

# *ASTHMA*

*Dr Stephen Child  
Director of Clinical Training  
General and Respiratory Physician  
Auckland District Health Board*

# Case # 1

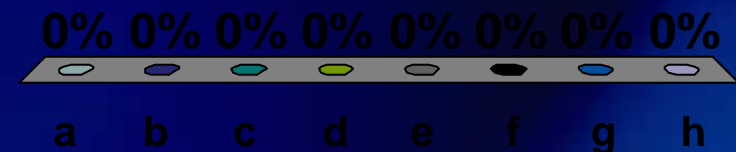
- 42 yo man with SOB and wheeze
- 10 pack year smoking Works in quarry crushing rock and part time car repair. Mild eczema in childhood then first given MDI at age 17. Been on Becotide intermittently for 24 years. Never given Prednisone or hospitalized.

## Case( cont )

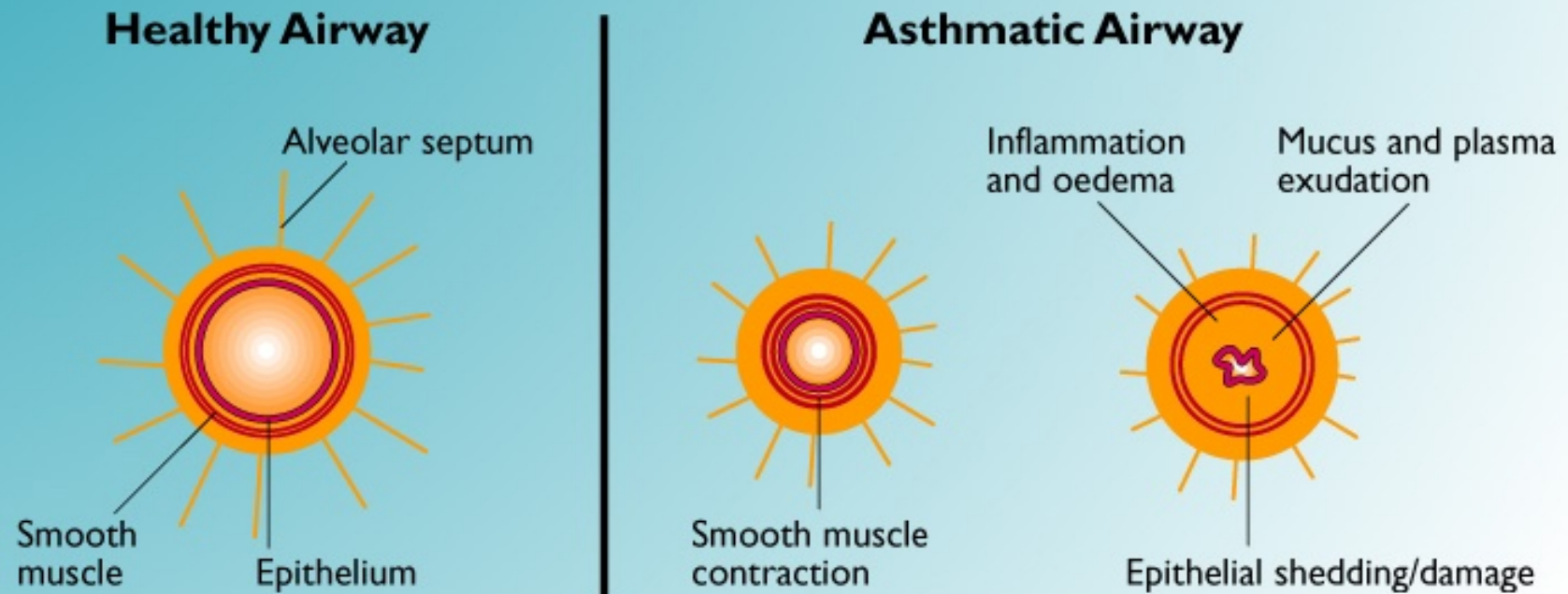
- Feels tight in the chest when mowing lawns, awoken with nocturnal cough 2-3 times a week. Uses Ventolin 5-6 x/week but varies
- Occ allergic rhinitis but vasomotor component

# What would you do now?

- a) Add LABA- oral or inhaled
- b) Add leukotriene antagonist
- c) refer to specialist
- d) review history and physical exam to confirm diagnosis
- e) order CXR
- f) increase dose of ICS
- g) check inhaler technique and add spacer
- h) request PEFr diary

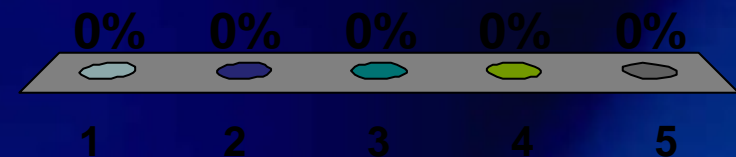


# Asthma components



Which of the following is not an obstructive airways disease?

