

# PAEDIATRIC FUNCTIONAL NEUROLOGICAL DISORDER (CONVERSION DISORDER): PHYSIOTHERAPY MANAGEMENT PRACTICE GUIDELINE<sup>®</sup>

## DOCUMENT SUMMARY/KEY POINTS

- Functional Neurological Disorder and Physiotherapy:
  - Functional Neurological Disorder is a condition that affects voluntary motor or sensory function where no organic cause can be found for symptoms (e.g., altered gait, weakness or paralysis, pain, incoordination, unremitting fatigue and psychogenic non-epileptic seizures).
  - Progressive physiotherapy has been shown to increase function in an inpatient multidisciplinary setting.
  - Goals and expectations of physiotherapy treatment should be set before starting sessions and strictly adhered to.
  - Attention should not be given to abnormal symptoms. Successful performance of tasks with desired behaviours should be rewarded during physiotherapy sessions, with caution to respect individual's pacing in recovery/rehabilitation.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

<b>Approved by:</b>	SCHN Policy Procedure and Guideline Committee	
<b>Date Effective:</b>	1 <sup>st</sup> March 2023	<b>Review Period:</b> 3 years
<b>Team Leader:</b>	Physiotherapist	<b>Area/Dept:</b> SCH Physiotherapy Dept

## CHANGE SUMMARY

- Document is due for mandatory review.
- Title changed from 'Paediatric Conversion Disorder - Physiotherapy Management' to 'Paediatric Functional Neurological Disorder (Conversion Disorder) – Physiotherapy Management'.
- Included 1.4 Positive Diagnosis on Table of Contents.
- Updated entire Practice Guideline to include new findings from literature and clinical expertise including Medical Summary/Information, Diagnosis, Aims of Treatment, Subjective Examination, Objective Examination, Treatment and Prognosis/Outcomes. Updated Reference List (added 27 – 32).
- Updated Referral Policy across both SCHN sites (SCH & CHW).

## READ ACKNOWLEDGEMENT

- This document is aimed at paediatric physiotherapists.
- All physiotherapists working with a child or adolescent with functional neurological disorder are required to read and acknowledge they understand the contents of this document.
- Level 1/2 physiotherapists will be supervised by a senior physiotherapist prior to independent management of patients with functional neurological disorder.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

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# TABLE OF CONTENTS

<b>1</b>	<b>Background / Introduction.....</b>	<b>4</b>
1.1	Definitions.....	4
1.2	Medical summary / Information .....	4
1.3	Differential diagnosis .....	5
1.4	Positive diagnosis.....	5
1.5	Indications for physiotherapy.....	5
1.6	Aims of treatment .....	5
<b>2</b>	<b>Referral Policy .....</b>	<b>6</b>
<b>3</b>	<b>Subjective Examination / History.....</b>	<b>6</b>
<b>4</b>	<b>Objective Examination .....</b>	<b>7</b>
<b>5</b>	<b>Treatment .....</b>	<b>8</b>
<b>6</b>	<b>Contraindications and Precautions .....</b>	<b>11</b>
6.1	Contraindications.....	11
6.2	Precautions.....	12
6.3	Complications .....	12
<b>7</b>	<b>Prognosis / Outcomes .....</b>	<b>12</b>
7.1	Factors indicating favourable prognosis include:.....	12
7.2	Poorer prognosis is related to <sup>4</sup> : .....	13
<b>8</b>	<b>Reference List.....</b>	<b>13</b>

# 1 Background / Introduction

## 1.1 Definitions

Functional Neurological Disorder (Conversion Disorder) is defined in the American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders (DSM-V) as a condition in which symptoms and deficits in altered voluntary motor and sensory function suggest a neurological or other physical condition which is in fact not present.<sup>1</sup> (For the purpose of this guideline, we will refer to this condition as 'FND' because it is the terminology adopted by the Psychological Medicine Department across Sydney Children's Hospital Network based on recent published literature). FND is diagnosed via four criteria<sup>1</sup>:

1. Symptoms of altered voluntary motor or sensory function must be present.
2. Workup and examination provide evidence of incompatibility between the symptom(s) and recognised neurological or medical conditions.
3. Symptom(s) cannot be explained by another medical or mental disorder.
4. Symptom(s) cause significant distress or impairment in social, occupational, or other important areas of functioning or warrants medical evaluation.

