LRI Emergency Department and Children's Hospital

Facial Palsy in Children

Staff relevant to:	Medical and Nursing staff working with Children presenting with facial palsy within the UHL Children's Hospital and Children's Emergency Department.
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Written by: Reviewed by:	G Lewis H Mekki (v:2) H Mekki and D Khan (v:3)
Trust Ref:	D9/2019

1. Introduction and Who Guideline applies to

This guideline is intended for use by Medical and Nursing staff working with Children presenting with facial palsy within the UHL Children's Hospital and Children's Emergency Department.

The facial or seventh cranial nerve (CN VII) is a predominantly motor nerve that innervates the muscles of facial expression and the muscles of the scalp and ear.

The term facial palsy generally refers to weakness of the facial muscles, mainly resulting from temporary or permanent damage to the facial nerve. It can affect any part of the face, one, or both sides. Facial nerve palsy occurs in around 25 children per 100,000 per year.

Key points:

This guideline is for unilateral lower motor neurone facial palsy. Any child presenting with bilateral, or incomplete facial palsy needs urgent investigations and referral to Paediatrics.

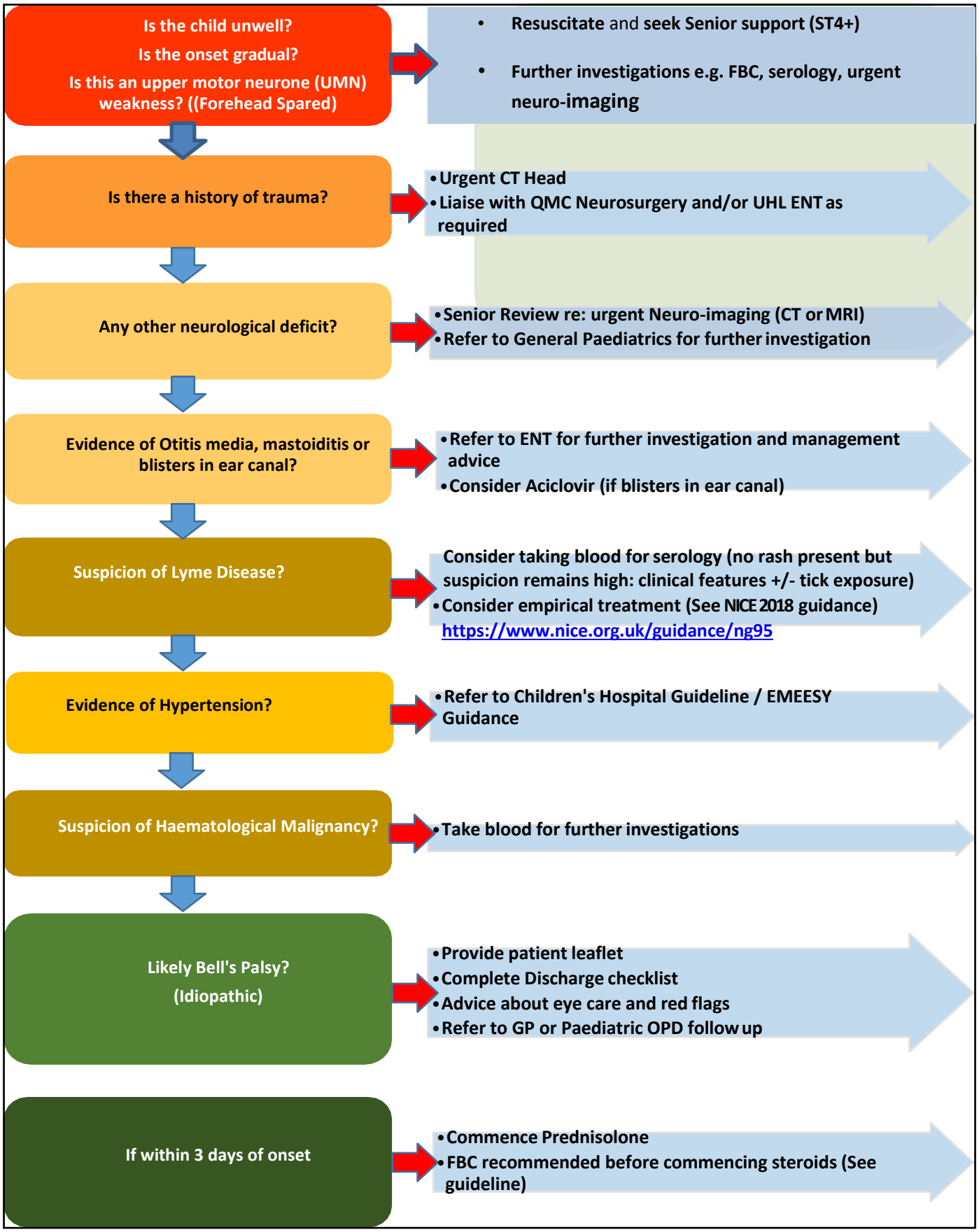
Related documents:
Afebrile Seizure - First UHL Childrens Guideline
Brachial Plexus Injury UHL Neonatal Guideline NNU
Idiopathic Intracranial Hypertension UHL Childrens Medical Guideline

