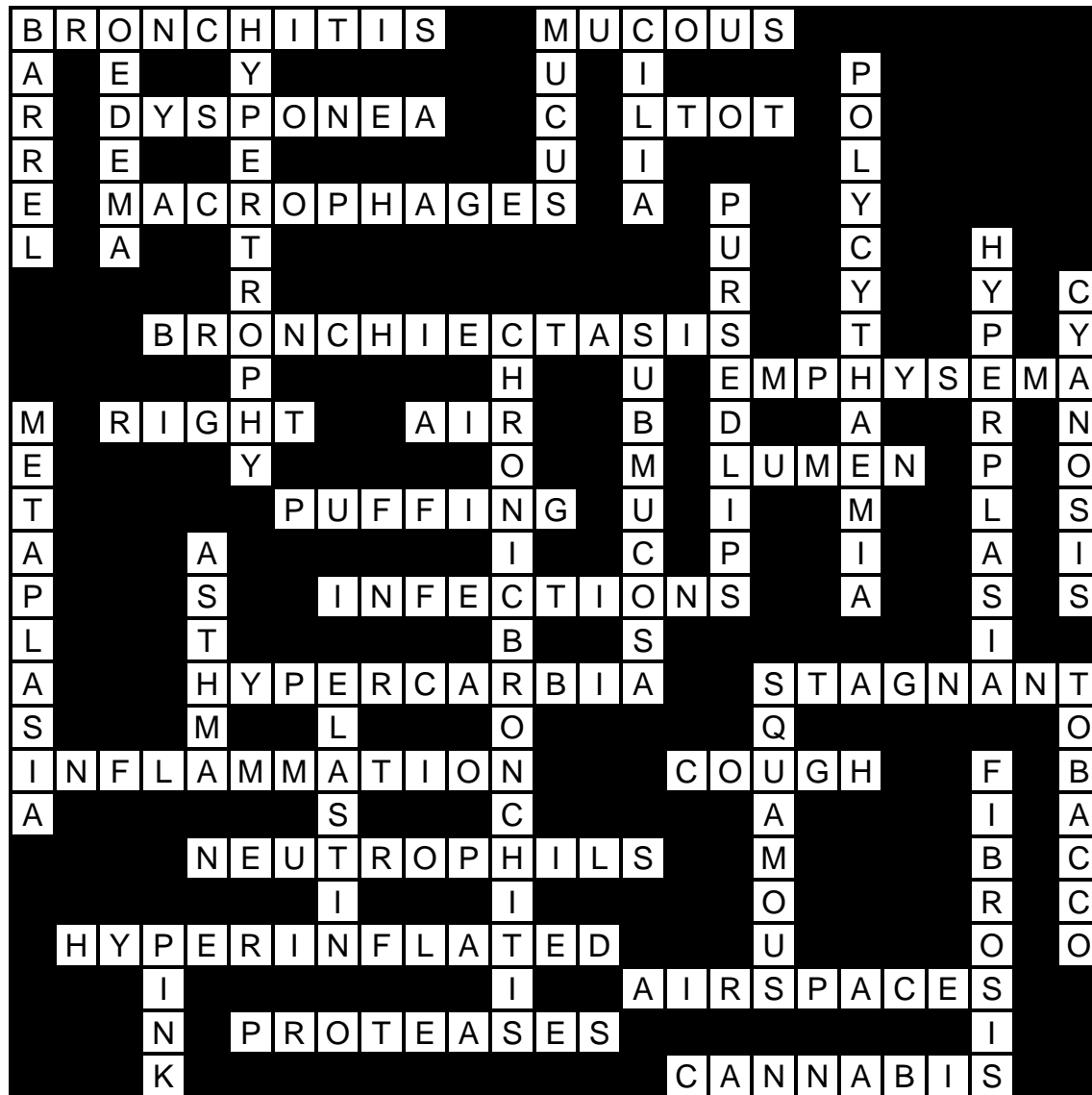


Chronic Obstructive Pulmonary Disease

A crossword puzzle grid with 36 numbered starting points for words. The grid is 15 columns wide and 20 rows high. The starting points are:

- 1: Row 1, Column 1
- 2: Row 1, Column 2
- 3: Row 1, Column 3
- 4: Row 1, Column 4
- 5: Row 1, Column 5
- 6: Row 1, Column 6
- 7: Row 1, Column 7
- 8: Row 1, Column 8
- 9: Row 1, Column 9
- 10: Row 1, Column 10
- 11: Row 1, Column 11
- 12: Row 1, Column 12
- 13: Row 1, Column 13
- 14: Row 1, Column 14
- 15: Row 1, Column 15
- 16: Row 1, Column 16
- 17: Row 1, Column 17
- 18: Row 1, Column 18
- 19: Row 1, Column 19
- 20: Row 1, Column 20
- 21: Row 1, Column 21
- 22: Row 1, Column 22
- 23: Row 1, Column 23
- 24: Row 1, Column 24
- 25: Row 1, Column 25
- 26: Row 1, Column 26
- 27: Row 1, Column 27
- 28: Row 1, Column 28
- 29: Row 1, Column 29
- 30: Row 1, Column 30
- 31: Row 1, Column 31
- 32: Row 1, Column 32
- 33: Row 1, Column 33
- 34: Row 1, Column 34
- 35: Row 1, Column 35
- 36: Row 1, Column 36



Across

- 1 inflammation of the bronchial tree (10)
- 4 this membrane may become fibroses in chronic bronchitis, especially in the smaller airways (6)
- 7 a clinical feature seen in emphysema (8)
- 8 this therapy prolongs life in COPD (4 letters, not words) (4)
- 9 smokers have to many of these large leucocytes in their alveoli (11)
- 13 chronic dilation of the bronchioles (14)
- 16 loss of elasticity with a permanent enlargement of the air spaces (9)

Down

- 1 the chest may become shaped like one of these in emphysema, as a consequence of chronic hyperinflation (6)
- 2 this may occur systemically, leading to bloating. (6)
- 3 this happens to the mucus producing glands in chronic bronchitis, abnormally increasing the size of the cells (11)
- 4 to much of this is produced in chronic bronchitis (5)
- 5 these do not function well if there is smoke in the air and are progressively lost in chronic bronchitis (5)

- 18** this side of the heart is effected first in chronic bronchitis (5)
- 19** bronchitis prevents enough of this reaching the alveoli (3)
- 20** the diameter of this is reduced in chronic bronchitis (5)
- 21** a breathing pattern sometimes seen in emphysema (7)
- 23** these complications are more common due to mucous viscosity and stasis (10)
- 24** to much carbod dioxide in the blood (11)
- 26** the lack of movement of the sputum leads to this state (8)
- 28** inhaled irritants lead to this in the airways (12)
- 29** in chronic bronchitis this occurs on most days, for at least 3 months over two consecutive years (5)
- 31** these release destructive enzymes in the alveoli leading to emphysema (11)
- 32** the state of the alveoli and lungs in emphysema (13)
- 34** formed by the alveoli but become too large in emphysema (9)
- 35** a group of digestive enzymes released by leucocytes in the alveoli, leading to emphysema (9)
- 36** like other forms of smoke this may lead to COPD (8)
- 6** a consequence of hypoxia that leads to increased numbers of erythrocytes (13)
- 10** you may see this type of expiration in emphysema (2 words) (10)
- 11** an increased number of cells as a result of a disease process (11)
- 12** a blue colour in the skin (8)
- 14** a chronic obstructive form of lung disease (2 words) (17)
- 15** this layer of the bronchial passages becomes thicker in chronic bronchitis (9)
- 17** the abnormal change of one type of cell into another, usually a pre-malignant change (10)
- 22** the chronic form of this desases may lead to COPD (6)
- 25** this type of tissue is lost from the alveoli, leading to a loss of elasticity in emphysema (7)
- 26** metaplasia may result in the respiratory passages being lined with cells of this shape (8)
- 27** the most common cause of COPD in many countries (7)
- 30** this change may develop in chronic bronchitis, especially in the smaller airways (8)
- 33** this skin colour may be seen in emphysema (4)