

Evidence of Health Impact of Air Pollution in Jaipur

Dr Virendra Singh
SMS Hospital, Jaipur



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भारत सरकार
GOVERNMENT OF INDIA



एक
रुपया

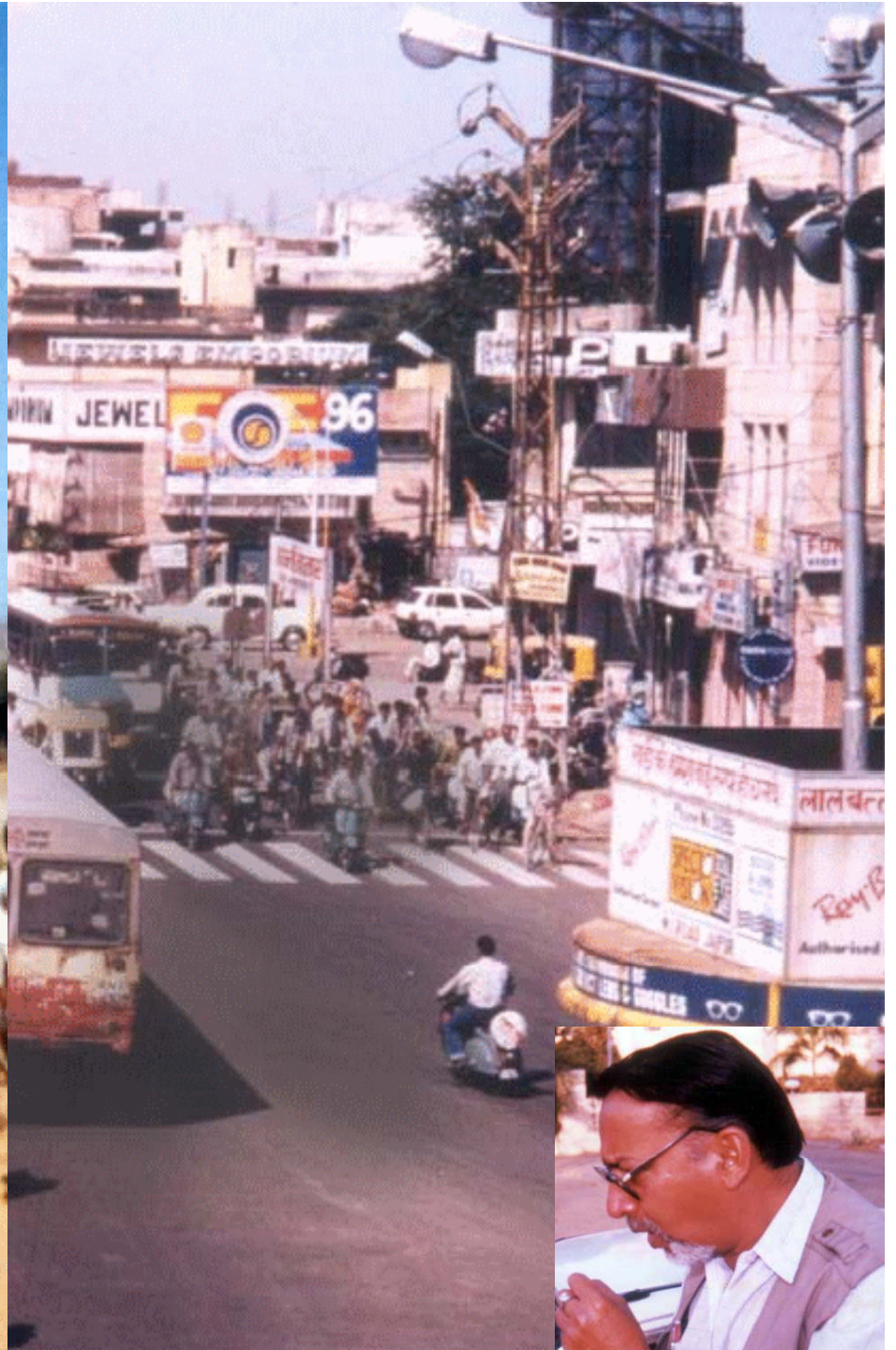
महेश्वर सिंह आहनुनातिश
सचिव, वित्त मंत्रालय

