Astmi hjá börnum

Gunnar Jónasson
barnalæknir

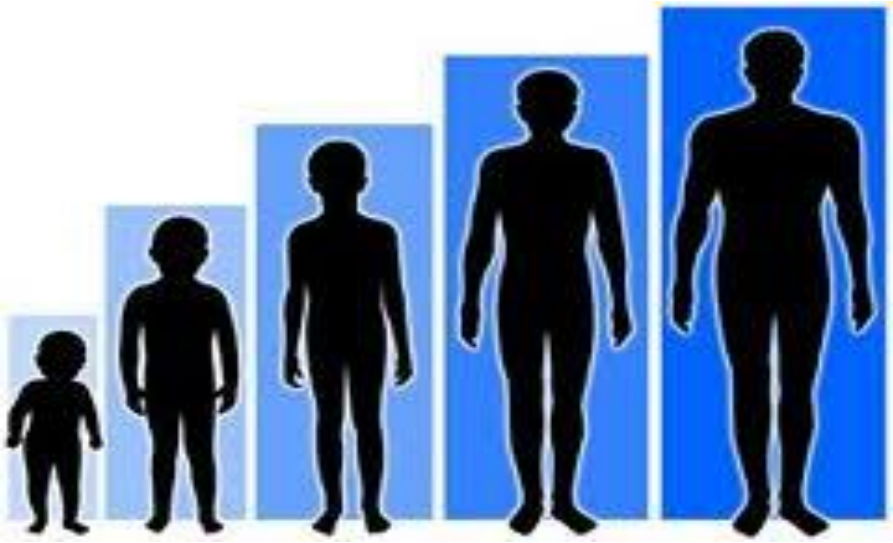
Astmi hjá börnum

Breytilegur sjúkdómur

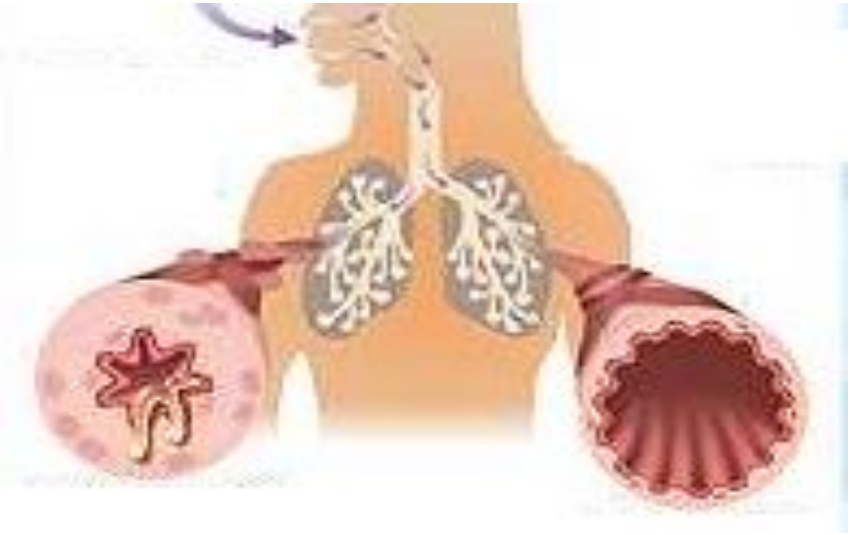
Svipgerðir

Áhrifaþættir:

Aldur, kyn, erfðir og umhverfi



Astmi - Skilgreining



1. Bólgusjúkdómur í berkjum
2. Aukið næmi í berkjum
3. Teppa, einkum í útöndun og/eða hósti
4. Afturkræft ástand

Langvarandi bólga getur valdið skemmdum

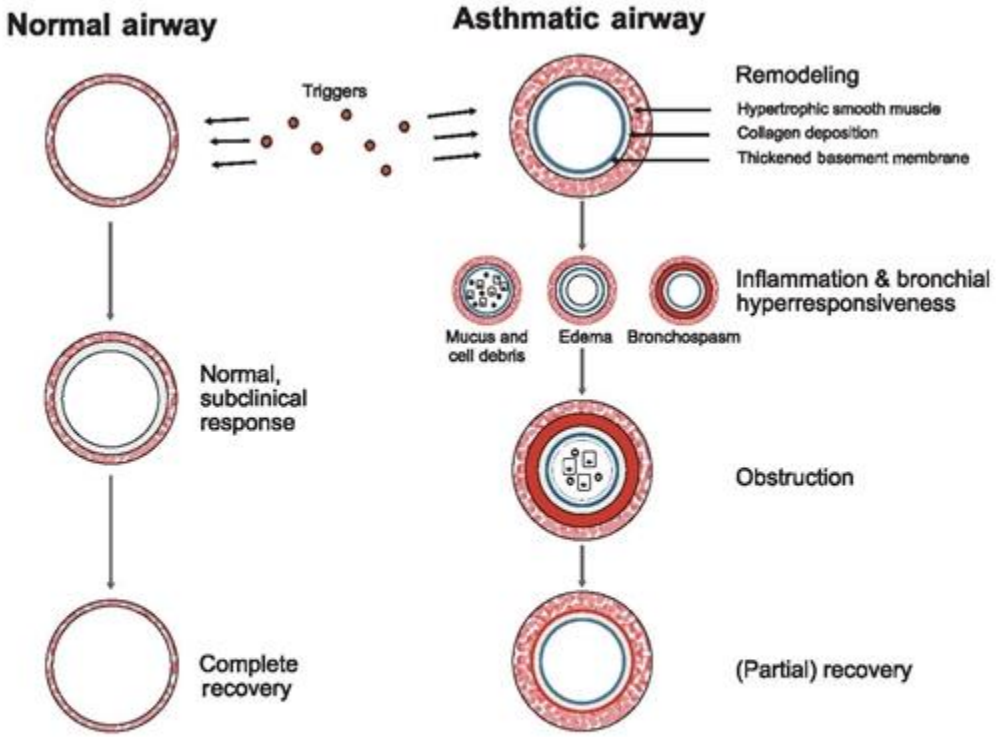
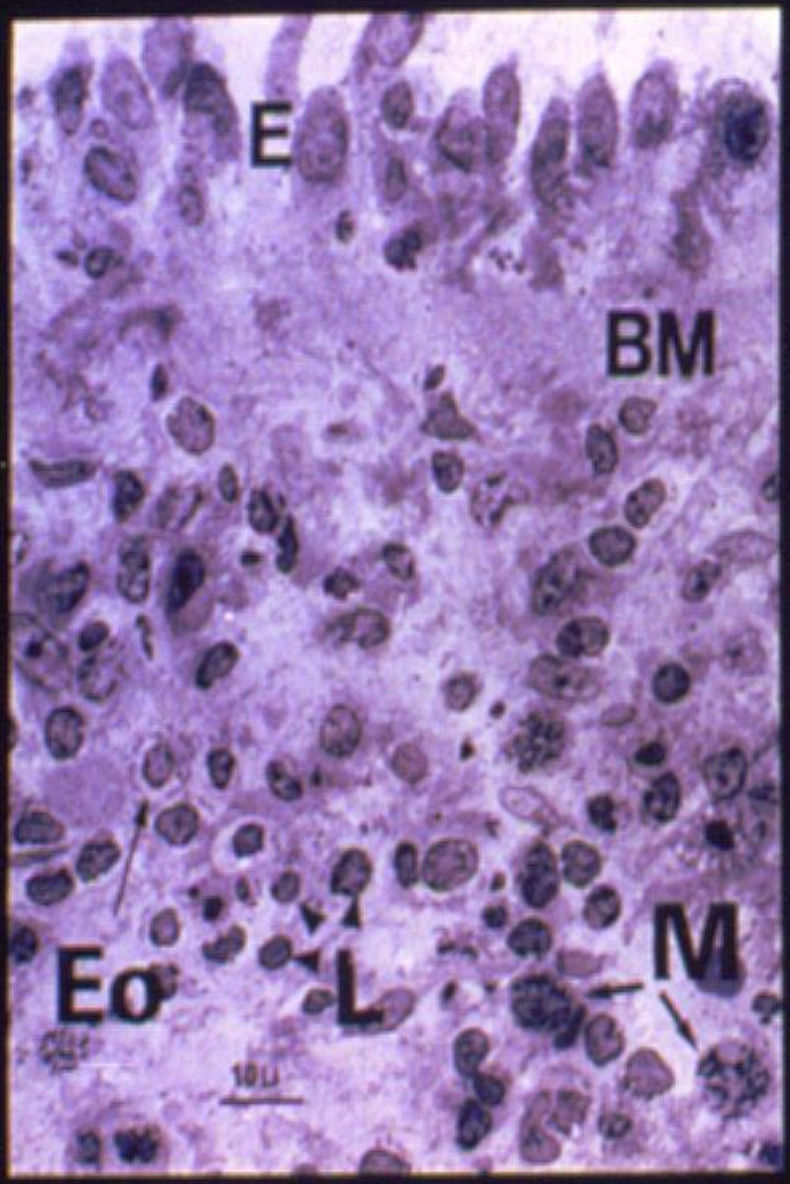
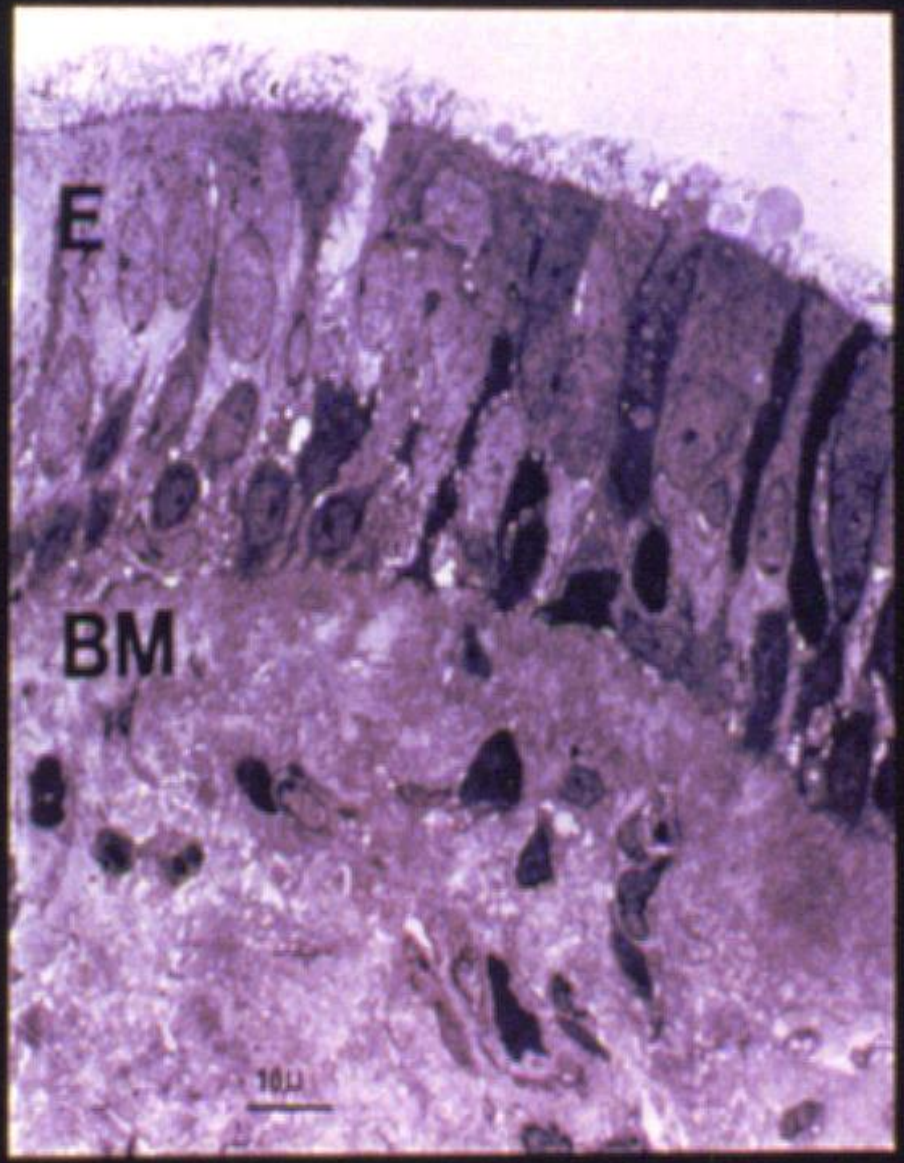


Figure 2 In children, as in adults, pathological changes of the bronchi ('airway remodeling'), are present in the airways. Inflammation is triggered by a variety of factors, including allergens, viruses, exercise etc. These factors also induce hyperreactive responses in the asthmatic airways. Inflammation and hyperreactivity lead to airway obstruction. Although pathophysiological changes related to asthma are generally reversible, partial recovery is possible.

ICON Allergy 2012



Asthmatic



Steroid – treated Asthmatic

Er sama bólgan í ungum börnum?

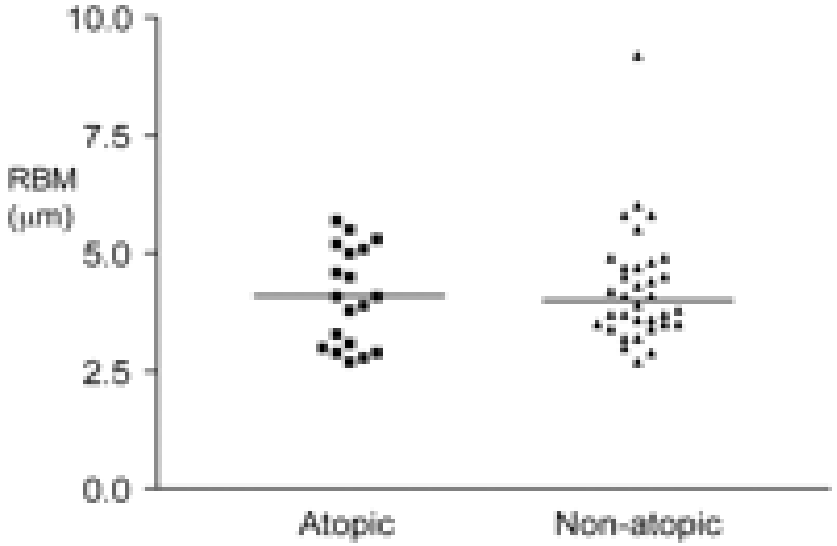
n = 53

Aldur: 3,4mán. - 26mán. Median: 12 mán

Berkjuspegluð vegna alvarlegra einkenna og/eða hósta

Sum svöruðu berkjuvíkkandi meðf.