Less commonly used, synonymous terms are functional somatic symptoms, conversion paralysis, conversion reaction, hysterical paralysis, hysterical conversion, psychosomatic presentation, psychogenic non-epileptic seizures, pseudo seizures, somatisation disorder and functional pain.<sup>2-5</sup>

## 1.2 Medical summary / Information

FND is characterised by sensory and/or motor deficits or physical manifestation of non-epileptic seizures with no organic cause.<sup>1,3</sup> It is a psychological disturbance that produces subconscious alterations in sensory and/or motor functions. Symptoms are not intentionally produced or feigned.<sup>6,7</sup> Onset is often precipitated by a minor injury or following a stressful life event, and is perpetuated by psychological issues within the individual or family situation.<sup>2,8,9,27,32</sup> Aetiology of FND is still unclear, with latest theories involving reflecting errors in how emotional information is processed by the brain or motor-sensory components of emotional reactions.<sup>10-12,32</sup>

Symptoms of FND can be classified into one of eight groups: weakness or paralysis, abnormal movement (e.g. tremor, dystonic movement, myoclonus, gait disorder), swallowing symptoms (e.g. rumination), speech symptoms (e.g. dysphonia, slurred speech), "attacks" or non-epileptic seizures, anaesthesia or sensory loss, special sensory symptoms (e.g. visual, olfactory, hearing disturbance), or mixed symptoms.<sup>2,10</sup> Unremitting pain in isolation is generally not classified as FND, rather as somatic symptom disorder. Likewise, nausea or unremitting fatigue in isolation are not classified as FND but can be present with other symptoms.<sup>1,11</sup>

The literature reports that the incidence of individuals with FND has been reported to be increasing; this brings a subsequent cost to the economy.<sup>31</sup> 11 and 48 per 100 000 people in the general population<sup>5</sup>, 0.2% in 14-24 year olds,<sup>11</sup> 16% of neurological presentations and 23% of those presenting with epilepsy.<sup>31</sup> Most papers report that FND is more prevalent in

females<sup>1, 2, 4, 8, 11, 13</sup>, although some studies believe incidence is equal.<sup>12</sup> Some papers report the greatest prevalence of FND in adolescence.<sup>4, 17</sup>

### 1.3 Differential diagnosis

FND is a positive diagnosis made by a neurology exam and/or after confirmation by video EEG (for non-epileptic seizures).<sup>26</sup> The neurologist or paediatrician is also careful to exclude any organic disease, including neurological disorders, cardiac conditions and specific musculoskeletal injuries or disorders (including complex pain syndromes such as Complex Regional Pain Syndrome), prior to confirming a diagnosis of FND.<sup>1, 26</sup>

### 1.4 Positive diagnosis

New research is highlighting how important it is to have a positive diagnosis experience for FND, as opposed to a diagnosis of exclusion and a dismissive approach.<sup>31</sup> It is essential that the diagnosis be made on supportive findings (i.e., findings that demonstrate inconsistency or incompatibility with neuroanatomical patterns)<sup>27</sup> rather than that the test results are all normal. The Paediatrician needs to explain FND to the family and validate the child's symptoms by giving a positive diagnosis, where the symptoms are a temporary disturbance in body function, rather than a serious disease. With early positive diagnosis and education,, the patient and family can begin the recovery journey. This early diagnosis and intervention is associated with good health outcomes.<sup>28, 31, 32</sup> Diagnostic uncertainty for patients or medical practitioners can lead to loss of trust, chronicity and confusion.<sup>28, 31, 32</sup>

