Paediatric Emergencies for the Primary Care Services

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Paediatric Emergencies

‘To live through an impossible situation, you don’t need the reflexes of a Grand Prix driver, the muscles of a Hercules or the mind of an Einstein. *You simply need to know what to do’*

Paediatric Emergencies

Or, as put by Corporal Jones -

Don’t PANIC Captain Mainwaring!!!!!

What's a Paediatric emergency

Depends where you look at the problem from!

- Parental/Grand Parental
- School and Social
- Primary care – in Hours and Out of Hours
- Secondary Care – Ambulatory, Emergency Department, In – Patient Unit
- Tertiary Care

Paediatric Emergencies

What are the common emergencies?

How do we recognize the sick child?

Detailed assessment – risk stratification

Triage Tools and how to manage the next stage

Follow through

Questions

UK Overview

Size of the paediatric problem:

- 1995 -2-3,500,000 children in A/E (1:4-1:6)
- 2007 – 1400 Deaths 1-14 years
- Boys 802 Girls 598
- SIDS 155
- 88 in house fires,
- 2010 211 Killed on Road

UK Overview

Drowning - 42/yr. 30 Boys 12 Girls

7 of these in garden ponds, 12 in bath

Near Drowning 200/year in A/E

50% of Accidents are in the home

158 deaths due to home accidents

50% of Home accidents are to under 5’s

Primary Care OOH Services – Paediatrics Urgent and Unscheduled Care **Pediatrics 1993**

Evidence :

•In 4 years, 107 938 calls have been successfully managed without an adverse clinical outcome. Minor errors in using protocols occurred in one call out of 1450 after-hours calls.

•After-hours phone calls necessitated an after-hours patient visit 20% of the time

•**One** after-hours hospital admission out of every **88** calls.

•50% of the patients were managed with home care advice only,

•28% were given home care advice after-hours and seen the next day in the primary care setting.

•Of all patients directed by the telephone triage nurses to be seen after hours, 78% were determined to have a condition necessitating after-hours care.

What are the Perceived Emergencies

I . Fever

2. Rash

3. Vomiting

4. Nonpenetrating injury (includes head trauma, limb trauma, bruises, abrasions, etc)

5. Ear complaint

6. Cough

7. Diarrhea

8. Sore throat

What are the Perceived Emergencies

9. Irritability/fussiness
10. Abdominal pain
11. Asthma
12. Upper respiratory tract infection symptoms
13. Medication question
14. Lacerations
15. Conjunctivitis
16. Croup
17. Respiratory distress
18. Constipation
19. Questions regarding previously diagnosed illness
20. Insect bite

Triage - is it safe? Arch Dis Ch 2011

In total, 0.9% (119/13,408) of the patients were undertriaged.

In 53% (63/119) of these patients, experts considered undertriage as clinically severe.

In 89% (56/63) of these patients the high reference urgency was determined on the basis of abnormal vital signs.

Undertriage was more likely in infants (especially those younger than three months)

Conclusion Undertriage is infrequent, but can have serious clinical consequences

- **To reduce significant undertriage, the authors recommend a systematic assessment of vital signs in all children.**

Vital Signs

Age Appropriate

Usable in Telephone and Face to Face Situations

Record Accurately

Validity of Normal values

Usable across the conditions commonly encountered.

NHS
National Institute for
Health and Clinical Excellence

Feverish illness in children

Implementing NICE guidance

May 2007

Clinical Guideline Implementation Tools

NICE clinical guideline 47

Background: why this guideline matters

Feverish illness in children:

- is the most common reason for children to be taken to the doctor
- is a cause of concern for parents and carers
- can be a result of a simple self-limiting infection or a life-threatening infection
- can have no apparent source.

