Alpha-1 Anti-Trypsin Deficiency
This is a genetic condition. Alpha-1 anti-trypsin (AAT) is a protective protein in the lungs which controls a natural enzyme called elastase. Elastase is normally helpful in fighting bacteria, but it will attack the walls of the alveoli (air sacs) if there is not enough AAT to balance it. The lack or deficiency of AAT allows the elastase to damage the alveoli, causing COPD.

Bronchiectasis
This is a chronic disease which damages the walls of the airways and causes the airways to become stretched or widened. Pockets can develop in the widened airways and these pockets collect bacteria and become infected. These infections then cause more damage to the airways, which worsens the condition. Bronchiectasis is usually caused by a previous lung infection, but it can be inherited as well.

Bronchioalveolar Cell Cancer
Bronchioalveolar cell cancer (BAC) is a relatively rare type of lung cancer that develops in mucus-producing cells of the bronchioles (very small airways) and alveoli. It spreads along the tissue that separate the alveoli, but it tends not to spread outside the lungs. This type of cancer causes a very large amount of watery mucus to be produced. Between 2% and 6% of primary lung cancers are BAC.

Chronic Bronchitis
People with chronic bronchitis have swollen airways that regularly produce large amounts of sticky mucus which blocks the airways. This disease is a form of chronic obstructive pulmonary disease (COPD) and is caused mostly by smoking.
Chronic Obstructive Pulmonary Disease (COPD)
Chronic obstructive pulmonary disease (COPD) is a lung disease where there is damage to the airways or air sacs or both. Chronic Bronchitis and Emphysema are forms of COPD. COPD is mostly caused by smoking, but it can also be caused by second-hand smoke, exposure to certain dusts and chemicals, or by alpha-1 anti-trypsin deficiency.

Cystic Fibrosis (CF)
Cystic Fibrosis is an inherited disease that causes abnormally thick and sticky mucus to be produced in the lungs and the digestive tract. The mucus blocks the airways in the lungs and becomes infected with bacteria very easily. This can lead to life-threatening lung infections and lung damage. The mucus blocks the ducts of the pancreas, making it very hard to digest food and absorb nutrients.

Eisenmenger’s Syndrome
This rare syndrome begins with an inherited heart defect—usually a hole in the wall between the two sides of the heart—which allows the blood to flow through the heart in the wrong direction. The blood flows then backs up into the lungs where it damages the blood vessels that supply the lungs, causing a high pressure to build up in these vessels. This high pressure is called pulmonary hypertension. The high blood pressure in the vessels of the lungs then causes heart failure to develop.

Emphysema
Emphysema is a form of COPD. The air sacs in the lungs become damaged and over-stretched. Emphysema is mostly caused by smoking, but some people develop it because of an inherited disease called alpha-1 anti-trypsin deficiency.

Pulmonary Fibrosis
Pulmonary fibrosis is a lung condition where the tissue between the air sacs (called the interstitium) becomes inflamed or swollen, which leads to a gradual scarring and thickening of this tissue. The scar tissue eventually makes it difficult for oxygen to be transferred from the air sacs into the blood. Pulmonary fibrosis can be caused by other diseases that affect the lungs, inhaling asbestos or silica dust, and by certain medications. Often the cause is not known—the type of pulmonary fibrosis is called “idiopathic”.

Pulmonary Hypertension (PH)
Pulmonary hypertension (PH) is high blood pressure within the vessels that supply the lungs with blood (called pulmonary arteries). There are two types of pulmonary hypertension—primary and secondary. Primary PH develops for unknown reasons and it is much less common than secondary PH, which develops because of another problem or disease within the heart or lungs.

Sarcoidosis
Sarcoidosis causes tiny lumps of tissue to form for unknown reasons. If a lot of these lumps form in an organ of the body, they can affect how that organ functions. Sarcoidosis can occur in almost any part of the body, but it usually starts in the lungs and lymph nodes. It often affects the skin, eyes, and liver as well.