

Then use contact spray (👉) or gel to ensure good skin contact with the first electrode **V₁ (red)**, which is applied in a right parasternal position in the fourth ICS (**Fig. 37.1**): With a vacuum system, press (👇) the electrode firmly in place (**Fig. 37.2**). The second chest wall electrode **V₂ (yellow)** is applied on the opposite side in a parasternal position in the right fourth ICS. Next apply the fourth electrode **V₄ (brown)** in the fifth ICS in the left midclavicular line (MCL, **Fig. 37.3**) before you place the third electrode **V₃ (green)** on the fifth rib (**Fig. 37.4**) between the other leads. To remember how to place V₁-V₃ just think of the traffic light rule.



Fig. 37.1 **V₁**: Right parasternal 4th ICS.

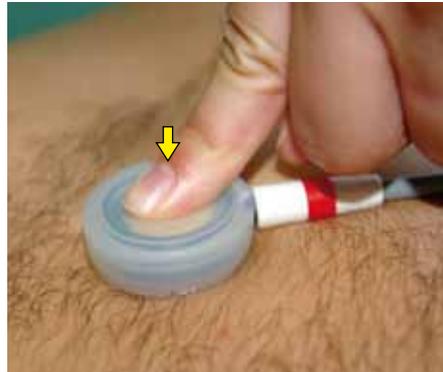


Fig. 37.2 Press



Fig. 37.3 **V₄**: 5th ICS in left MCL.



Fig. 37.4 **V₃**: between **V₂** and **V₄**.



Fig. 37.5 **V₆**: Left MAL



Fig. 37.6 **V₅**: Left VAL

The sixth electrode **V₆ (purple)** is placed at the same level, but farther lateral in the mid-axial line (MAL, **Fig. 37.5**). The fifth electrode **V₅ (black)** is placed between them in the left VAL (**Fig. 37.6**). Next the extremities are connected, again according to the traffic light rule clockwise: **red** on the right arm, **yellow** on the left arm, **green** on the left leg, and the ground electrode (**black**) on the right leg (**Fig. 37.7**).

To avoid distortions of the ECG curve and other artifacts, again verify that the electrodes have proper skin contact. In Europe a recording speed of 50 mm/second is usually preselected. This may be supplemented by a „rhythm strip“ at 25 mm/second.

Usually the bipolar limb leads I-III described by Einthoven; the unipolar limb leads aVR, aVL, and aVF described by Goldberger; and the unipolar chest wall leads V₁-V₆ described by Wilson are each recorded for 15 seconds. In suspected ischemia of the posterior wall, the leads V₇-V₉ (not described here) may also become relevant.



Fig. 37.7 Green and black.

After you have closed () the clamp again (**Fig. 123.1**), prepare the next syringe with diluted heparin solution (100 IU/mL) or other appropriate solutions, open the clamp, and inject () the solution into this catheter line (**Fig. 123.2**). The catheter lumen holds only 1.5-2 mL. After injection, the clamp must of course be closed again (  in **Fig. 123.3**). Finally, disinfect the connector (**Fig. 123.4**), screw on a new sterile cap clockwise ( , **Fig. 123.5**), and pack the catheter in a sterile compress (**Fig. 123.6**).



Fig. 123.1 Close clamp



Fig. 123.2 Flush with heparin.

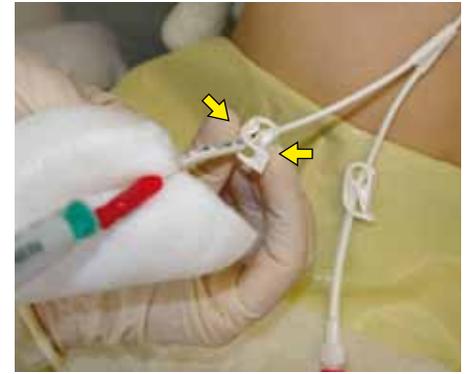


Fig. 123.3 Close clamp



Fig. 123.4 Final disinfection



Fig. 123.5 New cap



Fig. 123.6 Sterile compress

Wrap both catheter lines in the sterile compress (**Fig. 123.7**) and seal this envelope with two adhesive strips (**Fig. 123.8**). This assembly is then inserted () into a small fabric pouch that the patients can tie around their neck under their clothes (**Fig. 123.9**).