Maheshwar Singh Ahnuna
SECRETARY, M OF FINANCE

ONE RUPEE

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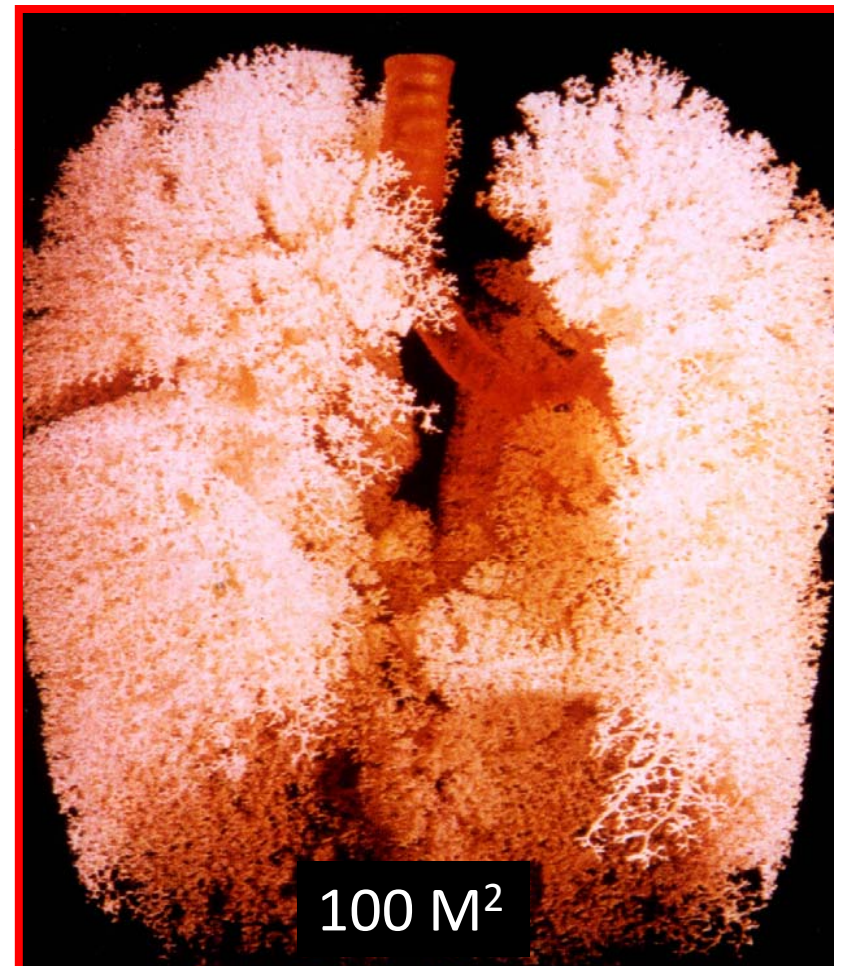