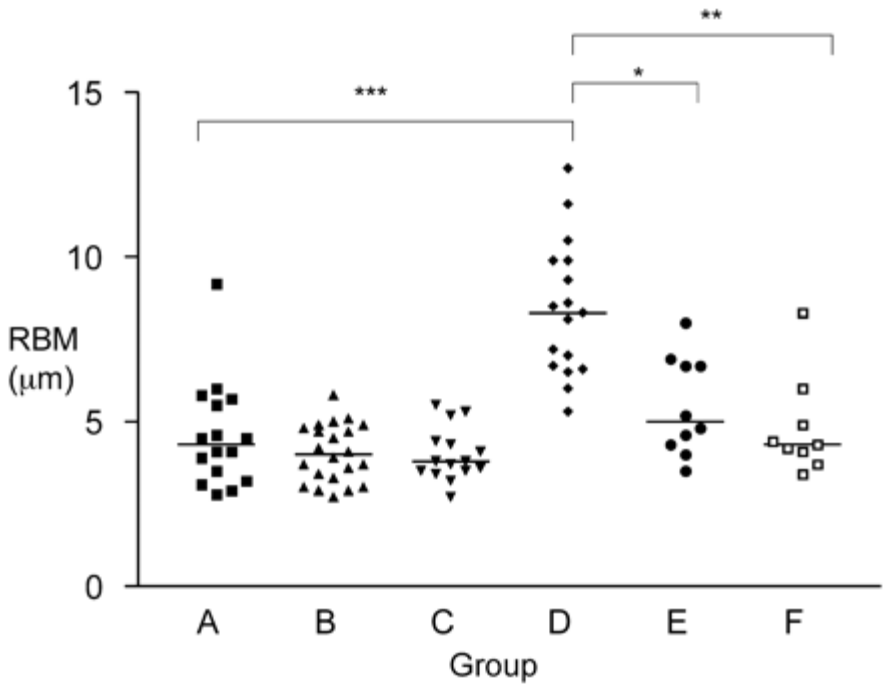
Höfðu ekki fengið stera í a.m.k. 8 vikur



RBM thickness in all infants with atopy compared with infants without atopy.
No significant difference between groups.

Saglani S et al Am J Respir Crit Care Med. 2005

Bólgubreytingar í börnum með astma



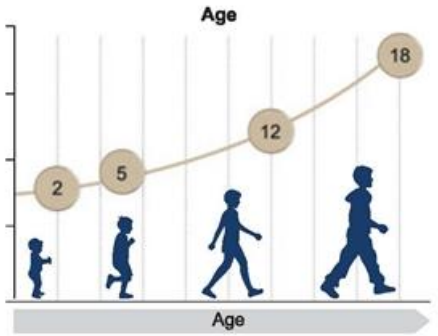
RBM thickness in symptomatic infants with bronchodilator reversibility **(Group A),**
infants without bronchodilator reversibility **(Group B),**
infants with normal lung function **(Group C),**

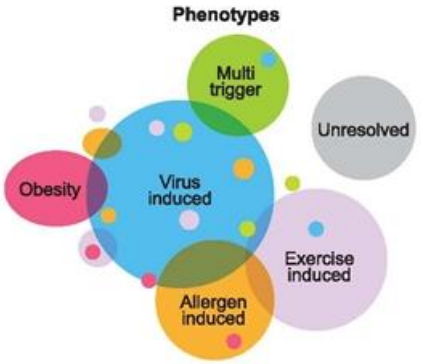
children (age 6–16 years) with difficult asthma (**Group D),**
children without asthma (age 6–16 years; **Group E)**
adult control subjects **(Group F).**

Saglani S et al Am J Respir Crit Care Med. 2005

Svipgerðir astma hjá börnum

Margbreytileiki er afgerandi og er m.a. háður tíma.





Alvarlegur astmi = Bólga

Hvæsiöndun <3 ára: ca 50% verða frísk

Þættir sem skipta máli :

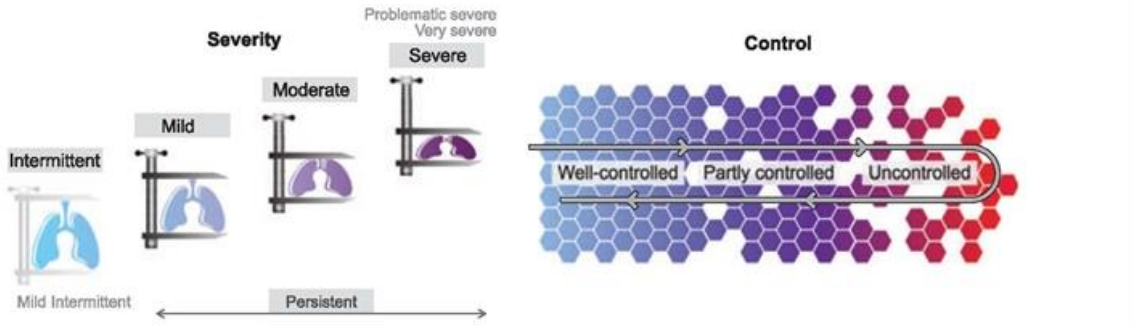
Foreldrar með astma

Eksem eða atópía

Hvæs án kvefs og slímhúðarbólga í nefi

ICON Allergy 2012

Hvað einkennir alvarlegan astma hjá börnum?



Alvarleiki sjúkdóms per se

Næmi fyrir meðferð

Aðrir þættir

ICON Allergy 2012

Astmakast hjá barni

- Andnauð - ÖT - Inndrættir
- Hvæs ----Þögul
- Hraður púls.....Hægari.
- Minnkandi mettun <90 og hækkandi pCO_2
- Áhrif á tal og meðvitundarstig

Pulmonary Index Score (PIS)

