CHAPTER FOUR COUGH , SPIT AND BREATHLESSNESS

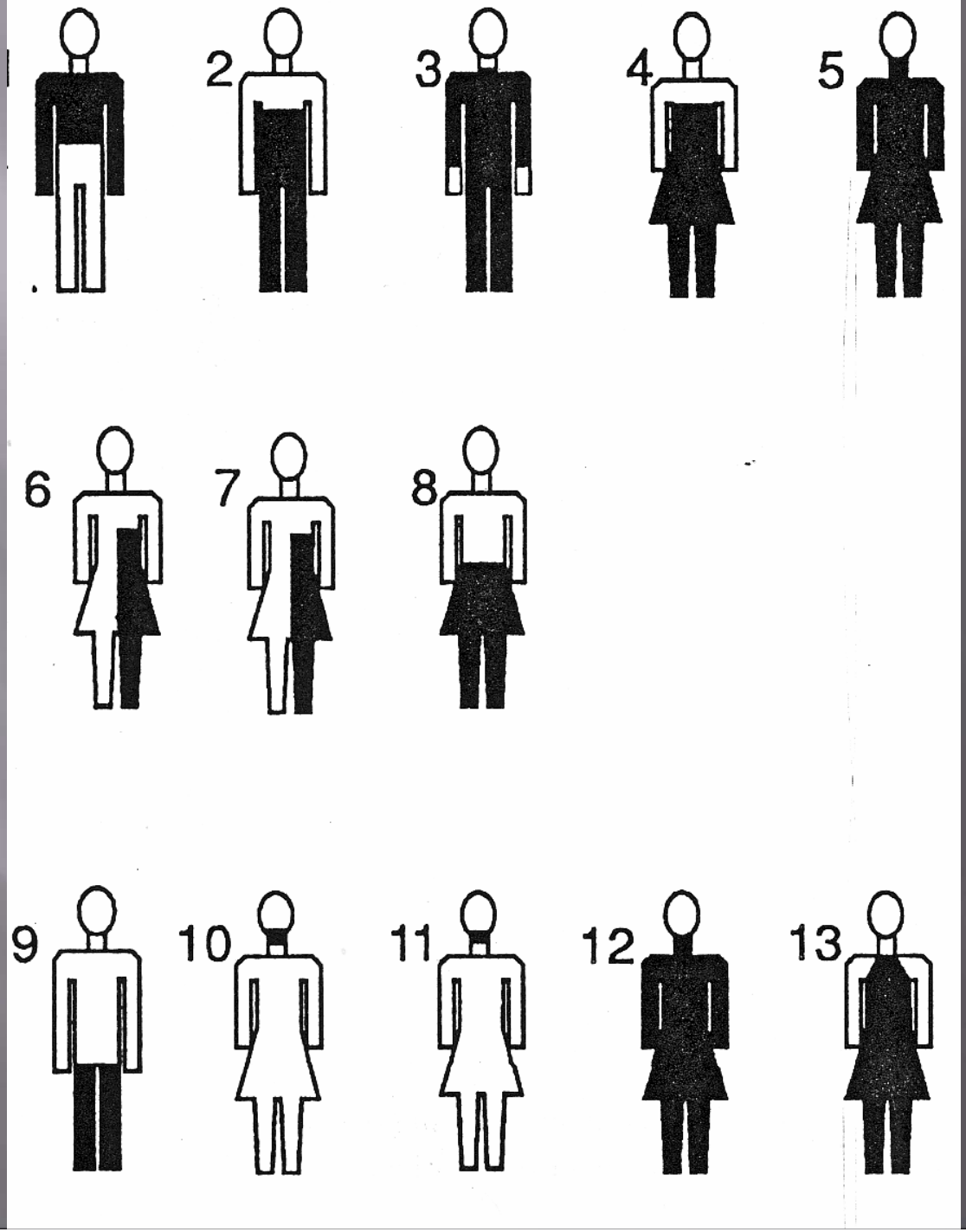
Incidence

Presentation

Management

Sleep Apnea Syndrome as a Long-Term Sequela of Poliomyelitis

Christian Guilleminault and Jorge Motta


2
3
4
