



BRONCHIAL

ASTHMA

By:

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An anatomical illustration of the human respiratory system, showing the trachea, bronchi, and lungs. The trachea and bronchi are highlighted in yellow and red, while the lungs are shown in blue. The background is a dark blue silhouette of a human torso. A black rectangular box with yellow text is centered over the image.

I. BRIEF DEFINITION

ASTHMA

➤ An airflow obstruction caused by bronchoconstriction, which results from an allergic or hypersensitive reaction.

ETIOLOGY/TYPES:

1. Extrinsic Asthma
2. Intrinsic Asthma

ETIOLOGY/TYPES:

1. Extrinsic Asthma

✓ Allergy

a. Genetically transmitted

b. Childhood Onset

2. Intrinsic Asthma

✓ UNKNOWN CAUSE

Asthma Classification by Severity (NAEPP 2002 Update)

Type of Asthma	Daytime Symptoms	Nighttime Symptoms	PEF or FEV ₁ *	PEF Variability*
Severe persistent	Continual	Frequent	≤60%	>30%
Moderate persistent	Daily	> 1 night per week	>60% to <80%	>30%
Mild persistent	>2 per week but <1 per day	>2 nights per month	≥80%	20-30%
Mild intermittent	≤2 days per week	≤2 nights per month	≥80%	<20%

*PEF, peak expiratory flow. Peak flow measurements cannot accurately be performed in children ≤5 years of age. Use daytime and nighttime symptoms to assess these patients.

Adapted from Expert Panel Report: Guidelines for the Diagnosis and Management of Asthma Update on Selected Topics 2002. NAEPP. June 2003. NIH Publication No. 02-5074.

TOP 50 CAUSES OF DEATH

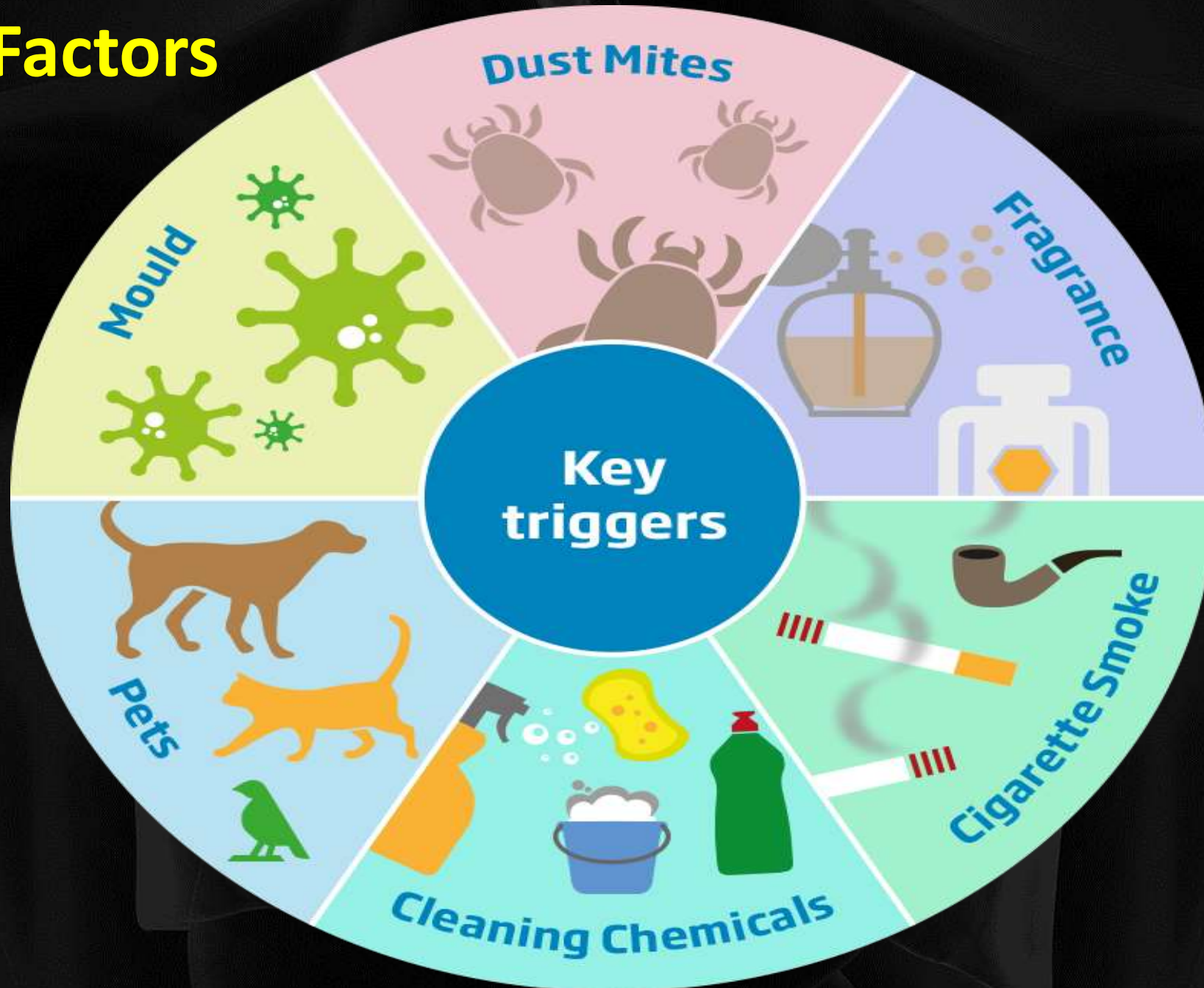
	Rate	World Rank
1. Coronary Heart Disease	161.43	29
2. Stroke	119.21	54
3. Influenza and Pneumonia	90.40	46
4. Diabetes Mellitus	60.44	20
5. Tuberculosis	41.83	27
6. Hypertension	38.20	11
7. Lung Disease	33.05	28
8. Kidney Disease	25.71	13
9. Breast Cancer	22.01	30
10. Asthma	21.20	9
11. Violence	18.56	25
12. Lung Cancers	17.23	64
13. Prostate Cancer	15.99	92
14. Liver Disease	15.58	87
15. Diarrhoeal diseases	13.41	62