Key recommendations

Traffic light system

Detection of fever

Clinical assessment

Management by remote assessment

Management by a non-paediatric practitioner

Management by a paediatric specialist

Antipyretics

The Traffic Light System

- Tool for identifying the likelihood of serious illness
- Children with only symptoms and signs in the ‘green’ column are at low risk
- Children with one or more symptom or sign in the ‘amber’ column are at intermediate risk
- Children with one or more symptom or sign in the ‘red’ column are at high risk

Traffic light system: green

Colour	Normal colour of skin, lips and tongue
Activity	Responds normally to social cues Content/smiles Stays awake or awakens quickly Strong/normal cry/not crying
Hydration	Normal skin and eyes Moist mucous membranes
Other	None of the amber or red symptoms or signs

Traffic light system: amber

Colour	Pallor reported by parent/carer
Activity	Not responding normally to social cues Wakes only with prolonged stimulation Decreased activity No smile
Respiratory	Nasal flaring Tachypnoea: RR>50/min age 6-12 months, RR>40/min age >12 months Oxygen saturation ≤ 95% in air Crackles
Hydration	Dry mucous membranes Poor feeding in infants CRT ≥3 seconds Reduced urine output
Other	Fever for ≥5 days Swelling of a limb or joint Non-weight bearing/not using an extremity A new lump >2cm

Traffic light system: red

Colour	Pale/mottled/ashen/blue
Activity	No response to social cues Appears ill to a healthcare professional Unable to rouse or if roused does not stay awake Weak/high pitched/continuous cry
Respiratory	Grunting Tachypnoea: RR>60 /min Moderate or severe chest indrawing
Hydration	Reduced skin turgor
Other	Age 0-3 months, temperature ≥38°C Age 3-6 months, temperature ≥39°C Non blanching rash Neck stiffness Focal neurological signs Bile-stained vomiting Bulging fontanelle Status epilepticus Focal seizures

Detection of fever

In children aged 4 weeks to 5 years measure body temperature by:

- electronic thermometer in the axilla or
- chemical dot thermometer in the axilla or
- infra-red tympanic thermometer.

Use an electronic thermometer in the axilla for children younger than 4 weeks.

Clinical assessment

- Check for any immediately life-threatening features.
- Use traffic light system to check for symptoms and signs that predict the risk of serious illness.
- Look for a source of fever and check symptoms and signs associated with specific diseases.
- Measure and record temperature, heart rate, respiratory rate, capillary refill time and assess for dehydration.

Symptoms and signs of specific diseases

Meningococcal disease	Non-blanching rash, particularly with one or more of the following: •an ill-looking child •lesions >2 mm in diameter (purpura) •a CRT of ≥3 seconds •neck stiffness
Meningitis	Neck stiffness Bulging fontanelle Decreased level of consciousness Convulsive status epilepticus
Herpes simplex encephalitis	Focal neurological signs Focal seizures Decreased level of consciousness
Pneumonia	Tachypnoea Chest indrawing Crackles Cyanosis Nasal flaring Oxygen saturation ≤95%

Symptoms and signs of specific diseases (2)

Urinary tract infection (in children aged older than 3 months)	Vomiting Poor feeding Lethargy Irritability Abdominal pain or tenderness Urinary frequency or dysuria Offensive urine or haematuria
Septic arthritis/ osteomyelitis	Swelling of a limb or joint Not using an extremity Non-weight bearing
Kawasaki disease	Fever >5 days and at least four of the following: •bilateral conjunctival injection •change in upper respiratory tract mucous membranes •change in the peripheral extremities •polymorphous rash •cervical lymphadenopathy

Management by remote assessment

Do symptoms and/or signs suggest an immediately life-threatening illness?