5
6
7
8
9
10
11
12
13

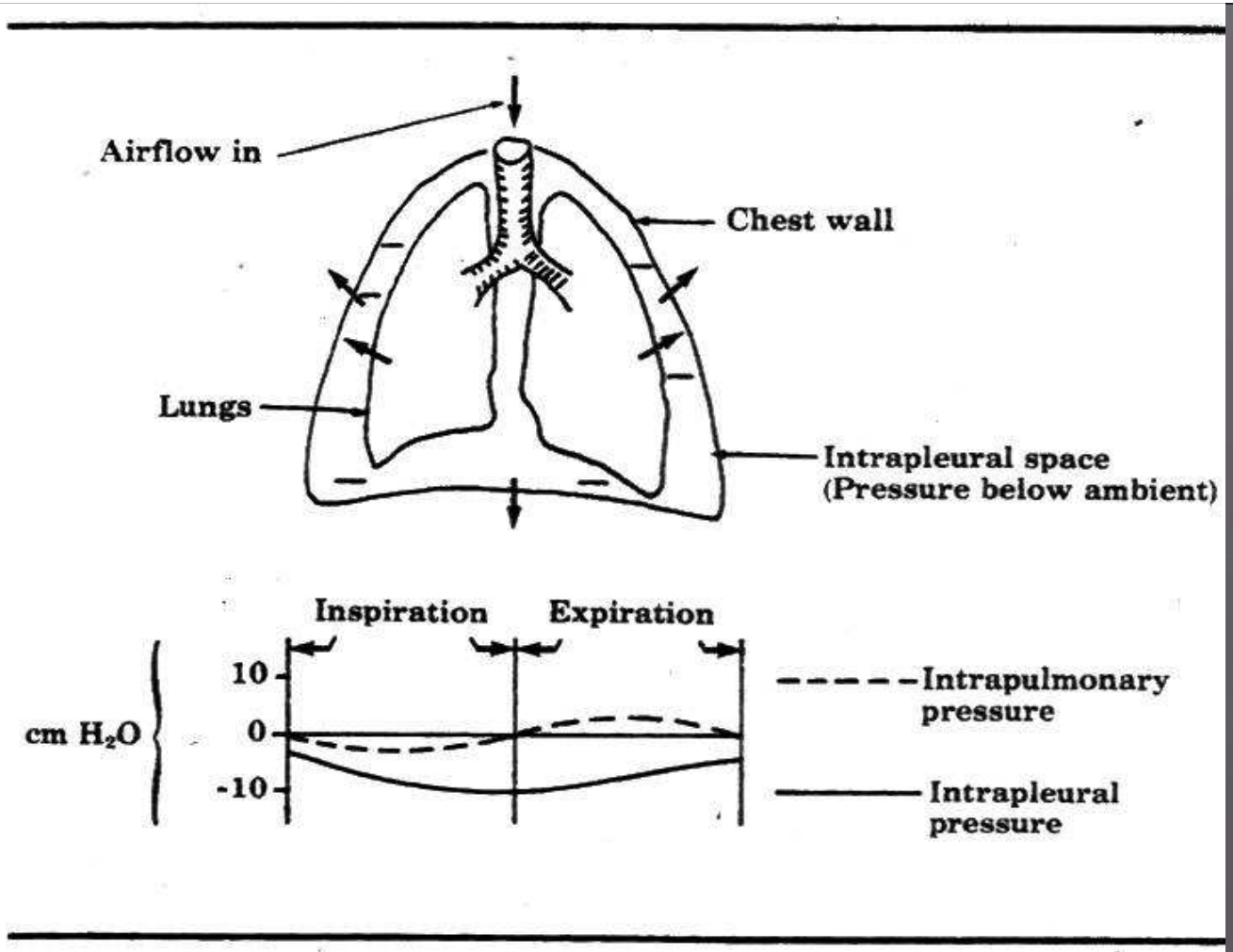
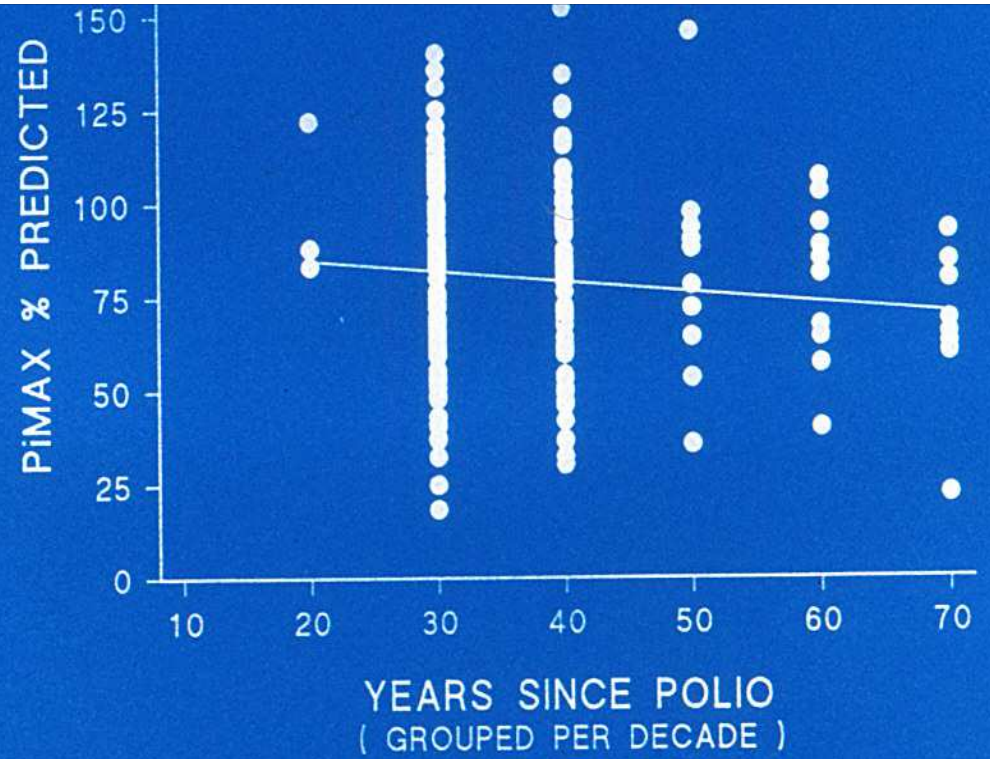
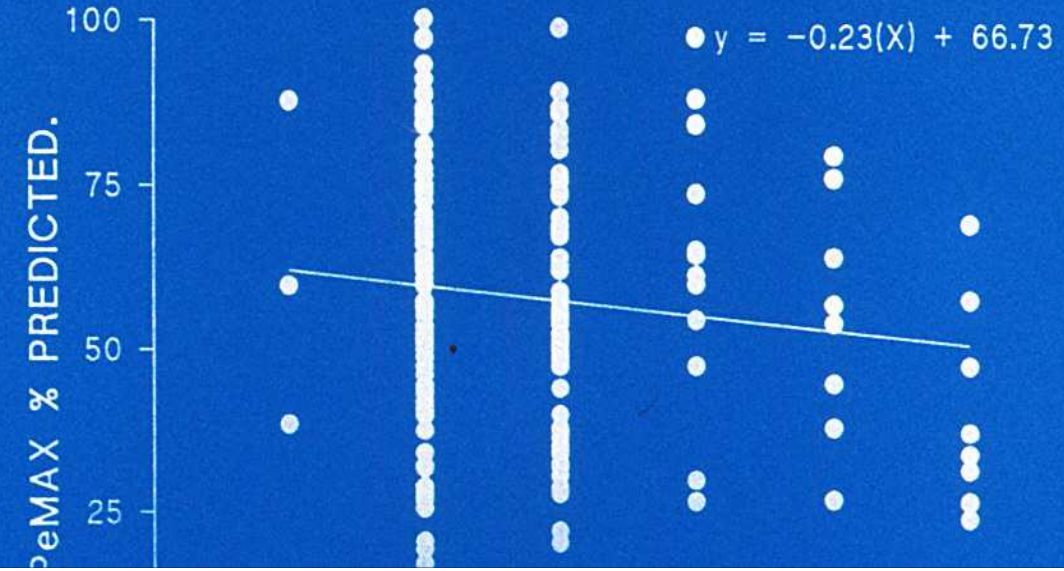


Figure 2-1. The mechanics of spontaneous ventilation and the resulting pressure waves.

