

Paediatric Pearls

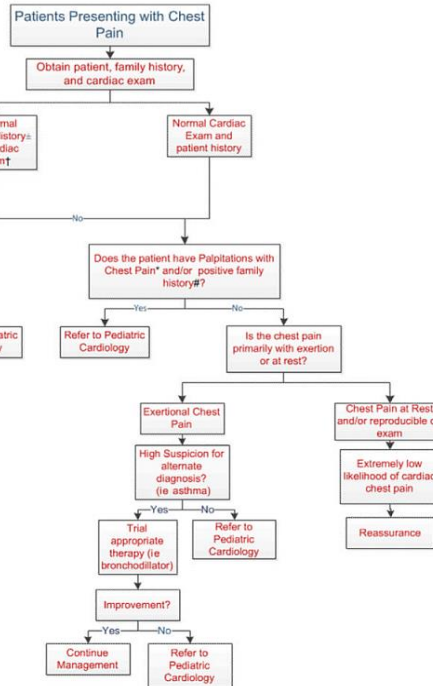
by Dr Julia Thomson, Paediatrician

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Monthly paediatric update newsletter for all health professionals working with children – put together by Dr Julia Thomson, Paediatric Consultant at Homerton University Hospital, London, UK. Housed at www.paediatricpearls.co.uk where comments and requests are welcome!

Chest pain management algorithm in children from Friedman K et al 2013 (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3982288/pdf/nihms-566823.pdf>)

- Non-cardiac aetiologies of chest pain:
- MSK (50-68%) eg. costochondritis
 - Respiratory (3-12%) eg. asthma
 - GI (2-8%) eg. gastritis
 - Psychogenic (10-30%) eg. anxiety
 - Other (<10%) eg. skin or breast infection



- * chest pain with radiation to jaw, chin, back, left shoulder, increased pain while supine, history of drug use, kawasaki, cardiac surgery, or hypercoagulable state
- * Palpitations is a primary for major complaint (in addition to Chest Pain)
- * Abnormal Cardiac Exam = pathologic murmur, loud or single S2, gallop, rub, peripheral edema, hypoxia, ill appearance, significant tachycardia, tachypnea, or irregular rhythm
- # Positive Family History = 1st degree relative or multiple family members with: cardiomyopathy, sudden cardiac death at age < 50, severe familial hyperlipidemia, pulmonary HTN, or known familial arrhythmias

Less than 1% of paediatric chest pain is cardiac in nature so most paediatric cardiology services (including Homerton and GOSH) will not accept referrals for isolated chest pain. Please follow this algorithm when deciding whether to refer. The vast majority of patients can be reassured.

LESSONS FROM THE FRONT LINE – Don't "explain away" a fast heart rate.

Differential diagnosis for tachycardia in children:

SHOCK (a state of cellular and tissue hypoxia) – distributive (eg. anaphylaxis, sepsis), hypovolaemic (eg. from D&V, bleeding or DKA), dissociative (eg. extreme anaemia), obstructive (eg. tamponade case featured last month), cardiogenic (eg. SVT, cardiomyopathy). *Children raise their heart rate early to compensate for shock. They drop their blood pressure late – usually as a pre-terminal event. In the assessment of an unwell child, his/her heart rate is everything.*

Once you are **sure** it is none of the above, consider whether any of the following might be affecting the heart rate:

Hypoxia (eg. in asthma), fever, exercise, pain, medications, recreational drugs, anxiety, crying, hyperthyroidism, phaeochromocytoma.

NEVER BE COMPLACENT ABOUT A CHILD'S HEART RATE!

Down Syndrome (DS) has been covered before in Paediatric Pearls newsletters (<http://www.paediatricpearls.co.uk/wp-content/uploads/February-2012.pdf> and <http://www.paediatricpearls.co.uk/downs-syndrome-pathways/>).

Children with DS are followed up regularly in Child Development Centres in the UK and their thyroid, heart, hearing and vision is checked every 1 to 2 years as per <https://www.dsmig.org.uk/information-resources/guidance-for-essential-medical-surveillance/>. GPs may like to look at this resource to guide you in the annual review of adults with Down Syndrome for whom secondary care provision is perhaps not so watertight. There is a PDF checklist for what to do at the annual review at:



<https://www.downs-syndrome.org.uk/for-professionals/health-medical/annual-health-check-information-for-gps/>.

Paediatric Epistaxis is common in children especially between the ages of 3 and 8 and is usually benign and manageable by parents at home. There is an article on it at <https://www.gponline.com/managing-epistaxis-children-paediatric-medicine/paediatrics/childhood-infections/article/1057178>. Spontaneous nose bleeds are uncommon in infants – so should make you wonder about a coagulopathy or nasal pathology - but nose-picking with dry nasal mucosa is the most common cause in older children. 90% occur anteriorly in Little's area and can be stopped by pinching the bottom part of the nose for a few minutes as seen in the parent info leaflet from the excellent Australian site, <https://www.rch.org.au/kidsinfo/factsheets/Nosebleeds/>.



Dermatological manifestations of systemic disease by Dr Anusuya Kawsar, dermatology registrar.

What is this and what could be the underlying issue?

FEATURES:

- > Panniculitis (inflammation of subcutaneous fat)
- > Erythematous tender nodules on the shins and, less commonly, thighs / forearms
- > Vary in size from a cherry to grapefruit (Ranging number from 2-50)
- > Initially appear red then will turn purple (fading like a bruise)
- > Associated symptoms include aching and swelling of the ankles, fever, arthralgia
- > New lesions may occur for weeks
- > Spontaneous resolution after 3-6 weeks without scarring

COMMON CAUSES:

- > Infections; e.g. streptococcus, viral, *Mycoplasma pneumoniae*
- > Sarcoidosis/Tuberculosis
- > Drugs e.g. sulphonamides, salicylates, NSAIDS, OCP
- > Inflammatory bowel disease

TREATMENT:

- > Treat underlying infection
- > Bed rest and light compression stockings
- > Analgesia

DIAGNOSIS: Erythema nodosum

Ref: Talia Kakourou et al. Erythema nodosum in children: A prospective study. 2001. [Journal of the American Academy of Dermatology](https://www.jaad.org/article/S0022-0741(01)00000-0)

"Management and Referral Guidelines for Top 20 Paediatric Outpatient Conditions" was published by Birmingham Women's and Children's NHS Trust in December 2018 and is a gold mine for GPs. Enuresis, cough, faltering growth, reflux etc. It's available to all at <https://bwc.nhs.uk/download.cfm?doc=docm93ijim4n2598.pdf&ver=3660>.

The same website (<https://bwc.nhs.uk/assessment-tools>) houses excellent assessment guidelines useful for ED colleagues for assessing croup, bronchiolitis, asthma, gastroenteritis, abdominal pain and fever. Each guideline has normal paediatric observations values in it and good patient written information to give out as part of our safety net.

Thank you to Dr Vicky Agunloye, paediatric registrar at Homerton, for finding the above resources. She runs her own Instagram site for parents (@oncallmummy) and has written trustworthy, reassuring articles for new parents on common newborn baby issues, see <https://www.thelondonmother.net/paediatric-advice-baby/> and on how to keep children healthy at <https://www.thelondonmother.net/help-children-be-healthier/>.

These articles are both worth reading if you are new to paediatrics; this is what parents will ask you about and, especially if you're not a parent yourself, you might be glad of the tips to pass on!