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II. RISK FACATORS

II. Risk Factors





Asthma Triggers



III. PATHOPHYSIOLOGY

LIFTED FROM THE BOOK

III. Pathophysiology

Non-modifiable Factors:

- >Gender
- >Family History

Modifiable Factors:

- >Environmental Allergens
- >Emotional factors/Stress
- >GERD

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graph TD; A[Non-modifiable Factors] --- B[Modifiable Factors]; B --> C[Triggers airway inflammation]; C --> D[ ];
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Triggers airway inflammation

III. Pathophysiology



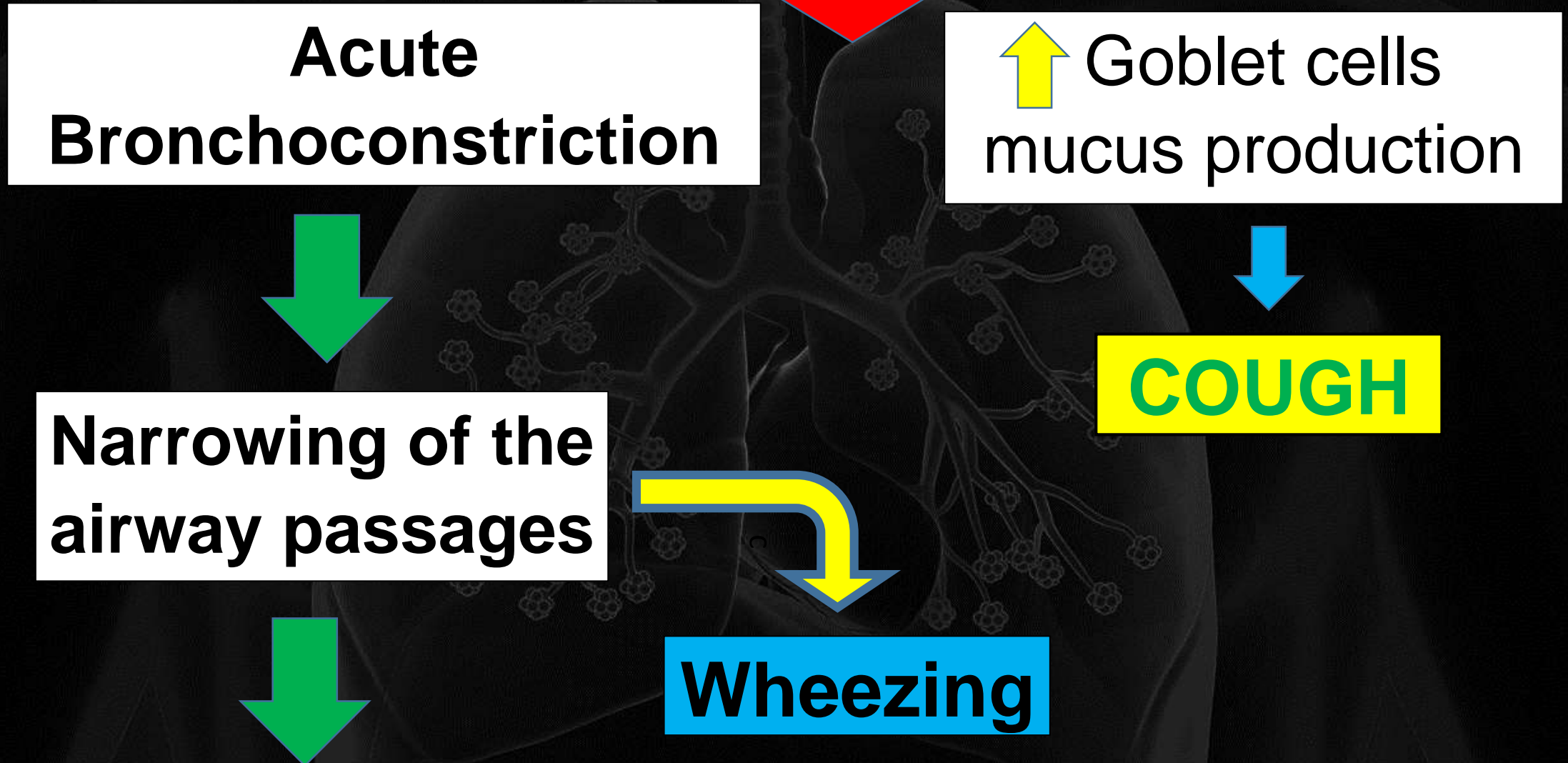
Release of mast cells, eosinophils, histamine, macrophages, and activated T lymphocytes

The diagram illustrates the pathophysiology of asthma. A large red arrow points from the top (trachea) to a central yellow arrow pointing down into the bronchi. A horizontal red line spans the width of the diagram, with a green arrow pointing down to the left (acute bronchoconstriction) and a blue arrow pointing down to the right (increased mucus production). A yellow arrow points up to the right, indicating goblet cell mucus production.

