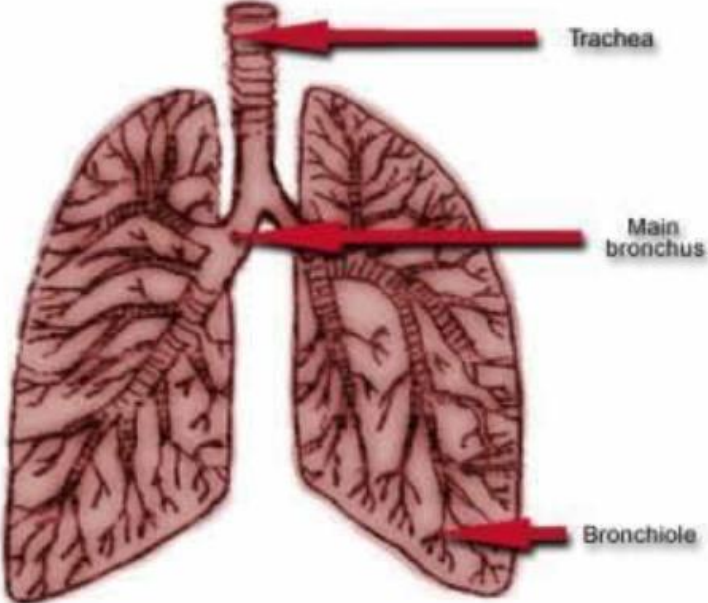









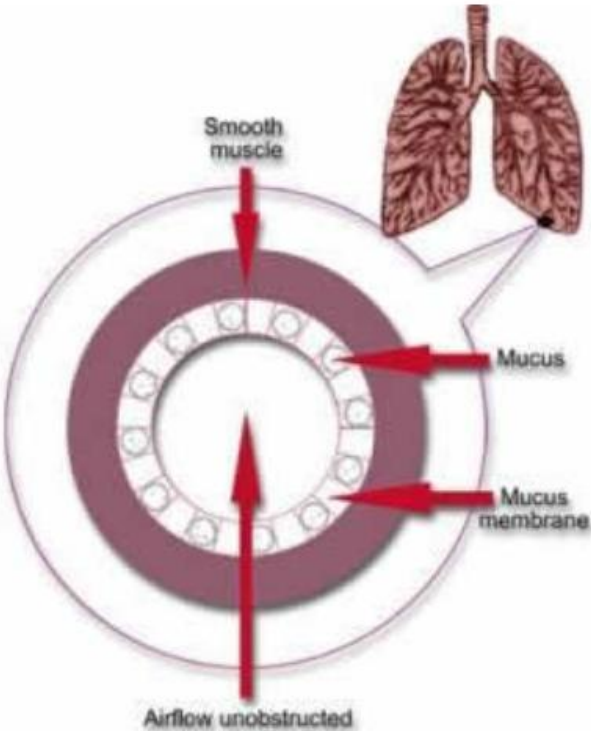






別記資料 1

|                                                                                                                                                                                                   |                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| <a href="#">Your lungs - an asthma attack</a>                                                                                                                                                     | 肺 - 喘息発作                                                             |
| An asthma attack occurs when the airways of the lung become narrowed causing an obstruction to the flow of air. Symptoms include coughing, wheezing, breathlessness and a tightness in the chest. | 喘息発作は、肺の気道が狭くなって空気の流れが妨げられることで起こる。症状としては、咳、喘鳴（ぜんめい）、息苦しさ、胸のつかえなどがある。 |

