

Lancashire Clinical Commissioning Groups

Policies for the Commissioning of Healthcare

Policy for rehabilitation after damage to the facial nerve

1. Introduction

- 1.1 This document is part of a suite of policies that the CCG uses to drive its commissioning of healthcare. Each policy in that suite is a separate public document in its own right, but will be applied with reference to other policies in that suite.
- 1.2 This policy is based on the CCGs Statement of Principles for Commissioning of Healthcare (Lancashire Clinical Commissioning Groups Policy Number 1).

2. Scope and definitions

- 2.1 This policy covers physical therapy rehabilitation services for damage to the facial nerve. Rehabilitation aims to improve muscle and nerve function through a range of interventions including:
 - Facial exercises
 - Biofeedback
 - Massage and myofascial release
 - Electrical stimulation
 - Acupuncture

The seventh cranial (facial) nerve is largely motor in function, controlling the movement of facial muscles¹. There are also some special sensory functions including fibres which control salivation and the conveyance of taste from the anterior two thirds of the tongue¹.

Facial nerve palsy refers to partial or complete weakness of the facial muscles arising from temporary or permanent damage to the facial nerve¹. This damage can prevent the facial muscles from receiving the necessary impulses to function correctly and result in paralysis¹. The degree of paralysis varies according to the extent of the damage to the facial nerve; ranging from partial to complete paralysis, typically occurring unilaterally but in some rare cases occurring bilaterally¹. In addition to paralysis, patients may also experience hemi-facial spasm, contracture or synkinesis, reduced production of saliva and tears and inability to close the eye. The loss of function and aesthetic changes can result in both physical and mental health issues. Physical health issues arising from the damage to the facial nerve may include difficulty blinking and eye closure (leading to increased risk of damage to the eye), difficulty eating and swallowing, and dysarthria¹. Further details of damage to the facial nerve are included in Appendix 1, which also describes the House Brackmann scale that is used for grading the severity of facial nerve palsy².

The most common cause of facial nerve palsy is Bell's palsy, which accounts for around 75% of all cases of facial nerve palsy³. The causes of Bell's palsy are not

fully understood, although there is increasing evidence suggesting that the main cause of Bell's palsy is reactivation of latent herpes simplex virus 1 in the cranial nerve ganglia⁴. Incidence of Bell's palsy varies and is estimated to be between 11.5-40.2 cases per 100,000 population⁴. There are peaks of incidence in the 30-50 years and the 60-70 years age group, with pregnant women and people with diabetes mellitus also more likely to be affected^{4,5}. Although the majority of patients will recover without treatment, around 23% of people will be left with moderate to severe symptoms². Other diagnoses of facial nerve palsy depend on the identification of an attributed cause and are rare⁵. These include trauma, iatrogenic injuries during surgical procedures, tumours (most commonly acoustic neuroma, facial neuroma and tumours of the parotid gland) and inflammatory causes such as Ramsay Hunt syndrome and Lyme's disease^{3,5}.

- 2.2 The scope of this policy includes requests for physical therapy rehabilitation services following damage to the facial nerve resulting in a loss of function.
- 2.3 The scope of this policy does not include purely cosmetic rehabilitation. The policy also does not include rehabilitation from facial nerve paralysis resulting from a complete transection of the facial nerve.
- 2.4 The CCG recognises that a patient may have certain features, such as
 - Having experienced damage to the facial nerve;
 - Wishing to have NHS funded physical therapy to improve and restore function of the facial nerve and muscles;
 - Have been advised that they are clinically suitable for physical therapy, and
 - Be distressed by the facial nerve damage and by the fact that they may not meet the criteria specified in this commissioning policy.

Such features place the patient within the group to whom this policy applies and do not make them exceptions to it.