### 1.5 Indications for physiotherapy

It is difficult to evaluate the effect of Physiotherapy treatment with FND due to the multidisciplinary approach that is essential in best management of this patient population and due to the psychological nature of the disorder. However, case reports in the literature<sup>2, 4-6, 13-16, 28-30</sup> as well as consensus from leading paediatric facilities in Australia,<sup>4, 19</sup> indicate that psychologically-informed physiotherapy is a fundamental component of the treatment intervention for children disabled by motor symptoms<sup>28</sup> and is effective in increasing function. Physiotherapy also has a role in rehabilitation by providing the patient with a socially accepted avenue for improvement as concurrent psychological improvements are made.<sup>5, 28, 29</sup> Patients are often stuck in a cycle of disability and the 'sick role' and require physical interventions to boost confidence in their body's capacity for movement and exercise.<sup>5, 15, 18, 32</sup> Physiotherapy is indicated to prevent and/or treat secondary complications caused by the FND, such as muscle weakness, muscle wasting and contractures.<sup>6</sup>

### 1.6 Aims of treatment

Effective treatment for FND is multidisciplinary in nature, including medical management, psychology treatment, and physiotherapy and/or occupational therapy.<sup>1, 4, 5, 21, 28-30</sup> Aims of physiotherapy treatment are to restore or optimise functioning, typically following a motor learning approach.<sup>5, 6, 8, 19</sup> Using a psychologically-informed physiotherapy approach facilitates specific FND progress including validation, shifting the focus of attention, motivating and fostering pleasure and a sense of control for the patient.<sup>28, 29</sup> Goals are developed in collaboration with the patient and their family, are based on functional activities, and aim to return the patient to normal community participation.<sup>30, 32</sup>

## 2 Referral Policy

A PowerChart referral and a verbal handover from the admitting team is required to refer to Physiotherapy.

At SCH, the Mental Health physiotherapist aligned to the Psychological Medicine team will assess and treat patients with FND. If the patient is admitted under the Neurology team, a consultation by the Psychological Medicine team is required before the referral can be accepted by the Physiotherapist from the Psychological Medicine team.

At CHW, the patient's physical location in the hospital will dictate which physiotherapist assesses and treats each individual patient.

## 3 Subjective Examination / History

After the patient has been reviewed by the treating medical team and provided with a diagnosis and education on FND, an initial physiotherapy assessment, including a subjective history, should be taken with the patient and family. Prior to the Physiotherapist completing their initial assessment, a discussion with the treating team with regards to the reason for admission and goals should be completed<sup>28, 29</sup> and the medical records and results of all investigations should be reviewed.

The physiotherapist should arrange an appointment time with the patient and their family for the initial consultation. The physiotherapist should be well-prepared and should allow sufficient time for a thorough assessment. Within the assessment, building rapport and trust with the patient is key. It is important to acknowledge and validate that their symptoms are real, to provide further explanation of FND, and to discuss the multidisciplinary rehabilitation model that will be used, with an emphasis on teamwork between the patient and their treating clinicians to optimise outcomes.<sup>28, 29</sup>

History taking should include:

- Listening to the young person in how they explain their experience and journey to arriving in hospital.
- Onset and duration of symptoms.
- Precipitating factors for onset.
- Aggravating and easing factors.
- Pain or symptom behaviour throughout the day.
- Previous and current activity levels, including school attendance, sleep patterns and recreations/interests.
- Medications.
- Sensory changes.
- Previous admissions/investigations.
- Identification of previous injury or illness.

Details of previous physiotherapy interventions are important as a new approach may be needed if the patient is to have a positive way forward to improve and resolve their symptoms.<sup>8</sup> A body chart can be a good record of pain and sensory disturbance and can help in gaining an understanding of the patient's experience of their symptoms.<sup>8</sup>

Obtaining information on social history will help in planning re-integration into the community, school and recreational activities. Identification of the patient's main concerns and their goals provides important feedback about the patient's psychological readiness to engage in therapy and will help to guide collaborative goal setting and intervention planning.<sup>4, 29</sup> Family support and dynamics are also to be considered, as well as the family's expectations for return to school and activities.<sup>3</sup> Physiotherapists should work together with the multidisciplinary team and family to become familiar with identified family issues that may impact on goal setting and rehabilitation. This will help determine the extent to which the family will be involved in physiotherapy interventions.