1. Fibrosing Alveolitis
2. Bronchiectasis
3. Cystic Fibrosis
4. Emphysema
5. Asthma



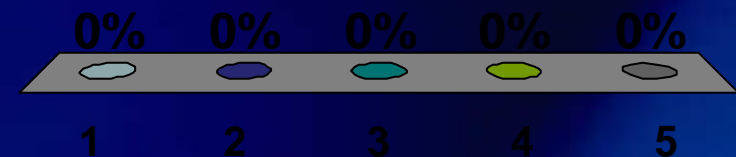
# Confirm diagnosis

Bronchiectasis, ABPA, CF, Occupational Asthma, Eosinophilic lung diseases, Cardiac asthma, BO EAA, etc

- Hx or Family history of Atopy
- “other” clinical features of asthma
- ?PEFR diary, exam , Ig E, Asp precipitins, eos count, FeNO?
- ? CXR, ECG

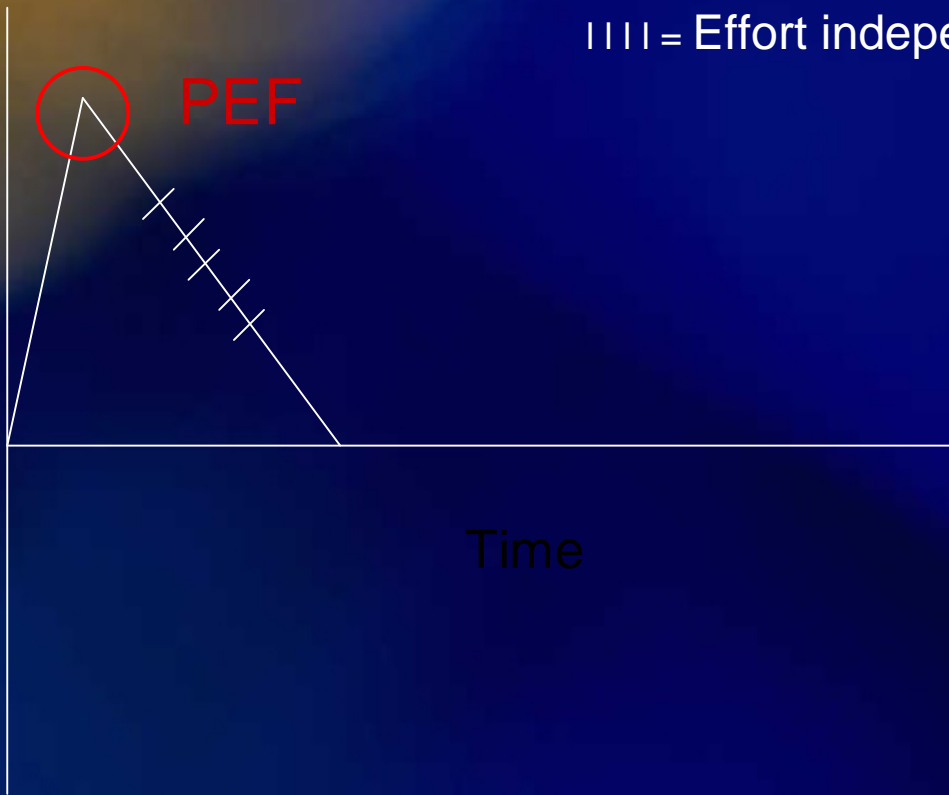
# Which is the best measurement of airflow obstruction?

1. PEFr
2. Spirometry
3. Lung volumes
4. Forced expiratory time
5. Presence of wheeze





Speed



|||| = Effort independent

Time

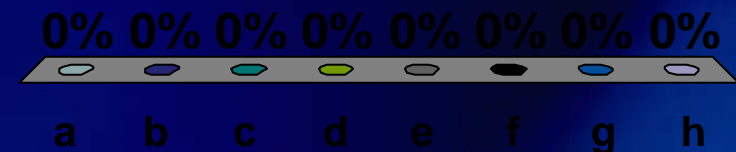


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# Check compliance/technique

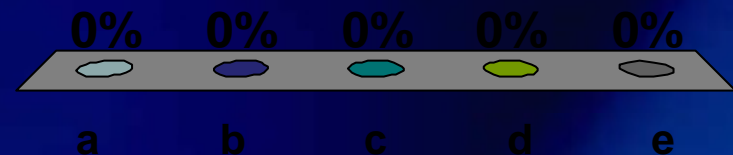
- MDI technique
- spacer washing
- Interpretation of symptoms
- action plan/treatment contract

# Avoid triggers/irritants

- Smoking
- pets
- house dust mite
- occupational- car paints, red cedar, other EAA causes, welding, dusts, pollutants
- medications
- Reflux?
- treat rhinitis

