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Lefapha la Disaense tša Maphelo

The Things Max Taught ... and The Evidence to Support Them!

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Max Said ... That Hoover's Sign

- Lower intercostal and subcostal recession was a sign of airway disease (not pneumonia)
- Was caused by air trapping and flattened diaphragms
- Suggested viral aetiology
- ... And did not require antibiotics



And the Proof ...

- 'In the 1920's, Hoover described a sign that could be considered a marker of severe airway obstruction'
- 'Hoover's sign refers to the inspiratory retraction of the lower intercostal spaces that occurs with obstructive airway disease'
- 'It results from alteration in dynamics of diaphragmatic contraction due to hyperinflation, resulting in traction on the rib margins by the flattened diaphragm'
- 'The sign is reported to have a sensitivity of 58% and specificity of 86% for detection of airway obstruction'
- **'Seen in up to 70% of patients with severe obstruction'**
- 'We present a clinical and molecular review of the Hoover's sign and explain how it could be utilized in the bedside and emergent management of airway disease'

Johnston CR, et al Clin Mol Allergy 2008;6:8.

The Hoover's Sign of Pulmonary Disease: Molecular Basis and Clinical Relevance

Max Said ... Snoring is Underestimated in Children

- It was important to enquire if children habitually snored
- It was common and potentially dangerous
- And was the only reason to remove adenoids (and tonsils)



And the Proof ...

- ‘A significant proportion of children with Primary Snoring persist with Sleep Disordered Breathing symptoms even five years following the diagnosis’
- ‘In our cohort, a considerable percentage of children with a PSG diagnosis of PS underwent AT **despite non-supportive sleep study results**’
- ‘Surgical intervention has beneficial effects on some children with PS’

[Borovich A](#), et al. Sleep Med 2016;17:13-7. The history of primary snoring in children: the effect of adenotonsillectomy



And What's More

- If a child habitually snores you only need to check a sleeping saturation to determine if there is obstructive breathing
- Encourage parents to take a cell phone picture
- **Sleep studies are over rated**



Max Said CT Scans are Dangerous

Max said that CT scans are dangerous because:

- They use the radiation of 100 CXR's
- They seldom reveal more than CXR
- They absolve us of using our brains and logic
- They stop us asking questions
- They over diagnose transient problems (eg. dilated airways)



And the Proof ...

‘CT use in children produces an increased lifetime risk of cancer, as children's developing organs and tissues are inherently more vulnerable to cellular damage than those of adults

Though individual risks are small, the increasing use of CT scans in children make this an important public health problem

Various organizations have recommended measures to minimize unnecessary exposures to radiation through CT scanning

These include elimination of multiple or medically unnecessary scans, development of patient-specific dosing guidelines, and use of alternative radiographic methodology wherever possible

Another important factor in excessive CT exposures, however, is a documented lack of awareness among medical practitioners of the doses involved in CT usage as well as its significant potential dangers’

[Almohiy H. World J Radiol 2014;6\(1\):1-6. Paediatric computed tomography radiation dose: A review of the global dilemma](#)



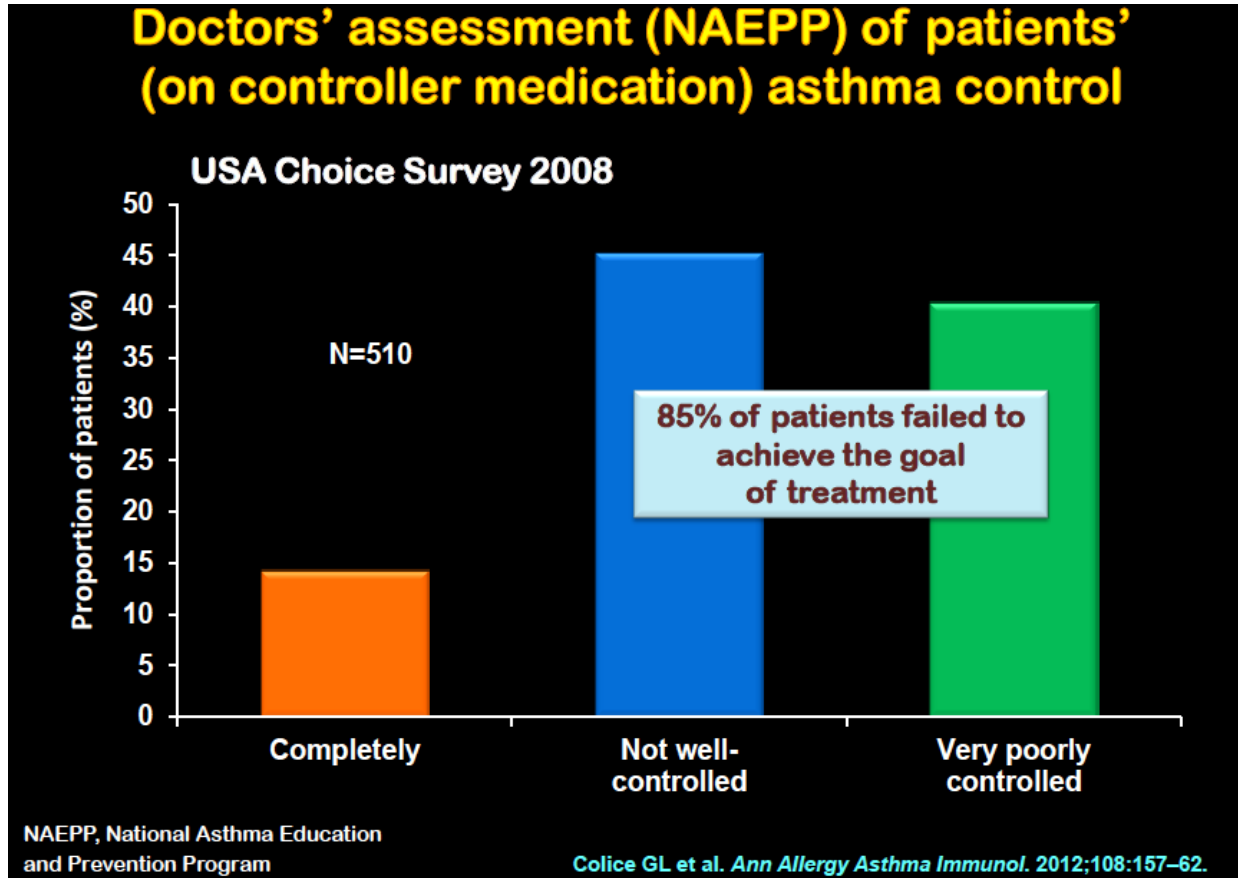
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Max Said ... Guidelines are Not Valuable if They Don't Lead to Change