## 4 Objective Examination

The objective examination varies for each individual patient, depending on their presenting symptoms. It is important for all patients to ensure all medical testing including MRI, X-Rays, nerve conduction studies, EMG and EEG are normal and no other diagnosis or organic cause for the symptoms can be found and there are no further medical investigations pending to prevent diagnostic uncertainty.<sup>1, 32</sup>

Ideally an objective assessment would be performed in the absence of factors that may reinforce symptoms, such as the presence of family members or friends.<sup>2</sup> Objective assessments may need to be performed over multiple sessions.

As is evident in FND, attention to symptoms can worsen them and so a formal standardised assessment is not recommended. Distraction should be utilised to minimise the impact of the patient's consciousness on their symptoms and improve the accuracy of the testing process.<sup>6, 7, 28, 29, 32</sup> Covert assessment (when the child or adolescent is unaware that they are being assessed) may provide a more accurate representation of function, especially by providing a novel or complex task..<sup>28, 29, 32</sup> Observation of muscle length, strength, tone and functional mobility can be performed in this way. Gait should also try to be observed covertly, to look for any differences when consciousness is taken away from the gait pattern. In summary, indirect assessments will yield the most accurate information.<sup>28, 29, 32</sup>

Initially, if the treating team requests a musculoskeletal assessment to assist in diagnosis of FND, a more formal assessment may be required including muscle length, strength, tone and sensation. These tests often show inconsistencies or discrepancies between reported symptoms and actual deficits, sensation findings that do not follow anatomical patterns, or differences in functional strength and specific muscle strength testing.<sup>6</sup> It can also reveal secondary changes that have occurred as a result of prolonged dysfunction, such as joint contractures, muscle weakness and hyperaesthesia.<sup>6</sup>

Minimal assistance should be provided to the young person during assessment. In some cases, when physical assistance or assistive equipment is offered, the patient may rely on this more heavily than when it is not offered<sup>28, 29</sup>

During physical assessment, observe patient interest and engagement, affect or other behaviours reflecting their mental state that may impact physical performance.<sup>10, 12, 29</sup>

## 5 Treatment

Treatment for a patient with FND must be multidisciplinary, specific, personalised and tailored to the needs of the individual.

### Goal Setting

Goals are essential to guide rehabilitation and should be set in consultation with the patient and family/carers in the first session, during and after assessment.<sup>5, 6, 28</sup> By including the patient in the goal setting process, the goals will become more meaningful, and this may motivate the patient to take more ownership over their own rehabilitation. Goals of returning to normal community and pre-morbid activities should be encouraged.<sup>6, 13</sup> Short-term goals should be agreed upon for the inpatient admission and long-term goals set for discharge and continued progress at home. In working towards these greater goals, each individual physiotherapy session should also contain smaller specific and achievable goals.<sup>28</sup>

Following goal setting, the patient should be included in the treatment selection process through choosing between activities offered by the therapist.<sup>22, 23</sup> By giving the patient some choice, they should feel that they have more control over their treatment.<sup>13</sup> Selected activities should achieve therapy goals, be realistic, be measurable and enable the focus to be taken away from the symptom or presenting problem. A progressive, graded exercise approach is recommended, adding more time, repetitions or difficulty to tasks in order to challenge the patient.<sup>2, 10, 22</sup> Tasks are progressed based on mastery.<sup>5, 6, 10</sup> Tasks are designed to indirectly engage the impaired body part and facilitate re-emergence/re-programming of normal movement.<sup>29</sup>

### Treatment Expectations and Education

It is essential for the treating team to sit down with the parents of the young person with FND to discuss the diagnosis and best management of symptoms (not drawing attention to symptoms as they may be exacerbated). For those requiring an inpatient admission, it is explained to parents that the expectation is that the parents do not stay on the ward overnight with the patient. This can also be an opportunity to reassure the parents that there is no organic cause for symptoms and the team have worked with FND before and establish a culture of care.<sup>31</sup>

As the goals for rehabilitation are set, boundaries and expectations are also introduced to the patient. Common examples of such expectations include limiting time spent in bed during daytime hours, and ensuring attendance at the hospital school. For some patients, designing a contract or agreement between the young person, their family and the treating team prior to the commencement of the rehabilitation program can be beneficial. The contract can include such things as attendance at therapy sessions and commitment to an admission timeframe.