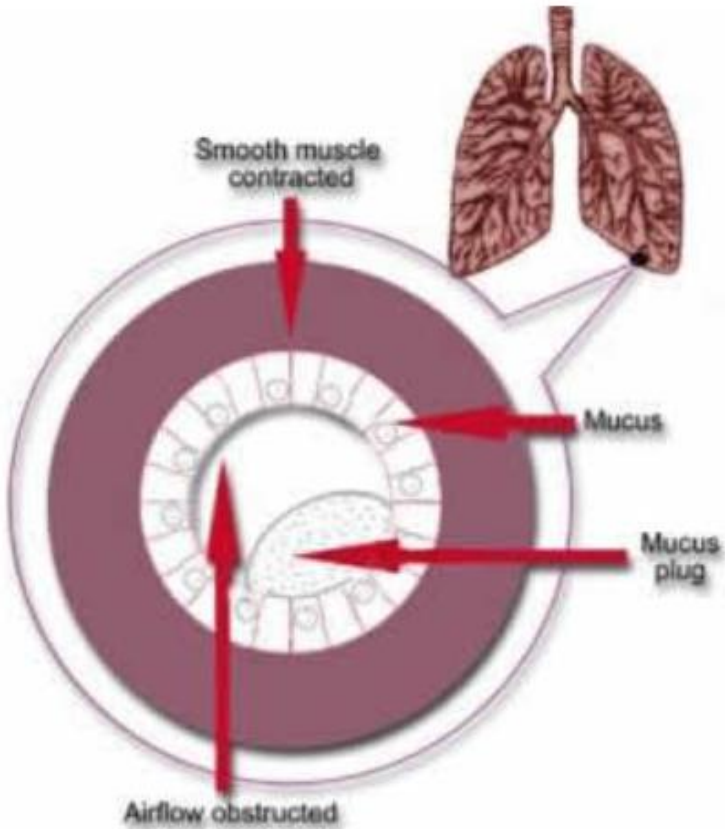



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|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------|------|
| Lungs                                                                                 | 肺                                                                                                                                                                                                                                                                                                                                                                      |                                                                                     |    |                                                                                      |      |                                                                                       |      |
|     | <table><tr><td></td><td>気管</td></tr><tr><td></td><td>主気管支</td></tr><tr><td></td><td>細気管支</td></tr></table> |  | 気管 |  | 主気管支 |  | 細気管支 |
|    | 気管                                                                                                                                                                                                                                                                                                                                                                     |                                                                                     |    |                                                                                      |      |                                                                                       |      |
|   | 主気管支                                                                                                                                                                                                                                                                                                                                                                   |                                                                                     |    |                                                                                      |      |                                                                                       |      |
|  | 細気管支                                                                                                                                                                                                                                                                                                                                                                   |                                                                                     |    |                                                                                      |      |                                                                                       |      |
| While the larger airways have cartilage in their walls to prevent their collapse, the | 太い気道は壁に軟骨があり、潰れないようになっているが、細い気管支や細気                                                                                                                                                                                                                                                                                                                                    |                                                                                     |    |                                                                                      |      |                                                                                       |      |

|                                                                                                                                                          |                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| smaller bronchi and bronchioles do not have this support. These smaller airways are muscular tubes and their lining contains many mucus secreting cells. | 管支にはこのような支えがない。これらの細い気道は筋肉質の管で、その内壁には粘液を分泌する細胞がたくさんある。 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|

| Cross-section of normal bronchiole                                                                                                                           | 正常気管支の断面                                                                             |               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------|
|                                                                            |   | 平滑筋           |
|                                                                                                                                                              |   | 粘液            |
|                                                                                                                                                              |   | 粘膜            |
|                                                                                                                                                              |  | 妨害されていない空気の流れ |
| During an asthma attack the muscle wall contracts and the lining of the airways becomes swollen and inflamed. These changes cause a narrowing of the airways | 喘息発作時には筋壁が収縮し、気道の粘膜が腫れて炎症を起こす。これらの変                                                  |               |

|                                                                                                                                                                                                                                                                                                                              |                                                                                                                       |
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| which is further aggravated by an increase in secretions from the mucus membrane, which may actually block the smaller airways. All these give rise to an obstruction to airflow. This leads to a significant increase in the effort needed to move air in and out of the lungs, giving rise to wheezing and breathlessness. | 化は気道の狭窄を引き起こし、粘膜からの分泌物の増加によってさらに悪化し、実際に細い気道を塞いでしまうこともある。これらすべてが空気の流れを阻害する。その結果、肺に空気を出し入れするのに必要な労力が大幅に増加し、喘鳴や息苦しさが生じる。 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|

|                                        |             |
|----------------------------------------|-------------|
| Cross-section of obstructed bronchiole | 閉塞した気管支の断面図 |
|----------------------------------------|-------------|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                     |                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------|
|  <p>The diagram illustrates a cross-section of a bronchiole. The outer layer is labeled 'Smooth muscle contracted' with a red arrow pointing inward. The inner lining is labeled 'Mucus' with a red arrow pointing to the mucosal surface. A 'Mucus plug' is shown as a mass of mucus blocking the lumen, with a red arrow pointing to it. A large red arrow at the bottom points upward, labeled 'Airflow obstructed'.</p> |  <p>Smooth muscle contracted</p> | <p>円滑に収縮した筋肉</p>  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  <p>Mucus</p>                    | <p>←粘液の流れ</p>     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  <p>Airflow obstructed</p>       | <p>妨害された空気の流れ</p> |