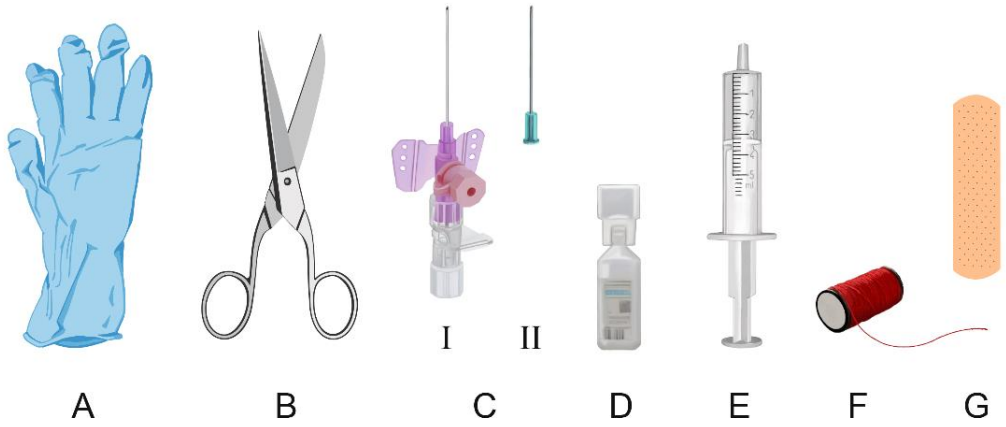
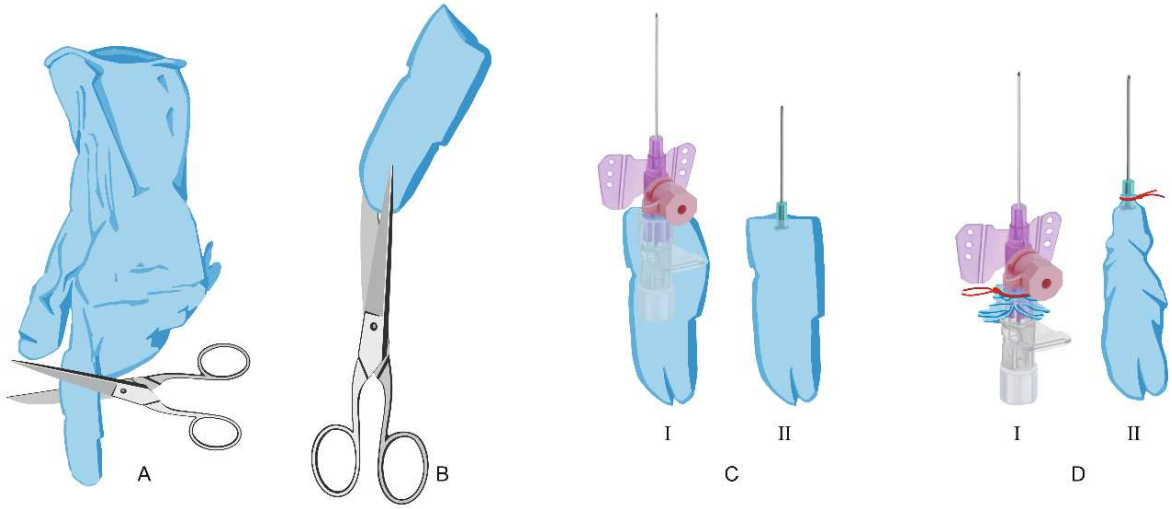
Instruction manual: Heimlich valve

1. Necessary equipment



A: glove **B:** scissors **C:** largest possible peripheral venous catheter with retractable needle (I) or hollow needle (II) **D:** sterile liquid (e.g. NaCl 0.9%) **E:** syringe **F:** thread **G:** plasters