To prevent the spread of pathogens, carefully turn your gloves inside out and discard them. Then complete the procedure with hygienic hand disinfection.



Fig. 123.7 Sterile compress



Fig. 123.8 Wrap and seal.



Fig. 123.9 Carrying bag

Now remove the indwelling catheter from its sterile inner packaging, opening the packaging at its perforation (↖ ↗ in Fig. 145.1), twist off the locking cap (↻) on the 10-mL syringe with distilled water (Fig. 145.2), and test (↗) whether the balloon can be readily inflated (Fig. 145.3). Check the balloon for patency (↔) by applying slight finger pressure (Fig. 145.4) and then draw all the distilled water out of it again (↘ in Fig. 145.5). These steps naturally do not apply to disposable catheters as there is no balloon. Now spread out the sterile drape that you had previously placed between the patient's thighs (Fig. 145.6, shown here on a dummy) and disinfect the labia majora with the first two swabs (Fig. 145.7). Most sets include six or more swabs.



Fig. 145.1 Remove indwelling catheter.



Fig. 145.2 Syringe with distilled H₂O.

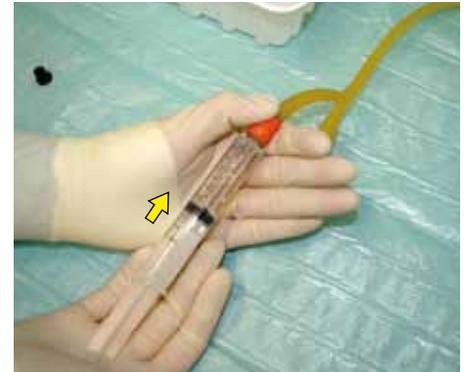


Fig. 145.3 Test injection

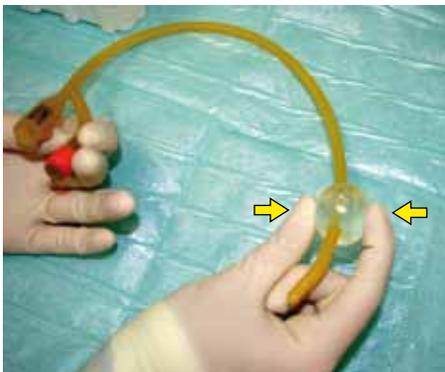


Fig. 145.4 Balloon watertight?

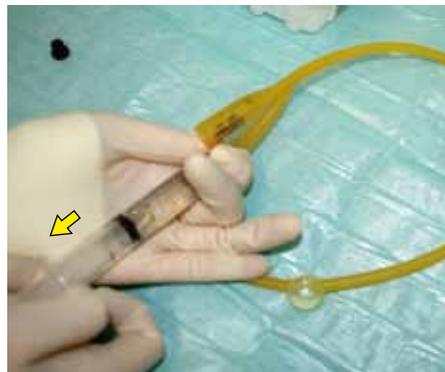


Fig. 145.5 Empty balloon



Fig. 145.6 Spread out drape.

Next spread the labia majora with your left hand (↕ ↘) and disinfect the labia minora with the third and fourth swabs (Fig. 145.8). With the fifth swab disinfect the urethral meatus (Fig. 145.9) and with the sixth swab the vaginal introitus (Fig. 145.10). The last swab can remain in front of the introitus.



Fig. 145.7 1/2: Labia majora

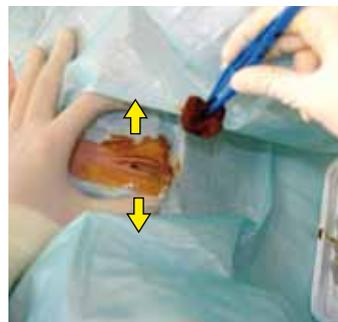


Fig. 145.8 3/4: Labia minora



Fig. 145.9 5: Urethra



Fig. 145.10 6: Vaginal introitus