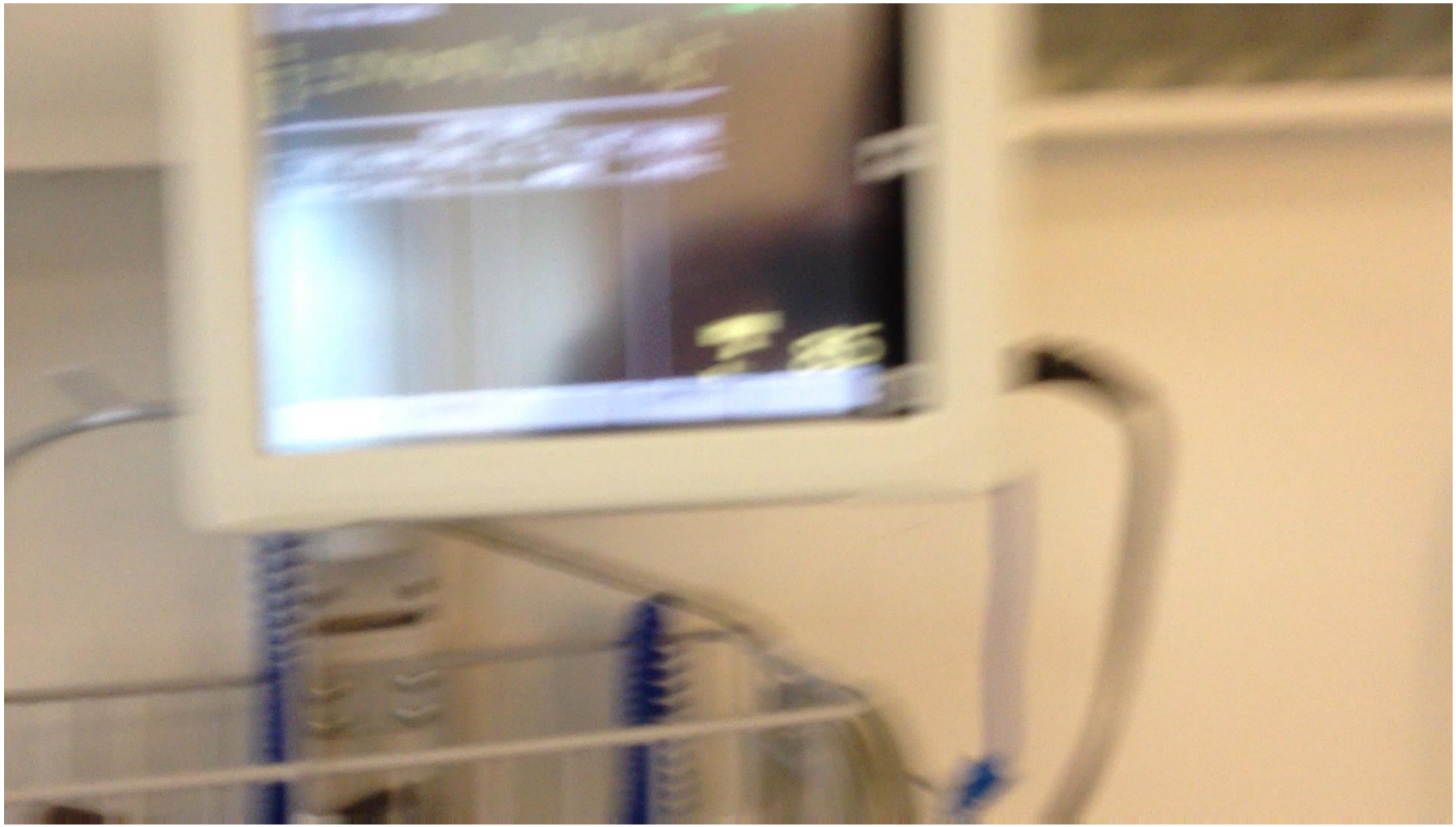
Score	Respiratory rate		Wheezing	Inspiratory/expiratory ratio	Accessory muscle use	Oxygen saturation
	<6 years old	≥6 years old				
0	≤30	≤20	None*	2:1	None	99 to 100
1	31 to 45	21 to 35	End expiration	1:1	+	96 to 98
2	46 to 60	36 to 50	Entire expiration	1:2	++	93 to 95
3	>60	>50	Inspiration and expiration	1:3	+++	<93

The total score ranges from 0 to 15. In general, a score of less than 7 indicates a mild attack, a score of 7 to 11 indicates a moderately severe attack, and a score of 12 or greater indicates a severe attack. However, the PIS may underestimate the degree of illness in an older child. Older children, with prolonged expiratory phases, may become bradypneic with a moderate to severe attack. As such, their score for respiratory rate may be falsely reassuring.

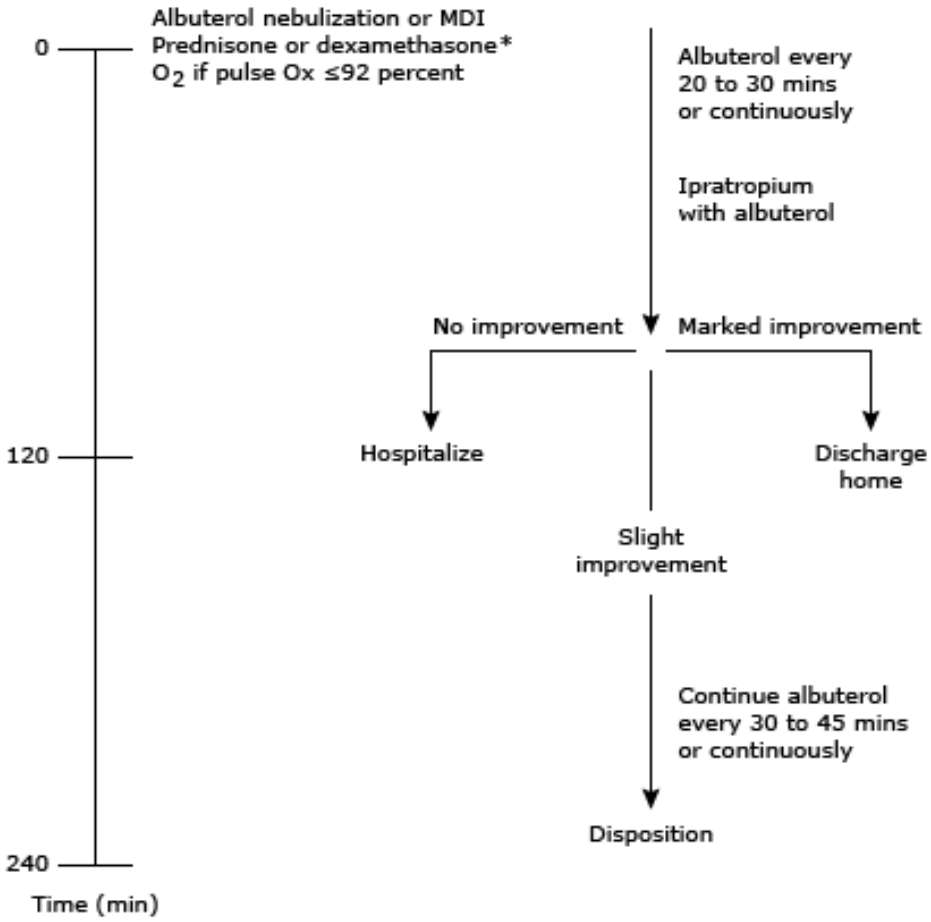
* If no wheezing due to minimal air entry, score 3.

Courtesy of Richard Scarfone, MD, FAAP.

