

Asthma Manual For Schools

Steps To Create A Safe & Clean Environment For Students



This Manual is Available in 11 Indian Languages

Guide For Schools To

Understand Childhood Asthma
Build an Asthma Management Plan
Be Prepared for Asthma Emergency

A Must Read For

Teachers & Parents
School Administration
& Management

This Manual May Help You Save A Life

Supported By
Ministry of Environment Forests and Climate Change

An Initiative of
Lung Care Foundation



Asthma Manual for Schools

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Asthma Manual For Schools

A comprehensive guide for schools to:

Understand childhood asthma
Build an asthma management plan
Be prepared for asthma emergency

This manual was originally compiled in English. However, we felt that this manual should reach every school in our country. With this aim in mind, the Lung Care Foundation took upon itself the task of translating the manual to all the major regional languages of India.

We are deeply indebted to the following members of our Medical Advisory Board for helping us in realising the dream of making the benefits of this manual reach millions of children.

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Lung Care Foundation is deeply indebted to Mr. Lalit Gupta from Sunrise printers for coordinating the mammoth task of translating this manual into 10 different languages.

डॉ. हर्ष वर्धन
Dr. Harsh Vardhan



भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्री
GOVERNMENT OF INDIA
MINISTER OF ENVIRONMENT, FOREST &
CLIMATE CHANGE



FOREWORD

Asthma has become one of the most common chronic disease among children in India today. It causes school absenteeism, affects the student's academic performance and prevents children from participating in important school activities and social interactions from a young age. As such, all parents, guardians, medical care providers and school staff who are in contact with students showing symptoms of asthma/diagnosed with asthma have an important role to play as part of an effective asthma management initiative.

The “**Asthma Manual for Schools**” is a well-prepared manual to help all stakeholders in the school eco-system to understand the basics of asthma and offer reasonable and implementable solutions towards creating an environment where Asthma is effectively managed and children with asthma can be healthy, happy and lead an active school life.

I would like to congratulate Lung Care Foundation for compiling this detailed yet simple manual.

From my personal experience from the Pulse Polio Campaign, I'm sure with the combined efforts of the Teachers, School administration, Parents and Children, we will be able to create an **Asthma supportive environment in schools** and ensure the safety of every child in our country.

Date: 10.08.2018


(Dr. Harsh Vardhan)



Ministry of Environment, forest and Climate Change
Government of India



Cycle to school if you live less than a km away.

Save up to Rs 3000 annually on fuel cost; Reduce annual CO2 emission by 111KG



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Practice car-pooling to combat air pollution

Reduction in number of vehicles on road will lead to reduction in Air Pollution



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Don't Use Fresh Paper For Rough Work

Re-use old paper for rough work; It takes average 5L of water to produce 1 piece of A4 Paper.

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Why this Manual

While researching for what should be the campaign for World Asthma Day 2018, we stumbled upon the issue of asthma management in schools. Though there is a lot of content available which covers asthma basics, there is hardly any content available on asthma management in schools. With an increasing number of children with asthmatic tendency in India, such information becomes all the more important. We released a short video on asthma management in schools on World Asthma Day and were overwhelmed by the response. When we further interacted with school teachers & management, they all shared their concern about this problem and the necessity for a standardized comprehensive material. This gave birth to the idea of **Asthma Manual for Schools**. I've had asthmatic tendency in school and it was proactive measures taken with the support of friends, teachers, school support system and parents which helped me lead a normal life and never be afraid of an asthma emergency. This manual is a compilation of simple, easy to understand information to know about childhood asthma and the best practices that schools can implement to provide a safe and supportive environment for the children.

Abhishek Kumar
C.E.O. & Co-Founder
Lung Care Foundation

How to Use this Manual

The information and recommendations provided in this manual are evidence-based responses to the asthma-related needs of schools in India. This manual is designed to be used by any member of the school community, including:

- ▶ **Teachers and school health in-charge**
- ▶ **School administration & management**
- ▶ **Parents of students with asthma**
- ▶ **Students having asthma themselves**

The manual is divided into 2 sections. The **first section** provides a brief overview of the disease itself, focusing on the symptoms, triggers and common medicines for children with asthma.

The **second section** provides steps for creating an asthma policy for schools to create a supportive and friendly school environment. This section also contains **must have** information to manage asthma emergencies. **Annexures** include a sample questionnaire which schools should give to the parents to be filled by their doctor and a checklist for schools to ensure that they make the most of this manual.

Section - 1

Asthma: An Overview

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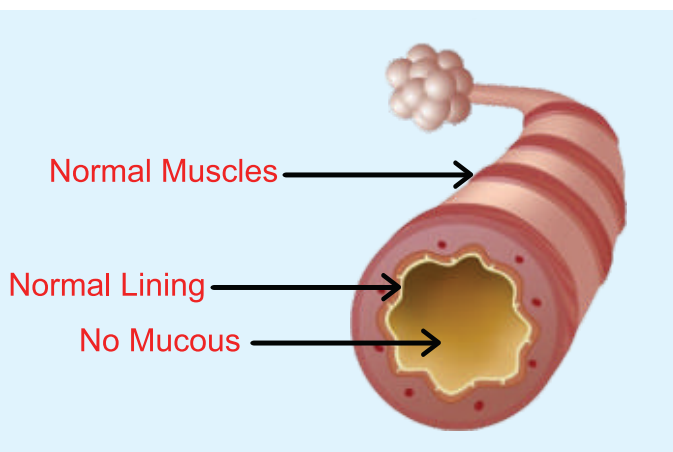
1.1 What is Asthma

Asthma is a long-term condition of the airways (breathing tubes) in which the airways become narrow leading to increased resistance to breathing.

