COMMON PAEDIATRIC REFERRAL CONDITIONS

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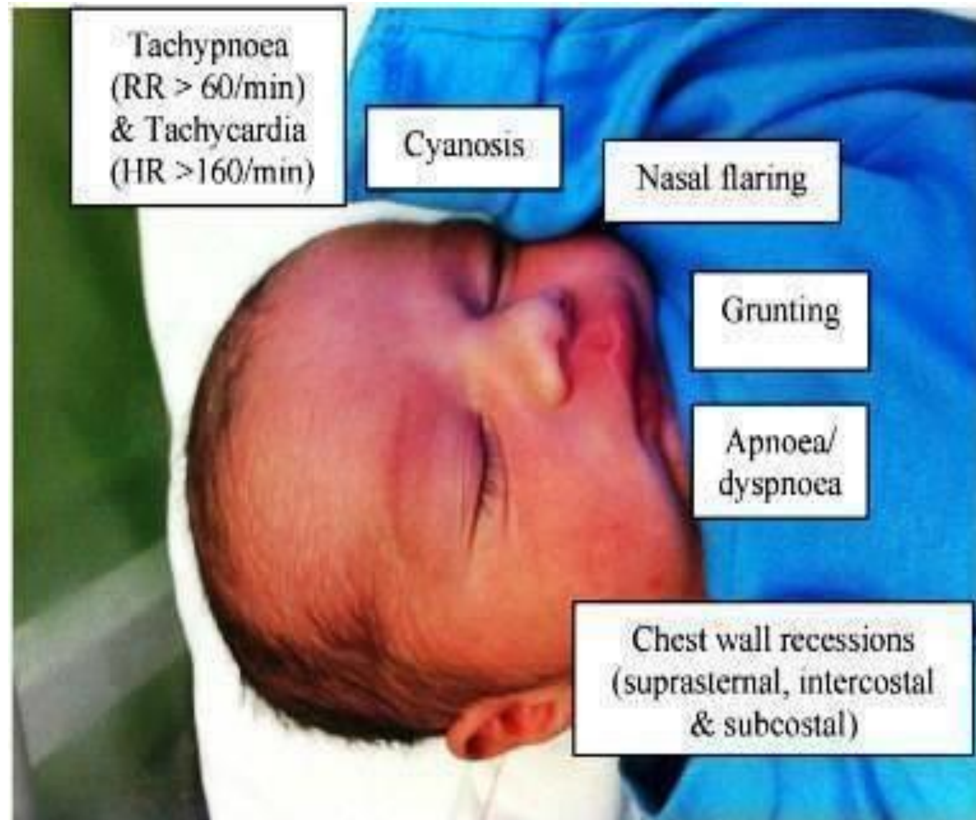
Respiratory distress



http://www.MedicTests.com/

- Tachycardia/bradycardia
- Tachypneoa/Apnoea
- Cyanosis
- Head bobbing, grunting
- Alar flaring
- Stridor
- Wheezing
- Use of accessory muscles

Case 1

- A 4year old AA, HIV negative, fully immunised presented with a sudden history of difficulty in breathing from the preschool. Child was previously well according to mother except for a mild cough since 2days prior. There was a history of peanut exposure from a friend at preschool. No known Hx of allergies
- O/E
  - Vital T 36.4, RR 45, PR 148, BP 98/54
  - The child was markedly distressed ,anxious, and agitated with a swollen tongue
  - R/S Inspiratory stridor, tracheal tag , substernal recessions. GAEB, mild bilateral wheezes and no crackles.
  - CVS S1S2 Normal. Abd & CNS unremarkable
- DDx

UPPER AIRWAY OBSTRUCTION

- Anaphylaxis
- Foreign body aspiration
- Infection
  - Laryngotrachechitis (Croup)
  - Epiglottitis
  - Abscess (Peritonsillar/ retropharyngeal)
  - Tracheitis
  - Infectious mononucleosis

Anaphylaxis

- History
  - Onset of symptoms is usually sudden
  - Previous Hx of allergies (suspect even with no prior Hx)
- Signs and symptoms
  - Angioedema, urticaria, flushing, stridor, bronchospasm, wheezing , dyspnoea, hypotension, shock , GIT symptoms

Anaphylaxis-Mx

- What to do
  - Place hypotensive or shocked patient in horizontal position
  - Place on oxygen
  - Adrenaline 1:1000, 0.01mls/kg(10mcg/kg) IM stat. Repeat every 5min PRN
  - Reassess ABC: If stridor - Adrenaline1:1000 1:1 with 0.9%NaCl.
  - If bronchospasm - Salbutamol nebs 1:3 with 0.9% NaCl every 20min + Hydrocortisone IV 5mg/kg 4-6hly (12-24hrs)
  - Hypotension with 0.9%NaCl 20mls/kg.
  - Promethazine >2yrs then Chlorphenamine
- After stabilisation refer. Risk recurrence several hours later