Contents

2. Child presents with Unilateral Facial Palsy

=No

=Yes



2.1 Aetiology

Facial paresis or weakness, unilateral or bilateral, has varied aetiology in children. In most cases a cause is not identified and it tends to resolve spontaneously.

It is important to identify whether the patient has an upper motor neurone (UMN) or lower motor neurone (LMN) lesion to assist in identifying cause.

Bell's palsy, or idiopathic facial paralysis, is defined as a lower motor neuron facial palsy of acute onset, without any evidence of an aural, neurological, or local cause. It accounts for the majority of reported cases (40% to 70%) of facial paralysis and is a self-limiting idiopathic rapid onset facial palsy that is non-life-threatening and has a generally favourable prognosis.

Differential Diagnosis of Facial Nerve Paralysis in Children

- Infective: Herpes Virus (type 1), Herpes Zoster (Ramsay-Hunt syndrome), Otitis media or Cholesteatoma, Lyme disease, EBV, CMV
- Mononeuropathy - eg due to diabetes mellitus, sarcoidosis
- Neoplastic: Leukemias, lymphomas, Posterior fossa tumours, parotid gland tumour
- Hypertension
- Syndromes**:** Melkersson's syndrome (recurrent facial palsy, chronic facial oedema of the face and lips, and hypertrophy/fissuring of the tongue)
- Rare causes including barotrauma, Mumps, Leprosy

Upper motor neurone facial palsy	***Lower motor neurone facial palsy***
1. Head Trauma **2. Stroke** **3.Intracranial space occupying lesion** **4. VII cranial nerve demyelination** **5. Multiple Sclerosis**	**1. Bell's Palsy / Idiopathic (diagnosis of exclusion)** **2. Birth trauma (eg forceps delivery)** **3.Guillain-Barré syndrome,** **4.Ramsay Hunt syndrome** **5.Lyme disease** **6.Facial nerve tumour** **7. Moebius syndrome(congenital)** **8. Other ENT causes (eg Parotid gland trauma, Cholesteatoma)**

2.2 Assessment

History

Thorough history to include duration and rapidity of progression, preceding history of viral illness, trauma or associated systemic symptoms.

Specifically ask about mild pain in or behind ear, facial numbness, hearing impairment or hyperacusis, disturbed taste, dry eyes, clumsiness, falls and visual disturbance or change in behaviour or academic performance.

2.3 Examination

General examination: Check BP. Skin and joints should be examined for bruising and rashes (erythema migrans) or tick bites to assess for Lyme's disease. Examine neck for lumps and eyes for closure, blinking and hydration.

ENT examination: Inspection of the oropharynx and tonsils for asymmetry, palpation of the parotid gland to exclude a mass, and check for cervical, inguinal and axillary lymphadenopathy. Otoscopic examination must be done to rule out any local aural pathology, including skin blebs and blisters.

Eye examination: Check the eye for degree of lagophthalmosis (inability) to close the eye and refer to eye casualty or on call Ophthalmology registrar within 24-48 hours if exposure present. Check Trigeminal nerve and corneal sensation.

Neurological examination: Document that facial nerve is involved diffusely (flaccid weakness - both upper and lower face, smooth face on affected side, absence of wrinkles on forehead, sagging of inferior lid, flat nasolabial fold and drooping of angle of mouth). Perform a full cranial nerves examination, and examine for ataxia, nystagmus and cerebellar signs.
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Red Flags

- Forehead sparing (i.e. UMN lesion) or other abnormal neurology. Look for signs of intracranial lesion.
- Rash consider Herpes Zoster (vesicular) or Erythema Migrans (Lyme Disease)
- Middle ear infection, effusion, hearing loss, vertigo, ear discharge. Look for vesicles – Ramsey-Hunt syndrome. Consider more serious ENT pathology such as cholesteatoma - discuss with ENT
- Parotid mass
- Bilateral palsy - Guillain Barre or multiple sclerosis
- Severe pain- consider Ramsay Hunt syndrome and herpes zoster infection. Vesicles not always present but pain is a feature.
- Bruising, pallor or organomegaly- consider oncological diagnoses
- Hypertension can cause facial palsy and has been a presenting feature of

Indications for specialist referral in patients with apparent Bell's Palsy

- Any abnormality on otoscopic examination
- Hearing loss
- Associated neurological abnormality
- Single branch of facial nerve involved
- Progression of paralysis beyond 3 weeks
- Recurrent facial nerve palsy
- Antecedent trauma
- Hypertension
- Lymphadenopathy, bleeding manifestations
- Parotid mass

2.4 Investigations

Please see flow chart on page 2.