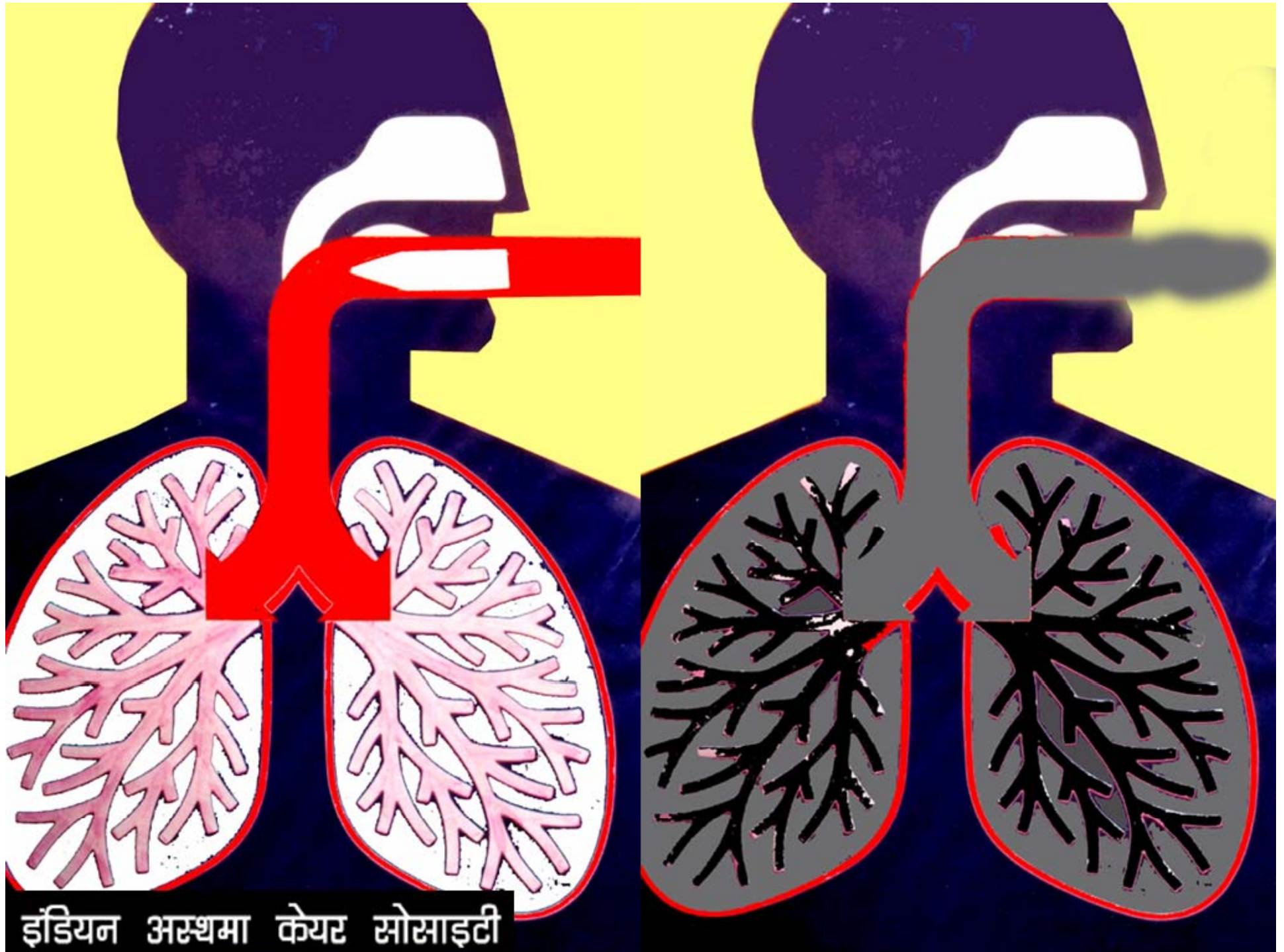


Breathing: 24hr

Need O₂ 400 L

