurologists in the 19th century and then called 'rational persuasion') and antidepressant drugs⁹ ('nerve tonics') in the treatment of a wide range of other functional somatic symptoms such as fatigue, fibromyalgia and irritable bowel syndrome. For chronic fatigue systematic reviews indicate that the number of patients that need to be treated with CBT to achieve a good physical outcome is only two. Of course many patients don't get better but that's no different to most other conditions we manage as neurologists.
- 3. Perhaps many will develop a disease cause for their symptom?** Neurologists generally don't worry about this too much; but psychiatrists do, largely because of an influential paper by Slater¹⁰ published in 1965.



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Table 1: Key points when taking a history from someone with functional symptoms (in a suggested order)

1. List the symptoms	Start by writing a list of all current symptoms. Say that you'll come back to them individually later. Ask everyone about fatigue, pain, sleep and concentration. Avoid descriptions of past events at this stage
2. Onset and time course	If vague, use a 'graph' of symptoms over time. If sudden, look carefully for somatic symptoms of panic especially derealisation / depersonalisation
3. Previous functional symptoms	For example: Irritable bowel syndrome, chronic fatigue, early hysterectomy in women, testicular complaints in men. Try to corroborate with medical notes.
4. What do they think is wrong with them?	What have they been worrying about? Anything specific like MS? What have other doctors said? What does the patient think will help?
5. Asking about depression and anxiety	Leave until the end of the history. Instead of 'Are you depressed or anxious?' try 'Do your symptoms get you down?' or 'Do you worry about your symptoms?'

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Slater was wrong, and the misdiagnosis rate at follow up for patients with functional neurological symptoms in modern case series is consistently under 10% and usually around 5%.^{5,7} This is the same rate as for other neurological and psychiatric conditions such as MS and schizophrenia. When neurologists do get it wrong, gait and movement disorders and patients with a psychiatric history (probably because this biased the diagnosis) figure disproportionately.

4. Aren't they just the worried well? Surely patients with 'real' disease are much more deserving? This traditional attitude leads to irritable doctors and angry patients. Disease is just one of many causes of symptoms and illness. Normal physiology, psychology and the society we live in all play their part. We know that patients with functional symptoms are just as disabled and even more distressed than their diseased counterparts.¹¹ There is a personal choice to make here about your role as a doctor; are you interested in helping all patients with symptoms, or only those whose symptoms are accompanied by disease?

Assessing the patient with functional symptoms

Table 1 outlines an approach to history taking in the patient with functional symptoms. We find that starting with an exhaustive list of the patient's physical symptoms ('draining the symptoms dry') gets the consultation off to a good start and can actually save time later on. Eliciting the patient's fears and beliefs about their symptoms and their previous experience of doctors can be helpful in helping you to individualise the explanation you give them for their illness. Depression and anxiety are best asked about at the end of the history framing the question around the physical symptoms (e.g. 'has this weakness got you down?' rather than 'do you feel depressed?') to avoid the patient assuming that you are jumping to unwanted (psychological) conclusions. Whilst all of this information is helpful in planning management, it does not really assist greatly in making the neurological diagnosis. For that we are particularly reliant on the physical examination (Table 2), partly to make sure there are no definite signs of organic disease but largely to look for positive physical signs that the symptom is functional.

The most useful physical sign in the detection of functional paralysis is Hoover's sign (Figure 1). It is simple to learn and use - but be careful in patients who might have neglect. Bedside tests for sensory symptoms are unreliable and isolated sensory symptoms are hard to distinguish with certainty from demyelination and other central causes. Checklists for diagnosing non-epileptic attacks are notoriously unreliable but the features listed in Table 1 are a starting point. Video EEG is the gold standard investigation (although even this can miss frontal and other seizures with a deep source). Psychogenic movement disorders are increasingly recognised but are particularly difficult to diagnose.¹² Intravenous sedation or hypnosis demonstrating reversibility over a significant length of time may be particularly useful both diagnostically and for treatment if handled sensitively. Further useful information on diagnosis of these and other symptoms is available elsewhere.¹²⁻¹⁷

Managing the patient with functional symptoms

A good assessment is the basis for effective treatment. We try wherever possible to show the patient how we are making the diagnosis. This may include a demonstration of Hoover's sign or perhaps a videotape of an examination under sedation. Patients appreciate this as they can 'smell' a doctor who appears to be keeping things from them.