Physiology


PiMAX % PREDICTED
150
125
100
75
50
25
0
10
20
30
40
50
60
70
YEARS SINCE POLIO
(GROUPED PER DECADE)


PeMAX % PREDICTED.
100
75
50
25
y = −0.23(X) + 66.73

COPD

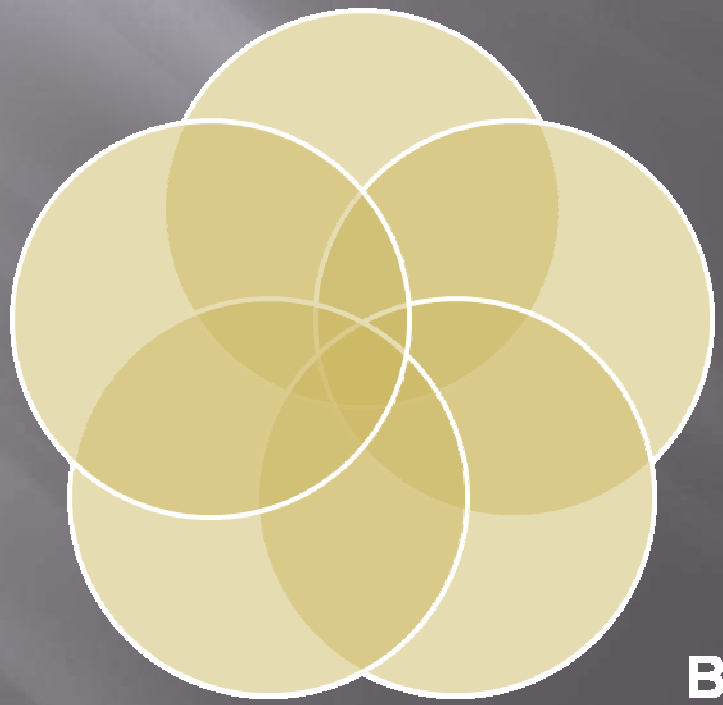
Diagnosis

Two pathological groups

- Reduction of driving pressure for gas flow and the airways are normal eg isolated emphysema
- Driving pressure for flow is normal but abnormal airways with increased resistance to airflow