Generally, if the patient's presentation is typical and a thorough clinical examination and BP does not reveal any obvious cause, no routine tests are needed to diagnose Bell's palsy.

Serologic testing for Lyme disease is recommended for all children with acute onset facial palsy when there is the possibility of exposure. Appropriate investigation is recommended wherever malignancy is felt to be a possibility. When trauma or space occupying lesion is suspected, urgent neuro-imaging is recommended.

In patients with Bell's palsy persisting for more than 3 months, recurrent facial palsy or single facial nerve segment involvement an MRI may be indicated.

If commencing corticosteroids, it is local consensus recommendation to check an FBC beforehand.

2.5 Management

Main principles

The treatment of facial nerve palsy in children is guided by the underlying cause and the severity of the condition. Symptomatic treatment is usually all that is required along with reassurance to the family and patient that the majority of cases resolve spontaneously.

Eye Care

Protect the eye from drying and abrasions with hourly HyloTEAR eye drops and or copious HyloNIGHT or Xailin Night ointment 4-6 times per day especially at night (not available in ED). Provision of Chloramphenicol 1% ointment 6-8 times per day will suffice till seen by Ophthalmology warning the patient that the ointment will blur vision.

Facial Massage

Facial massage and exercises may help prevent permanent contractures (shrinkage or shortening of muscles) of the paralyzed muscles before recovery takes place. Moist heat applied to the affected side of the face may help reduce pain.

Corticosteroids in Bell's Palsy

Evidence for corticosteroid treatment in children is extrapolated from adult studies. Treatment should preferably begin within 3 days of symptom onset. Caution in patients with diabetes mellitus, hypertension, renal or hepatic dysfunction or those who are immunocompromised.

It is recommended to give **Prednisolone 2 mg/kg daily** (up to 60mg) for five days, followed by a five-day taper.

Herpes

If Herpes virus is a clearly identifiable source (eg. blisters in the ear canal or on the eardrum AKA Ramsay-Hunt syndrome) liaise with ENT, and consider Aciclovir orally (Herpes zoster dose) with Prednisolone as recommended above.

2.6 Discharge advice:

Advise patients/carers to seek medical advice if any of the following develop:

- Red/painful eye
- Progression of weakness after 48 hours
- Different or new symptoms
- Headache
- Vomiting
- Fever
- Disturbed vision
- Weakness
- Abnormal sensation in another area of the body, head or neck
- No improvement after 2 weeks-needs GP review

2.7 Follow up:

Local consensus is to refer children with no improvement for General Practitioner review within 4 weeks. If no improvement in condition after 4-6 weeks then will need paediatrics review.

2.8 Prognosis

The prognosis is based on the aetiology. The prognosis for patients with Bell's palsy is generally excellent. Nearly all patients demonstrate signs of recovery between 3 weeks to 3 months. 85% recover within 6 weeks and a further 10% recover over a period of months. <5% have permanent palsy and this percentage is not improved by steroid treatment.

Poor prognostic features:

- Complete palsy or severe degeneration (on electrophysiology)
- No signs of recovery by three weeks
- Severe pain
- Ramsay Hunt syndrome (herpes zoster virus)
- Associated with either hypertension or diabetes

3. Education and Training

None required to implement this guideline.

4. Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Use of Steroids	Audit	H Mekki	Annually	Q&S meeting
Follow Up arrangements	Audit	H Mekki	Annually	Q&S meeting

5. Supporting References

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6. Key Words

Facial palsy, Bell's palsy

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

Contact and review details	
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Details of Changes made during review: Jan 2025

Section 2.3 Examination

Eye examination updated : Check the eye for degree of lagophthalmosis (inability) to close the eye and refer to eye casualty or on call Ophthalmology registrar within 24-48 hours if exposure present. Check Trigeminal nerve and corneal sensation.

Section 2.5 Management

Eye Care updated : Protect the eye from drying and abrasions with hourly HyloTEAR eye drops and or copious HyloNIGHT or Xailin Night ointment 4-6 times per day especially at night (not available in ED). Provision of Chloramphenicol 1% ointment 6-8 times per day will suffice till seen by Ophthalmology warning the patient that the ointment will blur vision.