Physiotherapy for Functional Movement Disorders: A consensus recommendation

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With many thanks to Glenn Nielsen, Physiotherapist & UCL Research Fellow; Jon Stone, Consultant Neurologist and Audrey Matthews, Physiotherapist
Physiotherapy and Functional Movement Disorder (FMD)

• Neuro-physios commonly see patients with FMD
• Evidence for treatment has been limited
  • 30 Studies of physical rehabilitation (Nielsen et al 2013)
    • 50-70% improve with rehabilitation
• Recent studies
  • Czarnecki et al 2012
  • Jordbru et al 2014
Gaps in the Literature

- Optimal treatment duration, intensity and setting
- Most useful outcome measures for physiotherapy
- Prognosis following treatment
- Cost effectiveness of treatment
- Limited descriptions of the content of treatment
- There is insufficient evidence to produce an evidence base guideline
Developing the consensus recommendations

• May 2013 meeting in Edinburgh
  • 9 Physiotherapists
  • 1 Occupational Therapist
  • 2 Neurologists
  • 2 Psychiatrists

• Aim
  • To develop a consensus recommendation for physiotherapists based on best available evidence & experience
  • Practical information for therapists
  • A base from which further research and development can start
The Rationale for Physiotherapy

• Physiotherapy should
  • be based on a coherent pathophysiological model
  • target the mechanisms of this pathophysiological model

• The pathophysiological model
  • Conceptualises symptoms as learnt movement patterns
  • Emphasises the role of self focussed attention & illness beliefs

• Complex biopsychosocial framework
  • Predisposing factors
  • Precipitating factors
  • Perpetuating factors
Involuntary

Life events
Emotional disorder
Personality traits

TRIGGERS

Attention

Illness beliefs

Learned Movement Patterns
Involuntary

Biological & Mechanical factors
Behavioural & secondary changes
Predisposing

Biological
- Genetic

Psychological
- Childhood adversity
- Personality

Social
- Modelling

Precipitating

Biological
- Injury
- Disease

Psychological
- Emotional disorder

Social
- Life events (home/work)

Perpetuating

Biological
- Deconditioning
- CNS Plasticity

Psychological
- Emotional disorder
- Illness beliefs

Social
- Reinforcement of illness (family, money, medical staff)
Role of Physiotherapy

Physiotherapy can address the mechanisms causing FMD (self-directed attention, illness beliefs, leant movement) by:

1. Normalising illness beliefs
2. Demonstrating that normal movement can occur
3. Retraining movement with diverted attention
4. Changing maladaptive behaviours
Recommended criteria for referral to Physiotherapy

- Consultant (neurologist) diagnosis of FMD with clear explanation
- Explanation should facilitate physiotherapy
- Ideal outcome of the consultation
  - An understanding that the problem is genuine
  - There is the potential for reversibility
  - The problem is due to a change in control of movement (function) not damage
  - Therefore it is amenable to physiotherapy
  - Other treatments can also be important
- The patient should have some confidence in the diagnosis of FMD. Physiotherapy is unlikely to be helpful to someone who believes the diagnosis is wrong.
- The patient desires improvement and can identify treatment goals.
- Not all patients are appropriate for physiotherapy.
Physiotherapy Assessment

- Comprehensive subjective history
  - Details of symptom onset
  - Comprehensive list of symptoms & their impact
  - Social History, aids & adaptations, 24 hour routine ...
  - Explore the patient's understanding
- Physical Assessment
  - Observe what they are doing, how and why
- Treatment agreement / contract
Treatment - education

- Facilitate understanding of diagnosis, building on neurologists explanation
  - Use the term functional
  - Acknowledge symptoms are real & not under patients control
  - FNS are common and you commonly see them
  - The problem is to do with nervous system functioning not irreversible damage (but acknowledge their PMH)
  - Demonstrate or explain positive clinical signs of FNS
  - Discuss how triggering factors are important
  - Introduce the role of retraining the nervous system by changing movement patterns and habitual behaviours
Treatment – Retraining movement

- Retrain movement with diverted attention
  - Aim to normalise movement patterns
  - Minimise self focussed attention
  - Try to initiate automatic movement
  - Task orientated movement (e.g. sit to stand, stepping, drinking)
Strategies to Normalise movement

• Leg weakness
  • Reduce UL weight bearing while building confidence
  • Standing in a safe environment
  • Crawling / 4 point kneeling / 2 point kneeling
  • Treadmill walking with harness
  • Rhythmic weight shift
  • Increase walking speed
  • Improve sit to stand pattern
- Gait retraining
  - Build up components of gait
  - Change walking speed
  - Backwards & sideways walking
  - Walk by sliding feet
  - Carrying weights
• Fixed (functional) dystonia
  • Change maladaptive habitual postures & movement
  • Think 24 hour positioning
  • Normalise positions & postures
  • Address pain & hypersensitivity
  • Normalise movement
  • Balance pain management with physical rehab...
    too much too soon can cause problems
'When you look at the foot, you can see that it is bent, obviously?' 'Yes'.
• Tremor
  • Entrain the movement
  • Muscle relaxation
  • Mirror feedback
  • Habitual postures

• Upper limb weakness
  • Weight bearing
  • Minimise habitual nonuse
  • Bilateral tasks
Treatment – other strategies

- Use of language
- Non-specific exercise (Dallochio 2010)
- Visualisation
- Mirrors & Video
- Desensitisation
- Rehabilitation workbook/diary
- Pain & fatigue management
- TENS / FES / EMG Biofeedback
Aids & adaptations

- Avoid where possible
  - Can affect illness beliefs
  - Alter movement patterns e.g. excess UL weight bearing
  - Can cause secondary sources of pain
  - Can draw attention to an area → symptom exacerbation

- Immobilising joints in splints or casts can be harmful in FNS (Schrag et al 2004)

- If aids or adaptations are unavoidable
  - Make it clear and document that equipment should be thought of as a temporary solution
  - Opportunities to move without aids
  - that equipment has a physical cost and will prevent full recovery
  - Involve patients in decisions, goals and plans
  - When rehabilitation has failed, focus may change to increasing independence & QoL → adaptive aids may be more appropriate
Discharge

- Complete resolution of symptoms is rare and often an unrealistic goal for rehab
- Change is sometimes slow, with rate limiting steps
  - E.g. desensitisation, increasing activity tolerance, increasing ROM, social situation
- Set discharge process at the start of treatment
  - Consider tapering treatment frequency & 3 or 4 month follow up
  - Consider blocks of treatment
- Have self management plan in place
  - Goals and plan to achieve them
  - Exercises & movement strategies with progressions
  - What to do on bad days
  - May also contain pacing plan, pain management plan etc
- The patient should be prepared for set backs and symptom exacerbations and have plan in place
- Thorough discharge report – opportunity to educate others
Psychiatric comorbidity

- Psychiatric comorbidity is generally more highly represented in FNS than the general population
- This is different from there being a 1:1 relationship
- Timing for psychological treatment (and physical) is important
  - Prior to physiotherapy
  - During physiotherapy
  - After physiotherapy has commenced & progressed
In summary

- FMS are complex and the patient group are heterogeneous
- Treatment needs to reflect this
- Explore problems considering bio-psycho-social approach and address these with education and movement retraining
- Have realistic expectations – not all patients will get better, try to maintain rapport
- These patients are worthy of your time
- Therapy input can be difficult, cost effective, change quality of life and be very rewarding

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References