A
B

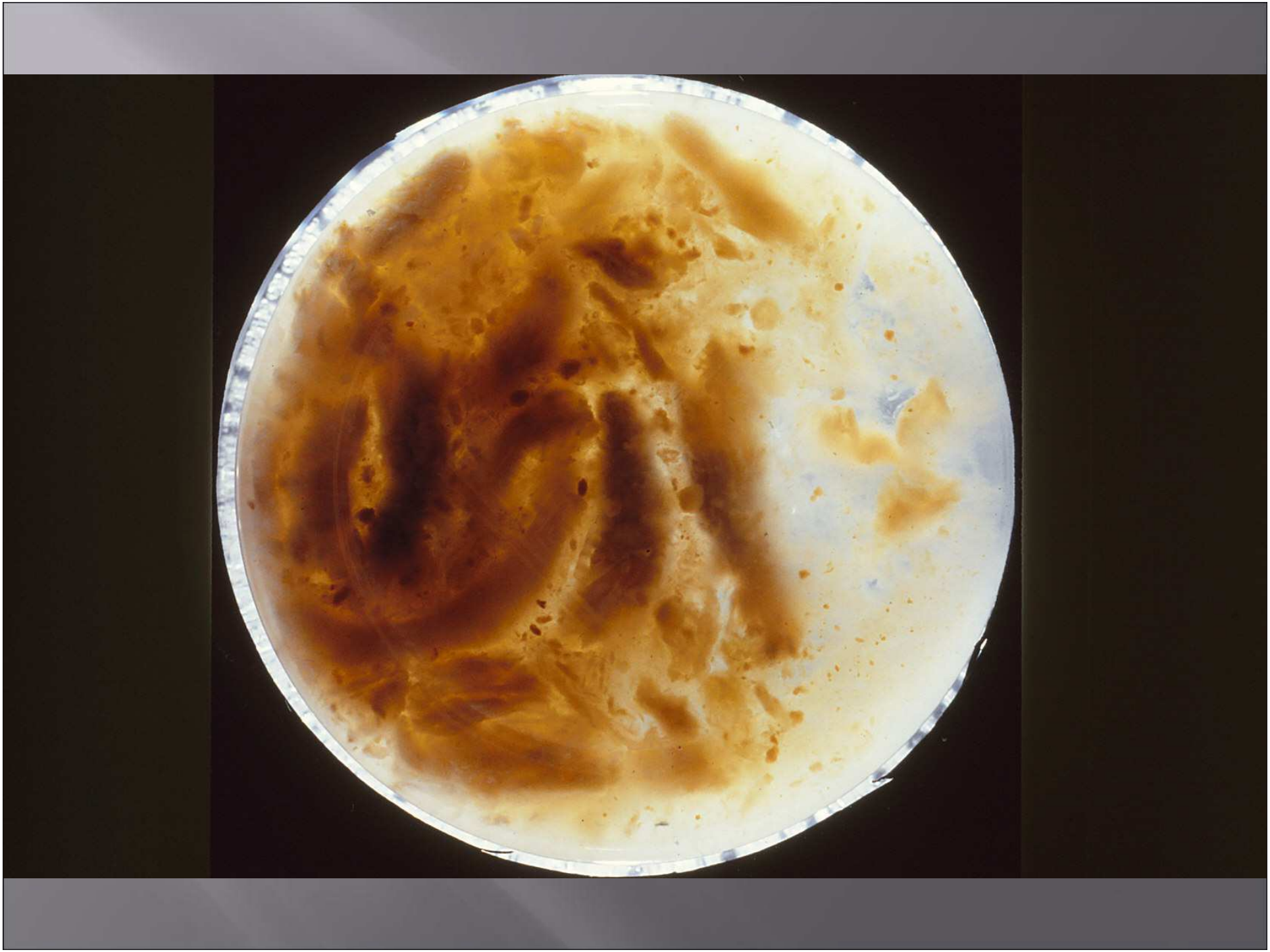
COPD: A Heterogenous entity



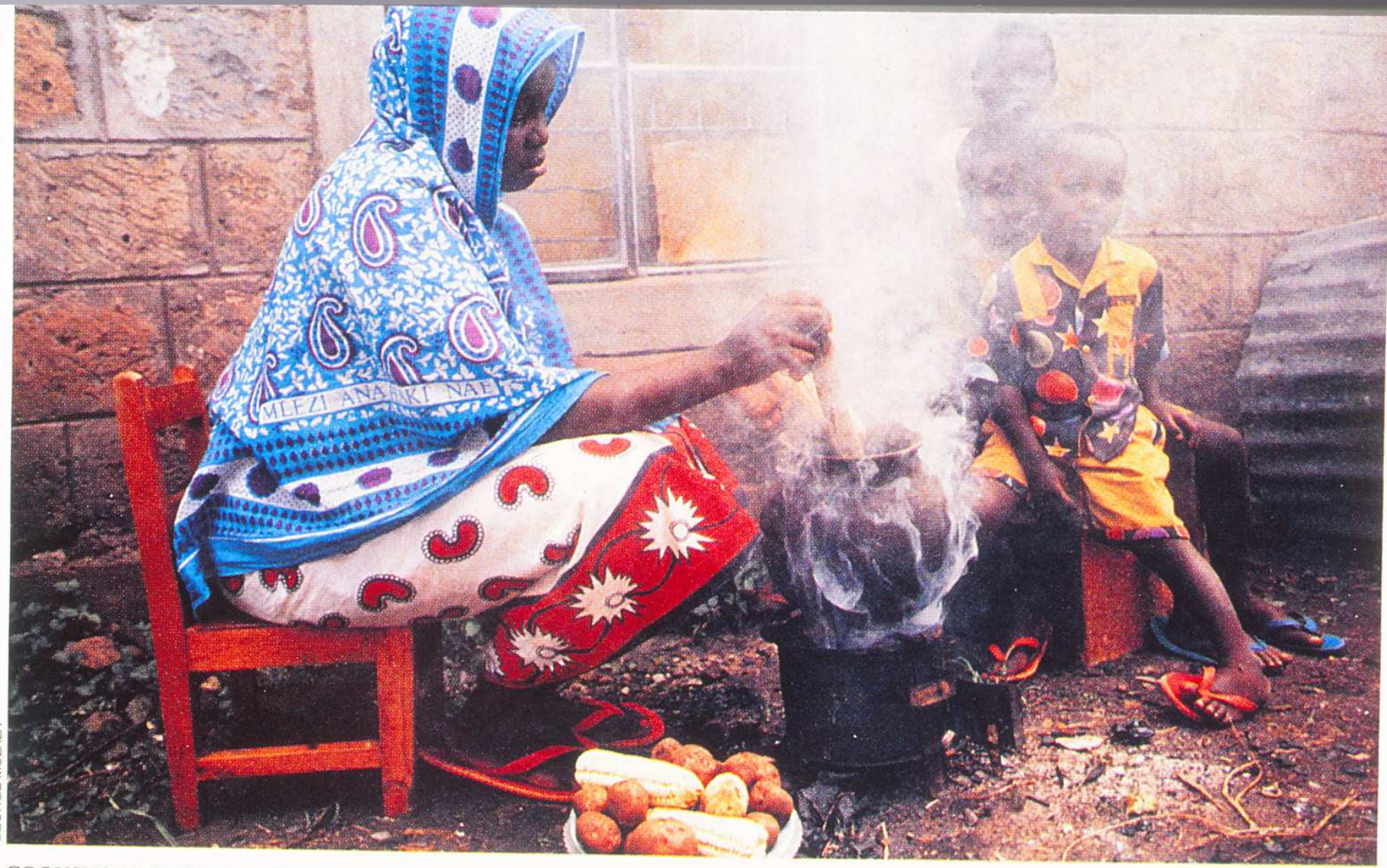
Spirometry Utilization for COPD*

How Do We Measure Up?

MeiLan K. Han, MD, MS; Min Gayles Kim, MPH; Russell Mardon, PhD; Phil Renner, MBA; Sean Sullivan, PharmD; Gregory B. Diette, MD, MHS; and Fernando J. Martinez, MD, MS, FCCP



COPD AETIOLOGY



GEORGE MULALA

COOKSTOVE SMOKE is ubiquitous in Kenya, where wood, charcoal and other biomass fuels are used for cooking and heating. Particulates in smoke are a major contributor to respiratory disease, the leading cause of illness in developing nations.

21%

The proportion of Australian men who smoke (down from 75% in 1945)