Foreign body aspiration

- History
  - Possible chocking episode
- Signs and symptoms
  - Cough, cyanosis, tachypneoa, stridor, focal monophonic wheezing or decreased air entry
- Management
  - If coughing effectively, put on oxygen
  - If breathing but significant airway obstruction (ie unable to speak or cough) attempt to dislodge FB
  - If unresponsive start CPR
- Refer for removal under direct visualisation

Laryngotracheitis- Croup

- History
  - Preceding coryzal illness
  - Common age 6mths- 3yrs
- Causes
  - Para-influenza (most common),Measles, HSV, Adenovirus
- Signs and symptoms
  - Fever, inspiratory stridor, barking cough, and hoarseness.
- Signs of severity/Red flags
  - Biphasic stridor: Grade 2 ass with passive expiration, Grade 3 ass with active expiration
  - Grade 4 ass with cyanosis, apathy marked recessions and impending apnoea

Laryngotracheitis - Mx

- What to do
  - Grade 1- Steroids (Prednisone/Dexamethasone single dose)
  - Grade 2- Add adrenaline nebs every 15-30min until expiratory stridor resolved
  - Grade 3- Add intubation under anaesthesia if no improvement after 1hr
  - Grade 4- Add bag and mask ventilation if unable to ventilate
- Role of Antibiotics
- Refer preferably from grade 2 and above

Case 2

- 5 yr old male MS, IUTD, Normal Growth & Dev. Presented with 1day history of worsening shortness of breath, noisy breathing and unable to complete sentences. Preceding history of coryzal illness since 3 days prior to presentation. Child seen 2x in past 6months at the local clinic and by a local doctor respectively and treated with Abx for a chronic cough. No Hx allergies/eczema. Denies TB contact no constitutional symptoms.
- O/E
  - T- 37.8, RR 47, BP 90/65, PR 128, SPO2 90% , allergic salute
  - RS- ↑ AP chest diameter. Bilateral soft wheeze, with prolonged expiratory phase subcoastal recessions and no crackles
  - Systemic review- unremarkable
- DDx

Asthma- Classification of severity

Classification	Mild intermittent	Mild persistent	Moderate persistent	Severe persistent
Symptoms	≤2/week	>2/week	Daily	Continual
Night-time symptoms	≤1/month	>1/month	>1/week	Frequent
PEF (predicted), %	≥80	≥80	>60 - ≤80	≤60

Asthma- management

	Preferred	Other
STEP 1		Low-dose ICS whenever SABA, Daily Low dose ICS
STEP 2	Daily Low-dose ICS + SABA PRN	LTRA or low dose ICS taken whenever SABA taken + SABA PRN
STEP 3	Low-dose ICS-LABA Or Medium dose ICS	Low dose ICS + LTRA
STEP 4	Medium dose ICS-LABA + Refer	High dose ICS-LABA or add-on LTRA or tiotropium
STEP 5	Refer	Add on anti IL5orlow dose OCS

Asthma- Classification of Exacerbations

	Mild	**Moderate**	**Severe**
Oxygen saturation	> 95%	92-95%	< 92%
PEFR	70–90%	50–70%	< 50%
Arterial $PaCO_2$	< 35 mmHg	< 40 mmHg	> 40 mmHg
Pulsus paradoxus	< 10 mmHg	10–20 mmHg	20–40 mmHg
Wheezing	expiratory	expiratory and inspiratory	Soft breath sounds
Respiratory rate	< 40	>40	>40
Other features		speaks in sentences, difficulty with feeding, Accessory muscle use during expiration, RR & PR↑	unable to speak, agitated **Life threatening-** cyanosis, silent chest confusion, hypotension, bradycardia

Asthma – Mx Acute Exacerbation

- Oxygen- maintain SPO_2> 95%
- Short acting B2-agonist
  - Salbutamol (Albuterol) pMDI with spacer, 2-10 puffs.5 tidal breaths/puff at 15 - 30-second intervals
  - Salbutamol Nebs (2.5 - 5 mg/dose)/ 0.5 - 1mg fenoterol (Berotec). Continuous PRN
  - IB (Atrovent) 250mcg/dose with severity/non response. Reassess every 20min.
- Corticosteroids
- Non responders- $MgSO_4$, IV bolus stat OR ± Salbutamol, IV bolus stat
- Antibiotics
- Red flags/ indications for referral
  - Non responders
  - Severe or life-threatening asthma
  - Home circumstances unreliable for treatment
  - Diagnostic uncertainty

Case 3

- 18 month old TM who presented with a 5day history of vomiting , diarrhoea(watery, non mucoid, non bloody) and irritability. RVD exposed, and PCR negative at 6weeks. Immunisations not up-to date. Child staying with aunt. Mom stays in another province due work commitments. Previously growing above the -2Z prior in the first 8months of life, now growth faltering < -2z
- O/E
  - Vitals T 38.5, RR 45/min , PR 160, BP 65/40.
  - Lethargic, unable to drink, sunken eyes, reduced skin turgor, with CRT > 3sec.
  - (JACCOL)0 - Pallor
  - R/S GAEB, crackles on the right side, moderate recession.
  - P/A mildly distended abdomen, with a 3cm liver BCM