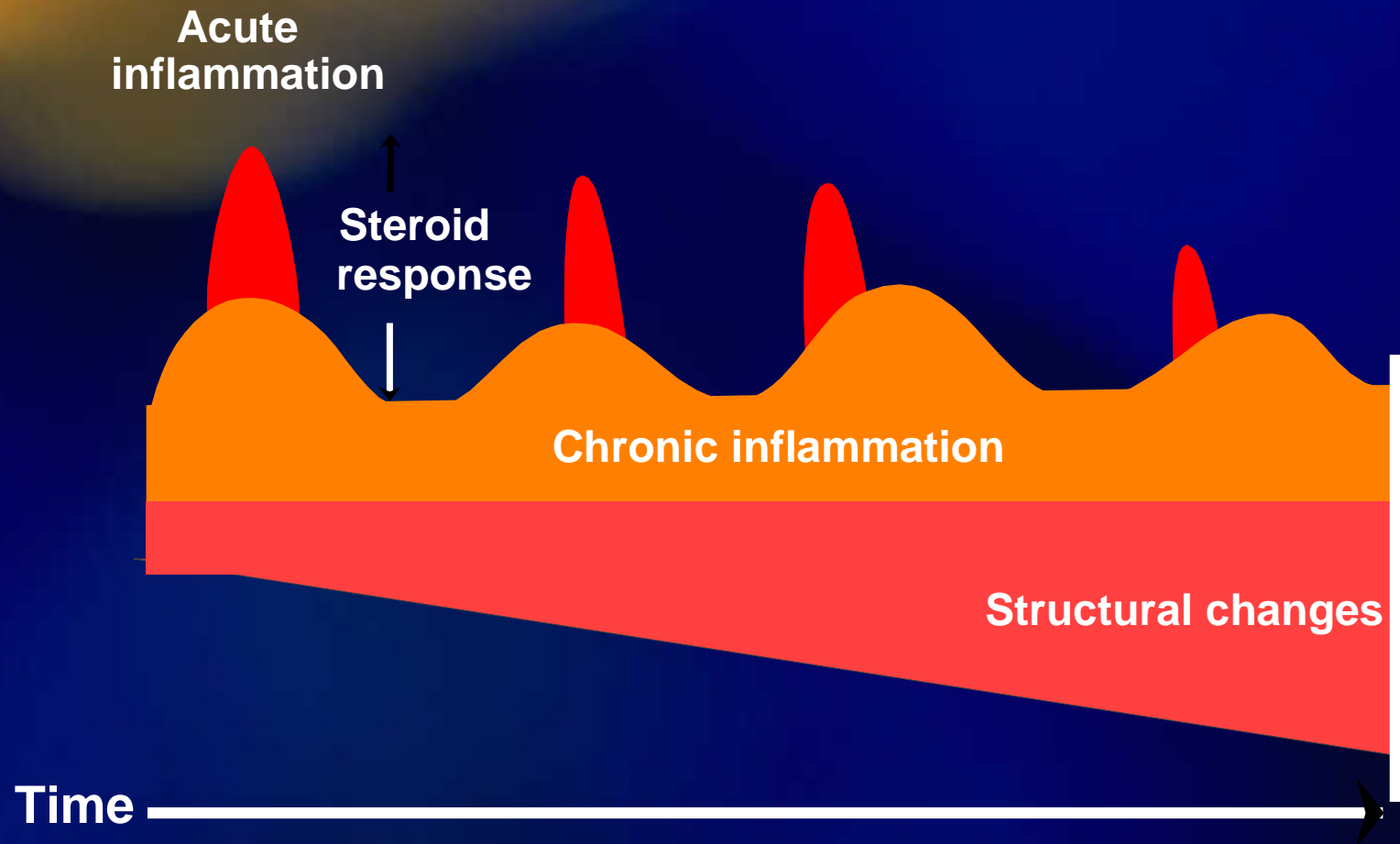
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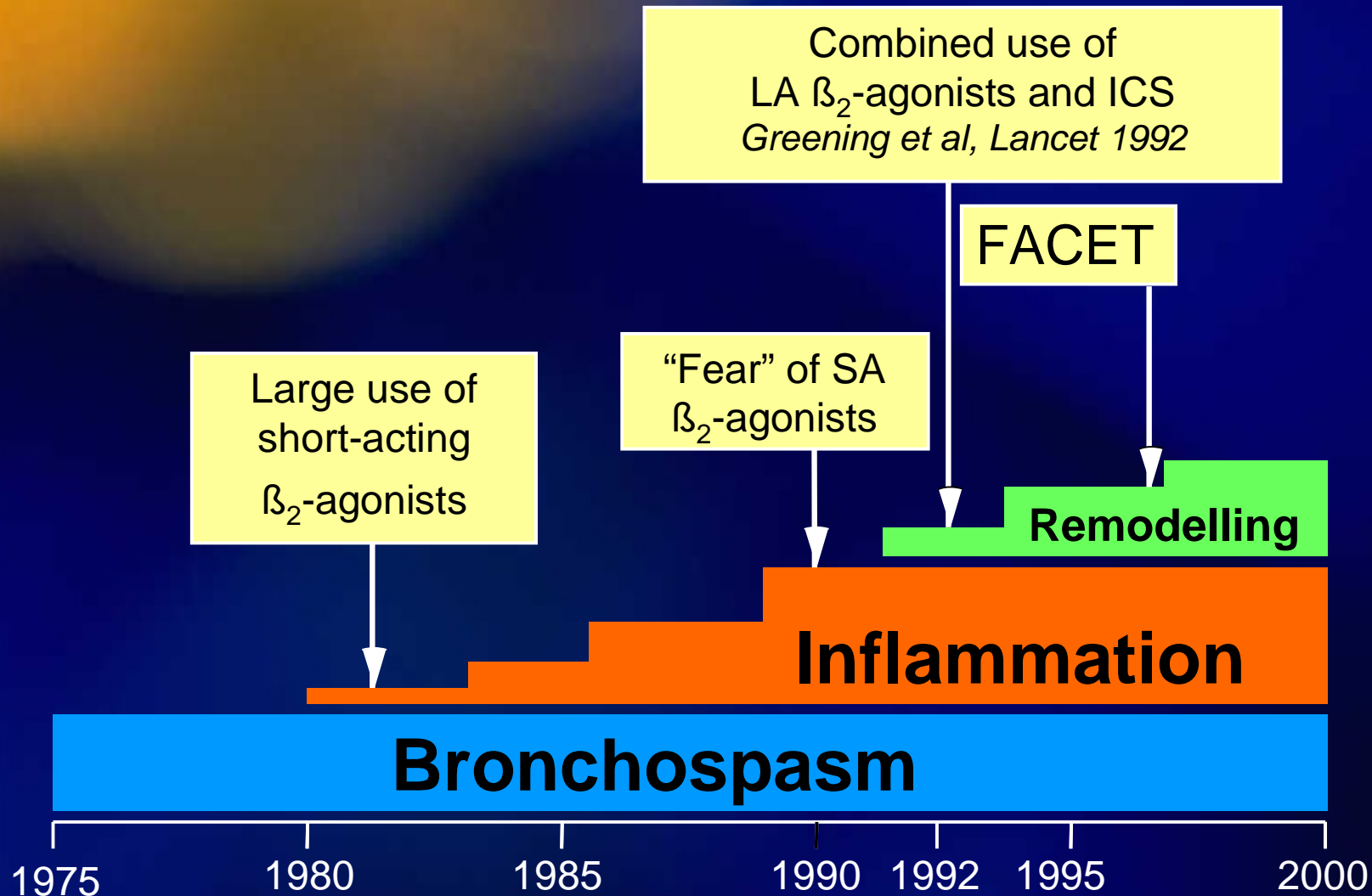