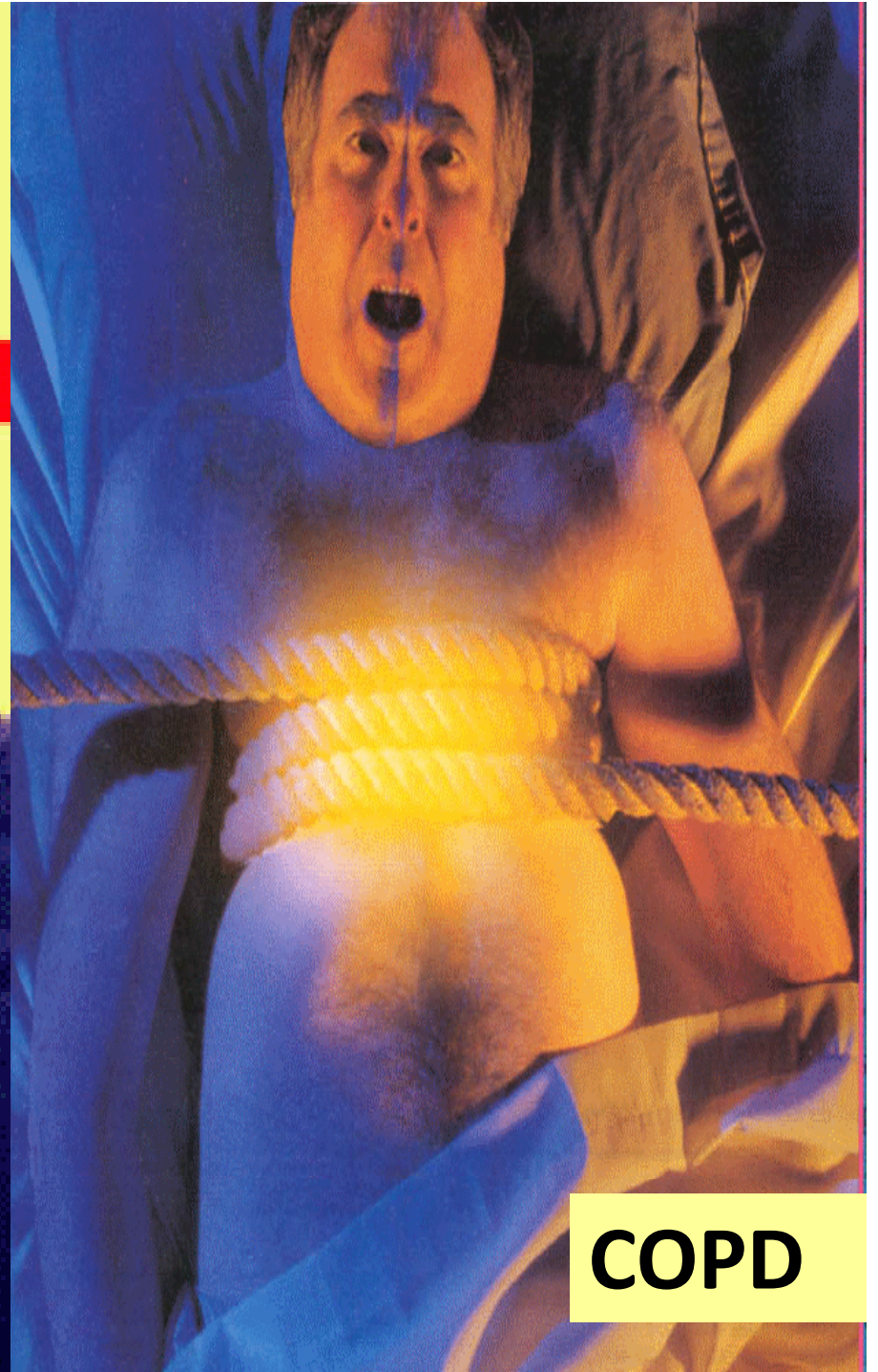
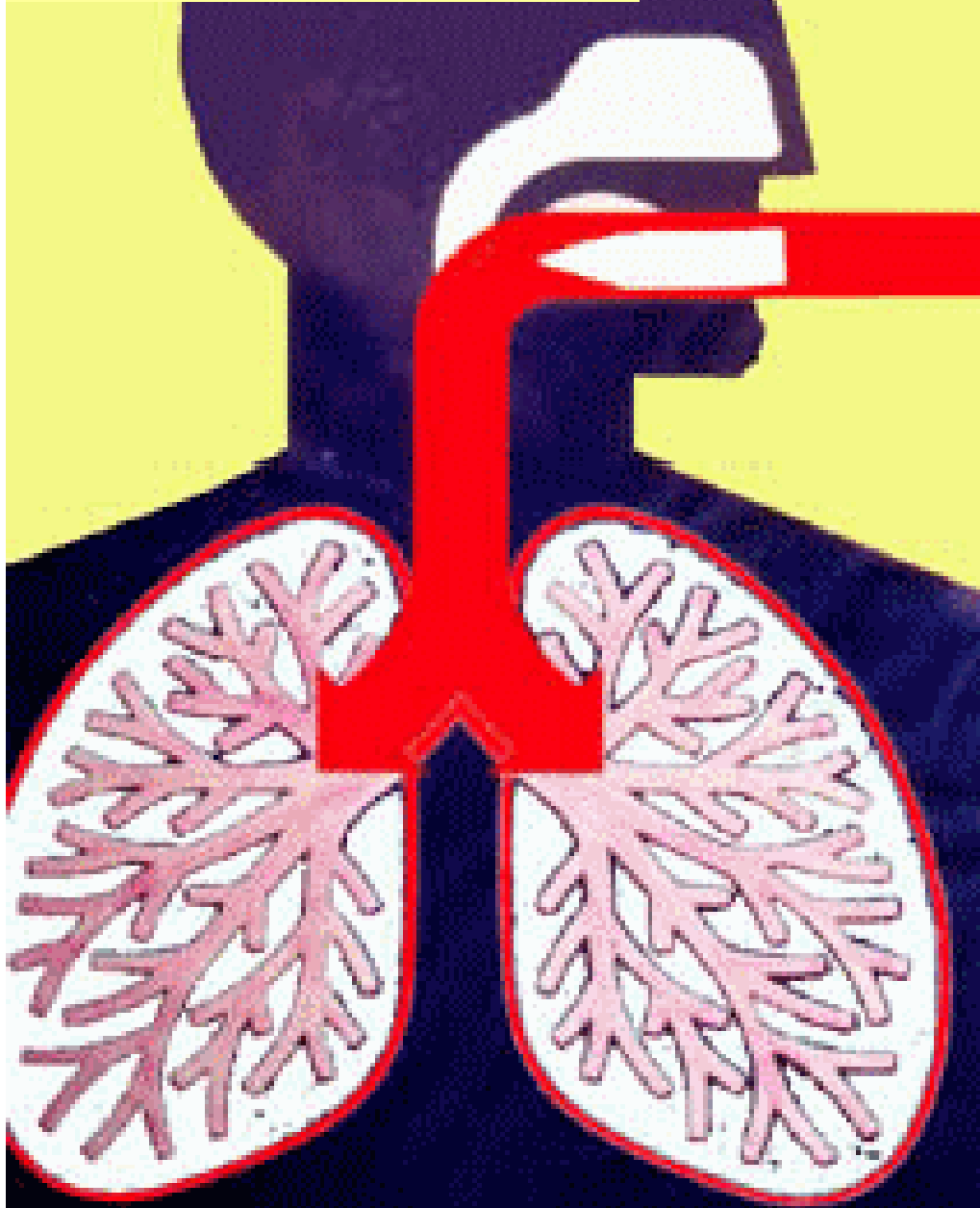
Air 10,000 L Blood



