

2.1 Sternotomy

2.1.1 Median Sternotomy

2.1.1.1 Patient Position and Skin Incision

The patient is in the supine position. The skin incision is made in the presternal region of the anterior median sulcus (Figs. 2.1 and 2.2), starting one to two finger-breadths under the suprasternal notch and extending to a point located two finger-breadths under the xiphoid process into the linea alba. The subcutaneous adipose tissue should be dissected by cauterization. The small veins on the anterior surface of the sternum, belonging

to the venous drainage of the anterior jugular vein, must be coagulated (Figs. 2.3 and 2.4). Special attention must be paid to dissection of the subcutaneous adipose tissue of the suprasternal notch and of the sternocostal angle (Figs. 2.5 and 2.6).

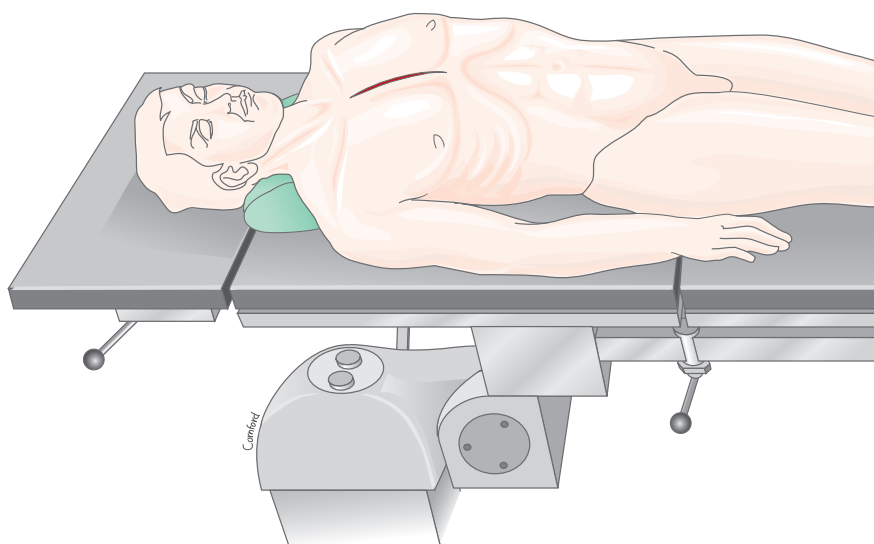


Fig. 2.1. Patient position for median sternotomy



Fig. 2.2. Skin incision

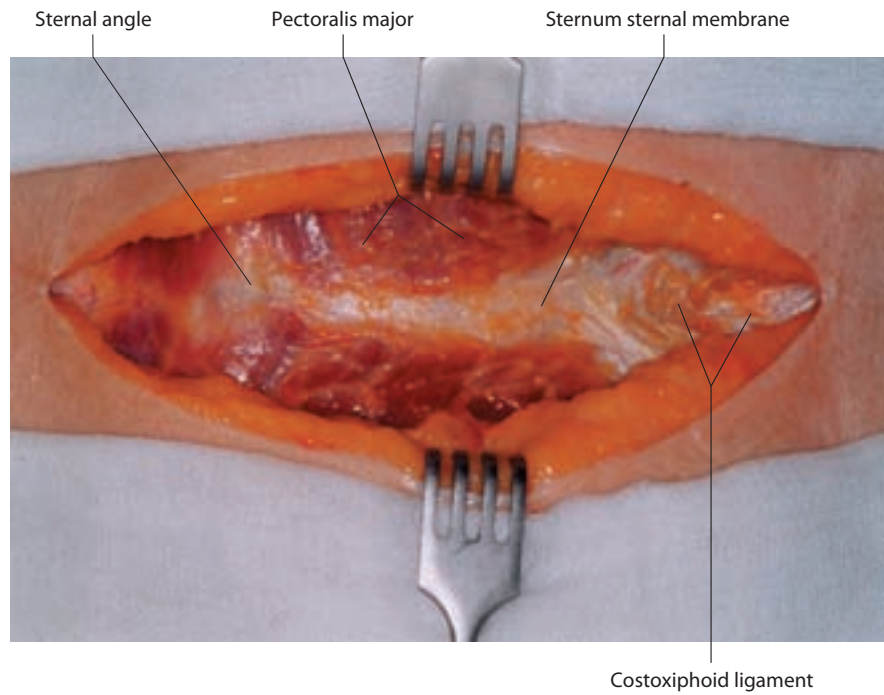


Fig. 2.3. Subcutaneous structures (head is on the left-hand side)

