

15 drugs



Drug

any substance taken into the body that modifies or affects chemical reactions in the body

antibiotics

alcohol

heroin

smoking

© 2026 Exam Papers Practice. All Rights Reserved

Antibiotics

* Fight against bacterial infection

kill bacteria, not virus

Because antibiotics stop bacteria making cells walls



Antibiotic resistance

- Antibiotic is selection pressure
The more we use antibiotics, the more selection pressure we put on bacteria to evolve resistance
- We should only use antibiotics when they are really needed

heroin

- Be **addictive** (become dependent on it)
- Is one powerful **depressant** (slow down many functions of the brain)

injection heroin

The sharing of needles may **spread HIV**

How it works ?

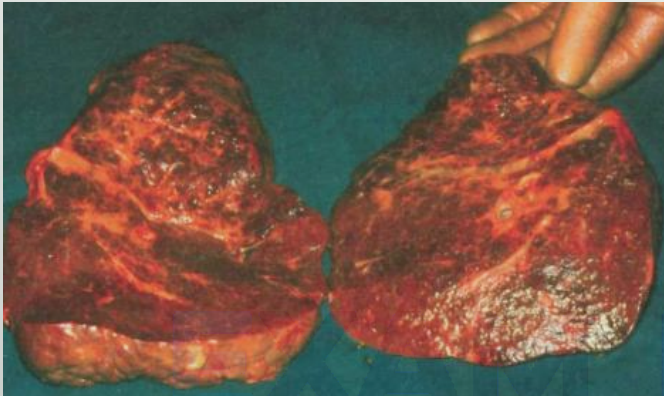
In the brain, there are many different neurotransmitters that transfer nerve impulses across synapse from one neuron to another

Endorphins → 'feel- good' effect

When heroin enter the brain, it is metabolized to morphine. Morphine molecules fit into some of the endorphin receptors → 'feel- good'

Taking heroin can reduce the production of natural endorphins, and other neurotransmitters.

Alcohol



Alcohol can damage liver

Because the liver can break down drugs such as alcohol. (**cirrhosis**)

Effects of alcohol

- Lengthen reaction time (alcohol is one depressant)
- Lose self-control
- Increase aggression in some people
- Large intakes of alcohol can kill person

15 drugs

Tobacco smoking

Tobacco smoking

Carbon monoxide

* When diffuse into blood, it can combine **haemoglobin**. This reduce the **oxygen-carrying capacity of the blood**

Carbon monoxide reduces the oxygen-carrying capacity of the blood.

Nicotine is addictive.

Nicotine

- * Is **addictive**
- * Damage the **circulatory system**, make blood vessels get narrower. This can increase blood pressure, leading to **hypertension** and may develop **coronary heart disease**



Tar causes lung cancer and many other kinds of cancer.

Particulates damage lung surfaces.

particulates

- * Cause destruction of walls of alveoli. Reduce surface area for gas exchange

Tar

- * Cause many kinds of cancer

Tobacco smoking

Smoking and heart disease

- Smoking increase the risk of developing **high blood pressure**.
- Some substances from cigarette make the **arteries get thicker and harder**. The wall can **not stretch and recoil easily**.
- Smoking make it more likely that a **blood clot** form inside the blood vessels