Table 2: Physical Signs and investigations of functional neurological symptoms

Helpful signs	Unhelpful signs
<p>Weakness and Sensory disturbance^{13,17} <i>Hoover's sign (Figure 1)*</i> <i>The monoplegic 'dragging' gait</i></p>	<p>General <i>'La belle indifference'*</i> <i>Looking depressed</i></p>
<p>Non-epileptic attacks¹⁴ <i>Eyes shut during attack*</i> <i>Resistance to eye opening*</i> <i>Prolonged attack (>2 minutes)*</i> <i>'Reactivity' during unconsciousness*</i> <i>Post-ictal crying*</i> <i>Videotelemetry</i></p>	<p>Weakness and Sensory Disturbance <i>Collapsing weakness</i> <i>Midline splitting*</i> <i>Split vibration across the forehead*</i></p>
<p>Movement disorders¹² <i>Entrainment of tremor*</i></p>	<p>Non-Epileptic attacks <i>Tongue biting*</i> <i>Incontinence*</i> <i>Pelvic thrusting*</i> <i>Injuries*</i></p>
<p>Visual Symptoms¹⁵ <i>Tubular field defect</i> <i>Spiralling visual fields</i></p>	<p>Movement Disorders <i>Worsening with anxiety</i></p>

Further explanation can be found in the references given. *some evidence from controlled studies

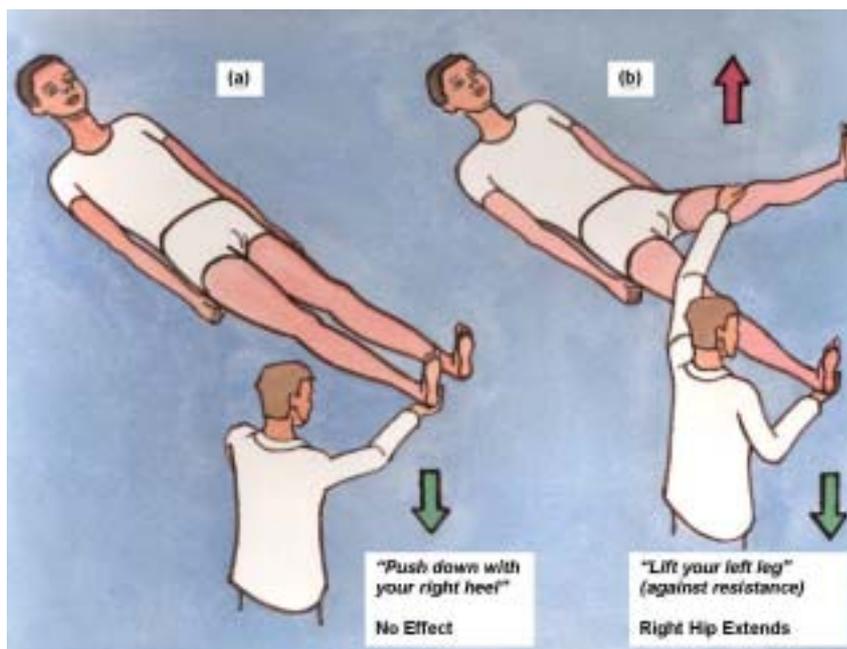


Figure 1: Hoover's sign - (a) Hip extension is weak when tested directly (b) Hip extension is normal when the patient is asked to flex the opposite hip against resistance. (reproduced by permission of BMJ group¹³)

There is a misconception that all the patient wants at this stage is reassurance that they don't have disease. Of course patients benefit from being told that they do not have epilepsy or MS but usually what they want more is to be told what they do have.