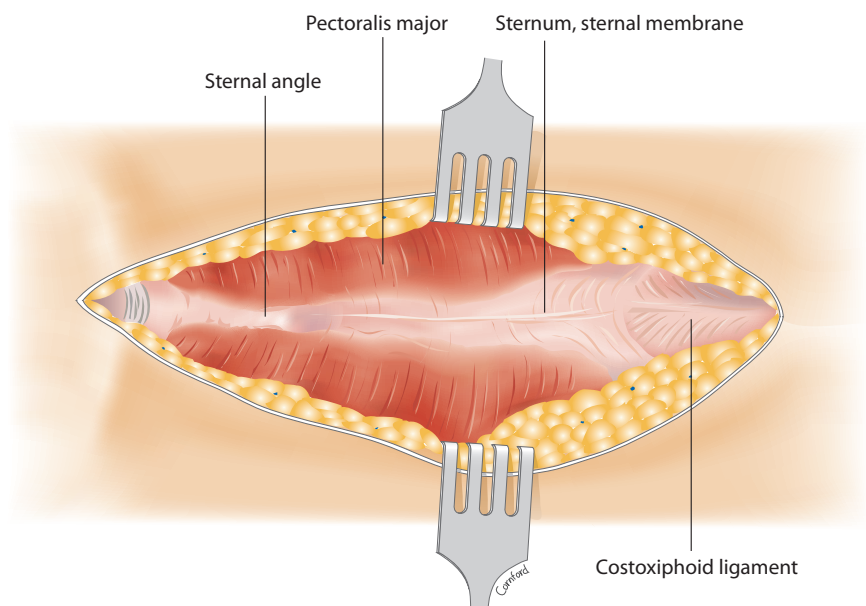


Fig. 2.4. Subcutaneous structure, schematic drawing (head is on the left-hand side)