Er hægt að fyrirbyggja…



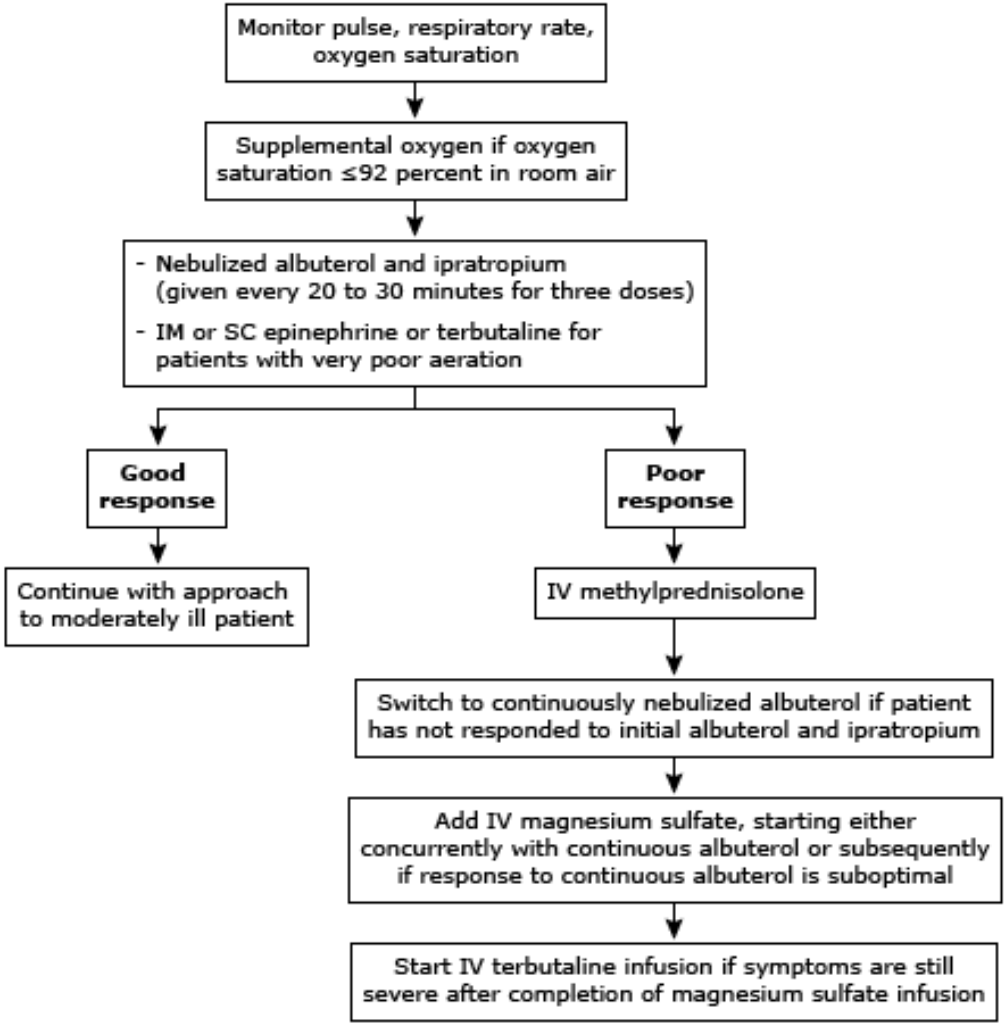
Management of moderate asthma



MDI: metered-dose inhaler; IM: intramuscular.
* Consider IM methylprednisolone or IM dexamethasone if the child vomits prednisone or dexamethasone.

Courtesy of Richard Scarfone, MD, FAAP.

Management of severe asthma in children



IM: intramuscular; SC: subcutaneous; IV: intravenous.

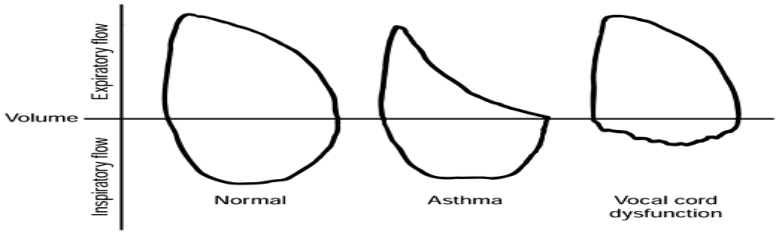
Courtesy of Richard Scarfone, MD, FAAP.

UpToDate®

Rannsóknir - Astmi

Spirometria

+/- berkjuvíkkandi lyfi



PEF

Áreynslupróf

Berkjuáreitispróf

Ofnæmispróf (SPT/RAST)

Lungnamynd

Berkjuspeglun

Ph-mæling í vélinda (?)

NO mæling

Meðferð við barnaastma

A Fræðsla

B Umhverfi

C Lyf (súrefni, berkjuvíkkun, Innúðasterar , Leukotr. blokk, …)

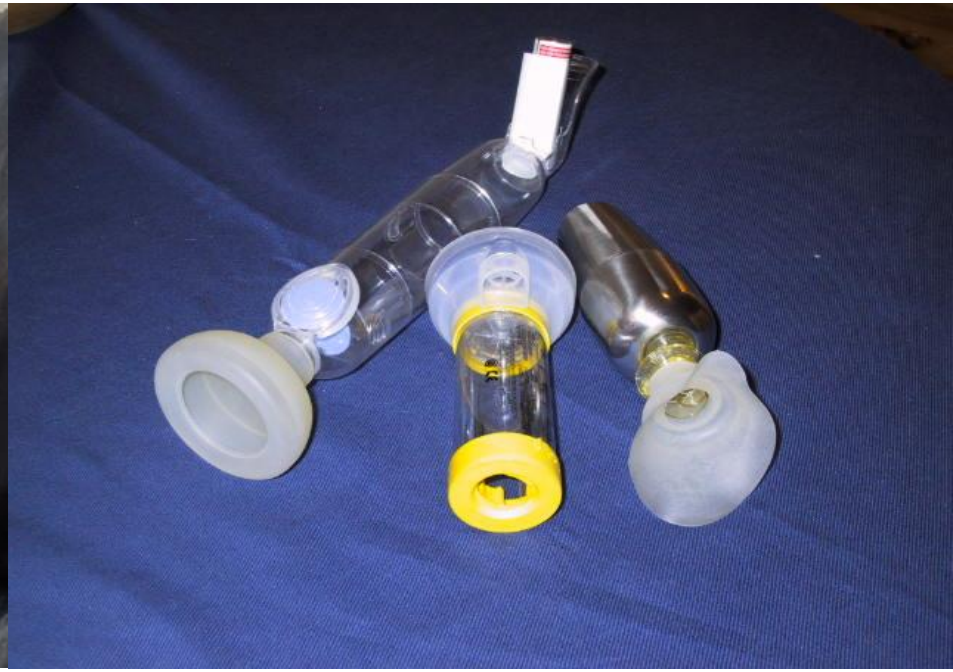
Meðferð við astma

Meðferð við astma

Hvernig á að nota lyfin ?

- Nota spacer að skólaaldri.
- Án maska þegar það er hægt.
- Úðavél er aldrei fyrsta val.