# Inflammation in asthma

Acute on chronic inflammation



# Evolving treatment options



90%

“Sick”

80%

SOB

70%

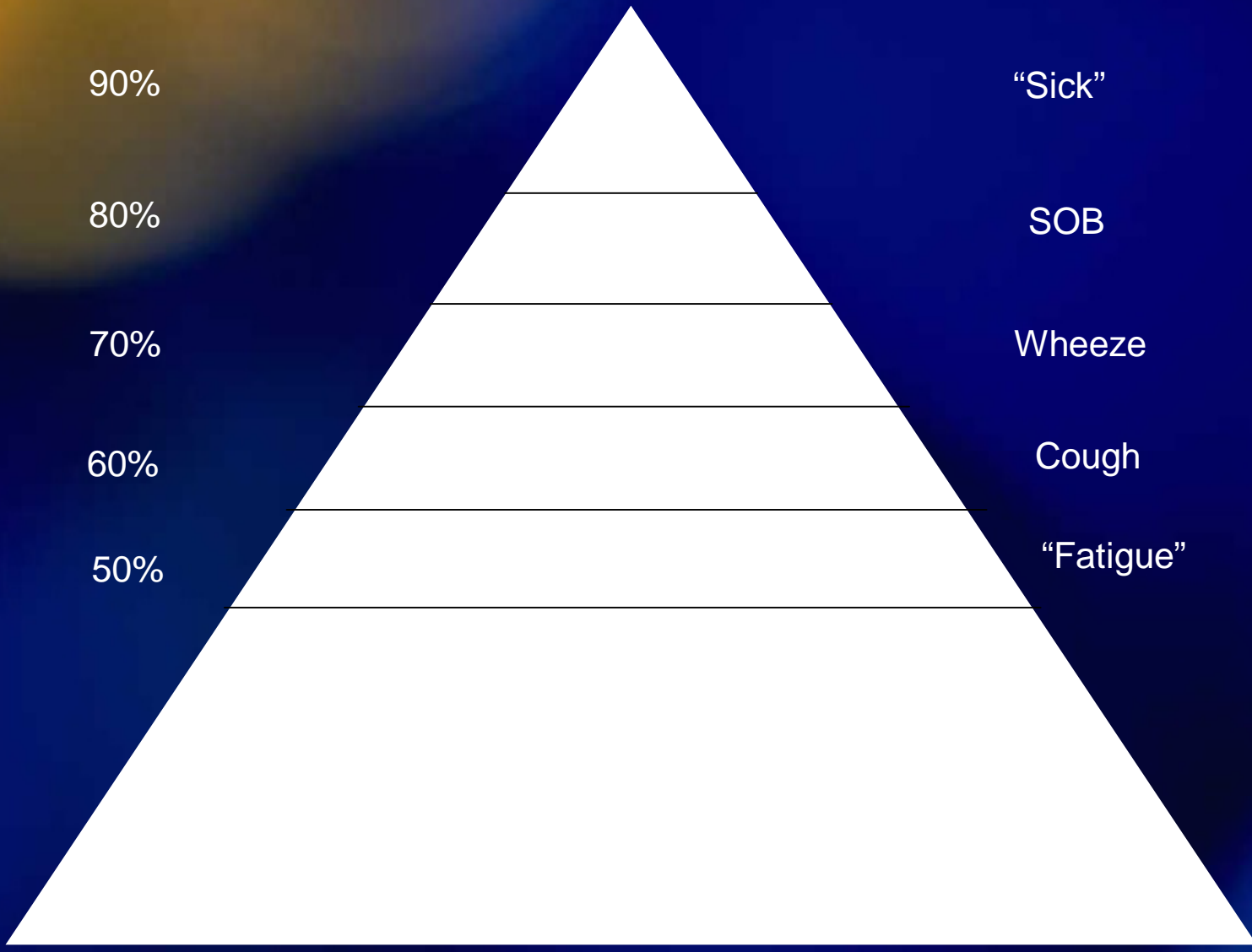
Wheeze

60%

Cough

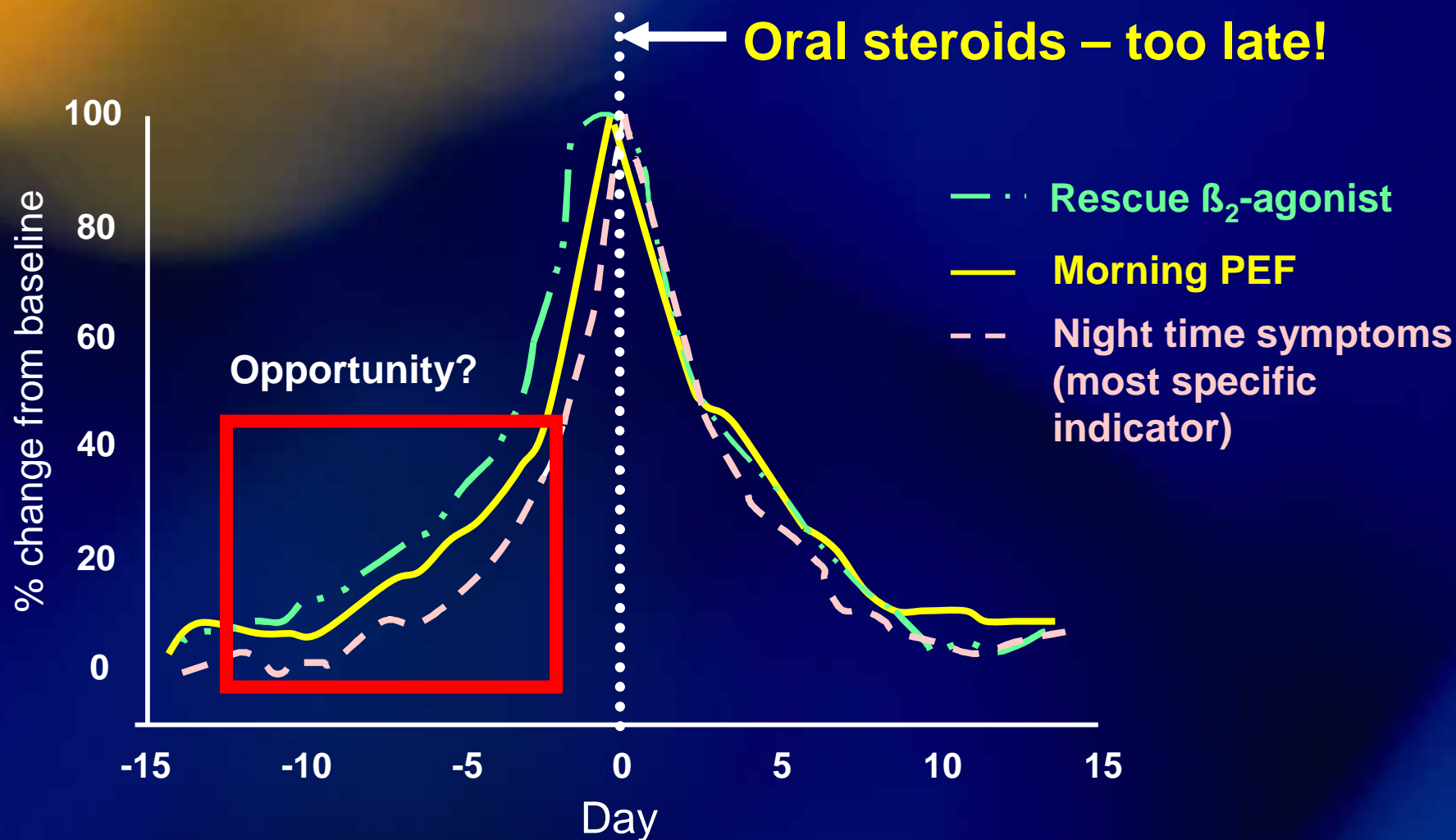
50%

“Fatigue”