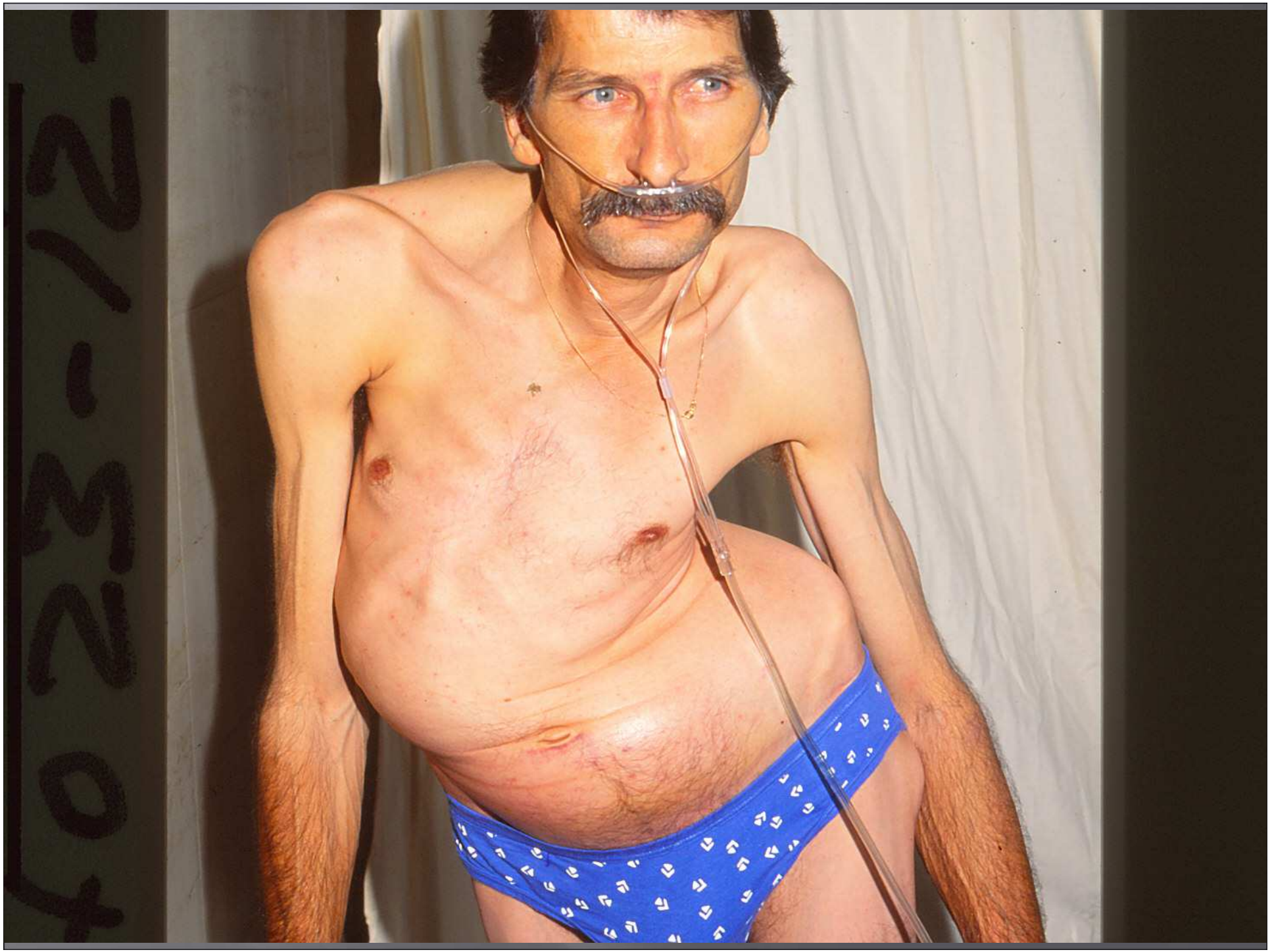
Effects of Cigarette Smoke

- Inflammation of bronchioles and bronchi with hyperplasia of glandular elements.
- Increased pulmonary alveolar macrophages (PAM).
- Facilitated release of proteases, elasteases, and collagenases from PAM.
- Inactivation of a-1-antitrypsin and other anti-proteases.

COPD:World Impact

- 4th leading cause of death in developed countries
- 16 million people in USA
- >100,000 deaths per year
- >500,000 acute admissions per year
- Costs US 1996 Inpatient 8.3 billion
  - Outpatient 5.8 billion
  - Nursing home 0.4 billion

CO-MORBID DISEASE



Chest x ray

6 *Husmeyer RP, O'Connor MC, Davenport HT.* Failure of epidural morphine to relieve pain in labor. Anaesthesia 1980; 35: 161–3.

Clinical sign to predict difficult tracheal intubation (hypothesis)

To the Editor:

Several years ago I encountered great difficulty in intubating an adult female patient by the oral route. In spite of adequate muscle relaxation, optimal positioning and appropriate equipment, oro-tracheal intubation was accomplished only with great difficulty, after four attempts. Subsequent examination revealed that the anatomic features of the head and neck, including the teeth, were normal. Mobility of the temporomandibular joint and neck was unrestricted. During examination of the airway, I noticed that the soft palate was only barely visible when the mouth was wide open and the tongue protruded. The faucial pillars (palatoglossal and palatopharyngeal arches) and uvula were completely concealed by the tongue, even on maximal protrusion. This concealment of the faucial pillars and uvula by the base (posterior part) of the tongue was the only noteworthy anatomic feature in this case.

Subsequently, it has become my practice to look for the visibility of the faucial pillars and uvula by directing the seated patient to open the mouth widely and to fully protrude the tongue. In the great majority of orotracheal intubation difficulties I have encountered since the above case, this clinical sign (concealment of faucial pillars and uvula by the tongue, Fig. 1) was helpful in predicting the intubation difficulty. On the other hand, it was generally found to be easy to expose the glottis by direct laryngoscopy in patients in whom the faucial pillars and uvula were normally visible (Fig. 2).

Why should it be difficult to expose the glottis by direct laryngoscopy in patients in whom the faucial pillars and uvula are masked by the base of the tongue? Perhaps the angle between base of the tongue and larynx determines, at least in part, the

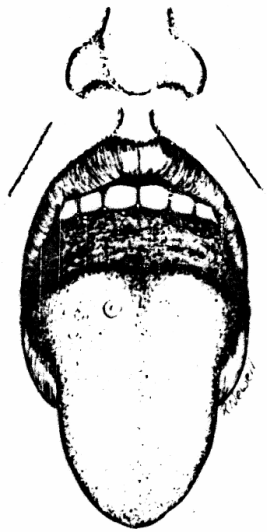


FIGURE 1 Concealment of faucal pillars and uvula by base of tongue.