No

Look for traffic light symptoms and signs

Yes

Refer immediately to emergency medical care

If all **green** features and no amber or red

Child can be managed at home with appropriate care advice

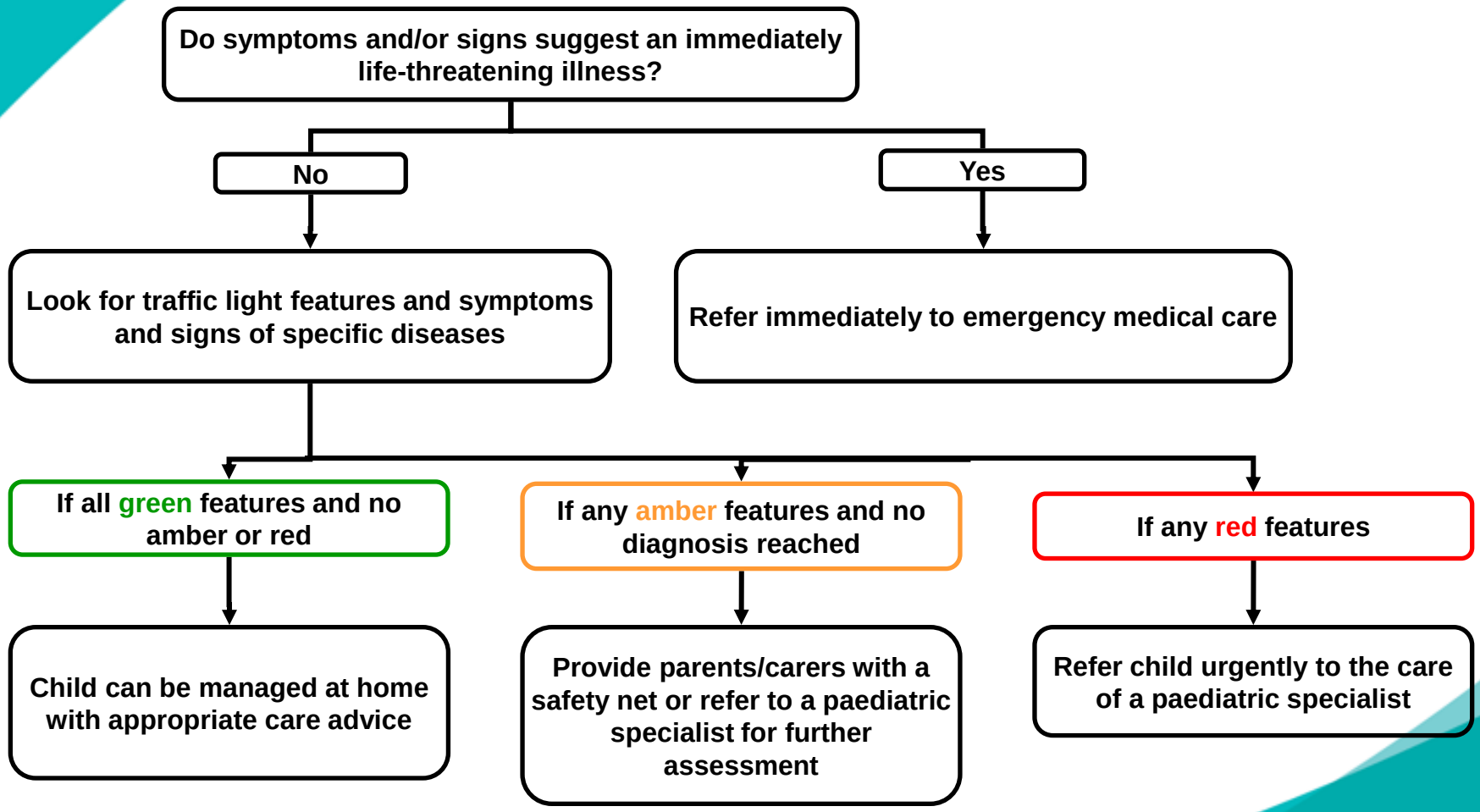
If any **amber** features and no red

Send child for assessment in a face-to-face setting.