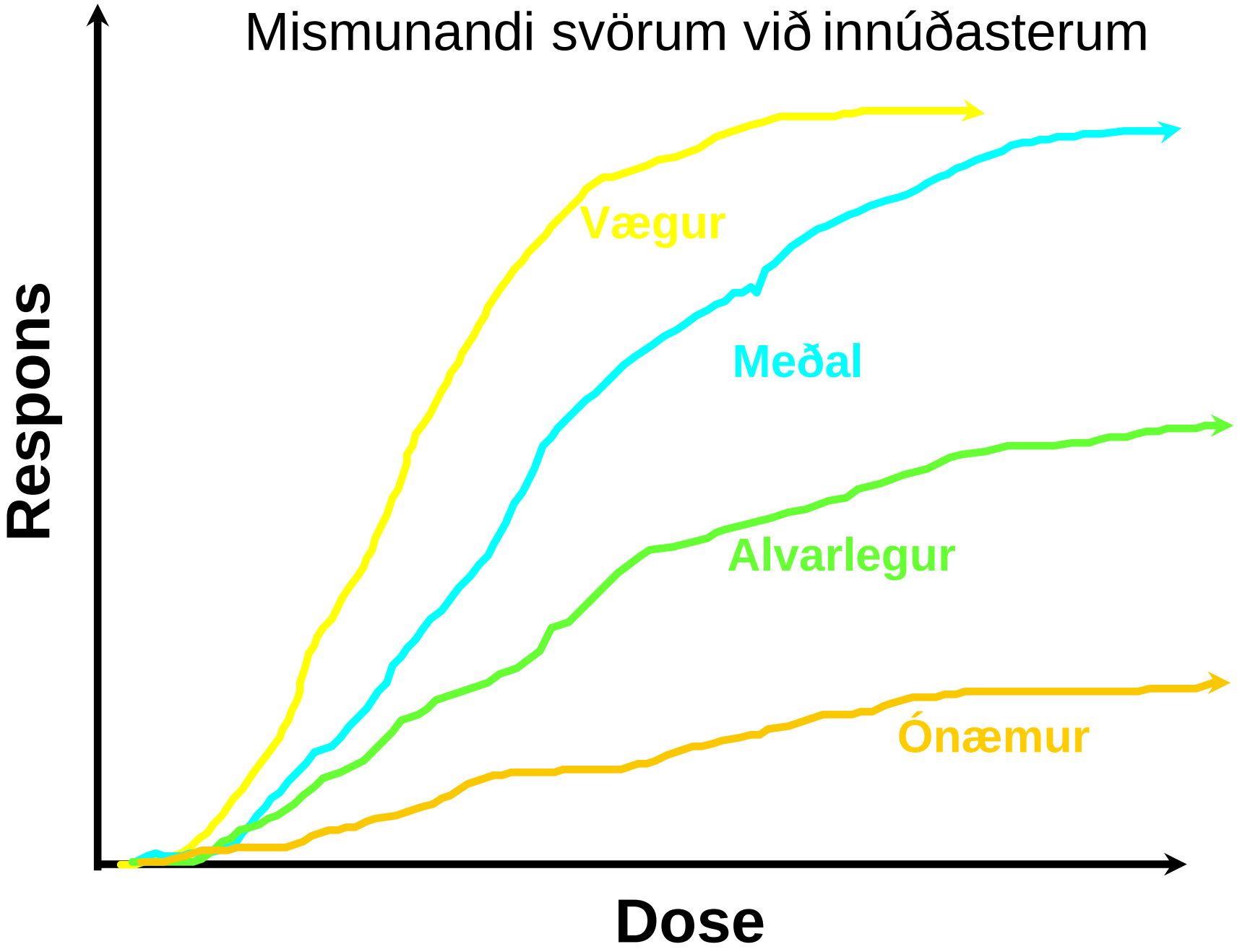
Meðferð við astma



Meðferð við astma

Meðferð

- SABA í dufti eða úða e. þörfum
- Ekki nota langtíma innúðastera til að fyrirbyggja kvefastma
- Steraskammtar barna skipta máli - lækka


Mismunandi svörum við innúðasterum
Vægur
Meðal
Alvarlegur
Ónæmur
Respons
Dose

Meðferð

- LTRA virka stundum vel...EIA eða rhinitis
- LABA + ICS er betra en háskammta ICS í eldri börnum (>5 ára ?)
- Chromones ....Theophylline...???
- Omalizumab...Atópía og erfiður astmi (>6 ára sem ekki svarar annari meðf.

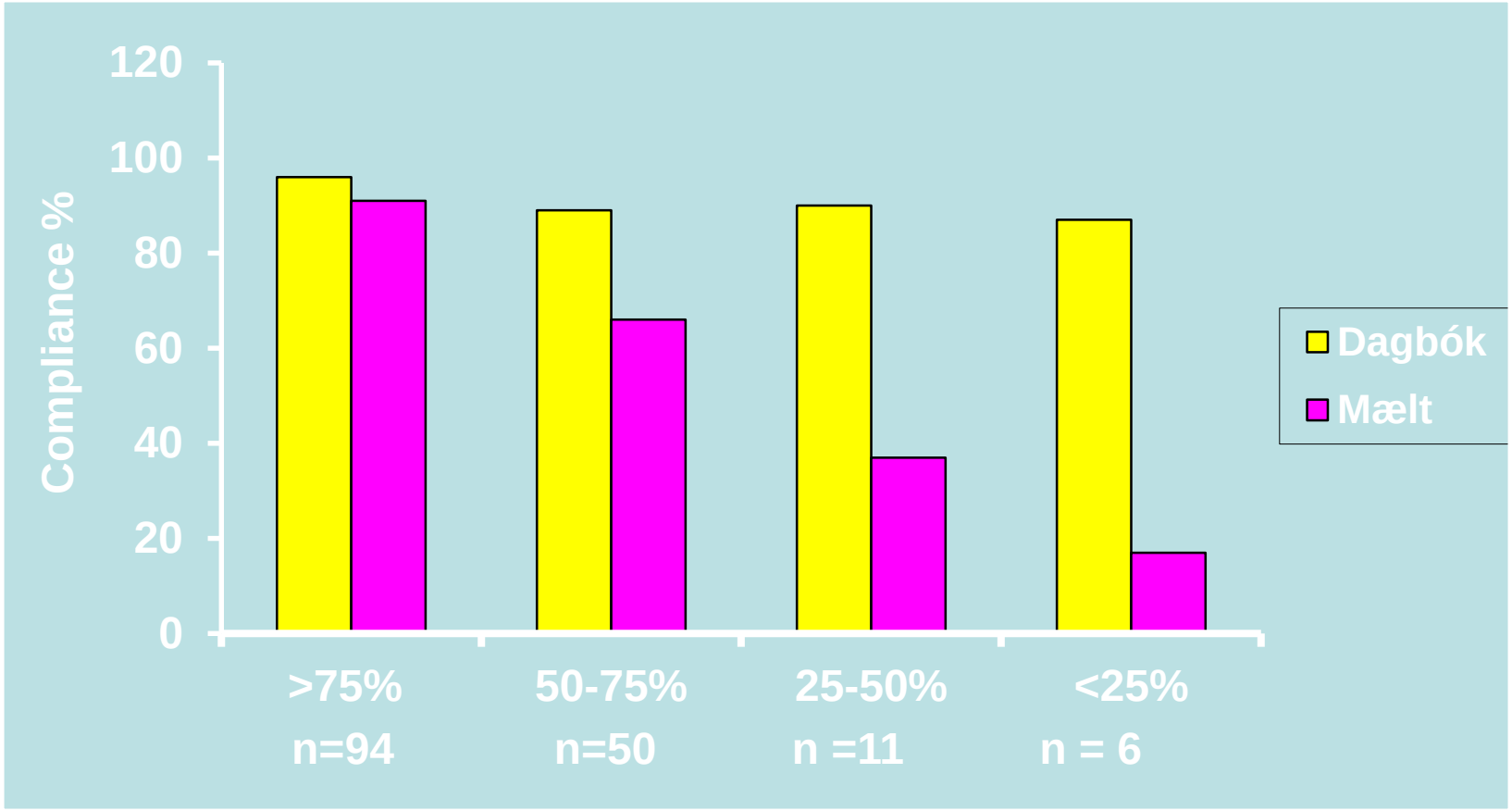
Meðferðarþrep barnaastma

Ef lyfin virka ekki

- Á að hækka skammta?
- Röng eða engin notkun lyfja...?
- Umhverfisþættir...?
- Nefeinkenni vanmetin...?

