The silhouette sign

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The silhouette sign

- When 2 opacities of the same density are in contact with each other, their contours disappear.
- When they are separated by any tissue of a different density (air), their respective contours are visible.
Normal chest radiography
anterior opacity: medium lobe, in contact with heart
(and small pleural effusion in posterior cul-de-sac)
Anterior opacity: middle lobe. The right heart contour disappears.
Posterior opacity: the right contour of the heart is visible. In profile the posterior part of the diaphragm in contact with the opacity has disappeared.
Posterior opacity: the right contour of the heart is visible
Right posterior alveolar opacity. Notice the positive silhouette sign on the lateral view
With the posterior part of the right diaphragm
Left anterior opacity: positive silhouette sign with the heart apex
Round left opacity. Negative silhouette sign. The opacity is visible behind the heart, in the posterior cul de sac (bronchial cancer).
The left contour of the heart is visible: posterior opacity
Middle lobe and left inferior lobe pneumonias
Alveolar opacity visible behind heart silhouette: posterior opacity
Decubitus chest x-ray. The left diaphragm is less visible than the right: alveolar opacity in contact with left diaphragm (notice the poorer quality of the picture because of the decubitus position)
2 abnormal opacities: the first one right and anterior, in contact with the heart (middle lobe), the second one behind the heart less visible.
Application of the silhouette sign: Iceberg sign

The opacity is above the diaphragm

The opacity is above and under the diaphragm
The opacity is completely intra-thoracic, behind the right diaphragm
Pott’s disease: the opacity is above and under the diaphragm
Pott’s disease
Hiatal hernia
Application of the silhouette sign: The cervico-thoracic pass sign

1: The external and superior edges of the mediastinal opacity disappear above the clavicles. This sign means that the opacity is anterior in the superior mediastinum.

2: The superior edge of the opacity is visible in the pulmonary air; the opacity is posterior.
Anterior intrathoracic goitre
Anterior intrathoracic goitre. This goitre is compressive: notice the compression of the trachea.
Posterior goitre (courtesy of Dr Bellamy)
Posterior: bronchial cancer of the left lung apex
+++ notice the destruction of the posterior arch of the third rib
Posterior (bronchial cancer of the left lung apex)
Silhouette sign applied to the mediastinum: disappearance of the aorta arch: contact with a tissular mass (Hodgkin’s adenopathy)
Filling of the aorto-pulmonary space

Adenopathy in aorto-pulmonary space

aorta

Pulmonary artery
mediastinal adenopathies in the hilus, in the aorto-pulmonary space, and, possibly in the superior mediastinum
Normal Radiography
Sarcoidosis
Filling of the aorto-pulmonary space (sarcoidosis)
Convergence sign of the hilus

Aorto pulmonary space

Pulmonary artery

The ramifications of the pulmonary artery lose their silhouette on the edge of the opacity: So this opacity is the pulmonary artery.
The « overlap » sign of the hilus

The ramifications of the pulmonary artery are visible throughout the opacity:

It can be:
- an adenopathy
- a posterior or an anterior mass:
  (anterior or posterior overlap)
Convergence sign of the hilus

Courtesy of Dr. Anthoine
Convergence sign of the hilus
Adenopathy of the right hilus (overlap sign)
Adenopathy of the right hilus (overlap sign)
Hilar adenopathy

Normal hilus
Posterior overlap sign: right hilar opacity. The pulmonary artery is visible through the opacity, which does not erase the heart contour: This opacity is posterior.
Posterior overlap sign: left hilar opacity. The pulmonary artery is visible through the opacity, which does not erase heart contour: This opacity is posterior.
Filling in of the clear space inside the pulmonary artery

Normal chest radiography
Filling in of the retro-cardiac clear space

Normal lateral view
normal thorax Scan
Anterior overlap sign: opacity of the left hilus. The pulmonary artery is visible through this opacity. The mediastinum edge is erased:
This opacity is anterior (courtesy of Dr. Bellamy)
Anterior overlap (courtesy of Dr. Anthoine)