Acute gastroenteritis

- Defn: Diarrhoea- passage of loose >/= x 3 24hrs
- Acute < 14days, Persistent > 14days
- 2nd commonest cause for mortality worldwide in under 5yrs
- Commonest cause is viral: Rotavirus, Enterovirus, Norovirus, Adenovirus, Astrovirus, Coronavirus
  - Other- bacteria

Acute Gastroenteritis

	Shock	Severe dehydration	Some dehydration	No dehydration
Signs of classification	1 or more	2 or more signs	2 or more signs	No visible dehydration
Level of consciousness	Decreased LOC, ↓BP, weak pulses, CRT > 3sec	Lethargic/ Unconscious	Restless/Irritable	Well. alert
Sunken eyes		Sunken eyes	Sunken eyes	No Sunken eyes
Ability to drink		Drinks poorly/Unable to drink	Thirsty, drinks eagerly	Drinks normally
Skin pinch		2-3sec	< 2sec	<2sec

Acute Gastroenteritis- Mx

- Mainstay Rx – Oral rehydration
- Role of IVF
  - Shock
  - Unable to tolerate orally
- Role of nutrition and supplements
- Role of adjuncts
- Role of Antibiotics
- When to refer
  - IVF required, severe dehydration +, persistence or presence of danger signs, multiple pathology, complications ass AGE

Case 4

- 12month old female CM. RVD unexposed, IUTD, Appropriate growth and Dev. Presents with 1st episode of provoked generalised tonic-clonic seizures lasting about 5min. Hx of cough and runny nose since 2 days ago. Has a sibling who had seizures with an ass fever in the first 4 yrs of life. No FHx of epilepsy
- O/E
  - Vitals T 38.2, RR30, PR 112, BP 75/50. Non Dysmorphic
  - (JACCO)0 +small nontender submandibular LNs
  - ENT- Erythematous pharynx with grade 2 non-follicular enlarged tonsils.
  - R/S No recessions, GAEB, Clear
  - Systemic Review- Unremarkable

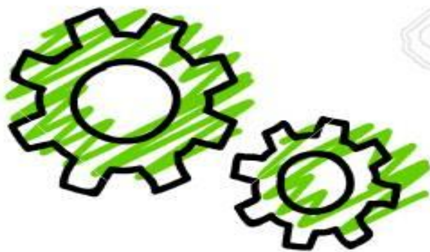
Febrile seizures

- General criteria
  - Convulsion ass with an elevated temperature greater than 38°C
  - 6 months and 5 years
  - Absence of CNS infection, inflammation, acute systemic metabolic abnormality
  - No history of previous afebrile seizures
  - Identifiable focus of infection

	Simple	**Complex**
Seizure type	Generalized tonic-clonic	May be Focal
Duration	Less than 15 minutes	Longer than 15 minutes
Frequency	No recurrence in 24hrs	Can occur >1 in 24hrs

Febrile seizures

- Risk factors
  - High fever, viral infection, recent immunization, + FHx of febrile seizures
- DDx
  - CNS Infection
  - Genetic epilepsies with febrile seizures- GEFS+, Severe myoclonic epilepsy of infancy (Dravet syndrome)
- Management
  - Role of LP - ? Possibility of intracranial infection, < 12months, patient already on Abx
  - Role of Blood tests
- Role of Imaging
- Role of EEG



THANKYOU

References

- Diarrhoea in children under five years of age in South Africa (1997–2014) Oluwatoyin F. Awotiwon , Victoria Pillay-van Wyk1 , Ali Dhansay, Candy Day and Debbie Bradshaw
- Gastroenteritis in Children Scott Hartman, MD; Elizabeth Brown, MD, MPH; Elizabeth Loomis, MD; and Holly Ann Russel, MD, MS, University of Rochester Medical Center, Rochester, New York
- Asthma treatment in children: A pragmatic approach. R Masekela, A Jeevanathrum, S Kling, T C Gray, J Morrison, A Vanker, A S Puterman, D Rhode, E W Zöllner, P de Waal, A Manjra, M Levin, H Zar, R J Green, F E Kritzinger; on behalf of the South African Childhood Asthma Working Group (SACAWG)
- Guideline for the management of acute asthma in children: 2013 update S Kling, H J Zar, M E Levin, R J Green, P M Jeena, S M Risenga, S A !ula, P Goussard, R P Gie, for the South African Childhood Asthma Working Group (SACAWG)

References

- https://www-uptodate-com.uplib.idm.oclc.org
- Standard Treatment Guidelines and Essential Medicines List for South Africa Primary Healthcare Level 2020 Edition