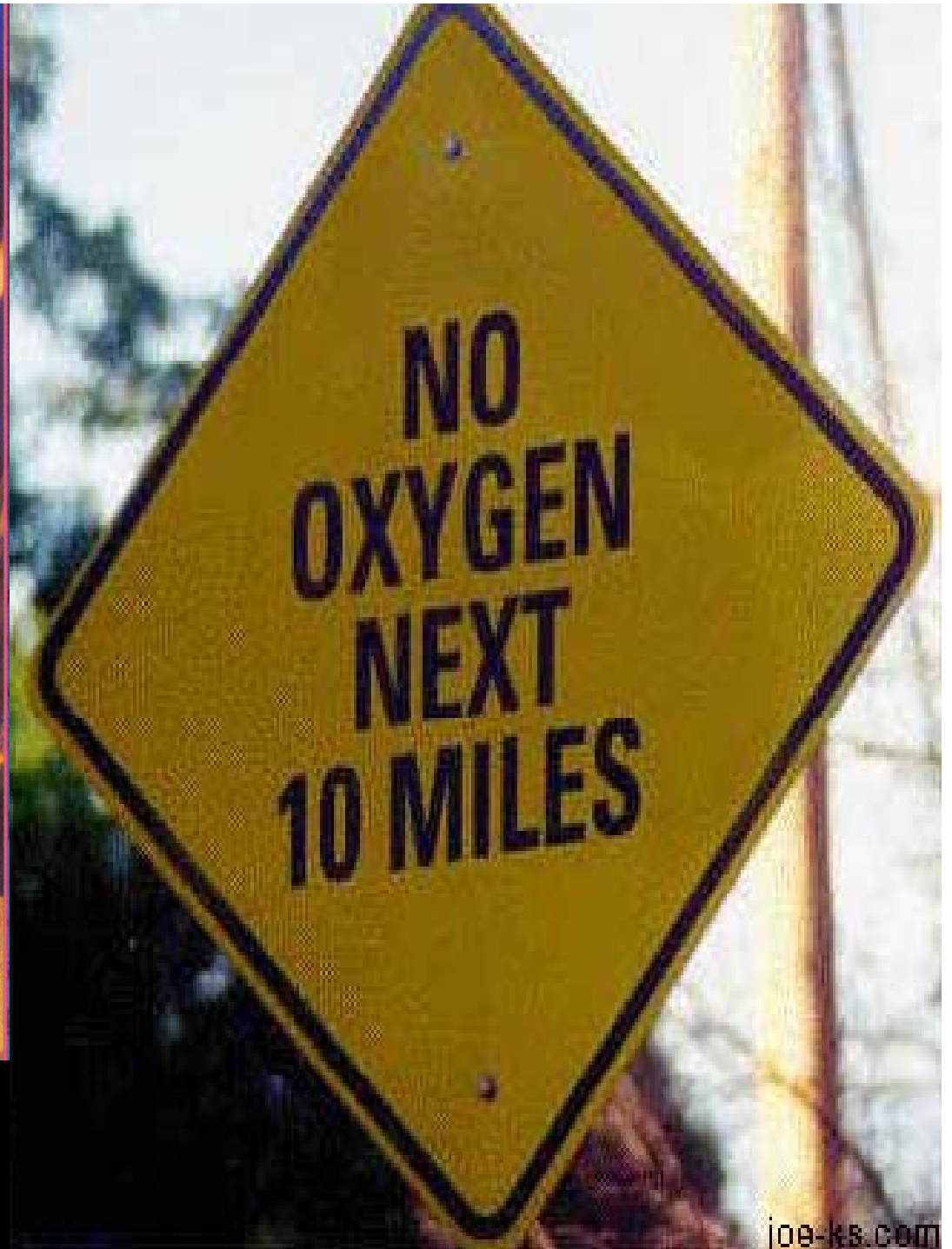


इंडियन अस्थमा केयर सोसाइटी

Adulterated Air



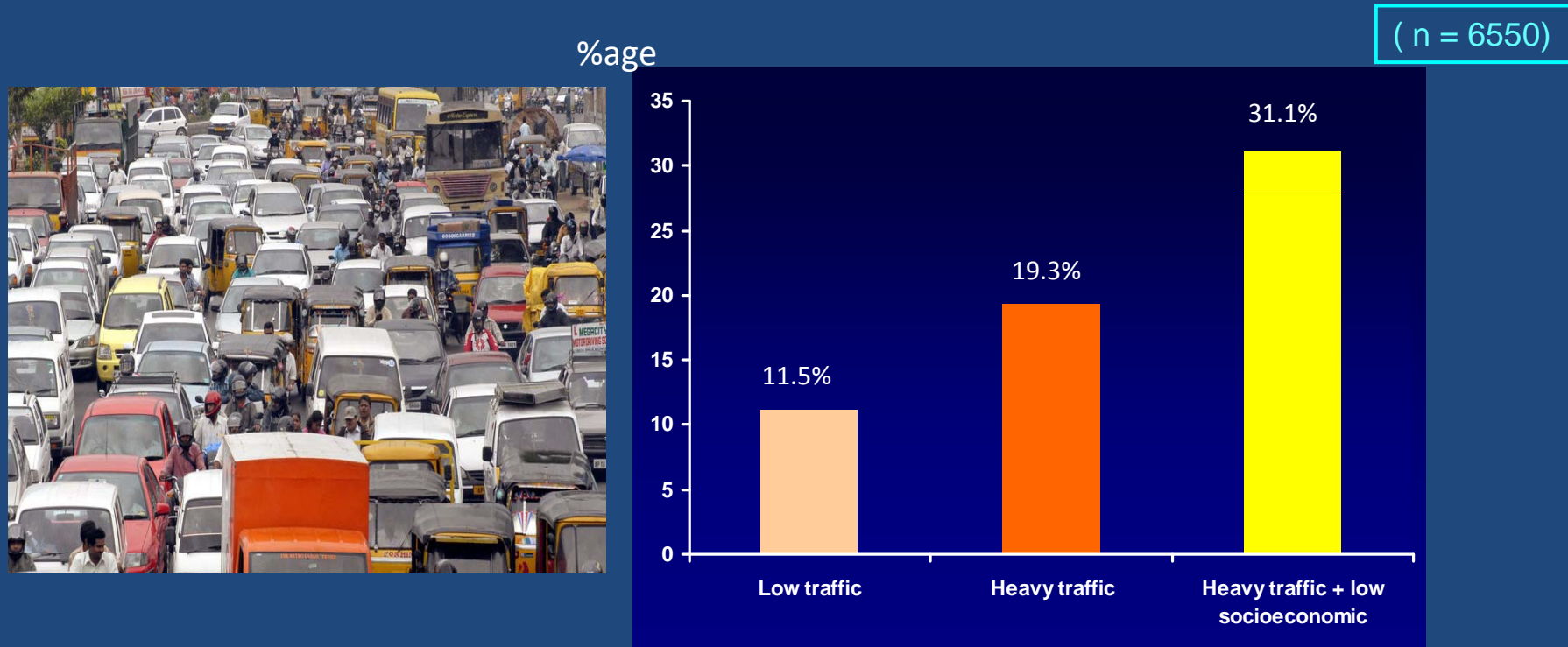
COPD



**Death count down
Staaaaarts?**

