

## Chronic Persistent Asthma Management



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Then

and

Now....

## Asthma Management

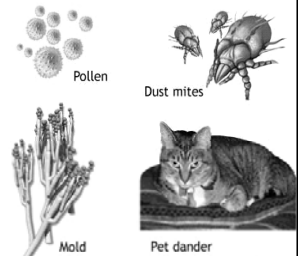
- Preventive Therapy
- Immunotherapy
- Pharmacotherapy



## Prevention

■ Routine measures of dust control and avoidance of obvious triggers are useful

■ However an elaborate search for triggers and avoidance therapy or hygiene is not necessary



## Prevention: Diet

- Diet has little role in asthma
- Diet therapy without scientific documentation is incorrect

- Avoidance of fish, nuts, berries, tinned and canned foods, beer and sparkling wine
- "Chinese restaurant syndrome" - Ajinomoto

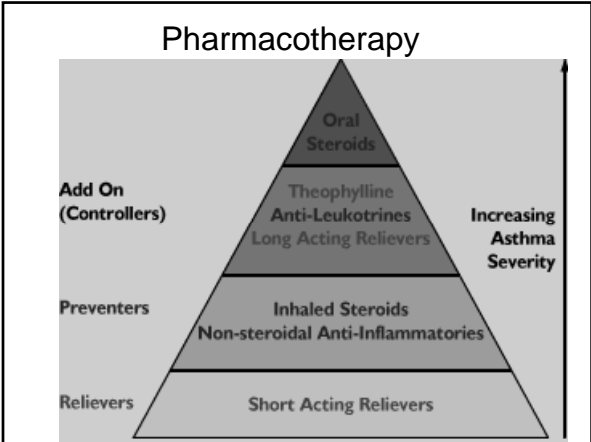
- Recent studies have shown that fruits particularly citrus fruits are beneficial



## Immunotherapy

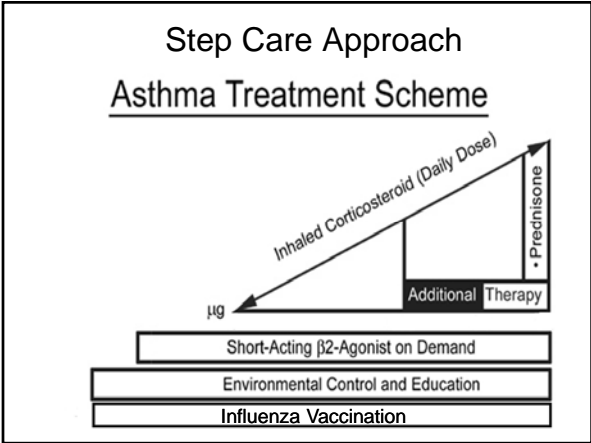
Occasional cases which are poorly controlled on optimal preventive and pharmacotherapy and are allergic to a single allergen may benefit





### Severity of Asthma

Severity	Symptoms	FEV1/FVC% < 70% FEV1
Intermittent	Nil, in between attacks	Normal
Mild persistent	Frequent symptoms, No nighttime symptoms	≥ 80%
Moderate persistent	Frequent symptoms, Occasional nighttime symptoms	60-80%
Severe persistent	Daily symptoms, Frequent nighttime symptoms	≤ 60%



### Step Up and Step Down

**'HIT EARLY, HIT HARD – THEN STEP DOWN'**

MILD INTERMITTENT → Increasing severity → SEVERE

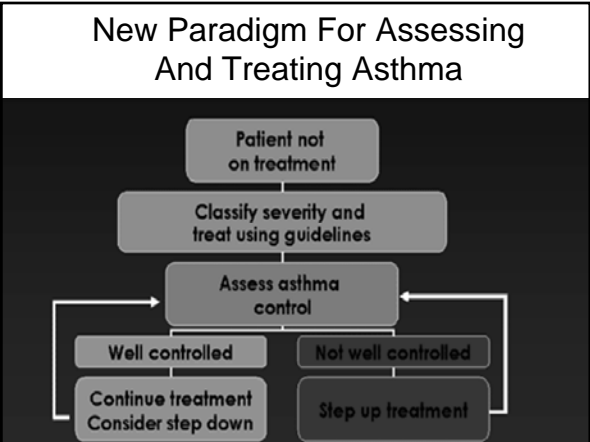
**Step down:**

- When treatment aims are achieved:
- Not sooner than 3 months
- Reduce or stop oral steroids first

**Step up:**

- If uncontrolled at any severity level
- Consider pulse of oral steroids: prednisone 30 - 40 mg/day for 7 - 14 days at any time to gain rapid control