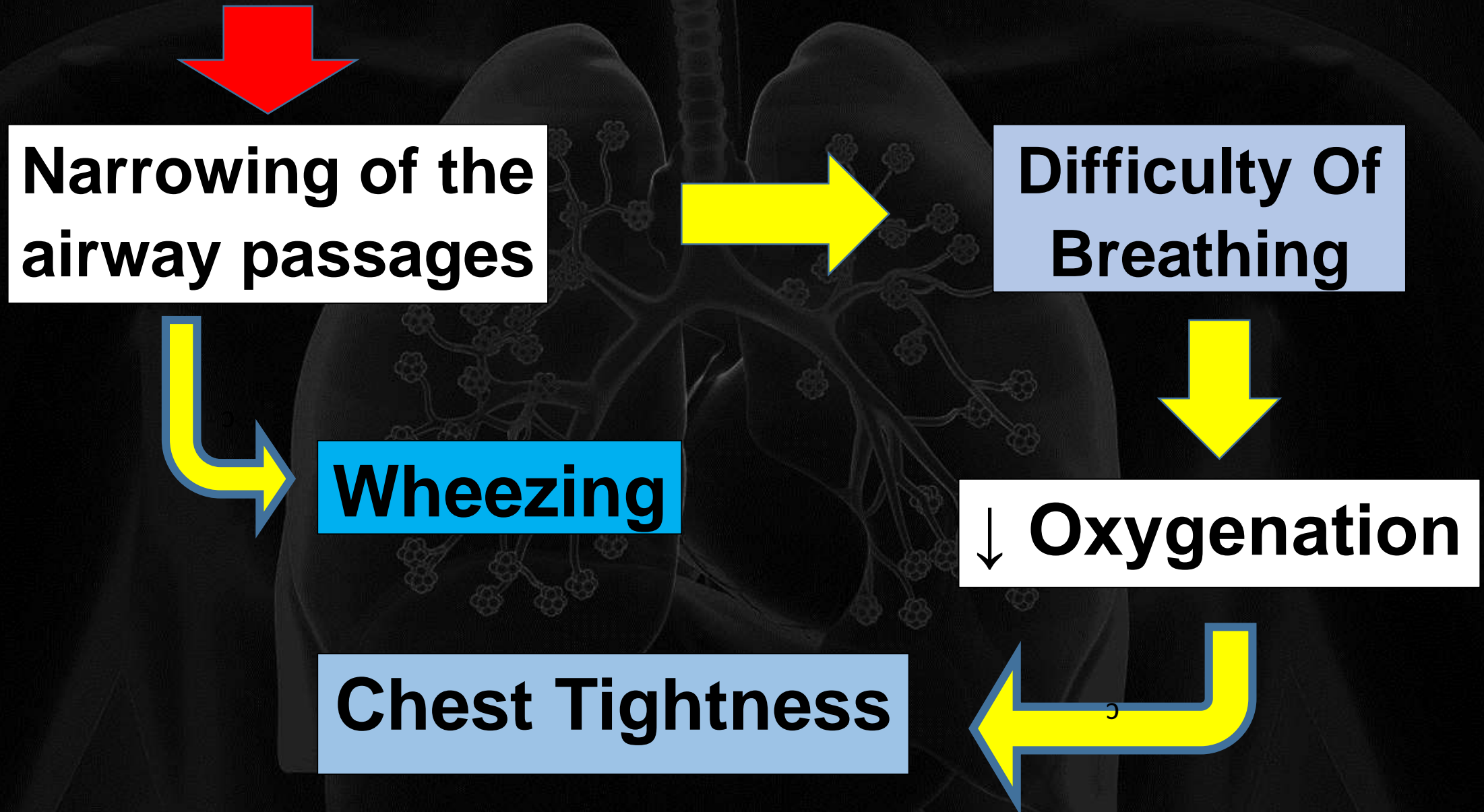
**Acute
Bronchoconstriction**

 Goblet cells
mucus production

III. Pathophysiology



III. Pathophysiology



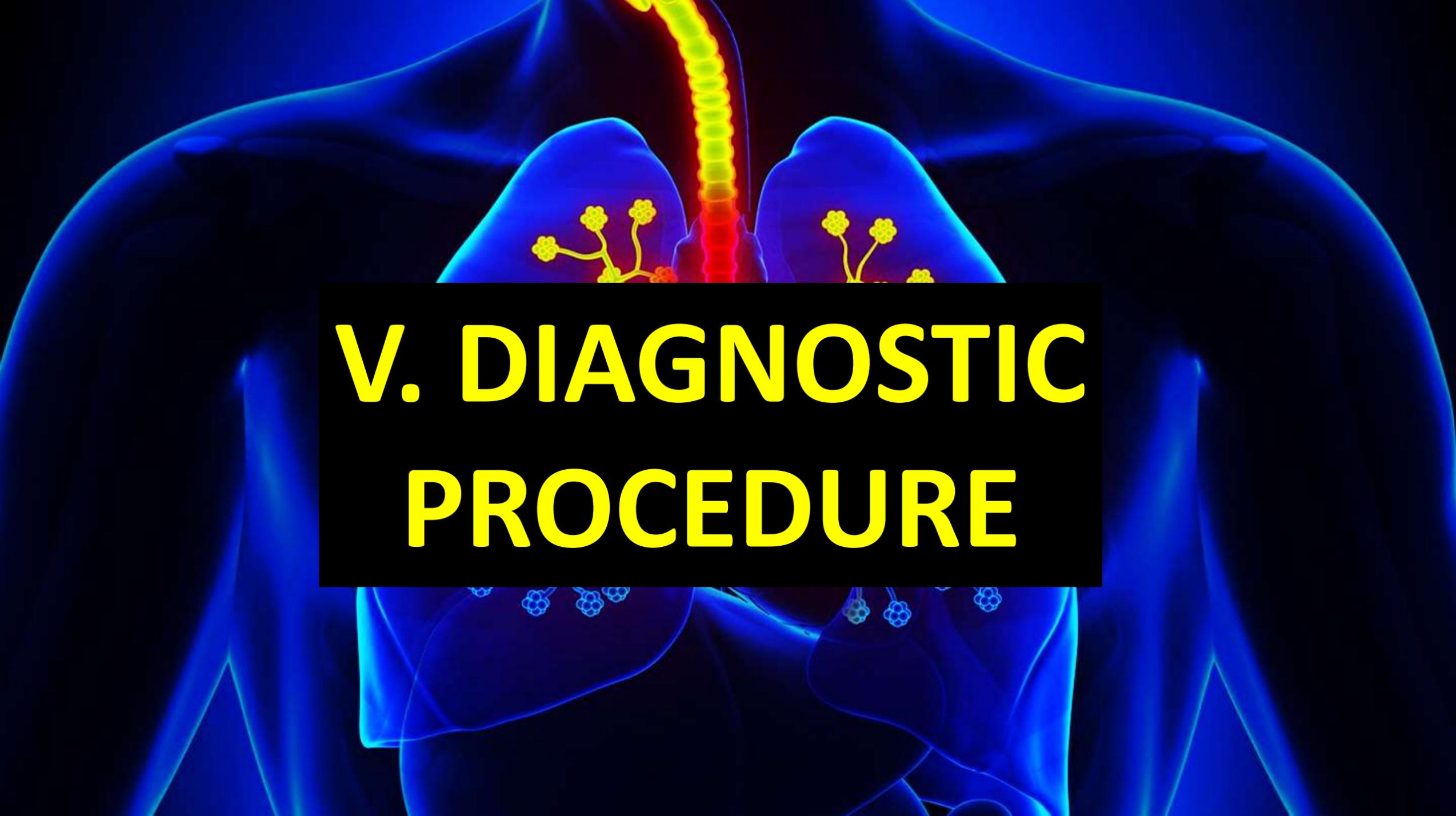


IV. CLINICAL MANIFESTATION

Clinical manifestations of Asthma

- Severe dyspnea
 - wheezing with expiration or inspiration
 - Which is worse...
- Tachypnea
- Cough
- Feelings of chest tightness
- Prolonged expiration
- Diminished breath sounds
- Increased heart rate and blood pressure
- Restlessness, anxiety, agitation