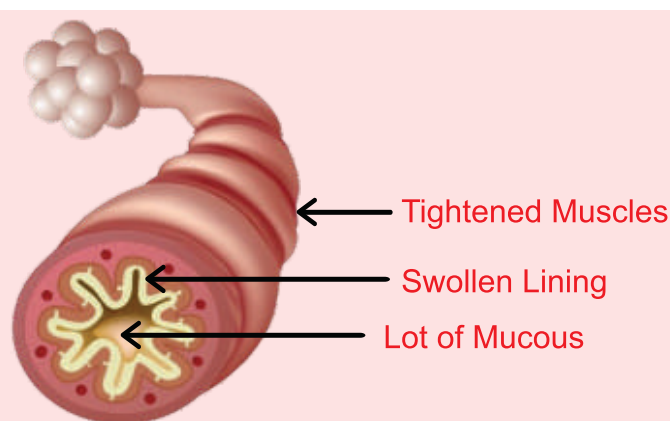
This narrowing is caused by:

1. Swelling of the lining inside the airways.
2. Tightening of the muscles wrapped outside the airways, reducing their width.
3. Excess mucus production in the lining of the airways, further narrowing them.

Normal Airway



Asthmatic Airway



Children with asthma have highly sensitive and irritable airways. These sensitive airways react to certain irritants in the environment called **triggers**. When these children come in contact with one of their triggers, the changes mentioned above take place, that cause or aggravate the narrowing of the airways, making it difficult to breathe. Sometimes the trigger may be known, whereas many-a-times asthma occurs without any known trigger.

The children with asthma have symptoms of cough, chest tightness, wheezing (whistling sound from chest) and breathlessness. The severity of these symptoms depends on the extent of narrowing of the airways.

- ▶ In its mildest form, asthma may present only with a persistent cough and breathlessness on exertion. As the narrowing and obstruction increase, the cough and breathlessness increase.
- ▶ In its severe form, the airflow to the lungs is compromised to the point of reducing the oxygen levels in the blood.
- ▶ In its severest form, **it can lead to dramatic narrowing or even closure of the airways and can even be life-threatening.**

Asthma can be part of an allergic tendency which is often associated with running nose (frequent attacks of common cold) and skin & eye allergies.

1.2 What are Asthma Triggers

Asthma triggers are substances in our surrounding that may start an asthma episode or aggravate asthma symptoms. Please keep in mind that not all students having asthma share the same triggers. Each student may have his/her own set of triggers that may or may not have been identified by the parent/care provider. Some children may have no known Asthma triggers.

Common asthma triggers in India are: Episodes of viral or bacterial infections, house dust (dust mites – not visible to the naked eyes) from carpets, curtains, cushions, mattresses and fur toys, tobacco smoke, atmospheric air pollution (indoor & outdoor), iced drinks, pollens, pets, some food articles, cold air or certain medicines (aspirin and other painkillers). In a small percentage, exercise can be a trigger. **(majority of children with well controlled asthma can do normal exercise.)**

Emotional stress due to any cause is an important asthma trigger.



ASTHMA TRIGGERS

1.3 Symptoms and How to Recognize an Asthma Emergency

It is important to recognize asthma in a child to provide immediate care and then inform the parents. It is also important to educate children about the early symptoms of an asthma episode or attack such that they can alert their parents / healthcare providers and get appropriate treatment.

The common symptoms of asthma include:

1. Coughing, breathing difficulty (labored breathing)
2. Wheezing (whistling sound during breathing), tightness of the chest
3. Easy tiredness, inability to concentrate
4. Disturbed sleep

Many a times, children may not complain of breathlessness. Persistent dry cough, wheezing and frequent bouts of cold may be the only initial symptoms of asthma.

Common Asthma Symptoms:



Frequent
Coughing



Shortness
Of Breath



Feeling
Tired



Wheezing



Chest
Tightness



Disturbed
Sleep

Symptoms of an Asthma Emergency are:

- ▶ Extreme breathing difficulty
- ▶ Irregular breathing pattern
- ▶ Child cannot speak full sentence without break
- ▶ Lethargy
- ▶ Blue lips or nails
- ▶ Losing consciousness

In extreme cases, when the attack is very severe, the child may turn blue, become drowsy or unconscious and attack may even be fatal, if not treated immediately.

1.4 Medicines for Asthma

1.4.1. Asthma Medicines : Reliever & Controller

Knowledge of asthma medicines will empower you to help the children with asthma, manage their condition better. **Medicines are an essential part of asthma management. Asthma can be effectively controlled by proper use of medicines. There are 2 type of medicines.**




These medicines should be given by inhalers. It provides immediate effect and requires much smaller dose of medicines with less side-effects.

Reliever Medicines	Controller Medicines
<ul style="list-style-type: none"> ▶ Known as: Bronchodilators (medicines that open the airway) ▶ Used for immediate control of an acute asthma attack <ul style="list-style-type: none"> ▶ Do not provide long-term control ▶ Do not address the primary disease in the airways, but provide immediate relief from cough, wheezing, chest tightness and breathlessness. ▶ Act by relaxing the tightened muscles that cover the airways of the lung. ▶ Reliever medicines: <ul style="list-style-type: none"> ▶ Salbutamol ▶ Terbutaline 	<ul style="list-style-type: none"> ▶ Known as: Disease Modifiers (medicines that prevent the attack) ▶ Used for long term control of asthma on a regular basis <ul style="list-style-type: none"> ▶ Do not control an acute attack ▶ Make airways less irritable and less reactive to asthma triggers, thus preventing asthma attacks and improving quality of life. ▶ Act by reducing swelling and mucus production in the airways. ▶ Controller medicines: <ul style="list-style-type: none"> ▶ Inhaled Steroids w Fluticasone, Budesonide ▶ Inhaled long-acting bronchodilators w Salmeterol, Formoterol ▶ Combination of both
<p style="text-align: center;">Inhaled Salbutamol is currently the best method for control of an acute asthma attack.</p>	<p style="text-align: center;">Combination of inhaled steroids and inhaled long-acting bronchodilators is currently the best method for long-term control of asthma.</p>
<p>Knowledge of reliever medicines is ESSENTIAL for school staff as these may need to be given to children in school in the event of an acute attack – even before a doctor is called in.</p>	<p>Controller medicines are prescribed by doctors. Please encourage children to take them as per doctor’s advice. Details of controller medicines are provided here to give a complete picture of asthma medicines.</p>

1.4.2. Inhaler Devices for Asthma

- ▶ Method of delivering medicine directly into the airways of lungs (just as we put eye-drops for eye conditions).
- ▶ Use medicines in micro-particle form so as to reach the peripheral most part of the lungs where it is required to act.
- ▶ Provide immediate effect in small dose (micrograms), side-effects are less.