- Röng greining?

Meðferð með innúðasterum í 3 mánuði. Mæld meðferðarheldni versus dagbókarskráning í fjórum hópum



Jonasson et al ERJ 1999

Önnur meðferð

- SIT; (Allergen)-specific Immunotherapy

- SCIT vs. SLIT ekki notað í alvarlegum astma v. hættu á alvarl.aukav.

Hvað einkennir börn í BNA sem leggjast inn á GG?

350 innlagnir barna á GG (1997-2007)

- Fátækt og fél. vandamál.
- Offita
- Blökkumenn

Carroll CL et. al J Asthma 2010

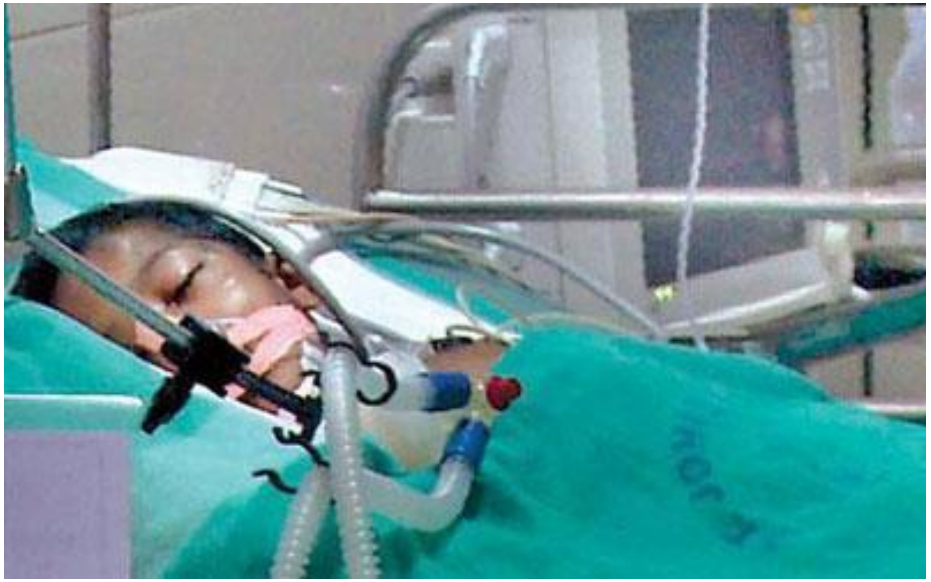
Alvarlegur astmi á gjörgæslu í BNA

261 börn á GG v astma 2005 -2009

- 50% með ofnæmi
- 87% með fyrri sögu um astma.
- 4% létust
- Blökkumenn (62% vs. 23%)
- 40% fengu Mg
- 22% fengu Heliox

Christopher JL et al J Pediatr 2012

Lyfjameðferð síðustu 30 daga



Christopher JL et al J Pediatr 2012

Hvaða börn eiga á hættu að látast úr astma?

- Endurtekin alvarleg köst... BMB /GG
- Unglingar með ofnæmi og alvarlegan astma
- Meðferðarheldni og sálfélagsleg vandamál

Dauðsföll vegna astma

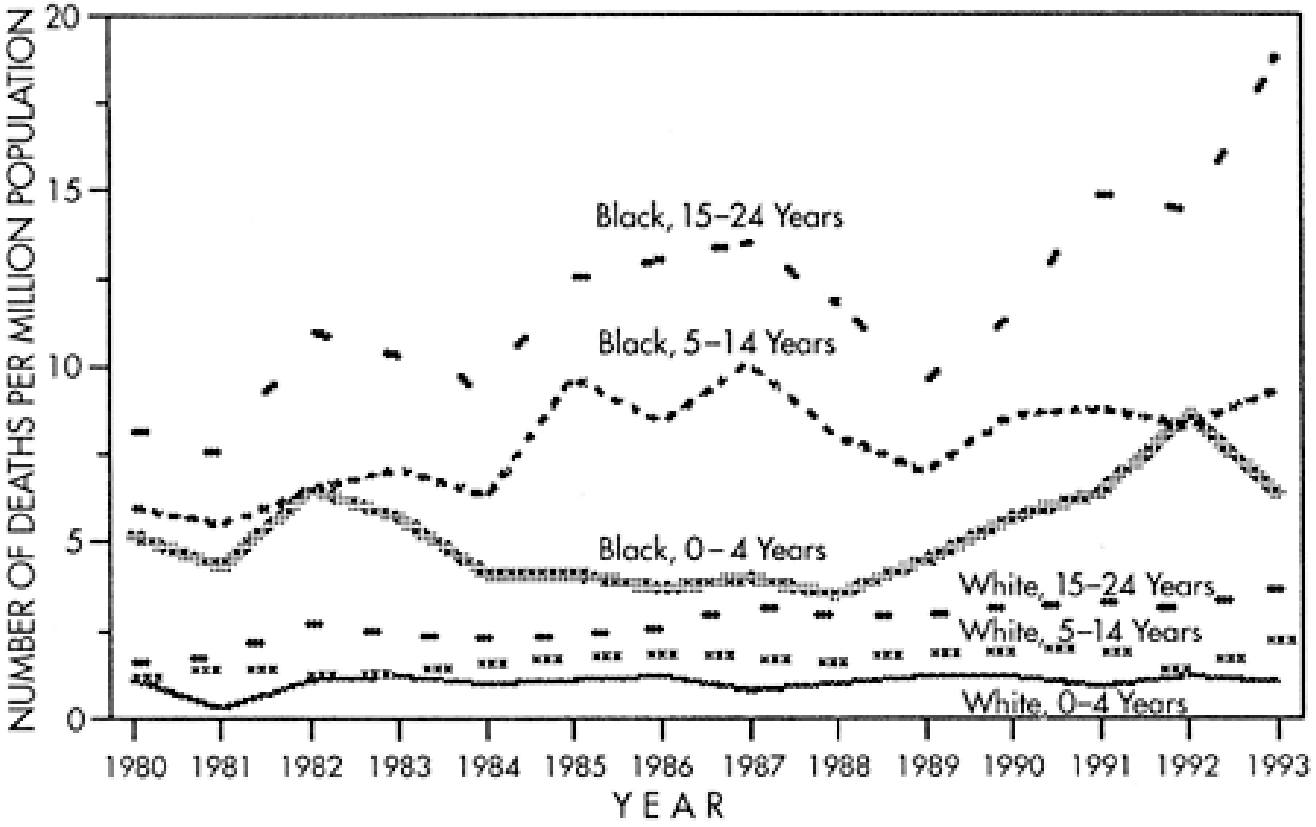


FIGURE 1. Deaths due to asthma in the United States, 1980–1993.