Moving with the times .....2010



### Monitoring Of Asthma Control

- PEF monitoring
- Spirometry
- ACT

> 80%

50%-80%

< 50%

### Asthma Control Test (ACT)

### Benefits and Risks of LABA

- Decades before LABA reached the market, isoproterenol (SABA) linked to asthma-related deaths
- Salmeterol Multicenter Asthma Research Trial (1996) stopped prematurely due to increased deaths
- Analysis from pooled data –LABA plus ICS versus ICS, the difference not significant

Ref: Kramer JM. Perspective. NEJM 2009; 360:16

- Adding LABA to ICS in children is beneficial

Ref: SFC versus Doubling Fluticasone in Children with Asthma. COMBO study Group. AJRCCM 2010 (E Pub)

### US FDA Attempts to Ensure LABA Safety Labeling on LABA Inhalers 2010

- Never use LABA without ICS in asthma
- Recommend LABA only if asthma uncontrolled on medium dose ICS
- USE FDC of ICS/LABA when required
- Stop LABA once asthma is well controlled

Chowdhury BA, Pan GD. Perspective. NEJM 2010;362:13.

### Steps in Asthma Management

Intermittent Asthma	Persistent Asthma: Daily Medication				
	Consult with asthma specialist if step 4 care or higher is required. Consider consultation at step 3.				
Step 1	Step 2	Step 4	Step 5	Step 6	
Preferred: SABA PRN	Preferred: Low-dose ICS  Alternative: Cromolyn, LTRA, Nedocromil or Theophylline	Preferred: Medium-dose ICS + LABA  Alternative: Medium-dose ICS + either LTRA or Theophylline	Preferred: High-dose ICS + LABA	Preferred: High-dose ICS + LABA + oral corticosteroid	

EPR-3 Guidelines

### Equipotent Doses of ICS

Drug	Low Dose (µg)†	Medium Daily Dose (µg)†	
Beclomethasone dipropionate	200-500	>500-1000	
Budesonide*	200-400	>400-800	✓
Ciclesonide*	80-160	>160-320	
Flunisolide	500-1000	>1000-2000	
Fluticasone propionate	100-250	>250-500	✓
Mometasone furoate*	200-400	>400-800	
Triamcinolone acetonide	400-1000	>1000-2000	✗

GINA 2009

### Better Use of ICS + LABA Variable Dose Therapies

■ **SMART**  
Single Maintenance  
And Reliever Therapy

Ref: O'Byrne PM et al.  
Am J Respir Crit Care  
Med. 2005; 71:129-36

Treatment	Exacerbations/100 patients/year
Seretide™ 50/250 µg bid + SABA	38
Symbicort 320/9 µg bid + SABA	32
Symbicort SMART 160/4.5 µg bid + as needed	23*

A six month double-blind study including 3335 patients  
Kuna et al. 2007

### Better Use of ICS + LABA Variable Dose Therapies

Adjustable Dose  
Therapy

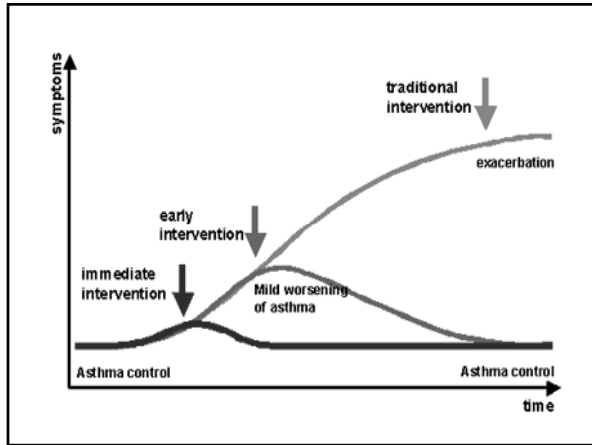
Using ICS/ formoterol  
reduce and increase  
4 puffs bid to  
2 puffs bid to 2 puffs od

Ref: Busse WW.  
Journal of Allergy and  
Clinical Immunology  
2008;121:1407-1414

Treatment	Patients with exacerbations (%)
Symbicort Variable dose	4.0
Symbicort Fixed dose	8.8

Treatment	No. of exacerbations
Symbicort Variable dose	36
Seretide Fixed dose	69

Fitzgerald et al. 2003; Aalbers et al. 2004



### Bronchial Thermoplasty For Asthma

- Asthmatx Alair® Bronchial Thermoplasty System
- Approval by US FDA on April 27, 2010
- Asthma Intervention Research 2 (AIR2) Trial
- RF through a catheter heats the airway to 150°. reduces muscle in the bronchi without scarring

Ref: Castro M, et. al. Effectiveness and Safety of Bronchial Thermoplasty in Treatment of Severe Asthma: A Multicenter, Randomized, Double-Blind, Sham-Controlled Clinical Trial. ARJCCM 2010; 181:116-24.