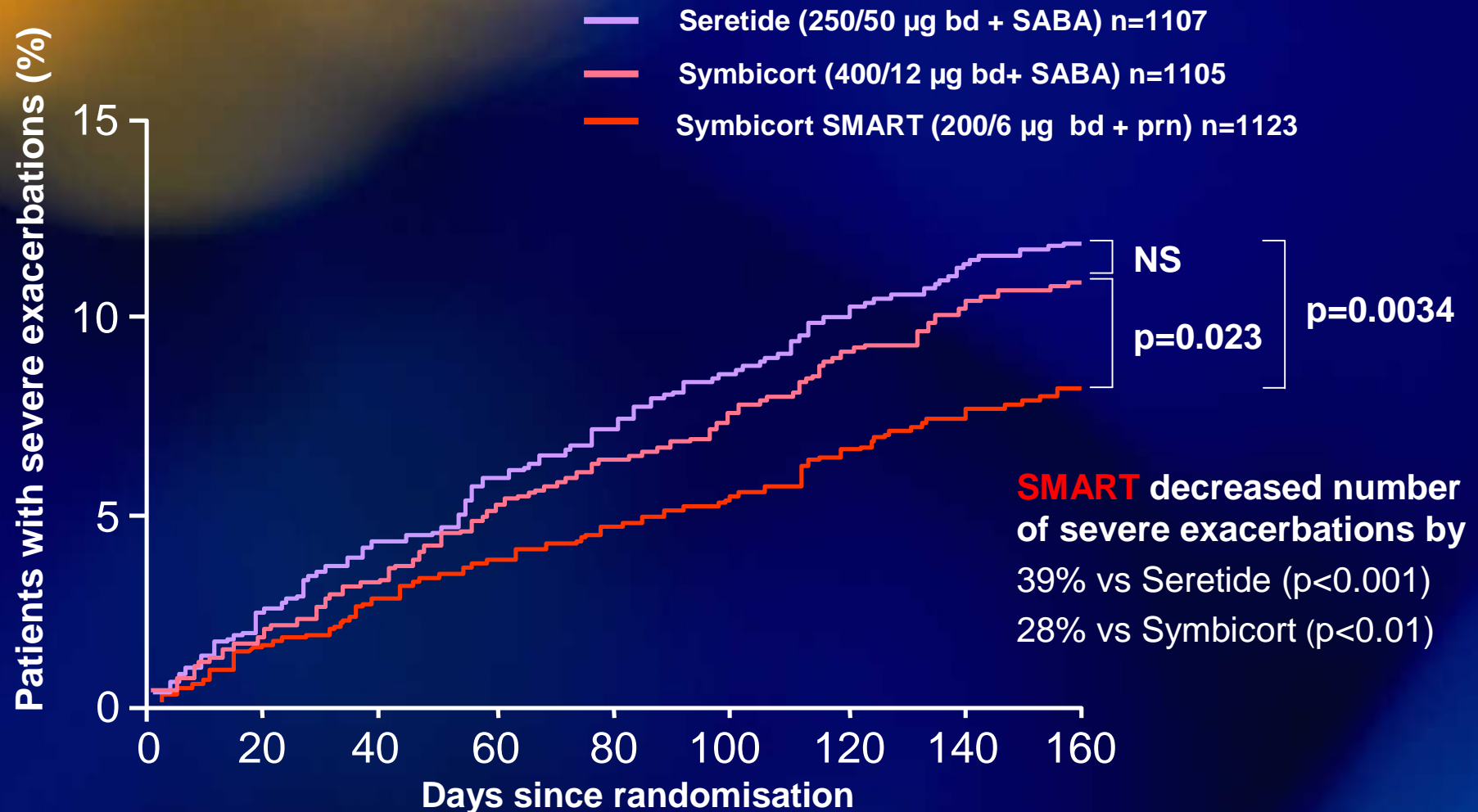
# Opportunity for early intervention?



# AstraZeneca gets busy !

- O'Byrne 2003-2004 (STAY )
- Saicchitano 2004 (STEP)
- Rabe 2004 (STEAM)
- Vogelmeir 2005 ( COSMOS )
- Rabe 2006 ( SMILE )
- Kuna 2006 ( COMPASS )
- Barnes – Editorial 2007