These require a device and proper technique for appropriate use. The Inhaler devices are:

Metered Dose Inhaler (MDI)	Dry Powder Inhaler (DPI)	Nebulizer
 <p>Medicine is in aerosol form in a metallic chamber</p> <p>To be shaken and inhaled.</p> <p>Should always be used with spacer</p>	 <p>Medicine is in powder form in capsules</p> <p>Capsule inserted in the device, broken and then inhaled.</p> <p>Should be used only for children above 10 years</p>	 <p>Medicine is in liquid form, in small plastic containers (respules)</p> <p>Nebulizer machine converts the liquid medicine into mist, which is inhaled through a mask.</p> <p>Used in emergency to give reliever medicines</p>

The fundamental requirement for inhaler devices to be effective is to ensure delivery of the medicine into the airways of the lungs. If due to the faulty technique of inhalation, the medicine gets delivered mainly into the throat (as is OFTEN the case), it will NOT provide the expected relief and will also increase the side-effects.

1.4.3. How to use Inhaler Devices Properly

Metered Dose Inhalers (MDIs):

- ▶ MDI is a metallic chamber filled with medicine in an aerosol form. On pressing its top, a measured dose of the medicine is released.
- ▶ For proper effect, it is essential that this delivery of the dose is coordinated with taking a long deep breath so that the medicine gets carried with the breath into the lungs.
- ▶ If this accurate timing is not achieved, the medicine will get deposited in the throat and will not reach the lungs. This happens most of the times with children. The medicine is taken from the Inhaler through a device called spacer or holding chamber, to avoid this problem.

Always Use MDIs with Spacer

Role of Spacer

- ▶ Spacer is a plastic chamber with a slot for inhaler at one end and mounthpiece for breathing on the other. With the use of a spacer, the medicine first gets transferred from the inhaler to the chamber of the spacer and then to airways in the next 4-5 breaths. This ensures effective delivery of medicine into the airways.
- ▶ Spacer is available in a small size (with mask) for children under 5 years and a regular size for children above 5 years. (figures below)
- ▶ We strongly recommend that all MDIs should be used with a spacer, as per steps below:

Step 1



Take the cap off the inhaler and shake it well.

Step 2



Place the mouthpiece of the inhaler firmly into the end of the spacer.

Step 3



Place the mouthpiece of the spacer into your mouth and seal the lips around it.

Step 4



Breathe out through the mouth to empty the lungs. Press down on the inhaler once.

Step 5



Take one slow deep breath in through your mouth & hold your breath for 5–10 seconds. If it is difficult to hold your breath, take 4 slow breaths in and out.

Using MDI through spacer

Video available at :
<http://www.lcf.org.in/as>

Image credit:
<http://healthywa.wa.gov.au>

Dry Powder Inhalers (DPIs):

- ▶ Medicine is in powder form in capsules. Capsule is inserted in a device called dry powder Inhaler which breaks the capsule.
- ▶ The user has to inhale through the mouthpiece of the device at a very high speed during which the powder goes into the airways with the deep breath. After deep breath, stop breathing for as long as possible to allow medicine to settle down in the lungs.
- ▶ For the success of this device, breathing in at high speed is essential so that the whole medicine goes in one breath into the lungs. Otherwise, like MDIs, the medicine will end up in the throat. Due to this reason, DPIs can only be used by children above 8-10 years of age.



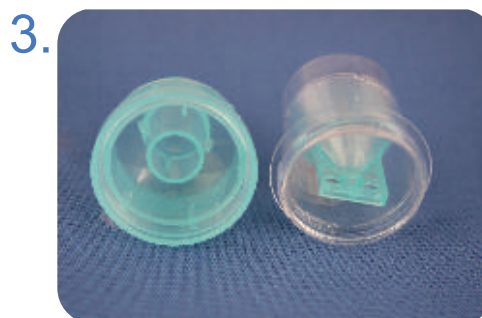
Dry Powder Inhaler & Capsule

1.4.4. Nebulizer for Asthma Emergency

A nebulizer is used during an acute attack of asthma which is not relieved by above-mentioned methods or when the attack is severe and the child is unable to use the inhaler.

- ▶ **Nebulizer**, in itself, is not an asthma medication. It is a small electric device with a mechanical pump which delivers air under pressure into a chamber with liquid medicine. (Fig. 1-3)
- ▶ This converts the liquid medicine into fine mist which can be inhaled with normal breathing through a face mask. (Fig. 4)
- ▶ This process usually takes 5-10 mins for which the mask should be on.
- ▶ Nebulizer does not need any cooperation by the child and ensures delivery of asthma medicine to all parts of the lungs, immediately relieving symptoms.

This is the most effective form of asthma therapy and should be available in all schools, to be used by the school staff in an asthma emergency.



1. Nebulizer Machine
2. Reliever Medicine in liquid form (Respule)
3. Chamber for Medicine
4. Face Mask & Delivery Tube

What medicine is given through Nebulizer

A nebulizer is meant for immediate effect in emergency situations. Therefore, reliever medicine (usually **Salbutamol**) is given through nebulizer.