- Max said that Guidelines are often written by individuals who are not at the coal face of medicine
- They reveal only evidence that supported their point of view
- Some authors were 'financially invested'
- Often publication was a self-fulfilling prophecy



And the Proof ...



Max Taught ... Us the Croup Score

- Max devised and taught the 'Croup Score'
- He maintained that severe croup (Grade 3+) required immediate intubation
- Intubation requires a skilled operator
- Croup Score:
 - Grade 1: Stridor
 - Grade 2: Inspiratory and expiratory noise
 - Grade 3: Pulsus paradoxus
 - Grade 4: Extremus, apathy, cyanosis

Klein M. Croup, epiglottitis and the febrile dysphagia syndrome. S Afr J Cont Med Educat 1986;4:45-51



And the Proof ...

Conclusions

‘Although this study was not designed to address the question of whether the Klein score is useful in the clinical scenario the data has confirmed that in **patients with severe croup, the grades of the Klein score are associated with statistically different severities of airway obstruction**

However there is overlap of the severity measurements within the grades and changes in either grades or severity of airway obstruction are not always reflected in the measures of airway obstruction or clinical grades. Further studies are required to validate this score in the clinical situation’

Max Said ... Vitamin A and Measles

- Max discovered that prophylactic Vitamin A helped to prevent measles-associated pneumonia
- Became a standard of care
- Interestingly he never denied that Vitamin A had no effect in ordinary pneumonia as a therapy



And the Proof ...

- Using two doses of vitamin A (200,000 IU) on consecutive days was associated with a reduction in the risk of mortality in children under the age of two years (RR 0.18; 95% CI 0.03 to 0.61)
- As well as a reduction in the risk of pneumonia-specific mortality (RR 0.33; 95% CI 0.08 to 0.92)

Huiming Y, et al. Cochrane Database Syst Rev 2005;(4):CD001479.
Vitamin A for treating measles in children



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Max Said .. CRP is Missing Only One Letter of the Alphabet

- Max said that CRP was not useful in distinguishing bacterial from viral infections
- This was especially true in the OPD



And the Proof ... CRP and Sepsis

Table 2 C-reactive protein cut-offs of different infectious situations, sensitivity and specificity

	n	CRP (mg/l)	Sensitivity	Specificity	Reference
Aspiration pneumonia	66	75	87	76	[54]
Infected pancreatitis	66	225	68	70	[43]
Infections post-cardiac surgery	97	50	84	40	[39]
Sepsis	66	40	100	85.4	[53]
Sepsis	23	50	98.5	75	[30]
Sepsis	190	79	71.8	66.6	[31]
Sepsis	101	100	71	78	[66]
Sepsis	101	100	74	74	[32]
Septic shock	60	100	93	40	[68]

And Max Taught Much, Much More ...

Alar Flaring

- Max said it was only a sign of severe respiratory distress
- It did not say where the pathology lay

Normal nostrils



Flared nostrils



Bronchiectasis – Dilated Airways to Lung Periphery

- Max taught that on CXR or HRCT scan bronchiectasis should only be diagnosed if dilated airways are seen to the periphery
- He was concerned by bronchiectasis over-diagnosis and subsequent trauma to families



Phrenic Nerve Paralysis

- Max said all you need to identify a phrenic nerve palsy is four pieces of paper
- Place them on either side of the chest above and below the rib cage
- Where the nerve is not working the paper will move less



Chloroquine

- Max said 'I don't know why but chloroquine is very useful in Paediatric ILD'



And Probably More Significantly Max Said ...

- Be critical of, but kind to, your staff
- Treat nurses well – they are the life blood of medicine
- Don't have a financial interest in medicine / medicines
- Cycle/walk daily – it inspires life
- Write your memoirs
- **And the mother is the best form of technology**



Maternal Technology

... The mother is the most sophisticated technology available in the world

Love is of more consequence to the child than physical comfort

Intelligence is not related to literacy; and

Best Care is not necessarily more costly care

In all disciplines, empowerment should be a specific objective in the management plan of every patient

Max Klein

Max Also Learned from Us ...

- He discovered that Private Patients were different
- He learnt that Montelukast was very valuable in some patients
- He learnt that there was life outside Cape Town



And Max Was Known to Be Controversial ...

- Like the time he said at a GP meeting that ‘Asthma was not an inflammatory disease’ but was a disease of AHR
- Like the time he said allergic shiners were because you ‘were tired’



And I'm Sorry Max ...

- If I misquoted you (I think I often paraphrase)
- If I got some lessons wrong
- But mostly that I never followed your advise more ...
- You are a Clinical Master
- I miss you and I love you



Thank You

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