Sheffer AL

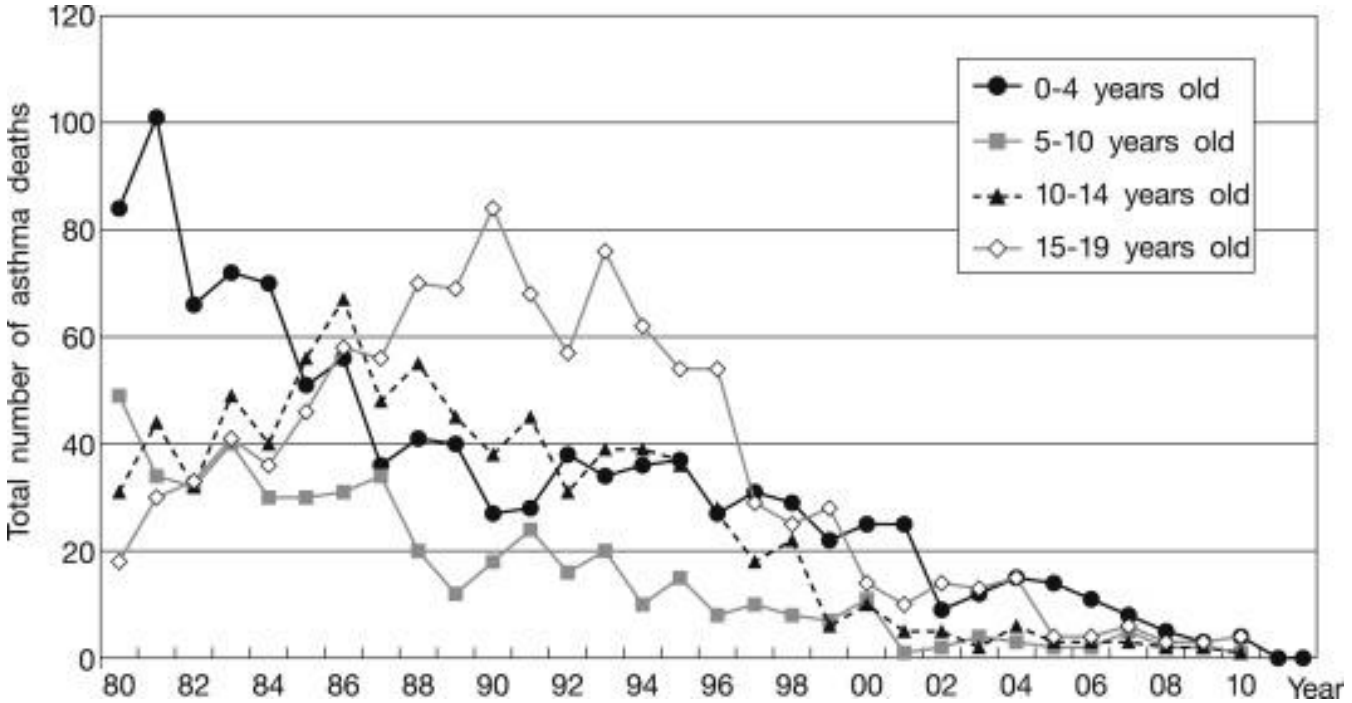


Fig. 3. Mortality from asthma in children from 1980 to 2009.

Hirokazu Arakawa, Yuhei Hamasaki, Yoichi Kohno, Motohiro Ebisawa, Naomi Kondo, Sankei Nishima, Toshiyuki Nishimuta, Akihiro Morikawa

Japanese guidelines for childhood asthma 2017 ☆

Allergology International, 2017, Available online 18 January 2017

http://dx.doi.org/10.1016/j.alit.2016.11.003

20 dauðsföll barna v. astma í austurhluta Englands 2001 - 2006

- 50% Voru talin hafa alvarlegan astma
- 65% Ofnæmi
- 60% Sálræn eða félagsleg vandamál

- 75% Slök meðferðarheldni
- 35% Voru á LABA án ICS

Anagnostou K et al Prim Care Respir J 2012

Oral Prednisolone for Preschool Children with Acute Virus-Induced Wheezing

Innlögð v. hvæsandi öndunar í kjölfar veirusýkingar

5 daga meðf. Prednisolon p.o. (10/20mg) eða PLACEBO

Aldur 10 mán – 5 ára

n = 700

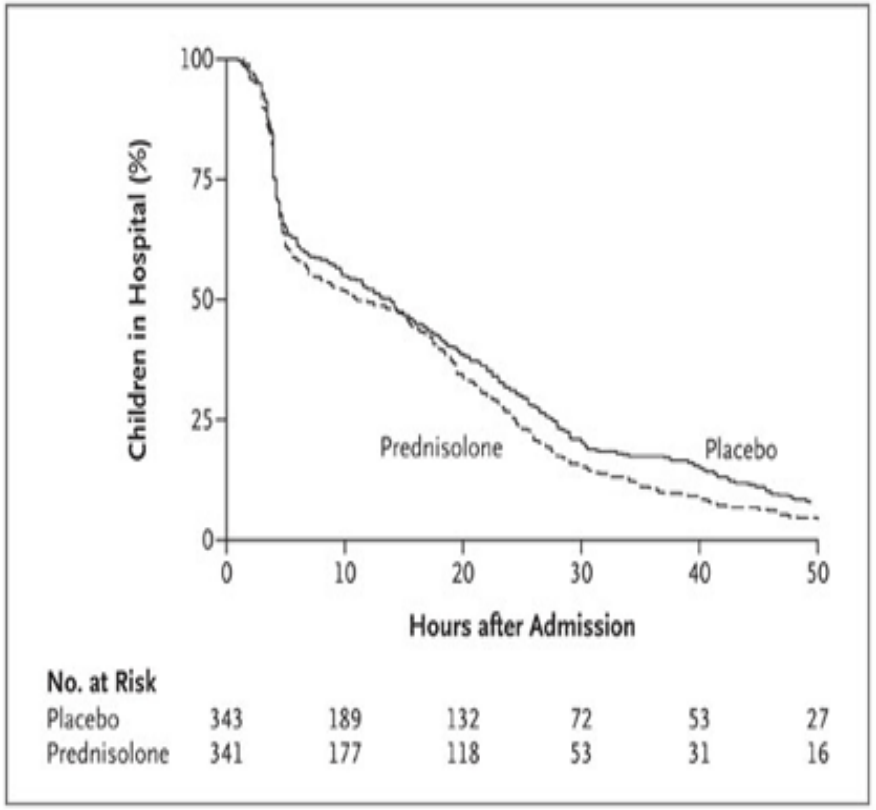
Panickar et al. NEJM 2009

Oral Prednisolone for Preschool Children with Acute Virus-Induced Wheezing

NIÐURSTÖÐUR

Engin marktækur munur á:

- legulengd
-notkun á berkjuvíkkandi
- 7 daga einkennum



Panickar et al. NEJM 2009

Foreldrar gefa sterakúr

- Parent initiated prednisolone for acute asthma in children of school age: randomised controlled crossover trial

- N= 230 Aldur : 5-12 ár T= 3 ár

- 1 mg/kg í 3-5 daga

- Minni einkenni (p = 0.023)
- Minni notkun á heilbrigðisþjónustu (p = 0,01)
- Minni fjarvera frá skóla (p = 0.045)

Vuillermin PJ et al BMJ 2010

Eru færri börn með alvarlegan astma á Íslandi?

- Gott aðgengi að heilbrigðisþjónustu ?
- Oftast stutt í sjúkrahús ?
- Hátt menntunarstig og vel upplýst fólk ?
- Lítið atvinnuleysi og fátækt ?