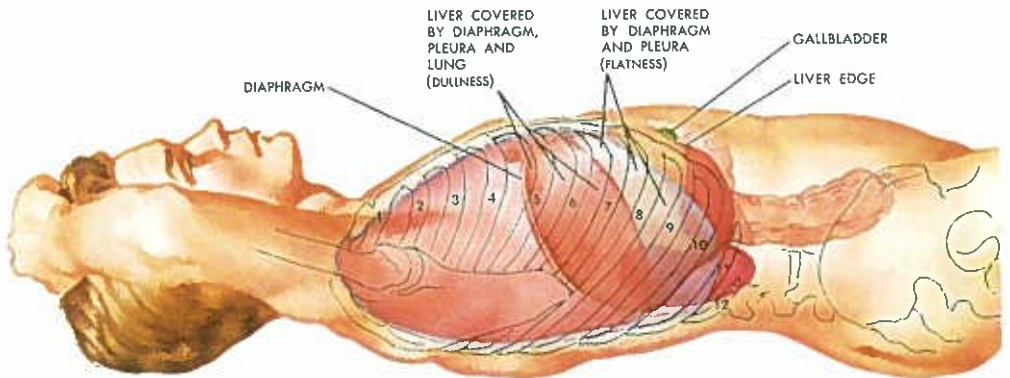
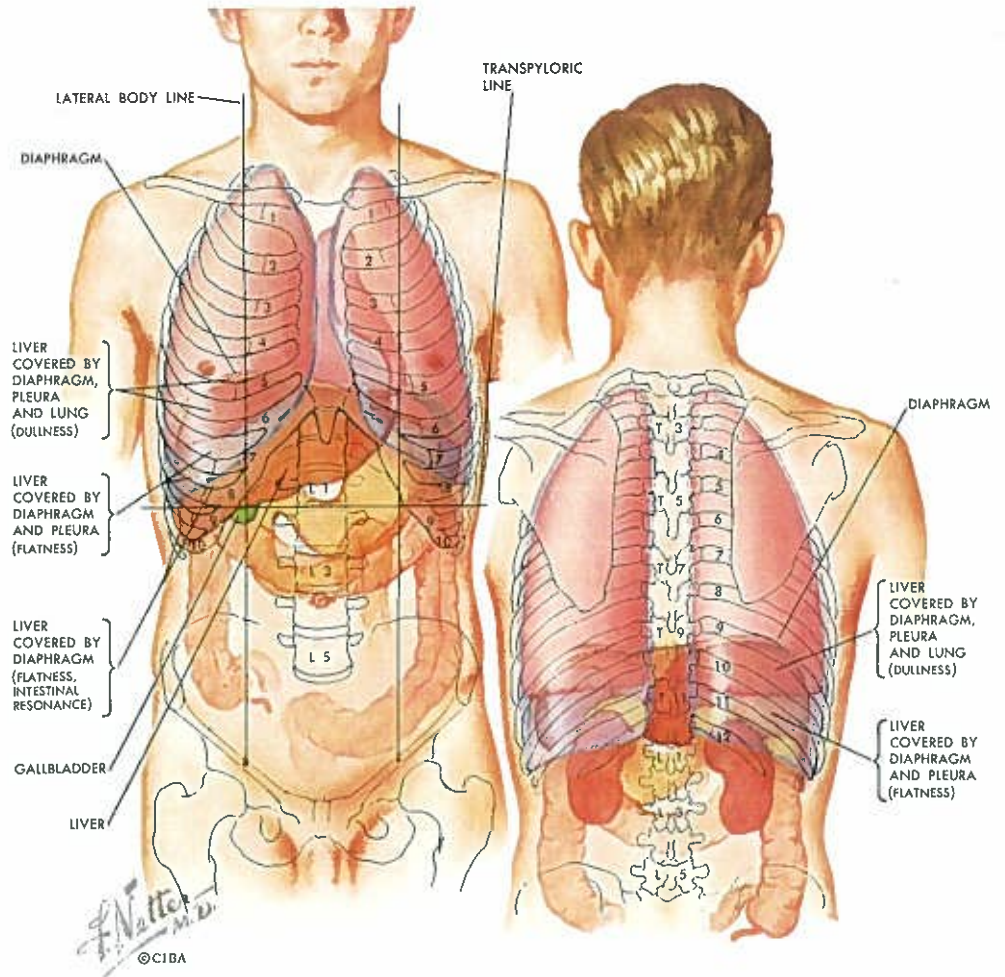


LIVER

located in the men, where it udriac and the gastric regions- ver extends, to egree, into the liver, the larg- ights from 1,400 male and from ale. In normal, liver margin oracic cage is esistance to the ward displac- ardening and cysts produce ngs. Using per- that the lungs of the liver and rlaps the intes-

re liver on the d added signifi- : of liver biopsy rojections vary, tion of the indi- ly build, espe- eration of the lose to the dia- ole of the right he level of the or the fifth rib, 1 cm. below the body line. The lobe projects to sixth rib. Here, is close to the

ater part of the a small part of ontact with the l. In the erect is downward to ib in the right the pleura pro- nth rib, and the inferior margin ostal arch in the



right lateral body line approximately on the level of the pylorus (*transpyloric line*). In the epigastrium the liver is not covered by the thoracic cage and extends about three fingers below the base of the xyphoid process in the midline. Part of the left lobe is covered again by the rib cage.

Over the upper third of the right half of the liver, percussion gives a *dull zone*, since here diaphragm, pleura and lung overlay the liver. Over the middle portion *flat percussion* is obtained. Over the lowest third of the liver, usually a flat percussion tone is heard, except that sometimes *intestinal resonance* is produced by gas-filled intestinal loops. The border between dullness and flatness moves on respiration and is altered by enlargement or displacement of the liver, and also by conditions within the thoracic cage which change the percussion qualities of the thoracic organs.

In the *horizontal position* the projection of the liver moves a little upward, and the area of flatness appears slightly enlarged. The portion of the flat sound, best percussed in the horizontal position, permits information about the size of the organ.

The projections of the liver are altered in some diseases of the liver, such as tumor infiltration, cirrhosis or syphilitic *hepar lobatum*, and are changed by displacements of the organ or more often by thoracic conditions pushing the liver downward. Subphrenic abscesses, depending upon location and size, also displace the liver downward. Ascites, excessive dilation of the colon or abdominal tumors may push the liver upward, and retroperitoneal tumors may move it forward. Kyphoscoliosis or a barrel shape of the chest alters the position of the liver. Sometimes the liver is abnormally movable (*hepatoptosis*), causing peculiar palpatory findings.