**V. DIAGNOSTIC
PROCEDURE**

V. DIAGNOSTIC PROCEDURE

- HISTORY COLLECTION
- PHYSICAL EXAMINATION
- PULMONARY FUNCTION TEST
- SERUM IMMUNOGLOBULIN E
- SPUTUM ANALYSIS



V. DIAGNOSTIC PROCEDURE

- **COMPUTED TOMOGRAPHY – HRCT**
- **COMPLETE BLOOD COUNT**
- **CHEST X-RAYS**
- **ABG ANALYSIS**
- **PULSE OXYMETRY**



Other Asthma Gadgets

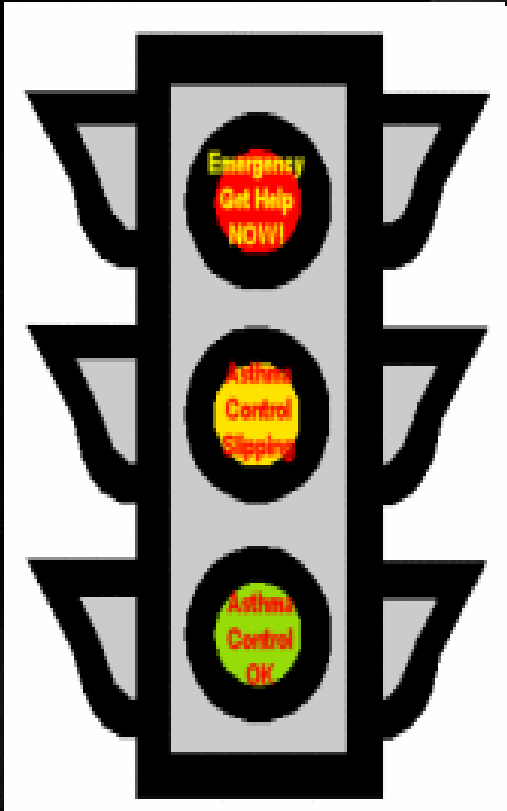
Aero Chamber



- Also known as a “spacer” or valve holding chamber (VHC)
- Delivery of medication over 100% more effective

Other Asthma Gadgets

Peak Flow Meter



➤ Used by some (usually moderate or severe) asthma patients to monitor ongoing lung function to detect changes



VI. MEDICAL AND SURGICAL MANAGEMENT



● While asthma cannot be cured, it can be controlled:

- **Medications**

- Long term

- Quick relief

- Bronchial thermoplasty

- Learning to recognize one's own triggers and taking steps to avoid them.



VII. NURSING PROBLEMS



Assessment of a patient with asthma includes the following:

- **Assess for breath sounds.**
- **Assess the patient's peak flow.**
- **Monitor the patient's vital signs.**
- **Level of oxygen saturation through the pulse oximeter.**
- **Respiratory status by monitoring the severity of the symptoms.**

Top Counter

Canister Inside

















Inhaler

Mouthpiece

Strap

Mouthpiece Cover



		CONTROLLERS						
Anti-Inflammatories		Combination Medications		Long-Acting Bronchodilators				
								
<p>FLOVENT® DISKUS® Inhalation Device (Fluticasone propionate) Available in 50, 100, 250 & 500 mcg per inhalation GlaxoSmithKline</p>		<p>ADVAIR® DISKUS® Inhalation Device (Salmeterol xinafoate/fluticasone propionate) Available in 50/100, 50/250 & 50/500 mcg per inhalation GlaxoSmithKline</p>		<p>SEREVENT® DISKUS® Inhalation Device (Salmeterol xinafoate) 50 mcg per inhalation GlaxoSmithKline</p>				
								
<p>FLOVENT® HFA (Fluticasone propionate) Available in 50, 125 & 250 mcg per inhalation GlaxoSmithKline</p>		<p>ADVAIR® MDI (Salmeterol xinafoate/fluticasone propionate) Available in 25/125 & 25/250 mcg per inhalation GlaxoSmithKline</p>		<p>SPIRIVA® HandiHaler® Inhalation Device (tiotropium bromide monohydrate) 18 mcg per inhalation Boehringer Ingelheim</p>				
								