3. Appropriate Healthcare

- 3.1 The purpose of physical therapy is to improve and/or restore function of facial muscles. Damage to the facial nerve leading to a loss of functional capacity is a health problem and the consequences can be severe and can manifest in a variety of forms. Therefore the CCG regards services to address the functional consequences of facial nerve damage as according to the Principle of Appropriateness. However, when the problem associated with facial nerve damage is predominantly cosmetic or aesthetic, the CCG would regard services to address it as not according with the Principle of Appropriateness.
- 3.2 This policy relies on the criterion of appropriateness in that the CCG considers damage to the facial nerve with a House Brackmann grade of three or lower to be predominantly cosmetic or aesthetic, with the exception of grade three where there is weakness of eyelid closure such that corneal damage is likely. Therefore, treatment for such a condition does not otherwise accord with the criteria for appropriateness in the Statement of Principles.
- 3.3 If a patient is considered exceptional in relation to the criteria that rely on other Principles, the CCG may consider the principle of appropriateness in the particular

circumstances of the patient in question before confirming a decision to provide funding.

- 3.4 The CCG considers that physical therapy to improve and/or restore function of facial muscles falls within the category of services that are appropriate for commissioning under Category 1. This is because the intended outcome is to preserve life, prevent or relieve pain, disability or physical discomfort, directly address the distress or disability associated with a diagnosed mental health condition or maintain dignity at the time of death.
- 3.5 In a case where damage to the facial nerve has resulted in a House Brackmann score of six it is possible that there may have been a complete transection of the facial nerve and this should be assessed. In such a case, there would be no capacity to benefit from physical therapy rehabilitation.

4. Effective Healthcare

4.1 A high quality (Cochrane) systematic review forms the basis of the evidence used to determine effective healthcare⁴. The details of the effectiveness of physical therapy rehabilitation interventions are included in Appendix 2. The following statements summarise the conclusions of the systematic review, regarding the effectiveness and safety of interventions.

- There is no high quality evidence to support significant benefit or harm from any physical therapy for idiopathic facial paralysis.
- There is low quality evidence that tailored facial exercises can help to improve facial function, mainly for people with moderate paralysis and chronic cases.
- There is low quality evidence that facial exercise reduces recovery time and consequences in acute cases.
- There is insufficient evidence to determine the effectiveness of electrical stimulation or to identify risks of these treatments.
- There is insufficient evidence to determine the effectiveness of massage and myofascial release.
- There is insufficient evidence to support the addition of acupuncture to facial exercises or other physical therapy.

4.2 This policy therefore only considers tailored exercises to be effective healthcare for rehabilitation after damage to the facial nerve. This service will be provided for patients meeting the criteria set in 3.2 and 3.5 and: A) where the cause is Bell's palsy, it must have been present for a minimum of 12 months, prior to which the standard NHS pathway of care should be followed; or B) where the cause is not Bell's palsy, there will be no minimum duration of condition.

4.3 There is no consensus for the optimal duration of therapist-led tailored exercises, although the studies included in the systematic review provided weekly sessions for 12 weeks. This policy recommends that an initial regimen of 12 weeks duration be

provided, as 12 weeks was the initial period of follow-up for outcome measurements in the two studies with long-term follow-up^{6,7}.

5. Cost Effectiveness

- 5.1 Where appropriate and effective, the CCG does not challenge the cost effectiveness of facial nerve rehabilitation. This policy does not rely on the principle of value for money, and therefore the issue of value for money has not been considered in developing the policy. Nevertheless if a patient is considered exceptional in relation to the principles on which the policy does rely, the CCG may consider whether the treatment is likely to represent value for money in this patient before confirming a decision to provide funding.

6. Ethics

- 6.1 This policy does not rely on the principle of ethics, and therefore the issue of ethics of facial nerve rehabilitation has not been considered in developing the policy. Nevertheless if a patient is considered exceptional in relation to the principles on which the policy does rely, the CCG may consider whether the treatment is likely to raise ethical concerns in this patient before confirming a decision to provide funding.

7. Affordability

- 7.1. This policy does not rely on the principle of affordability, and therefore the issue of affordability of facial nerve rehabilitation has not been considered in developing the policy. Nevertheless if a patient is considered exceptional in relation to the principles on which the policy does rely, the CCG may consider whether the treatment is likely to raise affordability concerns in this patient before confirming a decision to provide funding.