How frequently can nebulizer be used

Nebulizer has an immediate effect after complete inhalation of the medicine (5-10 mins). However, if the response is not there, the medicine can be repeated every 20 minutes. If the child is not showing improvement, child should immediately be shifted to a hospital, with nebulizer and oxygen on.

1.4.5. How to use nebulizer properly

The correct use of a nebulizer is described in the pictures below:



Step 1. Plug-in, connect tube to air outlet



Step 3. Close the chamber, connect mask & start the machine



Step 2. Open respule & put medicine in chamber



Step 4. Put the mask on child's face & ask him to breathe normally from the mask

1.4.6. Side-effect of Asthma Medicines

Side-effect of reliever medicines given through inhaler or nebulizer may cause a rapid heartbeat and hyperactivity in children. These side effects are not serious and last for a short while.

1.5 Frequently Asked Questions and Myths about Asthma

▶ Are inhalers very strong and should be the last resort in treatment?

Medicine given by inhalers is in very small amount (micrograms) as compared to medicine given by mouth or injections (milligrams), therefore inhalers should be the first line treatment.

▶ Are inhalers habit forming?

Inhalers are not habit forming. As with any other chronic problem, they need to be used as long as the problem exists. This may be lifelong.

▶ Can you stop inhalers / other medicines on your own if you are feeling alright?

Children should be advised to take inhalers and other asthma medicines regularly as per the doctor's advice and not stop them during school time as children often tend to do. These medicines need to be taken as prescribed, even if the child is feeling alright.

▶ Why MUST an asthmatic child always carry an inhaler?

In children with asthma, aggravation of symptoms can occur anytime, anywhere and without any obvious cause also. It is **necessary** for all asthmatic children to carry their inhalers and other medicines as prescribed by the doctor in their bag at all times. **During parent-teacher meetings, the teachers must emphasize this point to the parents.**

▶ How to store and keep the inhaler?

The Inhalers should be stored inside a clean pouch / case and carried by children in their school bag at all times. They should not be exposed directly to sunlight and should not be used as a toy.

▶ Can a child with asthma lead a normal life?

A child with asthma can lead a normal life and be active in sports also, if the asthma is well controlled.

▶ Should children with asthma avoid milk and yogurt?

Unless documented food allergy is there, there is no need to avoid milk, yogurt, rice etc.

▶ Can school teachers give inhalers themselves?

We do not recommend school teachers to give a new medicine in a **routine situation**. However, it is acceptable to give a medicine already prescribed by the child's doctor. In case of **asthma emergency in school**, it is justified to give MDI / nebulizer with **reliever medicine (Salbutamol)** immediately. **Reliever medicine will do no harm, even if the child doesn't have asthma.**

Section - 2

Coping with Asthma in Schools Policy & Action Plan

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2.1 Why Should Schools be concerned about asthma?

5-10% of school going children suffer from asthma. Thus, in a school with 2000 children, there will be 100-200 children with asthma. Children with asthma can lead normal life including competing in sports at the highest level, if asthma is well controlled.

Poorly controlled asthma can lead to:

- ▶ Retardation of physical growth of a child
- ▶ Psychological impact from absenteeism and inability to keep up with the peer group.
- ▶ Frequent visits to medical care facilities.
- ▶ **Severe (even life-threatening) asthma attack in the school requiring immediate attention**

All the above are preventable and thus it is extremely important that school leadership and staff understand the presence and the magnitude of this problem and take proactive measures to nurture and maintain an asthma friendly environment and an emergency asthma management plan as part of their commitment to the safety, health, and well-being of their students.

This Program needs :

- ▶ Commitment on the part of school leadership
- ▶ Awareness and proactive planning on the part of school staff
- ▶ Interaction of school staff with parents of asthmatic children
- ▶ Negligible expenditure

The returns for the school are Invaluable!!