EXAM PAPERS PRACTICE

© 2026 Exam Papers Practice. All Rights Reserved

15 drugs

Tobacco smoking

Tobacco smoking

Smoking and lung cancer

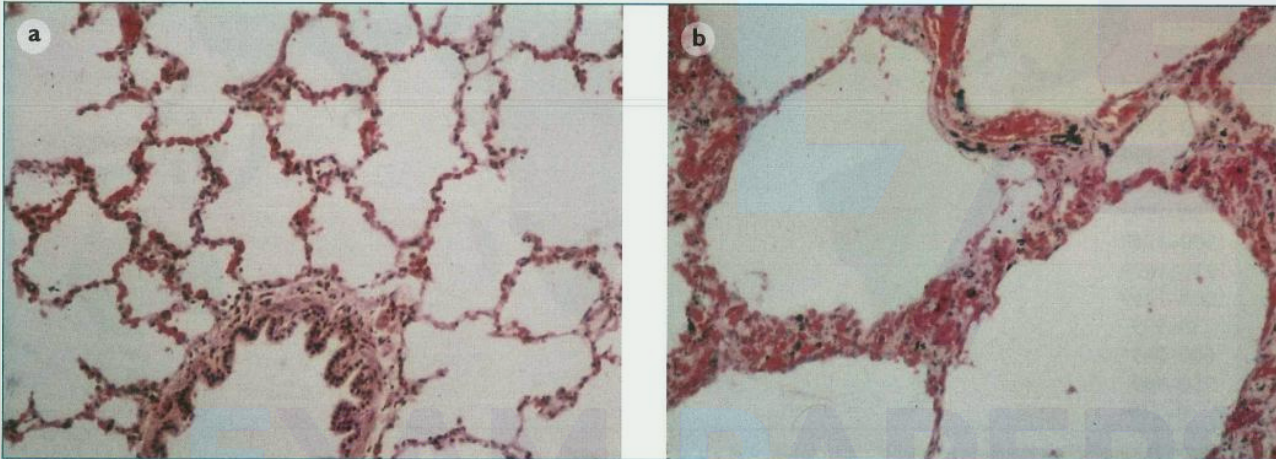
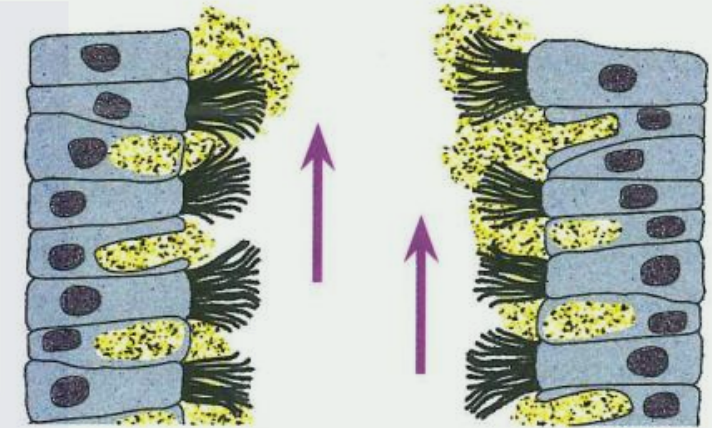


Figure 15.9 a Healthy lung tissue with many small air spaces, b lung tissue with emphysema – air spaces are fewer, larger and have thicker walls between ($\times 60$).

The mucus provides a good place for bacteria to live. The bacteria can cause chronic (long-term) infections in the lungs and bronchi. Mucus in the lungs makes it difficult for oxygen and carbon dioxide to diffuse between the alveoli and the blood.

For more help, please visit www.exampaperspractice.co.uk

Normal airway

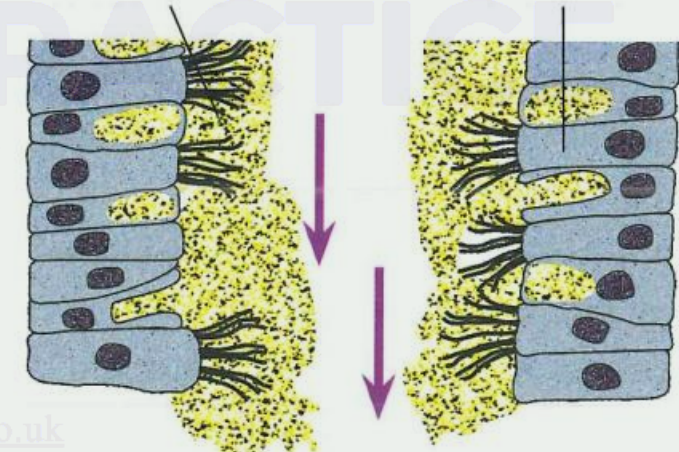


Cilia beat and sweep mucus up to the mouth.

Airway of a smoker

There are fewer cilia and those that remain work less well.

Goblet cells work faster than usual, producing extra mucus.



Mucus trickles down to the lungs and stays there.