8. Policy

- 8.1 The CCG will commission physical therapy rehabilitation (consisting of tailored facial exercises only) for facial nerve damage in the following circumstances:
- Criterion A: Cases reported with a House Brackmann grade of four or above or of a grade three but with weakness of eyelid closure such that cornea damage is likely AND
 - Criterion B: In cases reported as House Brackmann grade six, the facial nerve is confirmed as intact by electromyography (EMG) AND
 - Criterion C: Where Bell's palsy is the cause, the condition has been present for a minimum of 12 months.

Or, when exceptionality has been demonstrated in accordance with section 9 below.

9. Exceptions

- 9.1 The CCG will consider exceptions to this policy in accordance with the Policy for Considering Applications for Exceptionality to Commissioning Policies (Lancashire Clinical Commissioning Groups Policy Number 3).

10. Force

10.1 This policy remains in force until it is superseded by a revised policy.

Date of adoption

Date for review

11. References

1. Toulgoat F, Sarrazin JL, Benoudiba F, Pereon Y, Auffray-Calvier E, Daumas-Duport B et al. Facial nerve: from anatomy to pathology. *Diagnostic and Interventional Imaging* 2013;94(10):1033-1042.
2. House, J.W. and Brackmann, D.E. (1985) Facial nerve grading system. *Otolaryngol. Head Neck Surg.*, 93, 146–147.
3. Finsterer J. Management of peripheral facial nerve palsy. *European Archives of Oto-Rhino-Laryngology* 2008;265(7):743-752.
4. Teixeira LJ, Valbuza JS, PradoGF. Physical therapy for Bell's palsy (idiopathic facial paralysis). *Cochrane Database of Systematic Reviews* 2011, Issue 12. Art. No.: CD006283. DOI: 10.1002/14651858.CD006283.pub3.
5. Glass G, Tzafetta K. Bell's palsy: a summary of current evidence and referral algorithm. *Family Practice* 2014;31(6):631-642.
6. Beurskens CHG, Heymans PG. Mime therapy improves facial symmetry in people with long-term facial nerve paresis: a randomized controlled trial. *Australian Journal of Physiotherapy* 2006;52(3):177–83.
7. Wen CM, Zhang BC. Effect of rehabilitation training at different degree in the treatment of idiopathic facial palsy: a randomized controlled comparison. *Zhongguo Linchuang Kangfu* 2004;8(13):2446–7.
8. Alakram P, Puckree T. Effects of electrical stimulation on House-Brackmann scores in early Bell's palsy. *Physiotherapy Theory and Practice* 2010;26(3):160–6.
9. Flores PF, Medina RZ, Haro LG. Idiopathic peripheral facial paralysis treatment physic therapy versus prednisone [Tratamiento de la parálisis facial periférica idiopática: terapia física versus prednisona]. *Revista médica del Instituto Mexicano del Seguro Social* 1998;36(3):217–21.
10. Manikandan N. Effect of facial neuromuscular re-education on facial symmetry in patients with Bell's palsy: a randomized controlled trial. *Clinical Rehabilitation* 2007; 21(4):338–43.
11. Mosforth J, Taverner D. Physiotherapy for Bell's palsy. *British Medical Journal* 1958;2(5097):675–7.
12. Barbara M, Antonini G, Vestri A, Volpini L, Monini S. Role of Kabat physical rehabilitation in Bell's palsy: a randomized trial. *Acta Oto-Laryngologica* 2010;130(1):167–72. [DOI: 10.1080/00016480902882469]

13. Pan L. Short wave for 38 peripheral facial paralysis. *Journal of Clinical Acupuncture & Moxibustion* 2004;20(4):26–7.
Acupuncture plus sh
14. Qu Y. Clinical observation on acupuncture by stages combined with exercise therapy for treatment of Bell palsy at acute stage. *Zhongguo Zhen Jiu [Chinese Acupuncture & Moxibustion]* 2005;25(8):545–7.
15. Wong XH, Zhang LM, Han M, Zhang KQ. Clinical application of functional exercise and staged therapy in treatment of facial nerve paralysis. *Zhonghua Linchuang Kangfu Zazhi [Chinese Journal of Experimental and Clinical Virology]* 2004;8(4):616–7.
16. Yang G. Comparison of the efficacy between acupuncture and therapy apparatus for Bell's palsy. *Journal of Clinical Acupuncture & Moxibustion* 2001;17(8):28–9.
17. Zhang H. Acupuncture combined with facial muscle training for peripheral facial paralysis. *Chinese Journal of Rehabilitation Theory and Practice* 2005;11(12):1037–8.