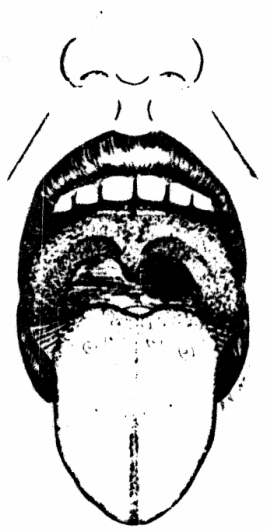


FIGURE 2 Normal visibility of facial pillars and uvula.

accessibility of larynx; the more acute the angle the poorer the accessibility. If the tongue, the base in particular, is disproportionately large, it overshadows the larynx and renders the angle to the larynx more acute. A large tongue is also mask the visibility of the faucial pillars posterior part of the soft palate where the uv easily recognizable landmark. Since it is n ble to determine the volume or size of the tongue relative to the capacity of the oropha cavity, it is also logical to infer that the ba tongue is disproportionately large when it mask the visibility of the faucial pillars and suggest that such an anatomical relati predictor of difficult orotracheal intubati easy to elicit the concealment or visibilit faucial pillars and uvula by asking the seate to open the mouth widely and protrude th fully. Elicitation of this sign would be helpf clinical anaesthesiologist in predicting th cheal intubation difficulty. I am currently u ing a prospective study to examine the usefulness of this sign in comparison with methods. The professional community is vited to assess the clinical significance of and the hypothesis.

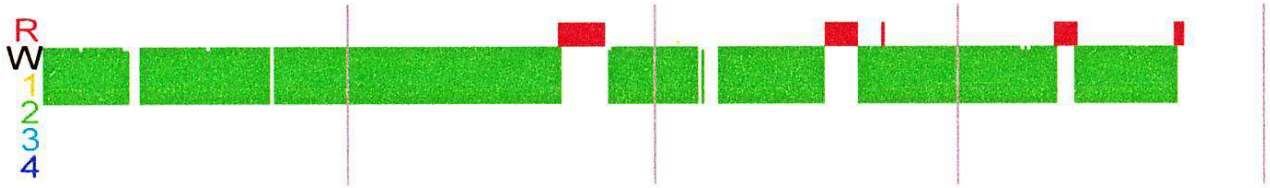
S. Rao Mallampati MD FACA
Dept. of Anaesthesiology
Harvard Medical School and
Brigham and Women's Hospital
Boston, Massachusetts

Sleep apnoea syndrome

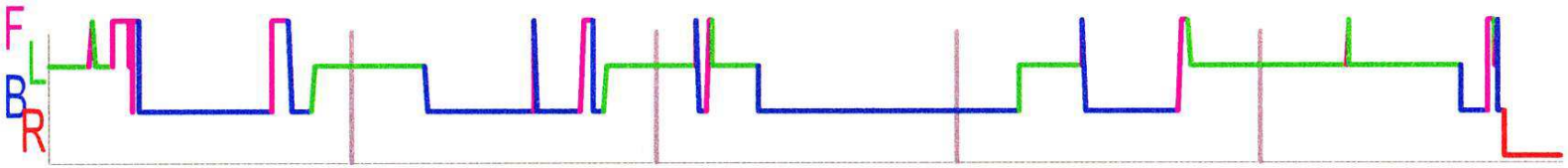
To the Editor:

The review by Chung and Crago of the sleep syndrome in relation to anaesthesia[1] d several methods of treatment, but uvul pharyngoplasty (UPPP) was not include discussion. UPPP consists of making the yngeal air space larger by means of tonsil and surgical removal of redundant mucosa leaving the muscular layer intact.[2] UPPP is to be somewhat less effective as comp permanent tracheostomy[2] but is much less ing and disturbing to the patient. It should better accepted by all patients, some of w not recognize how dangerous their illness Indeed, there are reports of patients who h

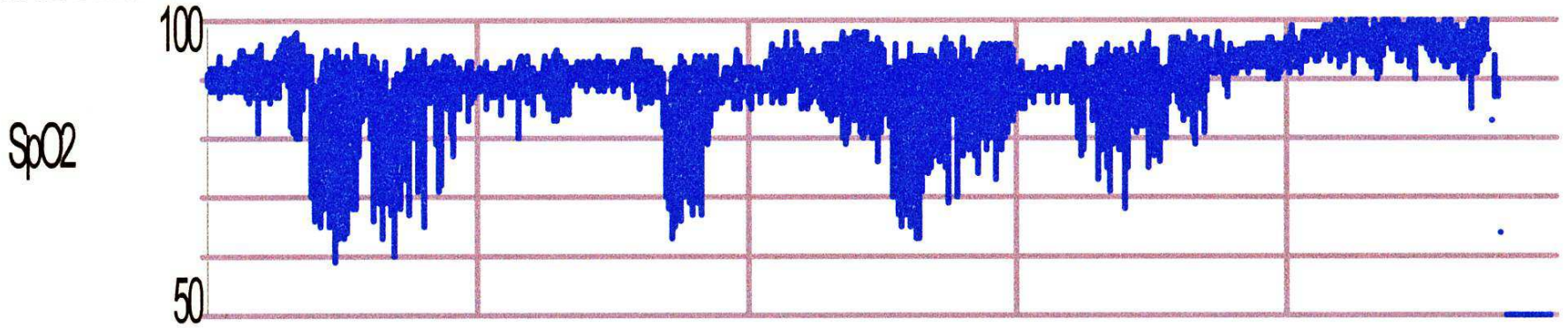
Sleep Hypnogram – Note that sleep staging is only used to differentiate wakefulness, NREM and REM sleep.



Body Position



SaO2 Min/Max

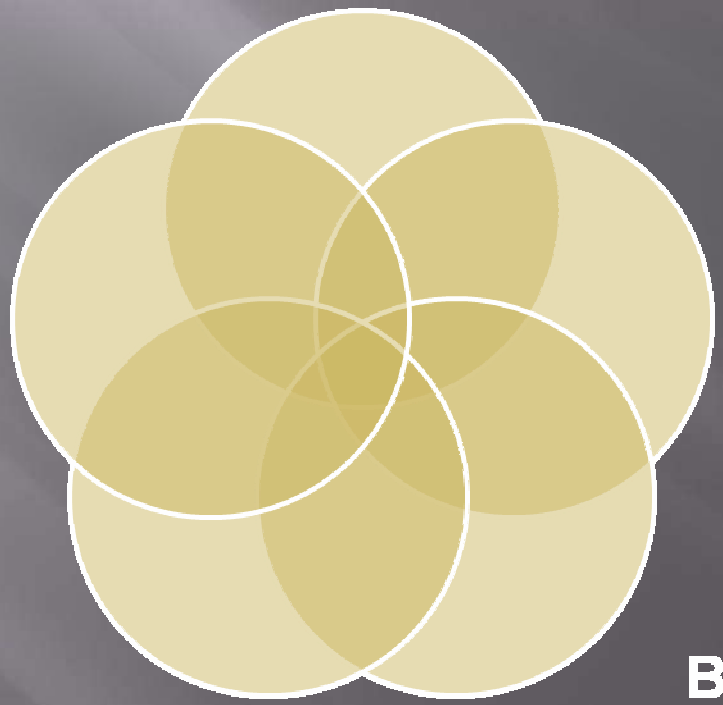


AECOPD?

