Bell’s Palsy

Purpose
To guide the management of Bell’s Palsy in children

Intended Audience
Clinicians involved in the treatment of Bell’s Palsy in children.
1. Introduction

Bell's palsy is an idiopathic lower motor neurone paresis/paralysis of the VIIth cranial nerve, named after Sir Charles Bell, an 18th century Scottish anatomist.

Bell's Palsy is the most common cause of unilateral facial nerve palsy, and the most common acute mononeuropathy. Incidence in the 0-14 age group was estimated at 6.6 per 100,000 person-years of follow-up in a UK study period1, in comparison with an overall incidence of 20.2 to 37.7 (in adults) per 100 000 person years of follow-up1,4. There are less studies on Bell’s Palsy in children than in adults due to the relative difference in incidence. There is therefore less evidence for treatment recommendations.

Bell’s palsy is diagnosed by exclusion of other causes of facial weakness. Facial weakness may manifest as complete inability (paralysis) or partial inability (paresis) to move affected muscles.

2. Intended Audience

Clinicians involved in the treatment of Bell’s Palsy in children.

3. Guideline Content

Causes of Facial Nerve Palsy in Children

- Bell’s Palsy (40-70%)
- Infectious Causes (13-36%): otitis media, mastoiditis, herpes zoster (Ramsay–Hunt syndrome), chickenpox, encephalitis, meningitis, mumps, infectious mononucleosis (glandular fever), malaria, tuberculosis, Lyme disease, HIV, tetanus, diphtheria, Kawasaki disease
- Trauma (19-21%) eg. skull base fractures, facial injuries, middle ear injuries, barotrauma
- ENT conditions eg. acute otitis media, cholesteotoma, mastoiditis, parotitis
- Neoplastic. eg. haematological malignancies eg. nleukaemia, cerebello-pontine angle tumours/Infratemporal fossa tumours/parotid gland tumours
- Hypertension
- CNS causes: Stroke, demyelinating conditions eg. multiple sclerosis
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- Demyelinating polyneuropathies eg. Guillain-Barre syndrome,
- Congenital : eg. Moebius syndrome
- Post-immunisation (reported, no causal association established)
- Melkersson–Rosenthal syndrome (recurrent alternating facial palsy, furrowed tongue, faciolabial oedema)

In addition to establishing the presence of, and type of facial nerve palsy, the history and physical examination should be focused on neurologic, ENT, malignant, inflammatory, or infectious causes; cerebello-pontine angle aetiologies; or vascular insufficiencies.

Examination should include blood pressure measurement, full systemic, neurological examination and ENT examination.

**Red Flag Features in History and Physical Examination:**

- Longer history of preceding ill-health
- Pyrexia
- History of trauma
- Systemically unwell
- Weakness or numbness of limbs, change in gait, clumsiness
- Forehead sparing: indicative of upper motor neuron lesion (in CNS pathologies such as stroke)
- Bilateral facial nerve involvement
- Other cranial nerve abnormalities or abnormality on neurology examination
- Numbness/pain /paraesthesias
- Earache, ear discharge, hearing disturbance
- Disturbance of balance/coordination
- Headache, neck stiffness, photophobia
- Visual disturbance
- Rashes/bruising/pallor
- Lymphadenopathy
- Any cold sores/blisters/presence of vesicular rash particularly external ear
- Abnormality on otoscopy
- Change in behaviour or school performance
- Progression of weakness beyond 3 weeks
- Recurrence of facial nerve weakness
- Hypertension

Bell's Palsy is diagnosed by exclusion of secondary causes of facial weakness.

Bell's palsy carries a good prognosis in children with the majority of cases resolving spontaneously. In children recovery rates are reported to be approximately 90%.

Although typically carrying a good prognosis, Bell's palsy can result in significant temporary
oral incompetence and incomplete eye closure, leading to exposure keratopathy. Long-term effects of incomplete recovery of facial nerve (although rare in Bell’s palsy in children and young people), can have negative effects on psychological well-being. Recurrence rate is estimated at 6-10%. Recurrence generally warrants further investigation into a possible underlying aetiology, as it could be indicative if an underlying neoplasm or Melkersson–Rosenthal syndrome

Management

Treatment is aimed at improving facial muscle function and at eye protection.

Treatment of Bell’s Palsy with corticosteroids, antivirals or both in children is controversial.