Education is an integral part of the program and treatment approach. Patients need to be reassured that it is understood their pain/deficits are not under conscious control, but that there has been no organic cause for their symptoms found on medical testing.<sup>5, 6</sup> A discussion of the mind-body connection, pitched in age-appropriate language and using helpful analogies, can be helpful in enhancing understanding. Assure patients that therapy



should therefore not cause harm, and can occur even in the presence of their symptoms.<sup>4</sup> A clear diagnosis is given, where possible, and the family and patient are encouraged to move their emphasis away from the symptoms and any medical cause and towards treatment and recovery.<sup>10, 13</sup> Physiotherapy sessions also focus on strengthening the “healthy” parts of the body and avoid over emphasis on the symptoms or symptomatic areas.<sup>22</sup>

Before starting the physiotherapy program, the benefits and challenges in restarting physical activity are discussed and normalised.<sup>4</sup> The patient should be reassured that muscle aches and pains are indicative of muscles adapting to their use again.<sup>4</sup> At this time, it should be reinforced to them again that they should not stop activity to avoid pain.<sup>4</sup> Assurance should also be given that fatigue is normal with increased activity and often assists in optimising sleep hygiene.<sup>10</sup>

Overall, it is important to empower the young person and demonstrate their important role in the rehabilitation process, whilst reassuring them that they and their therapists form a team with an aim to make therapy fun and engaging,

### Timetable

A timetable is then introduced for the young person under the mind and body framework. It is important that physiotherapy is timetabled to promote a regular routine and social opportunities along with school, psychology/psychiatry, visiting hours and rest times<sup>4, 6, 28</sup>.

This reiterates that function and engagement is the priority, despite symptoms.

The Psychological Medicine multidisciplinary team works with the treating physiotherapist to develop a timetable on admission and schedules regular physiotherapy sessions. For inpatients, physiotherapy is recommended to occur for 30-60 minutes each day, depending upon the patient's needs and service capacity. For outpatients, appointments depend on symptom severity and the treating physiotherapist's capacity. Initially, it is recommended that two to three sessions occur per week (60 minutes), progressively weaning as indicated. The timetable may also include homework for the patient or expected engagement in other activities. The timetable should also address the importance of sleep for recovery and setting routine sleep/wake cycle to regulate sleep.<sup>30, 31</sup>

### Physiotherapy Intervention

As an inpatient, the young person participates in exercise prescribed by a physiotherapist daily, with supervision by a physiotherapist wherever possible. Land-based (e.g., in the gym) sessions are prioritised to facilitate functional gains. Hydrotherapy sessions can be used as an adjunct to land-based therapy, especially when function is so poor that more functional gain can be achieved in the pool and confidence in normal movement patterns can be rebuilt, or as an incentive to aid compliance. Sessions should be 30-60 minutes in duration.<sup>24</sup> The patient is encouraged to wear comfortable and non-restrictive attire and footwear to promote an active mindset and facilitate movement. Family should be encouraged to be absent during therapy sessions to aid in facilitating independence for the patient.<sup>2,4</sup> Parents/carers may be requested to join physiotherapy sessions, especially in the latter half of admission, to observe gains achieved and allow the physiotherapist to model supportive language, reinforcement of natural movement and non-attention to illness behaviour. Parent support by the clinical psychologist whilst observing the physiotherapy session can be helpful to highlight these factors that promote function and manage any parental vigilance or anxiety over the patient's attempts at physical tasks. This aims to upskill the parents in enabling optimal function after discharge.