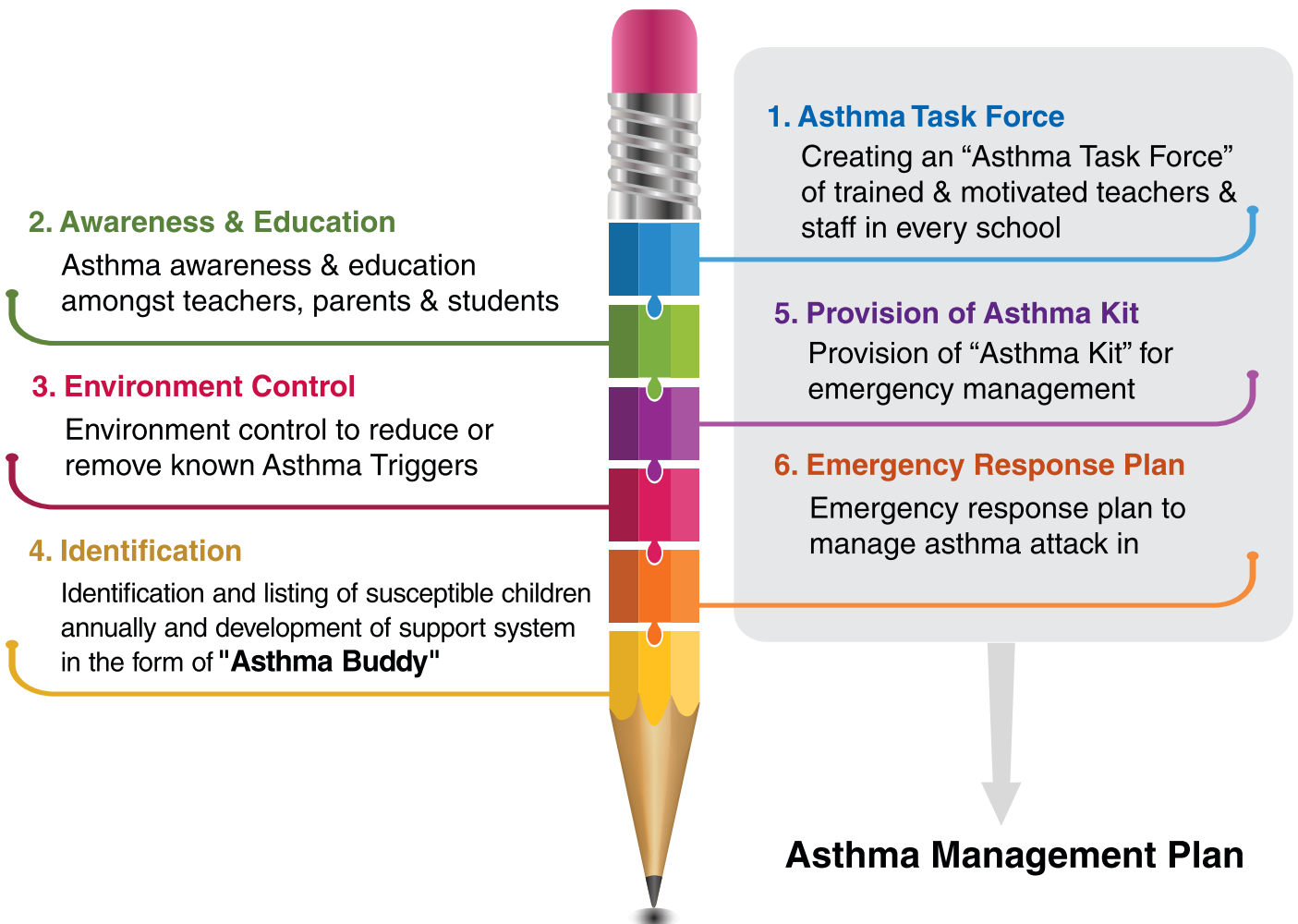
Asthma Treatment in Children is a Team Work

- ▶ The child
- ▶ The parents & family members
- ▶ The doctor
- ▶ The medicines
- ▶ School teachers & administration
- ▶ School friends
- ▶ **Positive & proactive attitude of ALL**



2.2 Asthma Policy for Schools

Asthma is a common problem in children now and its incidence is likely to increase with increasing air-pollution. Therefore, schools must have an Asthma Policy with following components:



2.2.1. Creating an "Asthma Task Force" of trained & motivated teachers & staff in every school.

The first step towards coping with asthma in schools is to create a dedicated asthma task force of trained and motivated teachers and staff in every school. If the school has a doctor/ nurse, they should be part of this task force. This task force will implement the school's Asthma Policy.

- ▶ These 4-5 personnel should know about asthma and the basics of it's management.
- ▶ They should be trained to carry out the emergency response plan for asthma in case of an emergency. A doctor can do this training.
- ▶ They should have **identified a nearby hospital with emergency facility** and should have a **point of contact** in that hospital (with mobile number readily available).

2.2.2. Asthma Awareness & Education

In order to deal with asthma in schools, **it is necessary** that the students, their parents and teachers are aware of basic information about Asthma. Schools should incorporate asthma awareness and education in school events and activities.

- ▶ This will help the students, parents and teachers to proactively identify the problem and manage it better.
- ▶ It will also help identify & provide timely support in case of an asthma emergency.

An Asthma support group of parents of children with asthma and regular meetings with school staff can be extremely helpful to help teachers understand the child's care better and also provide comfort to parents knowing that their child is in caring hands.

Who Should Have Asthma Education



All School Staff

Staff members such as teachers, administrators and anyone else who may be responsible for the student should have basic information about asthma. They should also be advised to talk to parents & encourage them to share information about their child's asthma. It is a common practice for parents to hide this information. A knowledgeable and motivated teacher will be able to develop a better rapport with the parents and get this information.



Parents/guardians of students with asthma

Spreading awareness among the parents of asthmatic children leads to better disease management at home and at school, thus ensuring the student's progress in terms of both personal health and overall well-being.



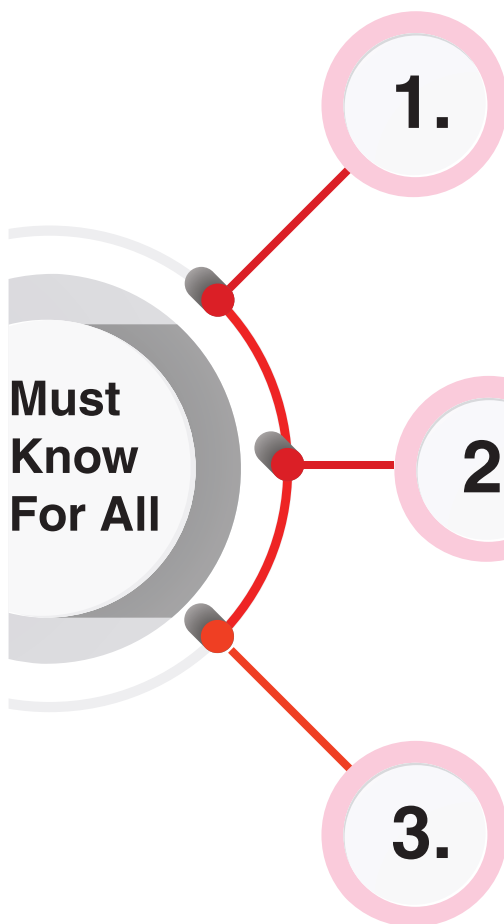
All students

Asthma education should not be restricted to only those students who have asthmatic tendency. All students should participate in school-organized asthma awareness and education activities, understand asthma and should know how to respond in the event that a classmate has an emergency.