AECOPD; Definition

- " An acute event in the natural course of the disease characterised by a change in the patients baseline dyspnoea, cough, sputum that is beyond normal day to day variation and may warrant a change in medication"
  - GOLD GUIDELINES
  - www.goldcopd.org

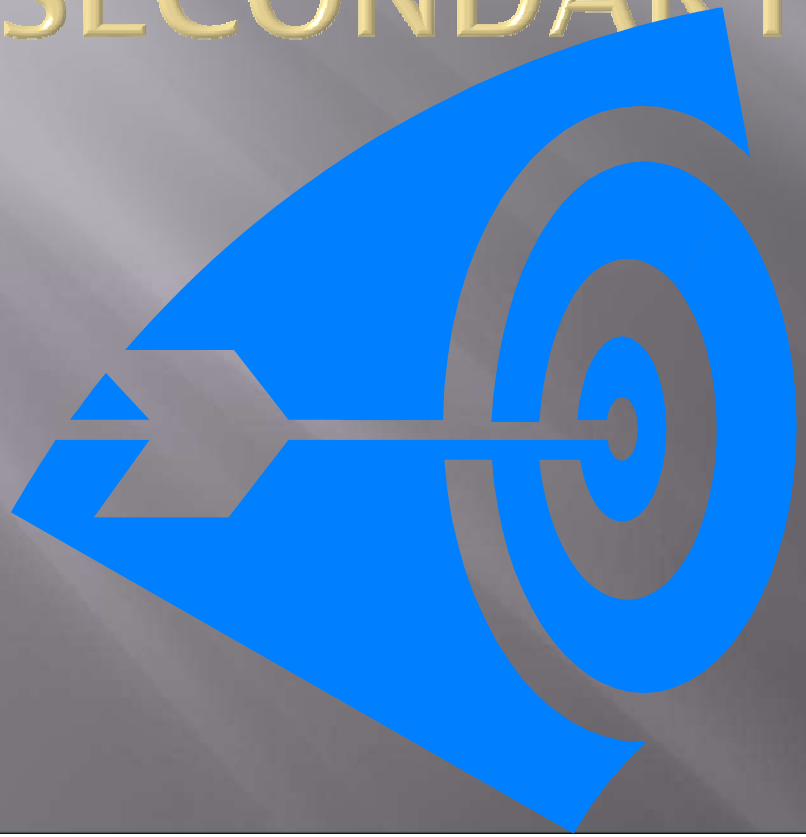
COPD: A Heterogenous entity



AECOPD; Outcomes

- 20 % fail outpatient management
- 10% Inpatient mortality rate
- 25% readmission rate in the next year
- 25% ICW mortality rate
- 25% mortality rate in 1 year of hospitalisation
- 50% mortality at 5 years
- Hospitalisation for COPD accounts for 70% of COPD global costs per year

