ARJUNA NEET BATCH

BREATHING AND EXCHANGE OF GASES -LECTURE -06

DISORDERS:

→ Breathing difficulty & WHEEZING SOUND produced

① ASTHAMA

it is a respiratory disorder due to ALLERGIC REACTION

→ inflammation in the wall of Bronchi & Bronchioles

Smooth Muscle show SPASM → fast contractions

→ It's a chronic disorder which is

② EMPHYSEMA

due to excessive cigratte smoking.

ALVEOLAR WALL gets damaged. which is why there is a reduced surface area for exchange of gases.

→ It feels like air is still present in LUNGS → EMPHYSEMA → FULL OF AIR.

③ Occupational Respiratory Disorder:

(also known as PNEUMOCONIASIS)

Due to the occupation of some workers working in coal, petroleum industries etc. where he is coming in contact with harmful chemicals in day to day life shows Breathing problem due to FIBROSIS (deposition of fibres) in some part of respiratory tract.

eg: SILICOSIS,

ASBESTOSIS

Extraa gyaan!!!

① ALTITUTE SICKNESS / MOUNTAIN SICKNEEE :

At height → pressure is Low

↓

RBC can't saturate completely at this pressure

↓

Breathing difficulty start

↓

Body compensates by producing more number of RBC so that whatever O_2 is available can combine with Hb.

Blue-Baby Syndrome:

Methamoglobin

The presence of iron in +3 state in the Hb.

If Environment has

↓

Nitrate Pollutant

↓

Inhale

↓

Haemoglobin Fe^{+2} → convert → Fe^{+3}

O_2 combine irreversibly

↓

"Blueness"

PYQs:

NEET-II 2016

22. The partial pressure of oxygen in the alveoli of the lungs is :-

(1) Less than that in the blood

(2) Less than that of carbon dioxide

(3) Equal to that in the blood

(4) More than that in the blood

ARJUN

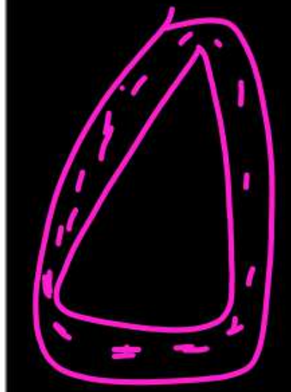
Lungs do not collapse between breaths and some air always remains in the lungs which can never be expelled because :-

(1) There is a positive intrapleural pressure

(2) Pressure in the lungs is higher than the atomospheric pressure.

(3) There is a negative pressure in the lungs.

(4) There is a negative intrapleural pressure pulling at the lung walls



NEET(UG) 2017

25. Lungs are made up of air-filled sacs, the alveoli. They do not collapse even after forceful expiration, because of :

(1) Inspiratory Reserve Volume

(2) Tidal Volume

(3) Expiratory Reserve Volume

(4) Residual Volume

NEET 2018

Which of the following options correctly represents the lung conditions in asthma and emphysema, respectively?

(1) Increased respiratory surface; Inflammation of bronchioles

(2) Increased number of bronchioles; Increased respiratory surface

(3) Inflammation of bronchioles; Decreased respiratory surface

(4) Decreased respiratory surface; Inflammation of bronchioles

Match the items given in Column I with those in Column II and select the correct option given below:

Column I	Column II
a. Tidal volume	i. 2500 – 3000 mL
b. Inspiratory Reserve volume	ii. 1100 – 1200 mL
c. Expiratory Reserve volume	iii. 500 – 550 mL
d. Residual volume	iv. 1000 – 1100 mL

	a	b	c	d
(1)	i	iv	ii	iii
(2)	iii	i	iv	ii
(3)	iii	ii	i	iv
(4)	iv	iii	ii	i

Which of the following is an occupational respiratory disorder?

(1) Botulism

(2) Silicosis

(3) Anthracis

(4) Emphysema

NEET 2019

Due to increasing air-borne allergens and pollutants, many people in urban areas are suffering from respiratory disorder causing wheezing due to

(1) benign growth on mucous lining of nasal cavity

(2) inflammation of bronchi and bronchioles

(3) proliferation of fibrous tissues and damage of the alveolar walls

(4) reduction in the secretion of surfactants by pneumocytes.

ASTHMA

ARJUN

Tidal Volume and Expiratory Reserve Volume of an athlete is 500 mL and 1000 mL, respectively. What will be his Expiratory Capacity if the Residual Volume is 1200 mL?

$EC = ERV + IV$

(1) 1500 mL

(2) 1700 mL

(3) 2200 mL

(4) 2700 mL

NEET 2020

TV + IRV

118. The Total Lung Capacity (TLC) is the total volume of air accomodated in the lungs at the end of a forced inspiration. This includes :

(1) RV; IC (Inspiratory Capacity); EC (Expiratory Capacity); and ERV

(2) RV; ERV; IC and EC

(3) RV; ERV; VC (Vital Capacity) and FRC (Functional Residual Capacity)

(4) RV (Residual Volume); ERV (Expiratory Reserve Volume); TV (Tidal Volume); and IRV (Inspiratory Reserve Volume)

Identify the wrong statement with reference to transport of oxygen.

(1) Low pCO_2 in alveoli favours the formation of oxyhaemoglobin.

(2) Binding of oxygen with haemoglobin is mainly related to partial pressure of O_2.

(3) Partial pressure of CO_2 can interfere with O_2 binding with haemoglobin.

(4) Higher H^+ conc. in alveoli favours the formation of oxyhaemoglobin.

Select the correct events that occur during inspiration.

(a) Contraction of diaphragm

(b) Contraction of external inter-costal muscles

(c) Pulmonary volume decreases

(d) Intra pulmonary pressure increases

(1) only (d)

(2) (a) and (b)

(3) (c) and (d)

(4) (a), (b) and (d)