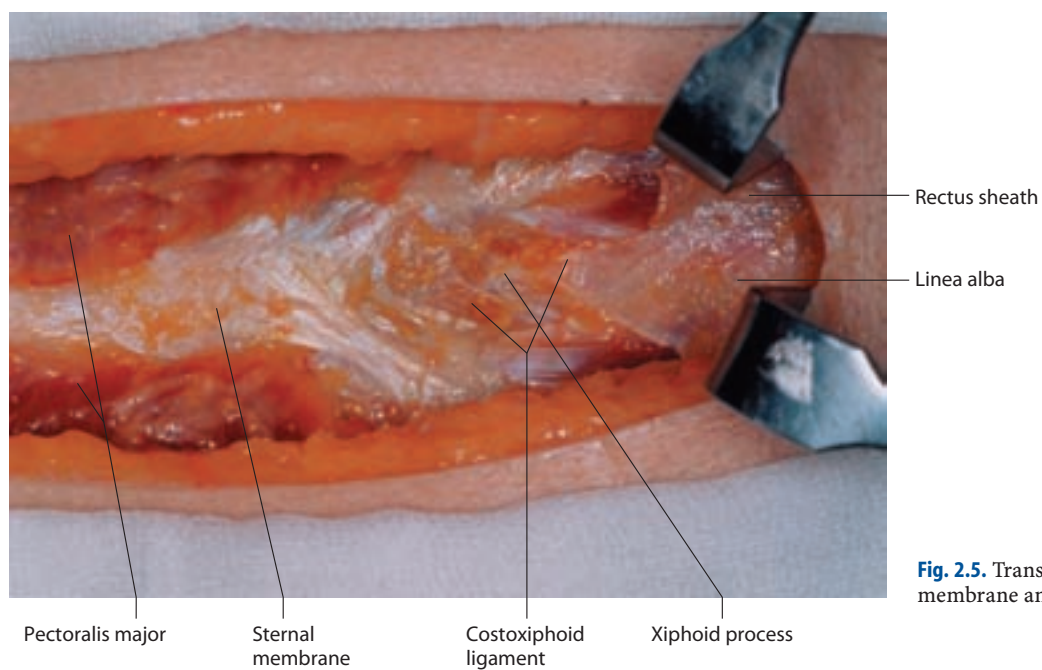


Fig. 2.5. Transition between the sternal membrane and the rectus sheath

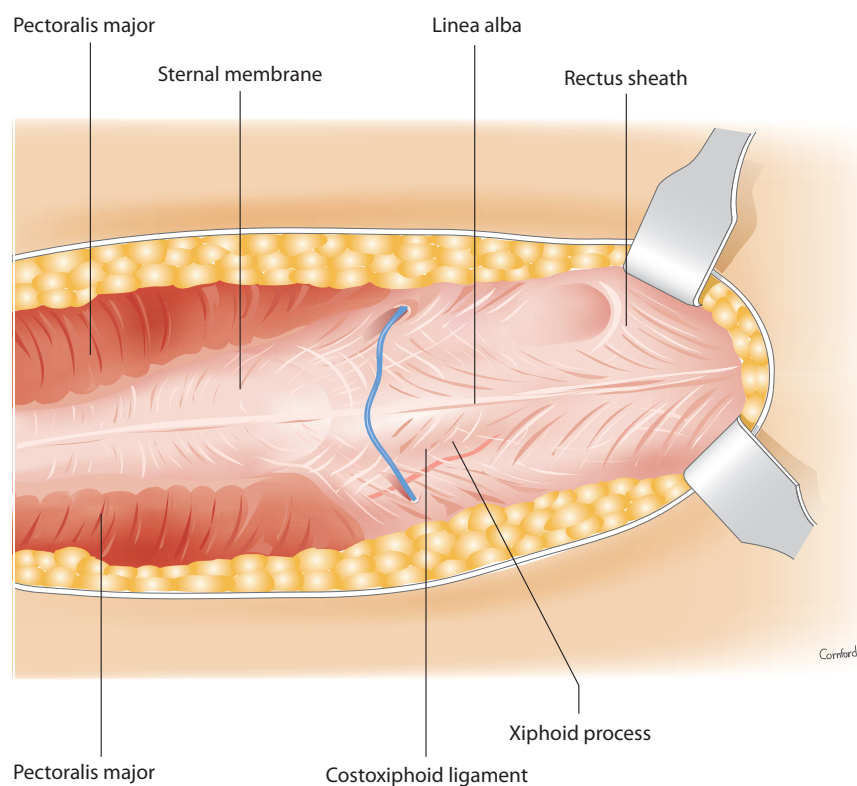


Fig. 2.6. Transition between the sternal membrane and the rectus sheath, schematic drawing

In the jugular notch, one should pay close attention to the intrajugular vein and ligament (Figs. 2.7 and 2.8). Very important landmarks of this region are the bilateral insertions of the sternocleidomastoid muscle on the sternoclavicular joint. Lateral and cranial to the articulation is the clavicular part of the pectoralis major (Figs. 2.7 and 2.8). The intrajugular ligament is located between the insertions of the left and right sternocleidomastoid muscles. This ligament is an extension of the fibrous sternoclavicular joint capsule, and is located in the jugular notch, medial to the sternoclavicular joint. Inferiorly, it inserts directly onto the sternal periosteum. The topographical location of the intrajugular ligament shows that its incision is necessary for a successful sternal division.