The length of admissions is guided by the admission agreement/contract, the patient's progress and the multidisciplinary team. Multidisciplinary team meetings to discuss patient

progress and plan discharge are encouraged. Inpatient admissions are commonly of 10-14 days duration, which is similar to case studies reported in the literature.<sup>4, 5, 10, 11, 17, 19</sup>

During physiotherapy sessions, the therapist should not attend to abnormal symptoms.<sup>3, 5, 9, 18</sup> Distraction during sessions may minimise the impact of the patient's consciousness of their symptoms and facilitate increased participation.<sup>7, 29</sup> The therapist should encourage positive behaviours and desired patterns of movement.<sup>5, 6, 13, 18</sup> It is important that the therapist is conscious of the language used to ensure the young person feels validated for the hard work they are putting in, acknowledging that it is not easy for them. At the end of each session, emphasis should be placed on the positive progress the patient has made or what they achieved in the session.<sup>5, 6</sup>

Since symptoms are treated as if they are organic in nature<sup>5</sup>, the exercise programs usually follow a similar pattern of progression to programs for children with analogous neurological conditions<sup>5</sup>. Specific stretches and strengthening exercises can be used but are most often avoided as they draw attention to the patient's deficits related to FND.<sup>6, 14</sup> In some cases, however, patients may have true secondary complications as a result of FND e.g., muscle shortening resulting in contracture.<sup>6</sup> In these instances specific therapies may be indicated to facilitate a successful rehabilitation program e.g., passive stretches and serial casting.

Examples of activities mentioned in the literature include:

- Desensitisation.
- Sitting and standing balance activities.<sup>5, 22</sup>
- Transfer practice.<sup>5, 22</sup>
- Mobility practice/gait re-education e.g., parallel bars, treadmill, and pool.<sup>5, 22</sup>
- Stretching.<sup>5</sup>
- General cardiovascular or muscular conditioning exercises e.g., treadmill, bike, upper limb ergometry, games, mini trampoline.<sup>22</sup>
- Core strengthening exercises e.g., exercise ball activities, wobbleboard.<sup>22</sup>
- Body weight resistance exercises e.g., squats, lunges, push ups.<sup>5, 22</sup>
- Free and machine weight resistance exercises.<sup>5, 22</sup>
- Balance exercises e.g., single leg/tandem stance, heel/toe walking.<sup>6, 15</sup>
- Return to functional activities and sports e.g., dodging, ball skills, kicking, and outdoor walking.<sup>5, 6, 13, 22</sup>
- Hydrotherapy.<sup>13, 22</sup>
- Computer games e.g., Wii Sports.

The activities should be incorporated into sessions with distraction, including in a game-like setting, with music on in the background, or in a safe and comfortable environment. The physiotherapist should allocate sufficient session time for this patient population to facilitate gentle progression as able. Psychologically-informed physiotherapy will work to restore motor function, improve physical conditioning, enhance autonomic system regulation, build stress resilience, and manage complex pain and anxiety.<sup>29, 30, 31</sup> Throughout sessions, the therapist can use opportunities to provide education on the relationship between the mind and body.<sup>28</sup> Experiences can be suggested as a learning opportunity that will also benefit the

young person in the future to build skills in listening to their body, and in managing stress and anxiety.

Literature strongly suggests avoiding passive modalities and manual assistance to discourage dependence and to encourage normal, independent functional movement and activity.<sup>4, 6, 8, 13, 32</sup> This includes discouraging the use of walking aids and wheelchairs, however, in some circumstances these may be trialled if they enable a progression of function. Helmets for children with non-epileptic seizures may be used to support the patient's safe mobility and progression from more dependent aids, such as wheelchairs. If any aid is prescribed to a patient, it is highlighted that it is temporary to facilitate participation, for example to attend school, and the therapist should aim to wean the aid as soon as able.

Additional to the scheduled physiotherapy sessions as an inpatient, patients are provided with exercise programs and functional activities to achieve on the ward throughout their admission.<sup>3, 5</sup> Families may be encouraged to support the child in completing this.<sup>5, 10</sup> A home exercise program (HEP) may be required at time of discharge<sup>13</sup> to continue activity progression, achievement of goals and reintegration into the community. An activity planner/timetable may be provided on discharge, which serves as a motivator to the patient to encourage regular activity which meet prescribed criteria e.g. intensity, duration and frequency. These independent programs are designed to aid the achievement of therapy goals and to initiate the patient's responsibility and ownership over their own health status.<sup>5</sup> Referral for local outpatient physiotherapy may also be indicated to continue therapy and achievement of therapy goals, support reintegration back into the community and monitor long-term activity levels and management of FND symptoms.