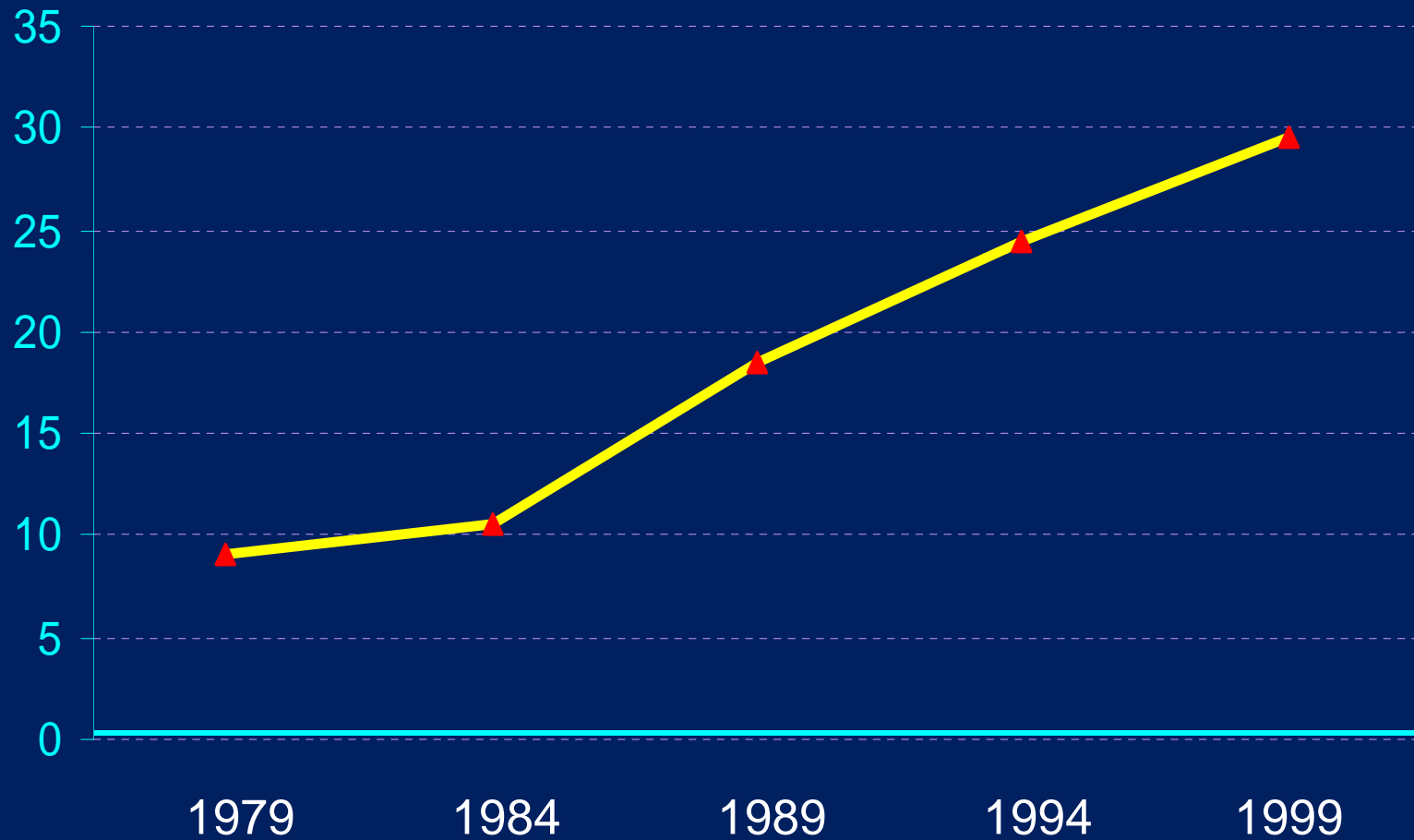
Evidence

Prevalence of asthma in school children in Bangalore



(Paramesh H. Indian J Paed 2002; 69(4): 309-312)