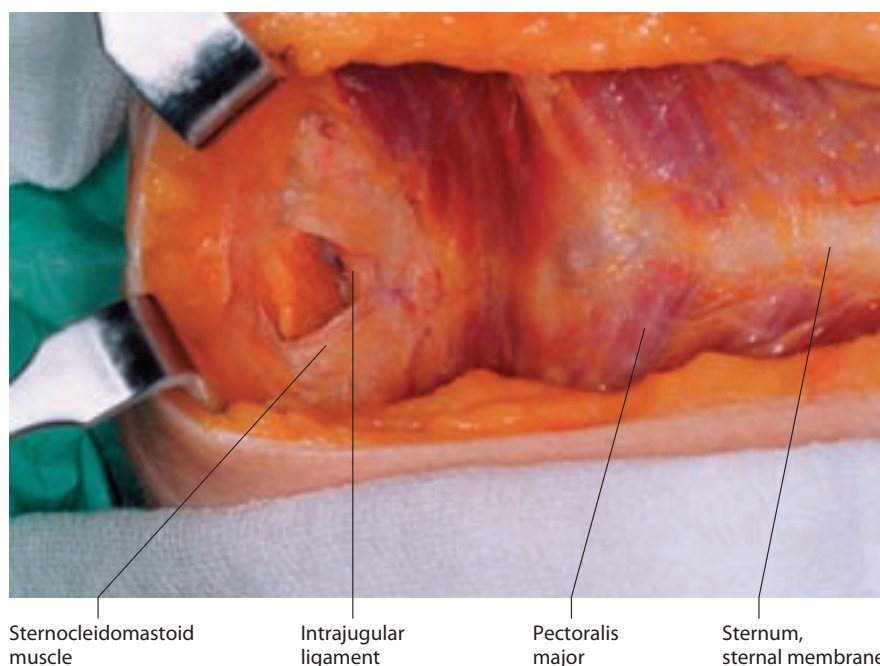


Fig. 2.7. Intrajugular space with exposure of the intrajugular ligament

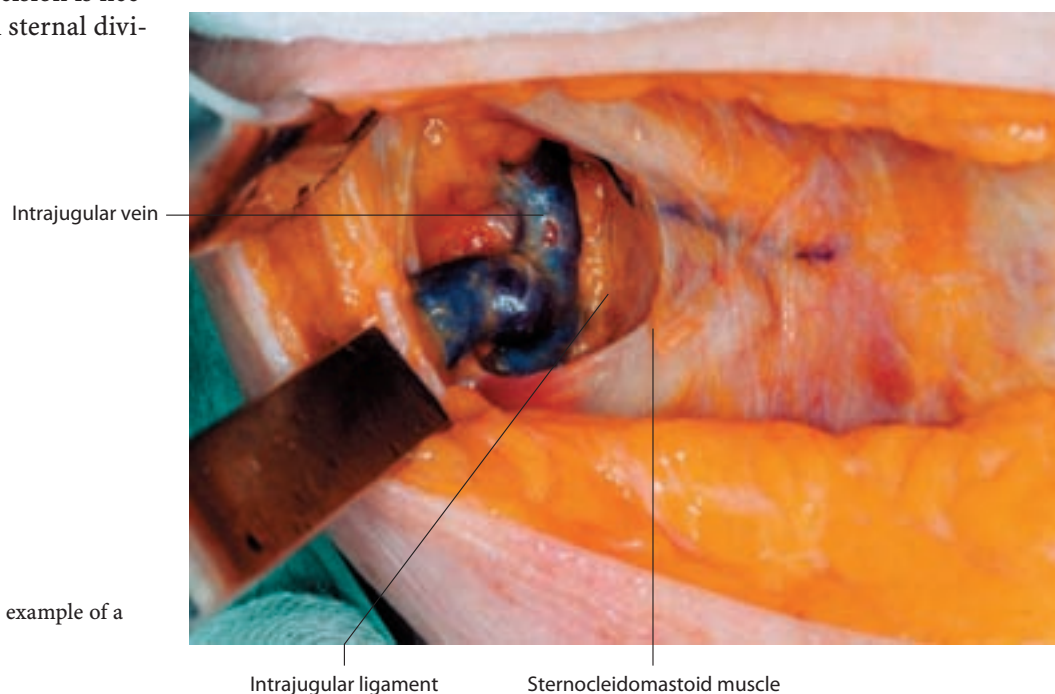


Fig. 2.8. Intrajugular space; example of a dilated intrajugular vein



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