Asthma: Awareness & Education

What Everyone Must Know:

The relevant information about asthma is already provided in Section 1 of this manual. However, the important points are repeated herein:



When to suspect Asthmatic Tendency

If a child coughs frequently, gets breathless earlier than his peers, is reluctant/unable to do physical activity and is detected to have wheezing (whistling sound on breathing), the teachers should suspect and encourage the parents to get the child examined by a doctor to confirm/rule-out asthmatic tendency.

Common Asthma Triggers

Viral infections like common cold and flu, dust and dust mites, high levels of air pollution, smoke from any source, cold weather and chemicals like paint etc. are common asthma triggers in India.

Awareness will help teachers to identify presence of any of these as possible triggers in school children.

Identifying an Asthma Attack

In the event of an acute attack, the child may have increase in cough, feel difficulty in breathing, wheezing (whistling sound on breathing), not able to speak without breaks and his lips and nails may turn blue. The child may even become unconscious and unresponsive (a life threatening situation which needs an **immediate response**).

2.2.3. Environment Control in Schools

An unhealthy school environment can negatively impact the health of students with asthma and even cause health-related illnesses in those without asthma. Children with asthmatic tendency may or may not have a known trigger and theoretically anything can be a trigger. However, following is a list of common asthma triggers and strategies to reduce the exposure of students:

Common Asthma Triggers	Subsequent Action Plans
Infections (both viral and bacterial) - Cold, flu, sinusitis, influenza etc.	<ul style="list-style-type: none"> ▶ Maintenance of proper hygiene in schools by using soap, paper towels. ▶ Treat the infection appropriately.
Smoke from any source: Cigarette, wood, leaf burning, coal, kitchen, industrial smoke etc.	<ul style="list-style-type: none"> ▶ Maintenance of a strict no smoking policy within school premises. ▶ Prevent exposure to smoke from other sources with extra caution for students with Asthmatic tendency.
Air Pollution	<ul style="list-style-type: none"> ▶ Check air quality levels from closest available monitors. ▶ On days of very poor air quality, outdoor sport activities should be curtailed.
Dust mites - tiny insects (not visible to naked eyes) found in the fiber of carpets, upholstery, curtains and stuffed toys.	<ul style="list-style-type: none"> ▶ Avoid scrubbing of carpets. ▶ Carpets/upholstery and curtains etc. should regularly be washed.
Exposure to cold air	<ul style="list-style-type: none"> ▶ During winter, encourage students to wear warm clothes including a scarf to help keep them warm.
Pests - cockroaches etc.	<ul style="list-style-type: none"> ▶ Proper food waste and garbage disposal

2.2.4. Identification and Listing of Asthmatic Children Annually & Asthma Buddy

Well informed is well prepared. In order to proactively support students having asthma, schools should be aware of the students who have been diagnosed with asthma, their action plan, and inform about their condition to at least 1 classmate and the class teacher.

Specifically, schools should focus on:

- ▶ **Annual updating of list of students** with asthmatic tendency & documentation of management plan for individual students with asthma
- ▶ **Inform class teacher about the children at risk in the class and their management plan**
- ▶ **Encourage an Asthma Buddy** (classmate) for each asthma student.

These are
described in detail
below:

Annual updating of list of Students with asthmatic tendency & documentation of management plan for individual students with asthma:

- ▶ A ready database of all students having asthma makes it easier for the school to identify and respond to asthma episodes in a timely and organized manner.
- ▶ Schools should give a standard questionnaire to the parents of all students seeking relevant information with respect to whether their child suffers from asthma, and if yes, then what are their triggers, medication and emergency action plans.
- ▶ Ideally, this questionnaire should be filled by the treating physician of the child. This documentation will have a supportive role for the schools and reduce their liability in the event of an emergency. Schools and teachers should insist on this questionnaire being filled by child's doctor annually.

Schools must ask parents to inform if child is already diagnosed with asthma and get Asthma management questionnaire for them, from parents, ideally to be filled by a doctor annually.

Inform class teacher about the children at risk in the class and their management plan

- ▶ Class teachers **MUST** be aware of Students with Asthma in their class.
- ▶ They should have a copy of the Asthma Management Plan for these children.
- ▶ They should ensure that the child carries his medicines and takes it timely. Teachers should encourage and find an asthma buddy for these children.
- ▶ They should be well aware of the symptoms of an acute attack, should be able to identify it at the earliest and respond immediately.

Encourage an Asthma Buddy (classmate) for each asthma student:

- ▶ Classmates can play a crucial role in early identification of an asthma attack and providing immediate support.
- ▶ 1-2 classmates of each asthma student can be assigned the role to be his asthma buddy. These students should be specially informed about the condition of the child, the common symptoms to look out for and the triggers that aggravate his condition.
- ▶ They should be informed about the medication he/she carries and how to use it.
- ▶ This will help provide comfort to the child with asthma, their parents and also help school with immediate response.

2.2.5. "Asthma Kit" for Schools

Why every school must have an Asthma Kit?

Children spend 6-7 hours in school every day and are active during this time. Every school will face an asthma emergency sometime or the other. This requires "immediate response" which should be provided by the trained Asthma Task Force of the school before shifting the child to a hospital or waiting for medical help. This will prevent a life-threatening situation. **Thus, it is necessary for each school to have an Asthma Kit.**

The components of an asthma kit are:

- ▶ **Metered Dose Inhalers and Spacer**
(Salbutamol Medicine)
- ▶ **Nebulizer**
(with Salbutamol respules)
- ▶ **Pulse Oximeter**
Equipment to measure oxygen saturation
- ▶ **Prednisolone tablets**
10 and 20 mg and syrup of Prednisolone
- ▶ **A small oxygen cylinder**
In case a doctor or trained Nurse is available, a small oxygen cylinder with delivery system like face masks or nasal prongs.



