

Pleural puncture (pediatrics)

Urgent indication

- *pneumothorax*, especially tension.

Execution

- child is in a supine position;
- if there is time, we will perform adequate analgosedation;
- the injection is made above the upper edge of the rib in the medioclavicular line in the 2nd-3rd. intercostals.

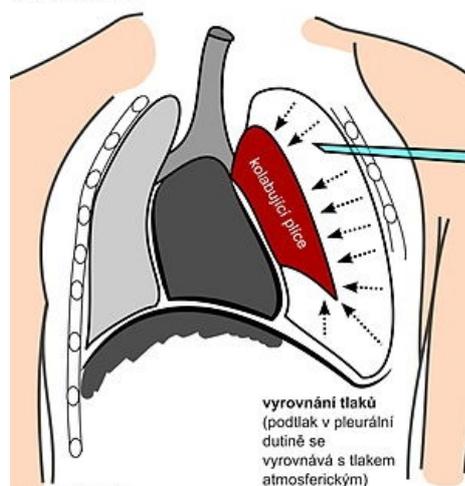
⚠ The upper edge of the rib must be respected because of possible injury to the nerve-vascular bundle that runs along the lower edge of the rib

- 2nd intercostal is located immediately below the clavicle;
- we preferably use i.v. "blue" cannula (22G cannula for newborns, 18G cannula for the elderly);
- after penetration into the interpleural space, we pull out the needle and introduce the cannula deeper;
- urgent air evacuation is carried out using a syringe, otherwise it is better to connect the cannula using a connecting tube and a three-way cock to a 20 ml syringe, which we then evacuate the air;
- in the case of a super-urgency with a tension PNO, we convert the tension PNO to an open one using a needle or, better, a set of needles.

Definitive treatment consists in the introduction of a chest drain with active suction;

- the patient is in a supine position, the affected side can be slightly supported, the hand on the affected side is raised behind the head;
- the injection site is the 4th or 5th intercostal space between the front and middle axillary lines, we disinfect the injection site, cover and infiltrate with 1% mesocaine;
- at the injection site, we make a small horizontal skin incision with a scalpel, through it we then bluntly penetrate the upper edge of the rib (again, we must protect the nerve-vascular bundle running along the lower edge); drain is captured in the pean and introduced into the pleural cavity;
- penetration is manifested by a sudden loss of resistance;
- we close the incision, fix the drain and connect it to continuous suction with negative pressure (*system according to Bülow or aqua seal*).

Pneumothorax



Scheme of puncture of an extensive left-sided pneumothorax



Drainage systems in pediatric patients

Links

Source

- HAVRÁNEK, Jiří: *Pleural puncture*. (edited)

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