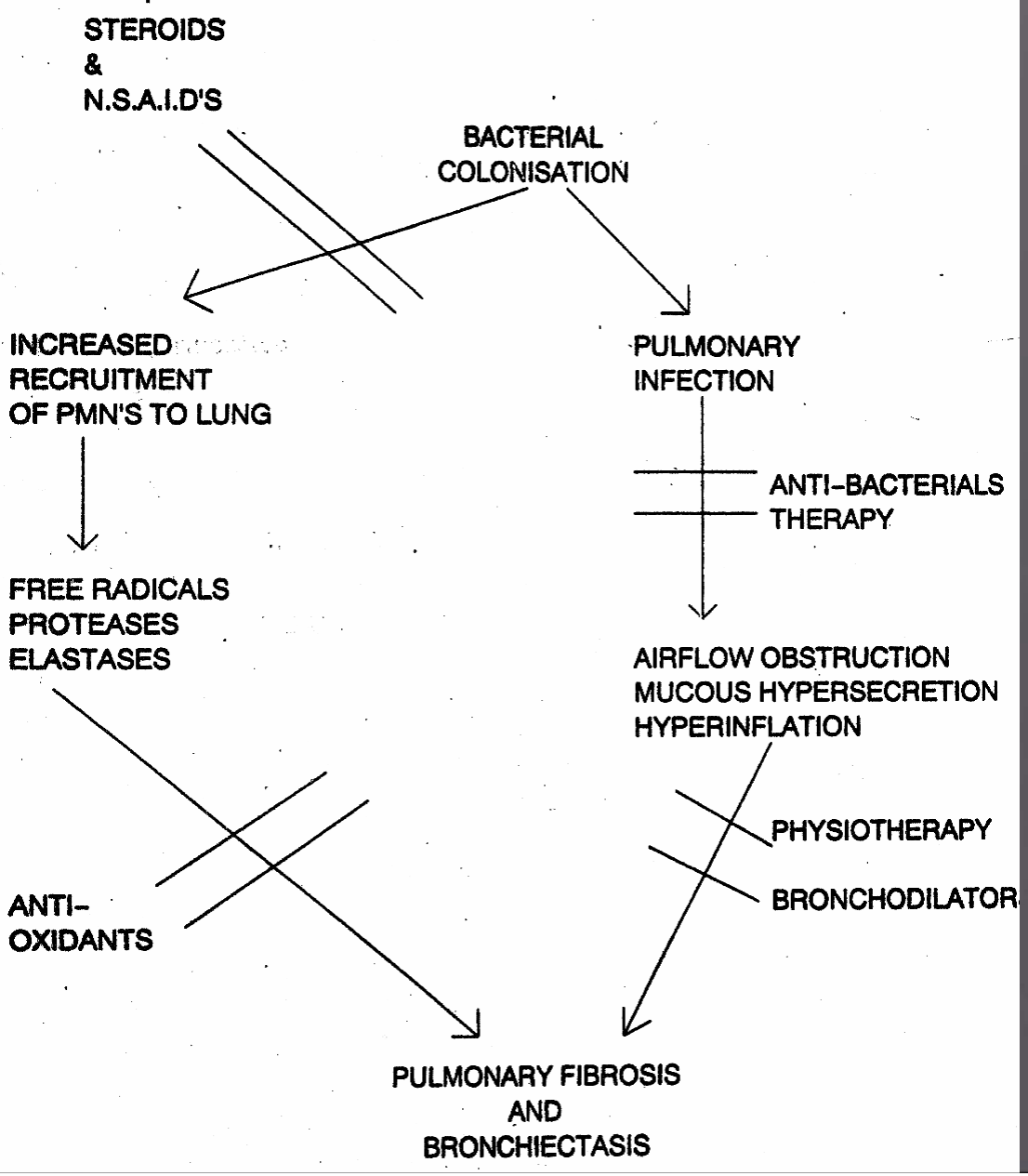
COPD
SECONDARY PREVENTION

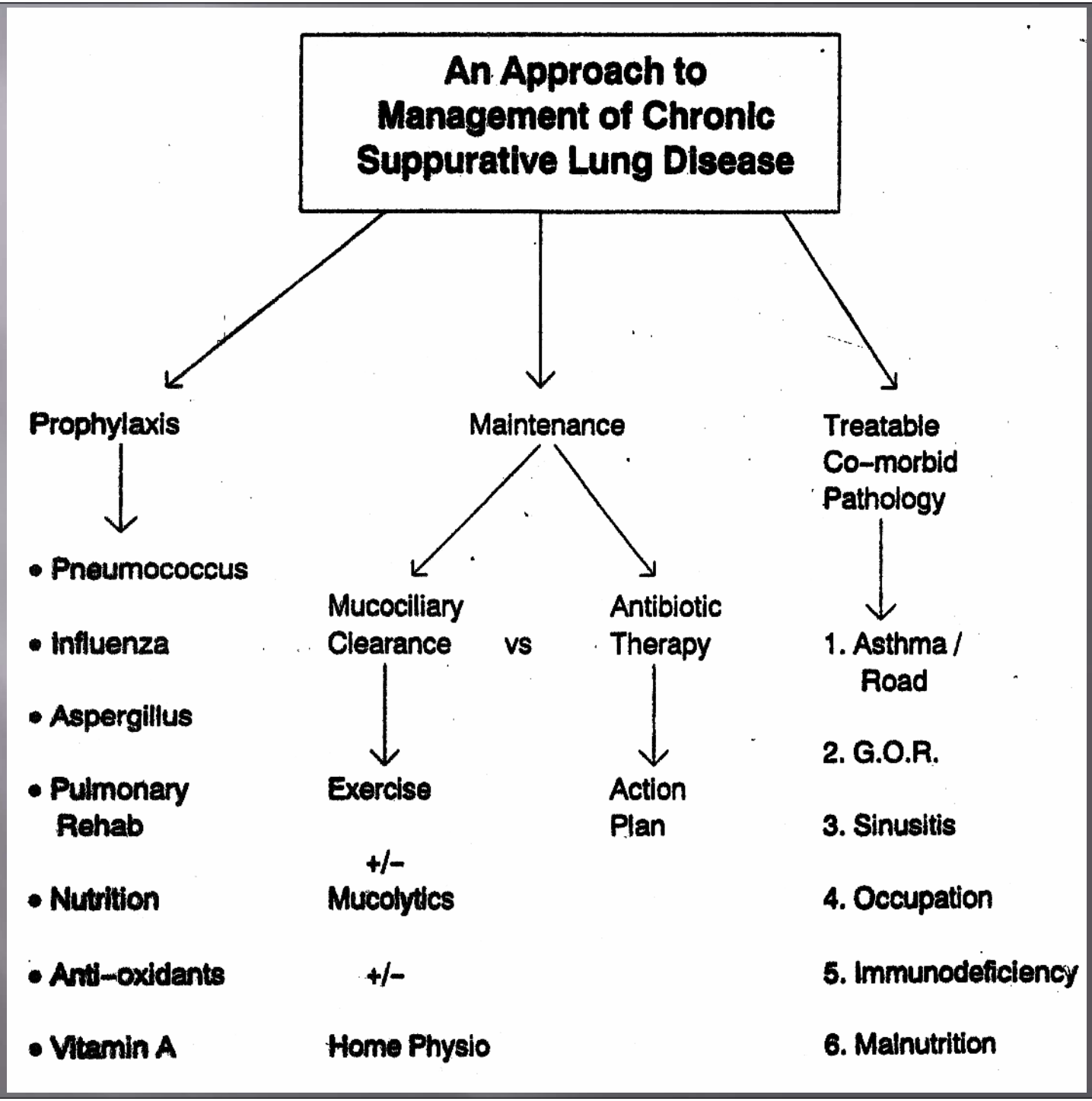


Key factors in Staying Alive with COPD

- Stop smoking
- Eat properly
- Exercise
- Optimize ADL's
  - Do things smarter rather than harder.
- Go back to UTA
- Regular medical review and early intervention with acute illness.

MECHANISMS OF LUNG DAMAGE IN CHRONIC SUPPURATIVE LUNG DISEASE




An Approach to Management of Chronic Suppurative Lung Disease
Prophylaxis
• Pneumococcus
• Influenza
• Aspergillus
• Pulmonary Rehab
• Nutrition
• Anti-oxidants
• Vitamin A
Maintenance
Mucociliary Clearance
vs
Antibiotic Therapy
Exercise
+/-
Mucolytics
+/-
Home Physio
Action Plan
Treatable Co-morbid Pathology
1. Asthma / Road
2. G.O.R.
3. Sinusitis
4. Occupation
5. Immunodeficiency
6. Malnutrition