Table 3 gives an indication of the kind of explanations that help in our experience. Using the phrases 'functional paralysis' or 'non-epileptic attacks' rather than 'psychogenic' makes the diagnosis more acceptable to the patient and makes it easy to give the patient a copy of their clinic letter and a leaflet about their symptoms (Figure 2). This is all part of persuading the patient that (a) you believe them; (b) they have something recognisable and

Table 3: The elements of a constructive explanation of functional neurological symptoms

Element	Example
1. Indicate you believe the patient	"I do not think you are making up or imagining your symptoms"
2. Explain what they don't have	"You do not have MS, epilepsy etc"
3. Explain what they do have	"You have 'functional weakness' – this is a common problem. Your nervous system is not damaged but it is not working properly. That is why you cannot move your arm"
4. Emphasise that it is common	'I see lots of patients with similar symptoms'
5. Emphasise reversibility	'Because there is no damage you have the potential to get better'
6. Emphasise that self-help is a key part of getting better	'I know you didn't bring this on but there are things you can do to help it get better'
7. Metaphors may be useful	'The hardware is alright but there's a software problem'; 'Its like a car / piano that's out of tune'; 'Its like a short circuit of the nervous system' (non-epileptic attacks)
8. Introducing the role of depression/anxiety	'If you have been feeling low/worried that will tend to make the symptoms even worse'
9. Use written information	Send the patient their clinic letter. Give them a leaflet
10. Suggesting antidepressants	'We find that 'so-called' antidepressants often help these symptoms, even in patients who are not feeling depressed by 'altering nervous system function.'
11. Making the psychiatric referral	'I don't think you're mad but Dr X has a lot of experience and interest in helping people to manage and overcome their symptoms'

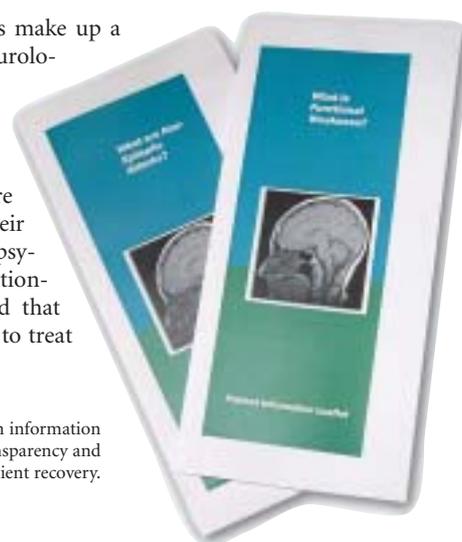
potentially reversible and (c) that they can help themselves to get better. For some patients this may be all that is required.

More advanced treatment involves some form of rehabilitation. This may mean referral to an experienced physiotherapist, a liaison psychiatrist, specialist rehabilitation service or perhaps in the future a nurse practitioner with specific expertise in a cognitive behavioural approach to somatic complaints. In some patients there is a role for treatment with antidepressants. However, public belief about these agents is such that very careful explanation may be required, for example: 'These are drugs that have widespread effects on the nervous system and are helpful even in people who are not depressed'. For some patients there may be also a role for more unusual treatments such as hypnosis¹⁸ or examination under sedation.¹⁹

Conclusion

Patients with functional symptoms make up a large proportion of an average neurologist's workload. These patients are, on the criteria of distress, disability and persistence of symptoms, as deserving as patients with pathologically defined disease. If you are prepared to accept the reality of their symptoms and to use a less overtly 'psychological' approach than has traditionally been advocated you may find that they can be much more rewarding to treat than you thought.

Figure 2: Written information helps transparency and patient recovery.



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