PREVALENCE OF CHILDHOOD ASTHMA IN BANGALORE



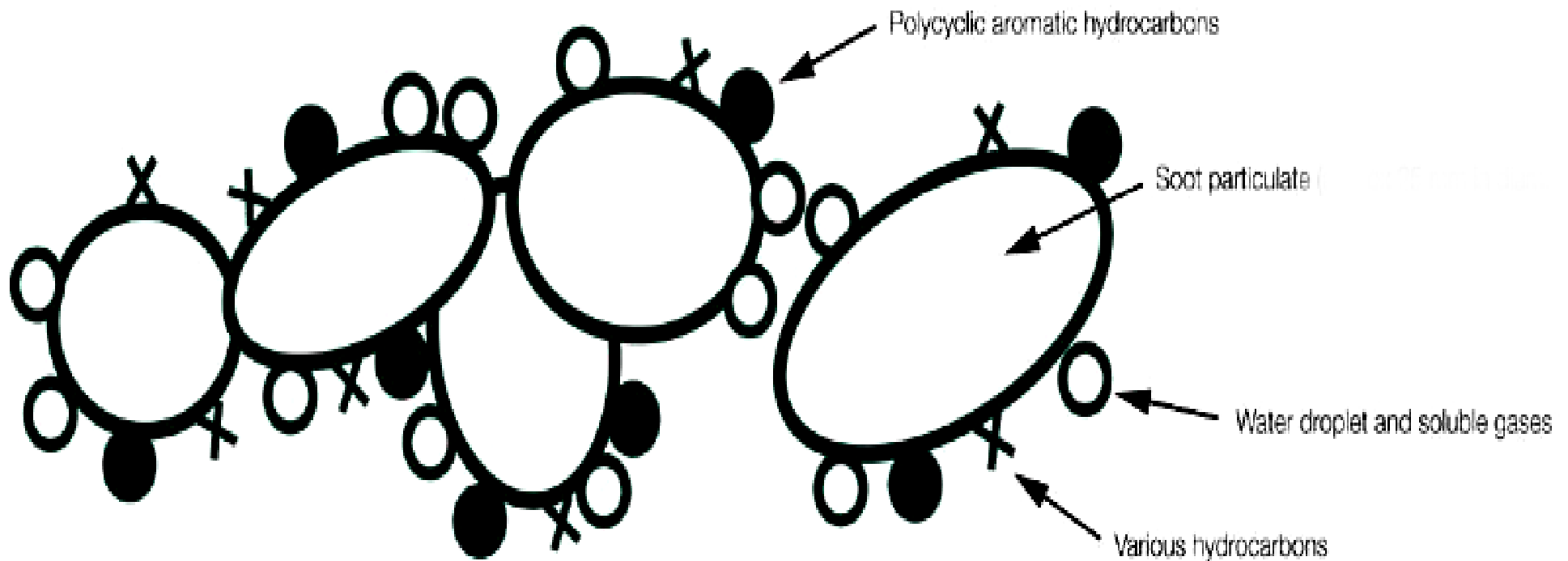
(Paramesh H, Indian J Peds 2002; 69:309-312)

Composition of diesel smoke

- Carbon
- NO₂
- CO
- CO₂
- SO₂
- Alcohol
- Aldehyde
- Ketones
- Polycyclic hydro carbon



Carbon particles of diesel smoke



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ORIGINAL ARTICLE

Effect of Air Pollution on Peak Expiratory Flow Rate Variability

Virendra Singh,* Rakesh Khandelwal, and A. B. Gupta

Pulmonary Division, Department of Medicine, SMS Medical College and
Department of Civil Engineering, MR Engineering College, Jaipur, India

PEF variability in two groups (amplitude percent mean).

	Number of subjects	Median	Geometric mean ^a	95% confidence interval
Day scholar	158	10.74	11.0 ± 3.6	(5.6–15.2)
Hostler	142	5.52	5.7 ± 3.2	(2.1–7.9)

^a*P* < .005.

Ambient air quality parameters.

	Roadside			Hostlers		
	Average	Peak ^a	Normal	Average	Peak	Normal
Sulfur dioxides (µg/m ³)	6.22	15.16	80	5.37	12.29	80
Nitrogen oxide (µg/m ³)	69.75	146	80	4.19	10.5	80
Respirable suspended particulate matter (µg/m ³) ^a	1,666	—	—	177	—	—
Carbon monoxides (µg/m ³)	3,175	5,500	4,000	2,150	3,750	4,000

ORIGINAL ARTICLE

Respiratory Morbidity Attributed to Auto-exhaust Pollution in Traffic Policemen of Jaipur, India

VIRENDRA SINGH, M.D.,¹ BHARAT BHUSHAN SHARMA, M.D.,¹ RAJEEV YADAV, M.D.,² AND PRADEEP MEENA, M.D.¹

¹Department of Medicine and ²Department of Preventive & Social Medicine, SMS Medical College and Hospital, Jaipur, India

Aims. This study was conducted to evaluate pulmonary effects of traffic pollution on traffic police. **Methods.** The traffic police working in Jaipur city were given a predetermined respiratory health questionnaire, and their clinical profile and lung functions were measured. **Results.** This study showed that there were prominent respiratory symptoms and reduced forced expiratory volume in 1 second (FEV₁) in subjects exposed to traffic pollution. When smokers were excluded, it showed a significant difference in FEV₁ data of non-smoking subjects exposed to traffic generated pollution and those not exposed. The difference observed was 95.3 ± 13.6 versus $87.8 \pm 0.95\%$, respectively, and $95\%CI = 4.420-10.517$, $p = 0.001$. **Conclusions.** Respiratory morbidity with respect to lung function tests is *observed more* in groups working in heavy traffic than the control group.