Education about FND and its management is necessary for families, schools and other community groups in which the patient participates.<sup>3, 9, 25</sup> Education will facilitate a more supportive transition back into the community, which is consistent with the treatment approach adopted in hospital. Advice on how to manage a recurrence of the patient's symptoms and the importance of participation in regular independent activity should be provided.<sup>3, 9</sup> Guidance may also be given to schools or community groups about graded return to sport.

In summary, physiotherapy within a multidisciplinary approach to FND should utilise a graded approach to exercise to facilitate increased participation and encourage normal, independent functional movement and activity, in line with a patient and family's goals.

## 6 Contraindications and Precautions

There are no documented contra-indications in the literature. The following are based on clinical lore.

### 6.1 Contraindications

- It is not recommended that patients with non-epileptic seizures participate in hydrotherapy due to risk to their airway or injury. However, the need to access the pool should be considered on a case-by-case basis, and risk management procedures should be defined prior to the session.

## 6.2 Precautions

- Organic causes for symptoms are ruled out before the program is started.
- Therapist is aware of individualised non-epileptic seizure management plan as outlined by psychological medicine team.
- Patients using cardiorespiratory equipment in motion (e.g., treadmills) should be closely supervised.
- Reporting of any adverse events in physiotherapy to the treating team/Nurse Unit Manager.
- Minimise attention to abnormal behaviours including excessive pain behaviours which may be persistent, as this is detrimental to progression of therapy. <sup>3, 5, 9, 13, 18, 28-30</sup>
- Some patients may present with an increased falls risk secondary to their symptoms. Therapists should prioritise staff and patient safety. In the event of a fall, the therapist should not attempt to stop the fall of these patients, assess for injury or harm, liaise with the psychological medicine team and follow local incident reporting guidelines as appropriate. If no indication of harm, the therapist should encourage the patient to continue to participate in therapy to limit the attention drawn to abnormal symptoms.

## 6.3 Complications

If patients are left untreated or without adequate intervention, secondary changes such as muscle weakness and contracture are common<sup>6, 19</sup>. Prolonged deterioration in mobility and function can also have significant detrimental impact on the patient's emotional and psychological health, education and relationships<sup>10, 11, 12</sup>. Deficits can persist for up to several years and may become chronic without psychological treatment and physical rehabilitation.<sup>15, 18, 21</sup> Delay or negative experiences with diagnosis or diagnostic uncertainty can worsen symptoms and prolong the condition.<sup>31</sup>

# 7 Prognosis / Outcomes

Prognosis varies greatly between paediatric versus adult patients and between treatment settings. Most children recover fully if appropriate treatment is provided by health care professionals and is accepted and implemented by the family.<sup>11</sup> Research suggests that the longer the disorder duration prior to diagnosis, the less favourable the prognosis.<sup>15, 18, 21</sup> In practice, this means that some children and adolescents may require inpatient treatment for prolonged periods.

## 7.1 Factors indicating favourable prognosis include:

- Sudden acute onset of symptoms.
- Presence of a precipitating event/stressor during onset.
- Short duration between diagnosis and onset of treatment.<sup>18, 21</sup>
- Previous good health.
- Positive and efficient diagnosis and explanation by a child health physician, creating a culture of care.<sup>3, 31</sup>
- Availability of appropriate treatment.
- Acceptance of the treatment program by the family and engagement in the treatment process.<sup>8, 18</sup>

## 7.2 Poorer prognosis is related to<sup>4</sup>:

- Failure of the child or family to accept the diagnosis and treatment resulting in 'doctor shopping' and inappropriate treatment.<sup>7, 18</sup>
- Negative interactions with medical staff, for example, negative, derogatory or invalidating comments.<sup>31</sup>
- Failure of medical staff to make a quick diagnosis, provide a clear explanation, or failure of the health system to offer appropriate treatment resulting in iatrogenic-induced chronicity and secondary complications.<sup>31</sup>
- Child protection issues within the family system.
- Poor premorbid functioning/chronicity of symptoms.<sup>27</sup>
- Another known mental health condition including depression and anxiety or other comorbid functional somatic symptoms at follow up.<sup>27</sup>
- No psychologically-informed physiotherapy available.<sup>28</sup>

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