Asthma Kit: A Must For Every School

Where should you keep Asthma Kit:

- ▶ Complete asthma kit should be present in the medical room (if any), or in a well-ventilated spacious room with few chairs.

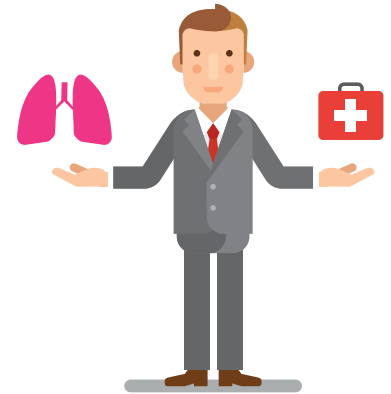
Inhaler with reliever medicine (Salbutamol) and spacer should be present:

- ▶ in each building of the school
- ▶ in the sports complex
- ▶ must be taken along in first-aid kit on school excursions / picnic.

2.2.6. Emergency Response Plan for Asthma attack in schools

For effective management of an asthma emergency, every school should have:

- ▶ List of children with asthma/ wheezing/ bronchitis along with their asthma management plan readily available
- ▶ General Asthma management plan that can be used for all children even if they do not have their own asthma management plan
- ▶ Trained Asthma Task Force in Schools
- ▶ School asthma Kit
- ▶ An identified nearby hospital with emergency facility and an identified point of contact
- ▶ Teachers to be aware of steps in case of an emergency



Steps of an Emergency Response Plan Are:

1

Identify an asthma emergency at the earliest and act immediately

2

Carry child to medical room and make him / her comfortable

3

Urgently call members of school Asthma Task Force

4

The task force members assess the child and start treatment immediately as per the severity of symptoms and child's Asthma Action Plan or general asthma management plan described on next page.

5

Parents must be informed but treatment or shifting to hospital (if needed) should not await their arrival. It takes 3 minutes to lose a life.

Identify an Asthma Emergency

Who can identify?	How to identify? All or few of the following may be present:
<ul style="list-style-type: none"> ▶ Child himself ▶ Classmates & friends ▶ Class Teacher 	<ul style="list-style-type: none"> ▶ Sudden onset cough or worsening in cough ▶ Difficulty in breathing ▶ Breathlessness ▶ Chest tightness ▶ Unable to speak full sentences ▶ Wheezing Sound ▶ Child turning blue ▶ Losing consciousness

Carry Child to Medical Room

- ▶ Loosen any tight clothing like neck tie, collar button, remove sweater and open top buttons of the shirt
- ▶ Don't make the child walk or run – it will worsen the condition
- ▶ Carry to medical room/ a well ventilated room
- ▶ Sit the child upright with back support. Don't make the child lie flat as it increases breathlessness
- ▶ **Don't leave the child alone at any time**, stay with and comfort the child

Urgently Call Asthma Task Force Members And Let Them Take Over

- ▶ Call the trained task force members so that they can give immediate treatment
- ▶ Inform the parents and check with them about the prescribed medicines and action plan (if any)
- ▶ Start treatment immediately as described below, don't wait for parents to arrive to start the treatment or take the child to hospital (if needed)

EMERGENCY RESPONSE BY ASTHMA TASK FORCE

MILD TO MODERATE SYMPTOMS

- ▶ Persistent cough
- ▶ Breathlessness, Chest tightness
- ▶ Wheezing (whistling sound)
- ▶ Can speak full sentence without break. **(If not then it's a severe attack)**
- ▶ Usually controlled by giving puffs

Actions for Mild to Moderate Attack:

1. Give 4-6 puffs of reliever medicine (Salbutamol) through spacer immediately (1 puff at a time followed by 5-6 breaths and then repeat)
2. Wait for 5 minutes
3. If no improvement, repeat step 1
4. **If still no improvement -> Follow steps for severe symptoms**

Once the child is comfortable, call the child's parents to inform about the attack and ask them to show the child to their treating doctor.

If child's asthma management plan suggests administration of first dose of prednisolone, give same to the child at prescribed dose.

SEVERE SYMPTOMS (may have all or few of the following)

- ▶ Cannot speak full sentence without break
- ▶ Severe Breathlessness (Gasping for breath)
- ▶ Cough and Wheeze may be present or may disappear
- ▶ Indrawing of lower part of chest
- ▶ Child turning blue
- ▶ Drowsy/ Confused/ Losing consciousness

Actions for SEVERE Attack:

1. Call for ambulance to shift the child, alert your point of contact in identified hospital
2. Start nebulizer as soon as possible with reliever medicine.
3. While nebulizer gets ready, give 4-6 puffs of reliever medicine (blue cap) through spacer immediately.
4. Start reliever medicine through nebulizer as soon as possible, with oxygen if available.
5. Continue nebulizer with reliever medicine & oxygen till ambulance arrives & during transport in ambulance also.
6. 2 teachers must accompany the child to hospital and at no time should leave the child alone.
7. **Do not wait for parents to start treatment or shift the child to hospital.**
8. Call parents directly to hospital.

Child must be taken to hospital as soon as possible, with proper support as mentioned above.

TIME IS LIFE – RUSH, BUT DO NOT PANIC

**RELIEVER MEDICINE (INHALER OR NEBULIZER) IS UNLIKELY TO HARM,
EVEN IF THE CHILD DOESN'T HAVE ASTHMA.**



Asthma Questionnaire for Children



To be filled by Parent

Name : Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female Date of Birth <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> D D M M Y Y Y Y Age: Name of Guardian: Address:	<p style="text-align: center;">Emergency Contact 1</p> Name : Relation: Mobile: +91..... <p style="text-align: center;">Emergency Contact 2</p> Name : Relation: Mobile: +91.....
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To be filled by doctor

Does the child has asthmatic tendency: Yes No

If yes, Kindly fill the following form to enable proper management and control of his/her Asthma:

This child's usual asthma symptoms are: <input type="checkbox"/> Cough <input type="checkbox"/> Wheeze <input type="checkbox"/> Difficulty breathing <input type="checkbox"/> Others (please describe):	Known triggers for this child's asthma: <input type="checkbox"/> Dust & Dust Mites <input type="checkbox"/> Cold & Flu <input type="checkbox"/> Fumes & Odors <input type="checkbox"/> Smoke <input type="checkbox"/> Chemicals <input type="checkbox"/> Exercise Induced <input type="checkbox"/> Others (Please describe) Does the child have any known allergies?	
Regular Treatment: Name of Medicine: Dose: Frequency:	Reliever Medicine: Name of Medicine: Dose: Frequency:	Any Other Medicines:
Doctor's Name :		Signature: Date: / / 20.....