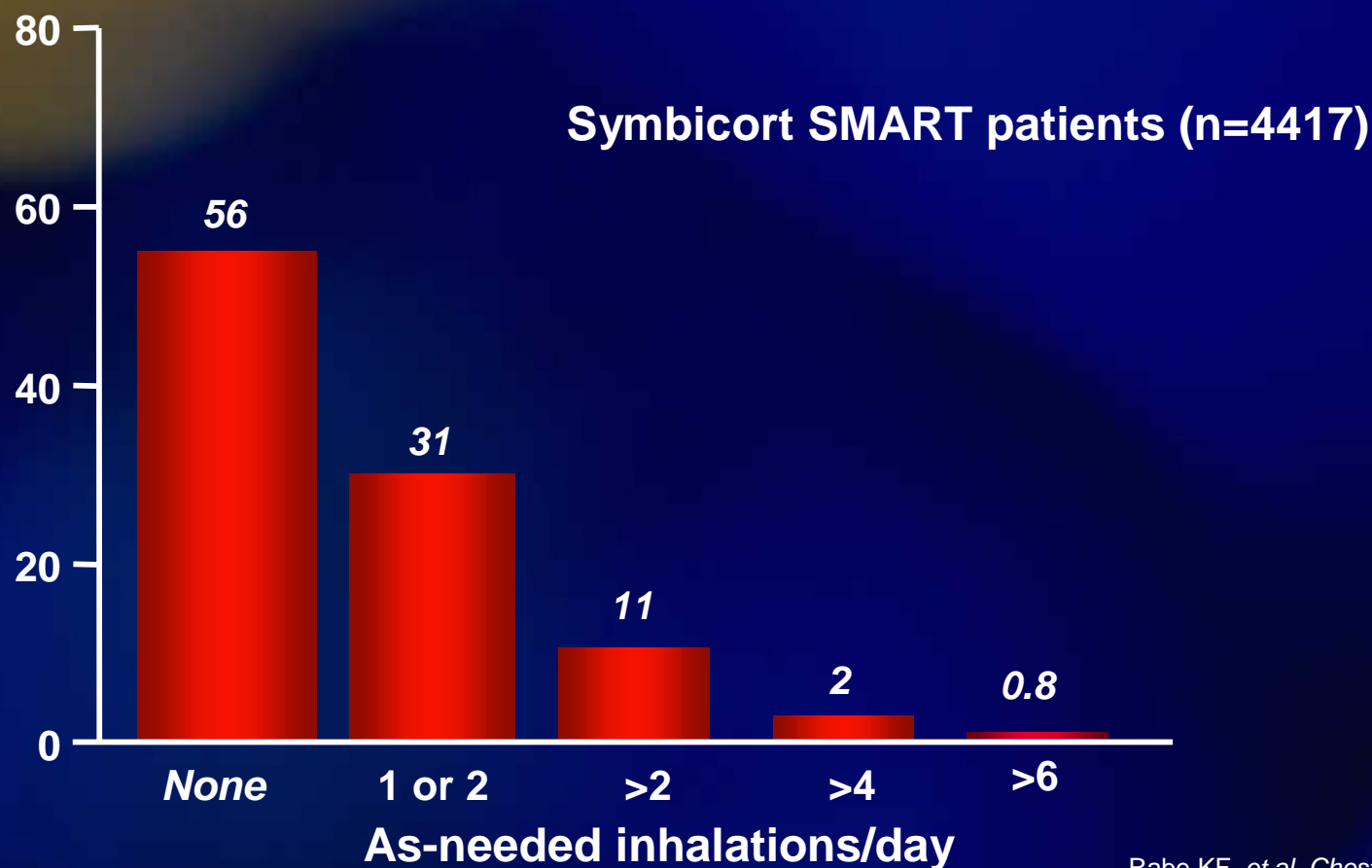
# Time to first severe exacerbation



# As-needed use of Symbicort SMART in 5 studies

**Combined data (STEAM, STAY, STEP, SMILE & COMPASS)**

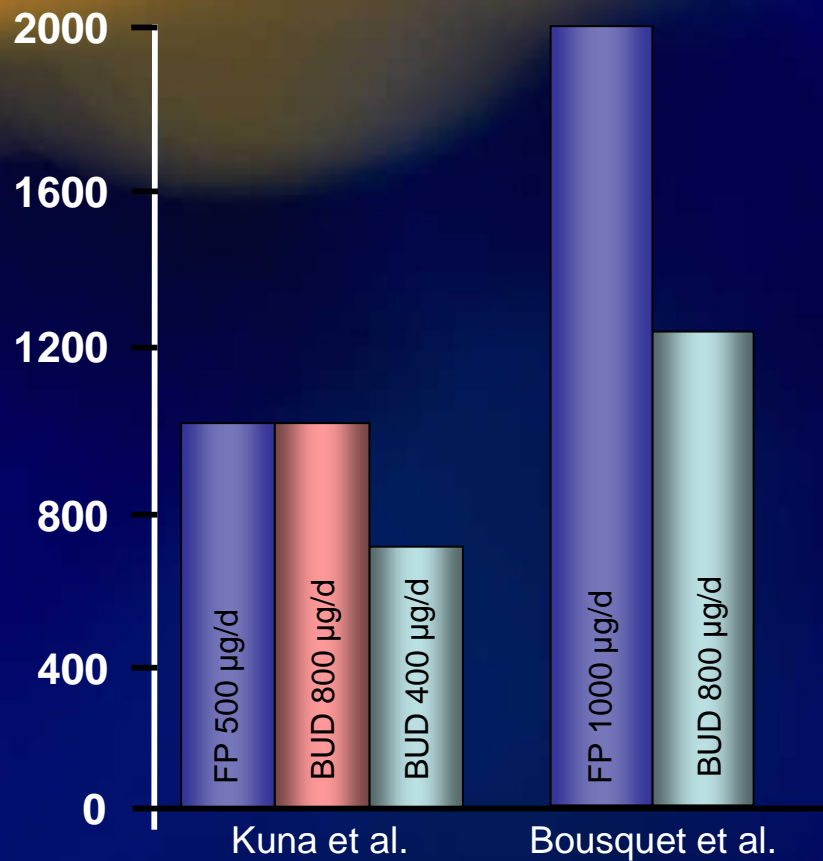
**% days with as-needed use**



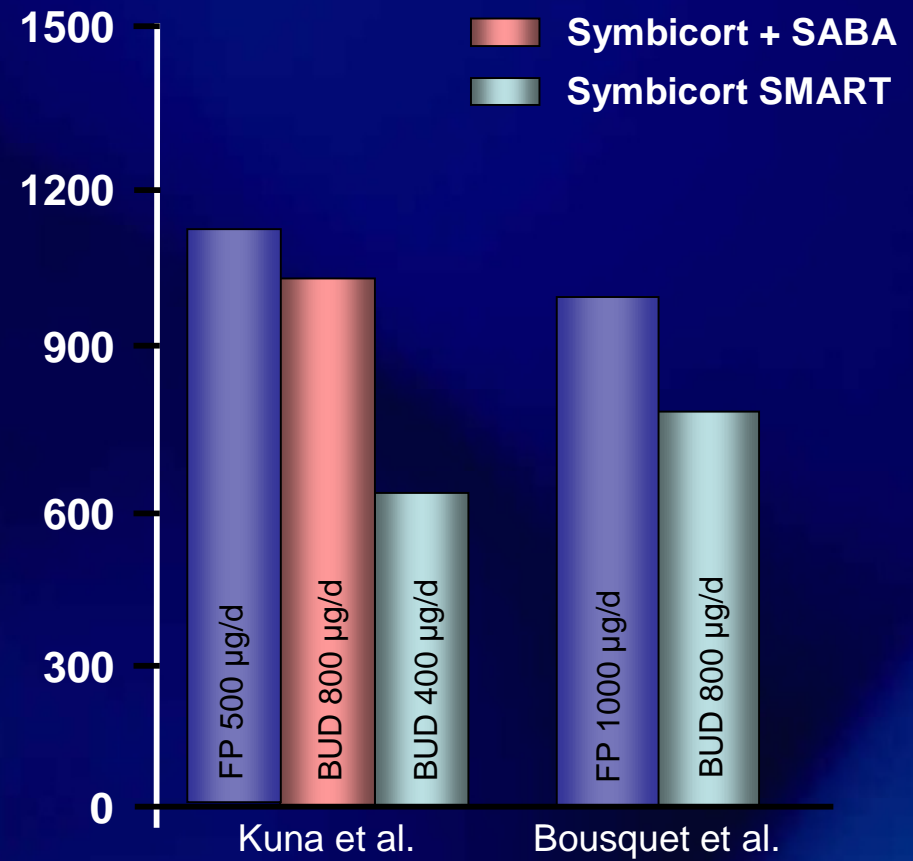
Rabe KF, et al. *Chest* 2006;129:246–256;  
O'Byrne PM, et al. *Am J Respir Crit Care Med* 2005;171:129–136;  
Scicchitano R, et al. *Curr Med Res Opin* 2004;20:1403–1418;  
Rabe KF, et al. *Lancet* 2006;368:744–753; Kuna P, et al. *Int J Clin Pract* 2007;61:725–736.

# Lower steroid load for Symbicort SMART compared with ICS/LABA+SABA

ICS load (BDP equivalents)

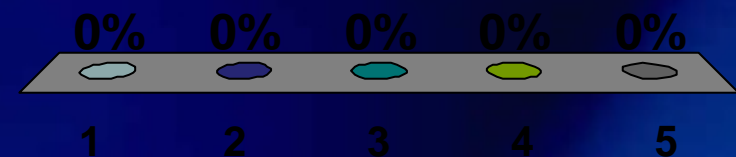


Oral steroid days



A 12 year old girl presents with poorly controlled asthma on Ventolin, Pulmicort400. What would be the next best intervention?

1. Add spacer
2. Switch to dry powder device to monitor compliance
3. Remove cat from house
4. Double dose Pulmicort
5. Add LABA



22 year old presents with aspirin induced wheezing; Is it safe for them to take NSAIDS?

1. Yes
2. No



## Asthma and ASA/NSAID/ COX 2

- Asthma induced within 2-4 hours ingestion
- Up to 20% of asthmatics
- Nasal polyps and dipping = Samter's
- Due to COX 1 inhibition ie BOTH aspirin and NSAIDs