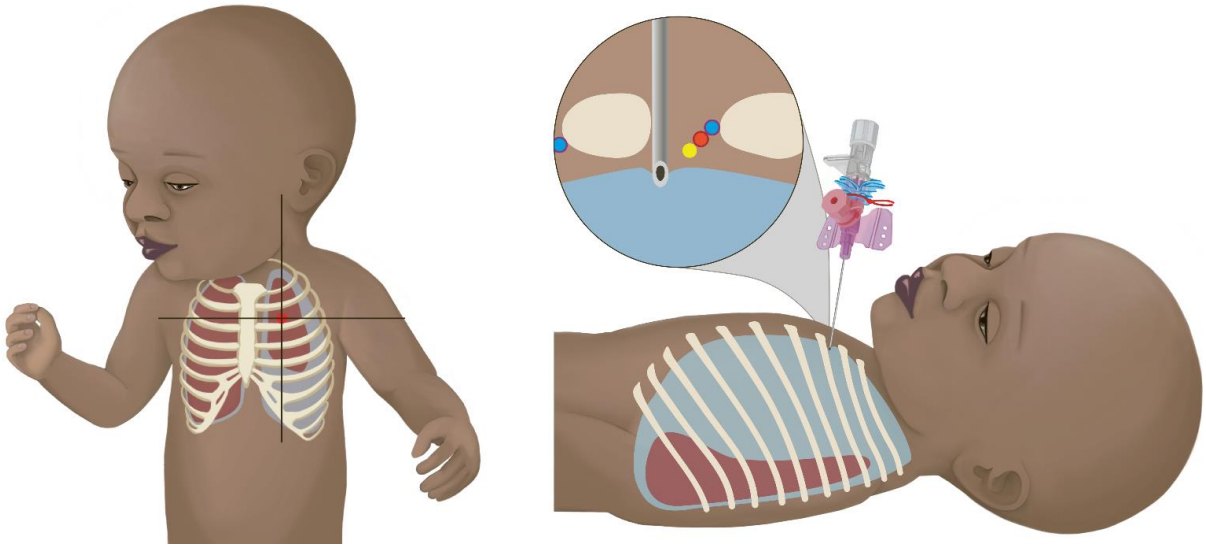
2. Preparations



A: Cut a fingerstall off the glove. **B:** Cut a 1 cm wide opening into the fingerstall. **C:** Put the fingerstall onto the peripheral venous catheter so that the needle will still be retractable (I) respectively put the fingerstall onto the plastic opening of the hollow needle (II). **D:** Tie the thread tightly around the fingerstall to secure it to the peripheral venous catheter (I) respectively the hollow needle (II).

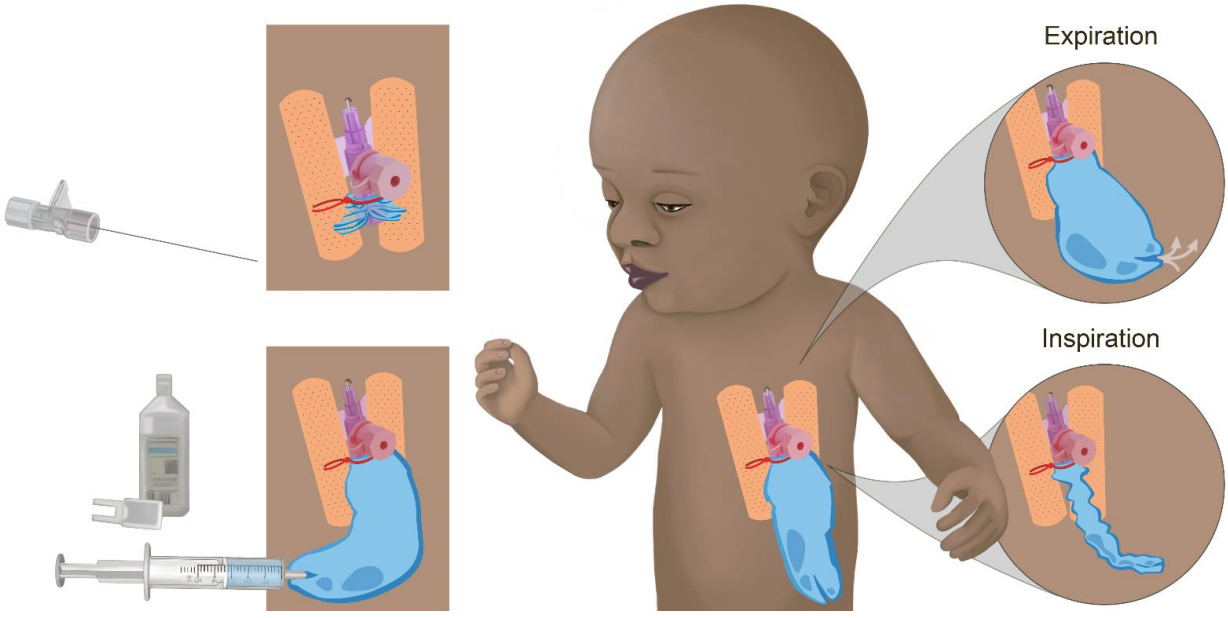
Merscher Alves MB, *et al. BMJ Case Rep* 2021; 14:e235801. doi: 10.1136/bcr-2020-235801

3. Thoracentesis



After thorough disinfection of the skin, insert the peripheral venous catheter respectively the hollow needle perpendicularly into the mid-scapular line at the upper border of the rib of the second intercostal space sparing the intercostal vessels and nerves.

4. Drainage



Retrieve the needle if a peripheral venous catheter was used and insert the plastic catheter fully into the chest. If a hollow needle was used, insert it as deeply into the chest as necessary without risking dislocation. You should hear the air escaping. Fix the cannula well to the skin using plasters. Expand the fingerstall and add some drops of sterile liquid (e.g. NaCl 0.9%) into its lumen to increase the adhesiveness. You should see the fingerstall inflate upon expiration and collapse upon inspiration.

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