

Intercostal and Paravertebral blocks

The ribs are seen on ultrasound as bright curved reflectors with prominent shadowing behind. If palpation of the rib is difficult or for paravertebral block over the medial rib the ultrasound can accurately guide a needle down, using an across plane approach to contact the rib as a starting point for the block. Ultrasound has also been described to guide needles away from the pleura for intercostal block.

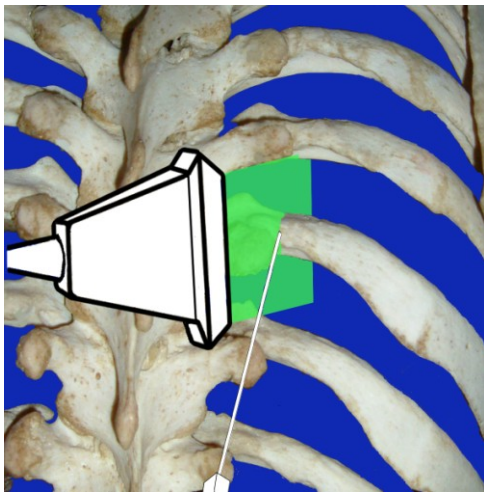


Fig 4.32 probe and needle position for in plane paravertebral block

For paravertebral block the ultrasound may be used to either guide the needle to the proximal rib or transverse process, or to complete the whole block under imaging. This is technically challenging for one operator. The block should be completed using a loss of resistance technique which is difficult to perform under imaging

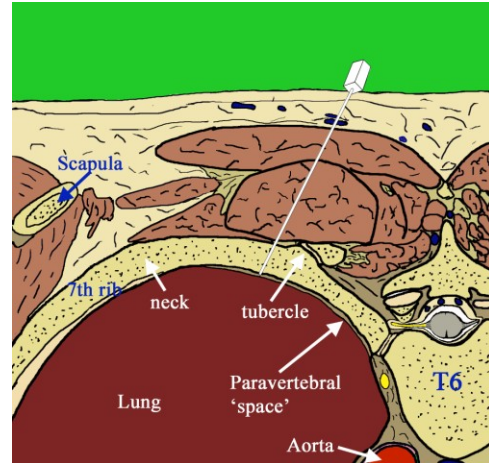


Fig 4.33 section through T6 and 7th rib showing the needle direction for paravertebral block

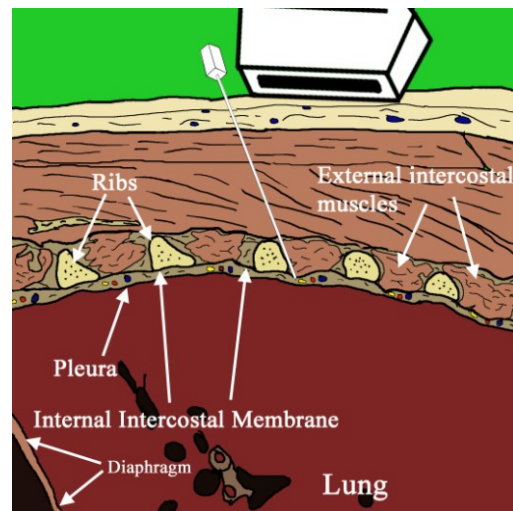


Fig 4.34 diagram of longitudinal anatomy for paravertebral block

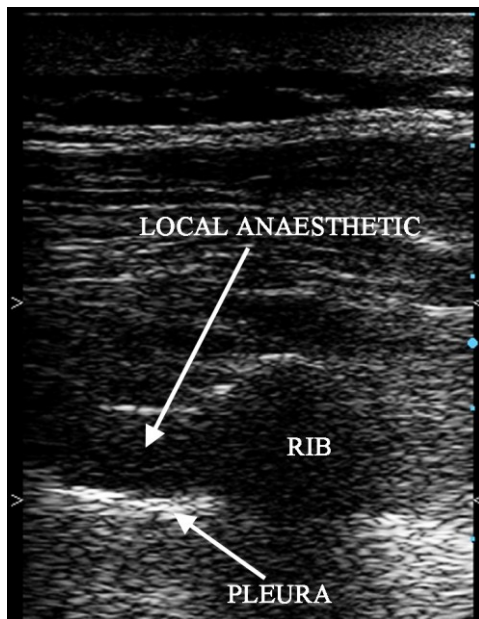


Fig 4.35 sonogram of paravertebral block after injection of local anaesthetic

In describing this ultrasound guided procedure it has been assumed that attention has been paid to appropriate location, personnel, sterility, preparation, doses and technique necessary for the safe conduct of major nerve blocks and other procedures. These medical procedures should not be attempted without suitable qualifications

Acknowledgements

Thanks go to the Ecole Polytechnique Federale de Lausanne for the excellent anatomical slices that can be obtained from the data set of the Visible Human Project via their website at <http://visiblehuman.epfl.ch/>