- Theoretically safe with COX 2...but
- Note Paracetamol reports

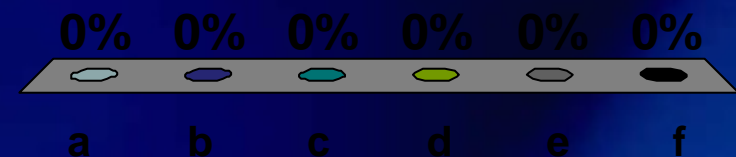
A close-up photograph of a ginger and white kitten wearing a blue knitted hat. The kitten has large, dark eyes and a pink nose. The background is dark and out of focus.

**OMGZZZ!!!!**

**OUTSIDES  
IS COLD!**

11 year old asthmatic using Salbutamol 2-3x/day. Which would be your first choice preventer treatment?

- a. Montelukast 5 mg po daily
- b. Fluticasone MDI 100 mg bid
- c. Fluticasone MDI 250 mg bid
- d. Sodium cromoglycolate 5 mg qid
- e. Zasten 1 mg po daily
- f. Formoterol 6 mg po bid



# Montelukast vs Fluticasone

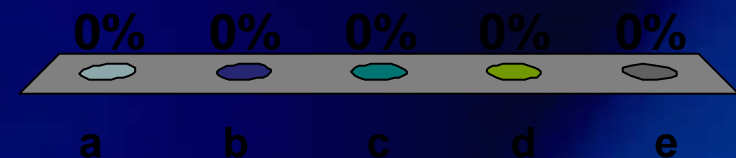
Pediatrics 2005 Aug 116 (2): 360-9

MOSAIC Study n = 495 Age 6 -14 12 mo.

- Flutic 100 bid vs Montelukast 5 mg daily
- Rescue Free days  
84% Montelukast – no significant difference  
86.7% Flixotide
- QOL, FEV<sub>1.0</sub> better with Flixotide

Which of the following has been used to predict steroid response in respiratory patients?

- a. Brain natriuretic peptide
- b. Platelet activating factor
- c. Nitric oxide
- d. Total Ig E
- e. Eosinophil count



# Exhaled NO

AMJ Respir Crit Care Med 2005; 172:453-59.

Dunedin. N=52 generic respiratory patients

- Fe NO > 47 ppb correlated with best BHR improvement to 4 weeks Flixotide