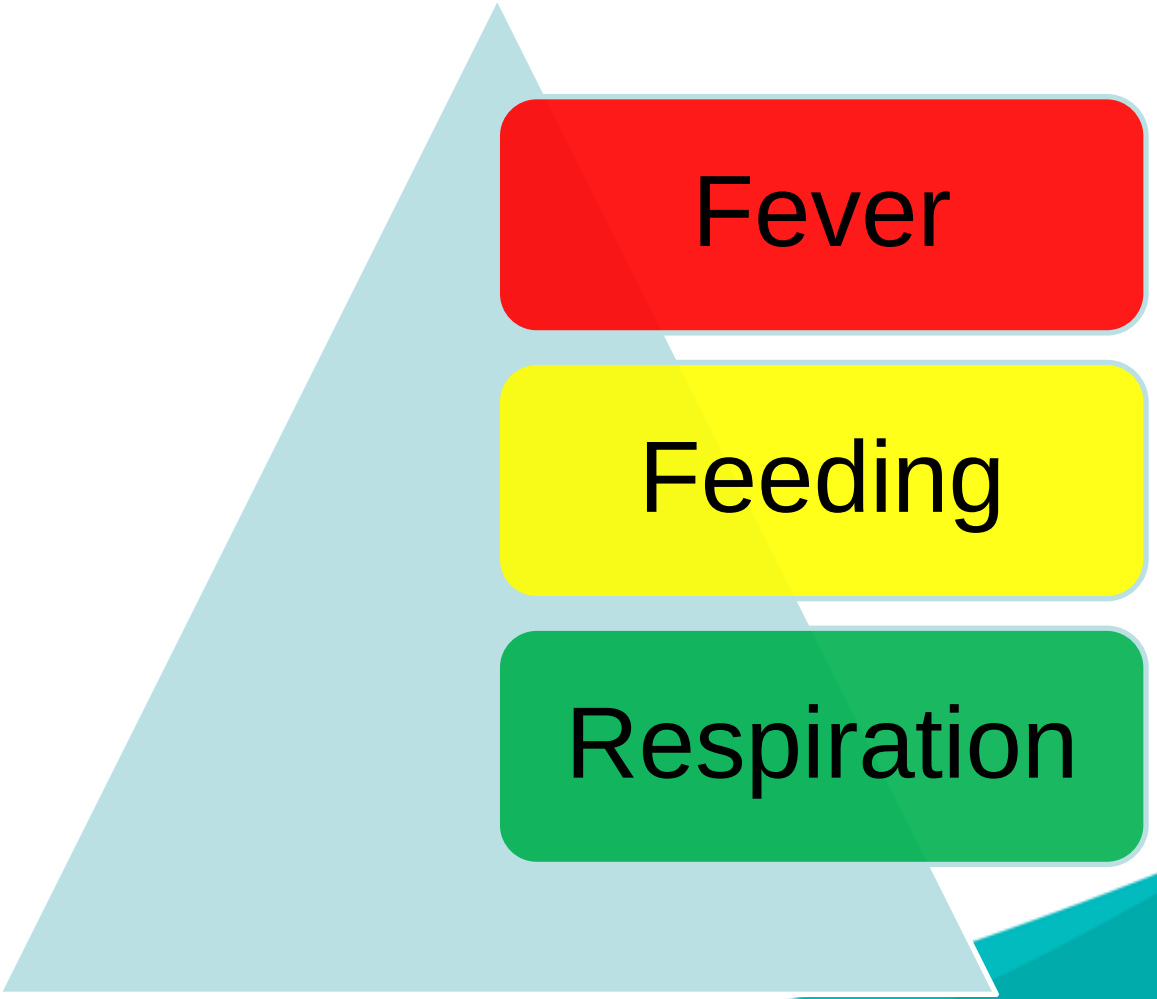
If any **red** features

Send child for urgent assessment in a face-to-face setting within 2 hours

Management by a non-paediatric practitioner



Bronchiolitis with Traffic Light Approach



Paediatric Emergencies - Croup

Assess

Oxygen

Nebulised Pulmicort 2mg

or

Dexamethasone 0.6mg/kg

Reassess

Paediatric Emergencies - Child Protection

Commonest Reason for Paeds Consultant Emergency Call Out !

Wide variety of presentation

Know your local procedures

Work beside Social Services

Know your limitations

Paediatric Emergencies
Status Epilepticus

Paediatric Emergencies
Petechial Rashes

The safety net

The safety net should be one or more of the following:

- verbal and/or written information on warning symptoms and how further healthcare can be accessed
- arranging further follow-up
- liaising with other healthcare professionals, including out-of-hours providers, to ensure direct access for the child if required.

Resources

Spotting the Sick Child
https://www.spottingthesickchild.com

Feverish illness in children - Assessment and initial management in children younger than 5 years
http://www.nice.org.uk/CG47

Guidance on when to suspect child maltreatment
http://www.nice.org.uk/CG89

Thank You

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