<p>PULMICORT® TURBUHALER® (Budesonide) Available in 100, 200 & 400 mcg per inhalation AstraZeneca</p>		<p>SYMBICORT® TURBUHALER® (Budesonide/formoterol fumarate dihydrate) Available in 100/6 & 200/6 mcg per inhalation AstraZeneca <small>* May also be used as a reliever medication.</small></p>		<p>OXEZE® TURBUHALER® (Formoterol fumarate dihydrate) Available in 6 & 12 mcg per inhalation AstraZeneca <small>** May also be used as a reliever medication.</small></p>				
				RELIEVERS (Short-Acting Bronchodilators)				
<p>ALVESCO® (Ciclesonide) Available in 100 & 200 mcg per inhalation ALTANA Pharma AG</p>		<p>QVAR™ (Beclomethasone dipropionate) Available in 50 & 100 mcg per inhalation 3M Pharmaceuticals</p>						
		<p>VENTOLIN® HFA (Salbutamol sulfate) 100 mcg per inhalation GlaxoSmithKline</p>		<p>VENTOLIN® DISKUS® Inhalation Device (Salbutamol sulfate) 200 mcg per inhalation GlaxoSmithKline</p>		<p>BRICANYL® TURBUHALER® (Terbutaline sulfate) 0.5 mg per inhalation AstraZeneca</p>	<p>ATROVENT® HFA INHALATION AEROSOL (Ipratropium bromide) 20 mcg per inhalation Boehringer Ingelheim</p>	<p>AIROMIR™ INHALATION AEROSOL (Salbutamol sulfate) 100 mcg per inhalation 3M Pharmaceuticals</p>
<p>This is not a complete list of available agents. Please consult the CPS for others.</p>								



**VIII. NURSING
MANAGEMENT**



Turn:
the clear base



Open: the green
cap and close
your lips around
the mouthpiece



Press: the
dose-release
button and
inhale the mist

ASTHMA EDUCATION

Use the Pediatric Asthma Education Checklist as a guide to teach all parents these essentials:

A

AIRWAYS

- Review the basics of asthma

Normal bronchioles



Asthmatic bronchioles



#Asthma

S

SYMPTOMS

- Review symptoms & asthma control



T

TECHNIQUE
& TRIGGERS

- **This is a must do!!**
- Assess technique & demonstrate optimal technique



H

HELP

- Discuss when & where to go for help
- Give the two handouts below



M

MEDICATIONS

- Review how medications work & when they should be used



A

ASTHMA
ACTION
PLANS

- Encourage completion of an Action Plan with Family Physician



A

Assess



Mild?
Short term breath,
wheezes, cough, chest
tightness.

Moderate?
Loud wheezes, breathing
difficulty, can only speak
in short sentences.

Severe?
Distressed, gasping for
breath, difficulty speaking
two words, blueness
around the mouth.

If the person has severe
asthma or is frightened,
call an Ambulance 111.

S

Sit



Sit the person
upright and stay
with them.

If mild, treat with
2 doses of reliever
inhaler.

T

Treat



Treat 6 doses of any blue
reliever inhaler.



The type of inhaler
should be used with
a spacer. One puff of
medicine at a time.
Use 6 breaths per puff.

H

Help



If not improving after
6 minutes, call an
ambulance. Continue
to use the blue inhaler
6 doses every 6 minutes
until help arrives.

Remember

- 6 doses of medication
- 6 breaths per puff
- 6 minute wait

In this situation, you
will not overdose the
person by giving them
the reliever every few
minutes.

M

Monitor



If improving
after 6 minutes,
keep monitoring.

If necessary,
repeat doses of
blue inhaler.

A

All OK!



When free of
wheeze, cough or
breathlessness,
return to quiet
activity.

If symptoms recur
repeat treatment
and rest.

See your doctor.



IX. CURRENT TRENDS



An anatomical illustration of the human respiratory system, showing the trachea, bronchi, and lungs. The illustration is rendered in a blue and yellow color scheme. The trachea and bronchi are highlighted in yellow, while the lungs are shown in a translucent blue. The background is a dark blue gradient. A central black banner with yellow text is overlaid on the image.

Additional Information

G -Global

IN -Initiative for

WORLD ASTHMA DAY

A -ASTHMA

5

LUNGS



6

ASTHMA

WORLD ASTHMA DAY

“MAY 6TH 2014”



THANK YOU