Corticosteroids have been the mainstay of treatment for many years, based on extrapolation from adult data. In adults, there is fairly robust evidence that steroids started within 72 hours of the onset of paresis are of benefit, in reducing risk of incomplete recovery, and motor synkinesis. There is, however, a lack of evidence for benefit in children, largely due to lack of trials in the paediatric age group. Several reports have suggested there is little evidence to support the routine use of steroids in children, but do state that large paediatric RCTs are needed. Prednisolone use can be considered if child presents within 72 hours, causes other than Bell’s Palsy have been excluded, and in the absence of contraindications. There is no consensus on the prednisolone dose to be used in Bell’s palsy, a total 10 day course is often recommended in adults, with a tapering dose after 5-7 days, for the remaining 3-5 days of the course.

The use of antivirals, mainly aciclovir, has been historically linked to the apparent association of Bell’s Palsy with herpes simplex and/or varicella zoster. In age group above 14 years, there is evidence that indicates the combination of antivirals and corticosteroids has some benefit and reduces sequelae of Bell’s palsy compared with corticosteroids alone, but that use of antivirals alone does not seem to be more beneficial than using placebo. There is no evidence published to date supporting its use below 14 years age, and there is a need for RCTs to assess this.

USEFUL CONTACTS

ENT Registrar- via SCH switch 9-5pm, via RHH switch out of hours
Ophthalmology- Bleep 250 9-5pm for urgent reviews or queries, via RHH out of hours or for advice
If any Red flag features are present, needs to be reviewed by General Paediatric team.

Neurology Registrar- Bleep 164 for advice ONLY after review by General Paediatricians.
QUICK REFERENCE SUMMARY

Patient referred by A&E/GP

All patients

General Medical Team

ENT Review within 24hrs

HISTORY

Bell's Palsy:
Acute history, unilateral facial weakness, systemically well, no identifiable indicator of cause of facial nerve weakness

RED FLAGS
History more than few days systemically unwell
Pain/headache
Fever
History of trauma
Forehead sparing/bilateral involvement
Earache, ear discharge, hearing disturbance
Abnormalities on neurological examination
Headache, neck stiffness, photophobia
Visual disturbance
Rashes/bruising/Pallor/Swollen glands
Hypertension
Cold sores/blisters
Weakness, numbness of limbs, change in gait, clumsiness
Change in behaviour or school performance
Progression beyond 3 weeks/recurrence

Do not treat as Bell's Palsy.
Manage accordingly
- Consider further investigations and admission
- Consider referrals to other team dependent on symptoms/signs eg., ENT, Neurology, Haematology

Do not treat as Bell's Palsy
- Neurology opinion if abnormalities on neurological examination
- Medical/Cardiology/Renal opinion if high BP
- Ophthalmology opinion if red, painful, swollen eye or visual disturbance

EXAMINATION

-Blood pressure-Systemic examination
-ENT examination
-Full neurological examination

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INVESTIGATIONS

- No investigations if simple Bell's Palsy

Not simple Bell's Palsy

- Consider Neuroimaging if other neurological findings, history of trauma or other concerning history (seek neurology advice)
- Consider bloods if systemically unwell, infection or malignancy suspected
QUICK REFERENCE SUMMARY

Management/Follow-Up

**MANAGEMENT**

*Eye Care:*
- Artificial tears: eg. Viscotears 0.2% eye drops during daytime
- Lacrilube eye ointment at night
- Advise covering eye at night

*Steroids:*
- Consider if less than 72 hours since onset & no contra-indication
- Prednisolone 1mg/kg (max 50mg) for 5 days, then taper over next 5 days

*Antiviral:*
- Only if clinical evidence of herpes simplex or varicella zoster infection: Aciclovir (see BNFC for doses according to age, weight, viral aetiology)

**Follow-Up**

- For simple Bell's Palsy: ENT follow-up 4 weeks
- Ophthalmology follow-up as needed

**If eye red, painful, swollen, visual disturbance, eye closure significantly affected**

Refer to Ophthalmology

Advise to seek urgent medical advice if:
- Worsening weakness
- Severe Headache
- Ear discharge or earache
- Red or painful eye or visual disturbance
- Severe Facial numbness or pain
- Vesicles in ear or mouth
- Development of new neurological symptoms or signs
- Recurrence of weakness following recovery

Advice to parents

Improving

No further follow-up if near complete resolution

Possible alternative diagnosis/progressing by 3 weeks, no improvement at 3 months

Consider neurology opinion or referral to appropriate specialty +/- Neuroimaging

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4. References