Keywords pollution, traffic police officers, lung function, smoking, respiratory symptoms

Health effects

- Irritation of eyes
- Irritation of nose
- Respiratory tract: coughing, sputum,
breathlessness, asthma, COPD
- Increased risk of CAD
- Small increase in risk of lung cancer

International Study of Asthma & Allergy in Childhood (ISAAC)

**How frequently heavy vehicles moves
on road outside your house?**

A. Never

B. Occasionally

C. Commonly for some period

D. Commonly for most of the time

Asthma prevalence and heavy traffic outside home 2003

ISAAC Jaipur, 13-14 years age children

Traffic Home road	N	Asthma (+)	Asthma (-)	Prevalence
Low	94	9	85	9.57 %
Medium	373	55	318	14.74 %
Heavy	227	44	183	19.38 %
V.Heavy	172	39	133	22.67 %
Total	866	147	719	16.97 %

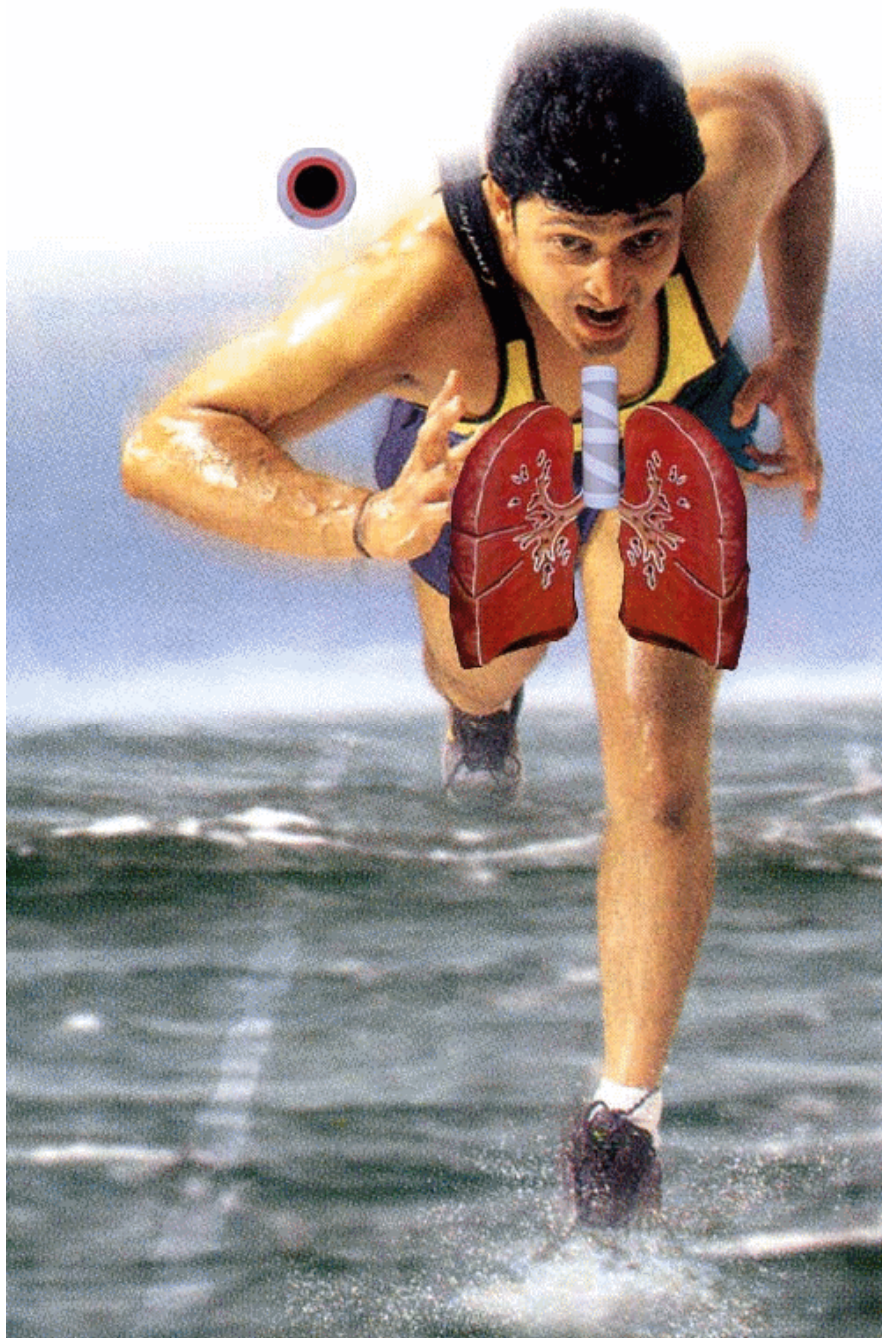


Evidence shows that Jaipur traffic pollution leads to

- 1. Asthmatic type tendency in commuters**
- 2. Higher occurrence of allergic diseases and asthma in subjects having homes on heavy traffic**
- 3. Policemen working in city have less lung capacity than their counterparts in outer city**

What to do?

- 1. Restrict entry of heavy vehicles in city roads**
- 2. Remove bus stands and truck stands from the city**
- 3. Bus and truck repair shops should be outside city**



What is most vital for life?

- Air
- Water
- Food
- Clothing's
- House
- Jewelry

Most vital least expensive
Least vital most expensive

**Breathing clean air: Birth right
Don't allow pollution in breath**

