Normal CT scan of the chest

- Breast tissue
- Breast bone (sternum)
- Left lung (dark area)
- Main airways (bronchi)
- Aorta
- Body fat under the skin
- Heart with left and right ventricle showing up lighter (contrast dye)
- Right lung (dark area)
- Rib
- Shoulder blade (scapula)
- Oesophagus (gullet)
- Vertebra
- Spinal cord
- [Image of CT scan diagram]
2 fungal balls in the lung (2 aspergillomas)

Moderate cavity in the lung with a thin surrounding wall containing a large fungal ball caused by Aspergillus

Large cavity in the lung with a thin surrounding wall containing a large fungal ball caused by Aspergillus
Allergic bronchopulmonary aspergillosis and bronchiectasis

Enlarged and irregular airways in the right lung caused by long term Aspergillus allergy and repeated infection (bronchiectasis)
Invasive fungal infection of the lung caused by *Aspergillus*

Nodular mass in the left lung which had a needle placed in it to remove tissue and *Penicillium* was grown.

Large area of ‘pneumonia’ caused by Aspergillus in a 14 year old boy with a T cell lymphoma receiving chemotherapy and low white blood cells. He first noticed this when he developed sudden onset of severe chest pain. His phlegm sputum grew Aspergillus. Later he developed a thyroid swelling and a needle aspiration grew Aspergillus as well, indicating dissemination of invasive aspergillosis. He then underwent a right lower lobe removal which confirmed the diagnosis of invasive pulmonary aspergillosis.
Invasive fungal infection of the lung caused by *Penicillium*

This disease occurred in a 22 year old lad with an inherited immune deficiency in which his white cells were poor at killing bacteria and fungi (Chronic Granulomatous Disease). He had previously suffered from an *Aspergillus* infection of his left lung and both feet, and had been taking oral antifungals for 4 years when this *Penicillium* infection occurred.
Invasive fungal infection of the lung caused by *Fusarium*

Nodular mass in the left lung which is typical of a fungal infection. This patient's blood culture grew *Fusarium* and he had toenail infection caused by the same infection.

Fungal infection of the toenails is usually not problematic but when it occurs in leukaemia, as in this man, it can spread through the bloodstream to the skin and lungs.
Normal paranasal sinuses

In each person there are maxillary, ethmoid, sphenoid and frontal sinuses
Allergic Aspergillus sinusitis

- Sphenoid sinus with good drainage into the ethmoid sinuses
- Ethmoid sinuses completely full of allergic mucin caused by *Aspergillus*
- Sphenoid sinus with good drainage into the ethmoid sinuses
- Clear ethmoid sinus
Maxillary sinus almost clear of allergic mucin caused by Aspergillus

Ethmoid sinuses on both sides completely full of allergic mucin caused by Aspergillus
Aspergillus abscess in the brain

Cerebrospinal fluid (CSF) in the anterior horns of the ventricular system with an image density similar to water.

Large abscess in the right parietal area of the brain, with much surrounding swelling of the brain.

Cerebrospinal fluid (CSF) in the posterior right horns of the ventricular system.

Small abscess in the left occipital lobe, obliterating the posterior horn of the ventricular system, with much surrounding swelling of the brain.
Aspergillus abscess in the brain

A 44 year old woman developed confusion while in hospital and an MRI scan showed this abscess. She was operated on and the abscess drained. The fluid grew *Aspergillus*. 

Abscess surrounded by a wall of inflammation, itself surrounded by brain swelling.