12. Appendices

12.1 Appendix 1: Background on damage to the facial nerve and the House Brackmann grading scale

There are different methodologies available to assess and describe the extent of the facial nerve damage. These include indirect measures which are used to grade the extent of the resulting paralysis and direct methods which measure the electrical activity in the facial nerve.

In terms of indirect methods, the most widely used system of grading is the House Brackmann Scale, which assigns patients to one of six categories on the basis of facial function (Table 1)². Patients with grades one to three would not typically be considered to have experienced a loss of function, unless there is grade three but with weakness of eyelid closure such that cornea damage is likely. In these instances, the condition would be more likely to be considered as an aesthetic issue.

At the other end of the House Brackmann scale, in the most severe cases (grade six), it is possible that there may have been a complete transection of the facial nerve. In such a case, there would be no capacity to benefit from physical therapy rehabilitation. However, in some grade six cases the facial nerve may remain intact. In such cases the patient could benefit from physical therapy rehabilitation. Therefore, in grade six cases it may be necessary to use electromyography (EMG) to determine the status of the facial nerve using direct measures.

Table 1: House Brackmann facial nerve grading scale

Grade	Description	Characteristics
I	Normal	Normal facial function in all areas
II	Slight Dysfunction	Gross: slight weakness noticeable on close inspection; may have very slight synkinesis. At rest: normal symmetry and tone.

		Motion: forehead - moderate to good function; eye - complete closure with minimum effort; mouth - slight asymmetry.
III	Moderate Dysfunction	Gross: obvious but not disfiguring difference between two sides; noticeable but not severe synkinesis, contracture, and/or hemi-facial spasm. At rest: normal symmetry and tone. Motion: forehead - slight to moderate movement; eye - complete closure with effort; mouth - slightly weak with maximum effort.
IV	Moderate Severe Dysfunction	Gross: obvious weakness and/or disfiguring asymmetry. At rest: normal symmetry and tone. Motion: forehead - none; eye - incomplete closure; mouth - asymmetric with maximum effort.
V	Severe Dysfunction	Gross: only barely perceptible motion. At rest: asymmetry. Motion: forehead - none; eye - incomplete closure; mouth - slight movement.
VI	Total Paralysis	No movement.

Direct measurement of facial nerve activity is completed using EMG. EMGs are used to detect muscle activation in the selected areas of the face to indicate the extent of nerve activity in each nerve branch of the face when performing or attempting to perform specific movements or expressions. EMGs can be completed using either needle or surface electrodes.

12.2 Appendix 2: Evidence summary: physical therapy for rehabilitation after damage to the facial nerve

A recent systematic review of the efficacy of physical therapy strategies and devices for idiopathic facial paralysis provides the foundation of the evidence used in this policy⁴.

A total of twelve studies met the inclusion criteria for the review (a total of 872 participants). Of these:

- four trials studied the efficacy of electrical stimulation (313 participants)⁸⁻¹¹;
- three trials studied exercises (199 participants)^{6,7,12};
- five studies compared or combined some form of physical therapy with acupuncture (360 participants)¹³⁻¹⁶.

It was not possible to perform meta-analysis for most outcomes because the interventions and outcomes were not comparable.

There is evidence from a single study of moderate quality that exercises are beneficial to people with chronic facial palsy when compared with controls and from another low quality study that it is possible that facial exercises could help to reduce synkinesis, and the time to recover^{6,7}. Furthermore, there is low quality evidence from a single study that facial exercises reduce sequelae in acute cases¹².

There is insufficient evidence to decide whether electrical stimulation works, to identify risks of these treatments or to assess whether the addition of acupuncture to facial exercises or other physical therapy could produce improvement^{8-11,13,17}.

There have been no good quality and/or experimental studies on physical therapy strategies for facial nerve paralysis published after the search period of the systematic review.

TABLE VERSION FOLLOWS

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