Parent's Signature:

To Download : www.lcf.org.in/as

Checklist For Schools To Be Asthma Ready

S.No. Understanding Asthma			
1.1	Do you know what is Asthma?	Yes	No
1.2	Do you know common Asthma Triggers?	Yes	No
1.3	Can you recognize an Asthma Emergency?	Yes	No
1.4	Do you know what are reliever medicines?	Yes	No
1.5	Do you know what are controller medicines?	Yes	No
1.6	Do you know the type of inhalers?	Yes	No
1.7	Do you know how to use an inhaler properly?	Yes	No
1.8	Do you know what is a nebulizer?	Yes	No
1.9	Do you know how to use a Nebulizer properly?	Yes	No
1.10	Are you aware of Side effects of Asthma medicines?	Yes	No
Coping with Asthma in Schools: Policy & Action Plan			
2.1	Does your school have an Asthma policy?	Yes	No
2.2	Does your School have a Trained Asthma Task Force?	Yes	No
2.3	Does your school have an asthma awareness and education plan?	Yes	No
2.4	Does your school have Environment control for Asthma triggers?	Yes	No
2.5	Does your school Identify & list Asthmatic children annually?	Yes	No
2.6	Are class-teachers aware of Asthmatic children in their class?	Yes	No
2.7	Do asthmatic children have an Asthma Buddy?	Yes	No
2.8	Does your school have an identified nearby hospital with a point of contact?	Yes	No
2.9	Does your school have an Asthma Emergency Plan?	Yes	No
2.10	Does your school have reliever inhalers in your Asthma Kit?	Yes	No
2.11	Does your school have spacer in Asthma Kit?	Yes	No
2.12	Does your school have a nebulizer in Asthma Kit?	Yes	No
2.13	Does your school have reliever medicines for nebulizer in Asthma Kit?	Yes	No
2.14	Does your school have pulse-oximeter in Asthma Kit?	Yes	No
2.15	Does your school have prednisolone tablets and syrup?	Yes	No
2.16	Does your school insist on Asthma Management Plan?	Yes	No
2.17	Is the Asthma Task force of the school trained for initial management of Asthma emergency?	Yes	No

To Download : www.lcf.org.in/as

Acknowledgement

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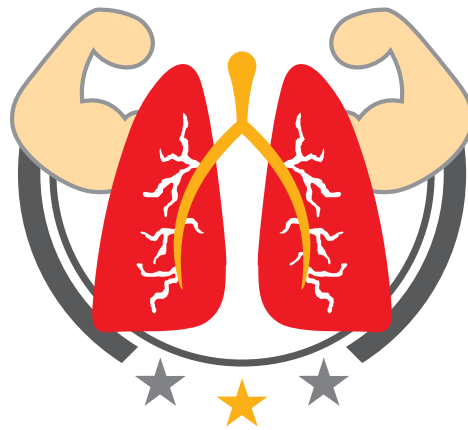
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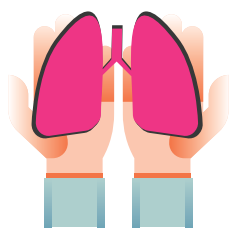
LUNG CARE FOUNDATION

Care & Cure of 2.6 Billion Lungs of India

About Lung Care Foundation

Lung Care Foundation (www.lcf.org.in), a registered not for profit organization has endeavoured to work towards better Lung Health of our citizens, connect people to better health services & awaken citizens towards actions with its committed campaigns on **‘Care & Cure for 2.6 Billion Lungs’** in India.

It plans to achieve its vision through 3 broad verticals:



Awareness

On increasing incidence of Lung diseases including ill-effects of air pollution and the need for immediate actions to control them.



Clinical Care

Through health check-up camps, awareness videos and material on patient health and setting up a nationwide network of trained lung health providers.



Research

Pioneering research in the field of Lung Health specific to the Indian population to help understand trends and empower doctors and people for prevention and cure of Lung diseases.

In continuation of our efforts to garner citizen’s attention to the adverse effects of air pollution on lung health and call for action by citizens themselves, the foundation organized a Guinness World record attempt on 23 December 2017, in Delhi, where 5003 School Children from over 35+ schools of Delhi-NCR, made a Guinness World Record for the largest human image of an organ. The program was a huge success; it was watched by over 1 lakh people in 1 day & #MySolutionToPollution became trending on Twitter with over 5 Crore Impressions. The campaign was appreciated by Hon’ble President of India and Hon’ble Prime Minister of India. Many celebrities also joined the campaign by sending their solutions on our Facebook page.

We continue to work towards our vision through collaboration with Citizens of India, Healthcare professionals, Schools, RWAs, PSUs, Corporate Houses, Start-Ups & others to make maximum impact and work towards the **“Care & Cure of 2.6 Billion Lungs of India”**.



Making Sincere Efforts Towards
“Care & Cure of 2.6 Billion Lungs in India”



5003 Students of Delhi-NCR Create
Guinness World Record For Largest Human Image of An Organ
Against Air Pollution



JOIN OUR INITIATIVE

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Lung Care Foundation

