

Medical Safety Information

Pharmaceuticals and Medical Devices Agency

pmda No. 48 January 2016

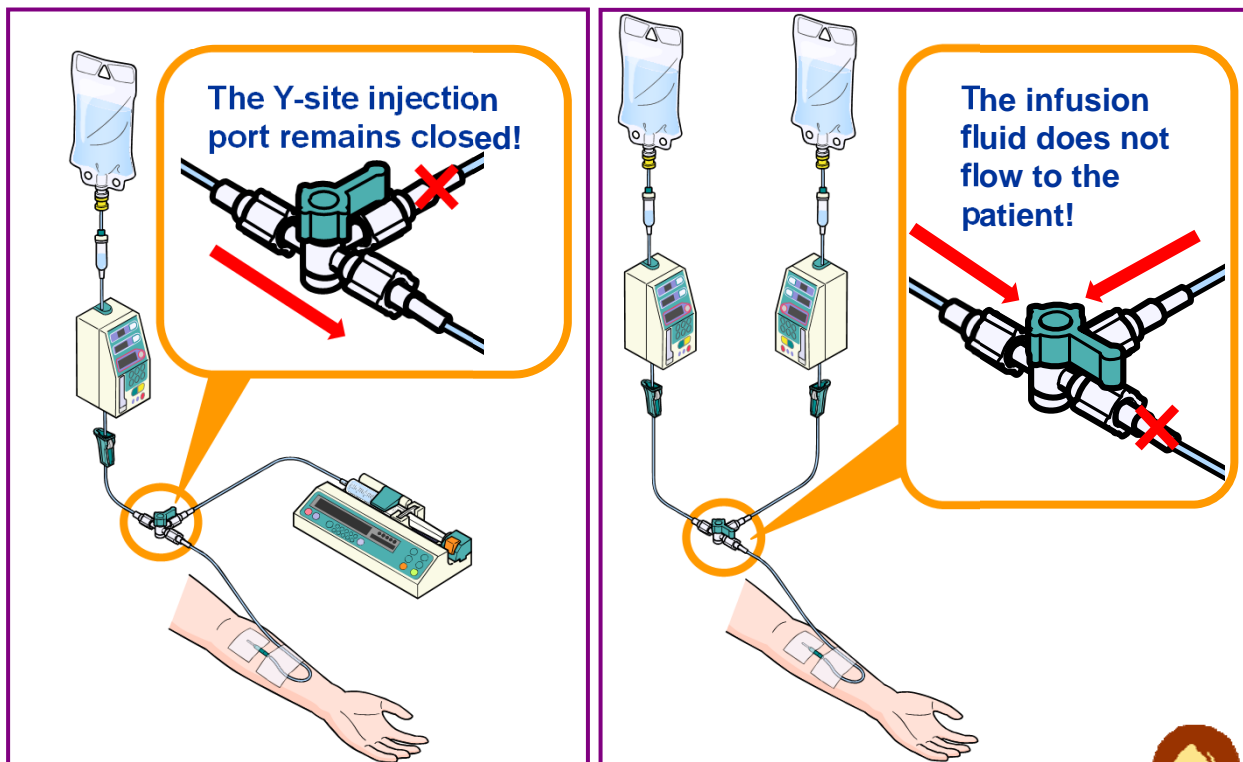
Precautions in handling of Three-way Stopcocks

POINT Key points for safe use

- (Case 1)** The intravenous (IV) drip tube was connected to the Y-site injection port without changing the direction of the three-way stopcock, resulting in the stoppage of the drug solution for 30 minutes. The error was noticed after the obstruction alarm of the syringe pump sounded.
- (Case 2)** The patient-end of the three-way stopcock was temporarily turned OFF for a procedure. The obstruction alarm of the infusion pump sounded as the flow to the patient was not turned back ON after the procedure was completed.

1 Precautions when using three-way stopcocks (Point 1)

- Confirm the positioning of the cock/bar when using a three-way stopcock.



There are many situations that require confirmation of the positioning of the cock/bar.
Make it a habit to **always confirm the flow of the drug solution after operating the three-way stopcock.**

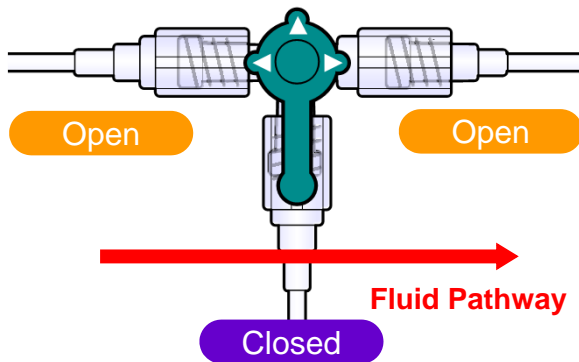


Differences in types, shapes, and functions of three-way stopcocks



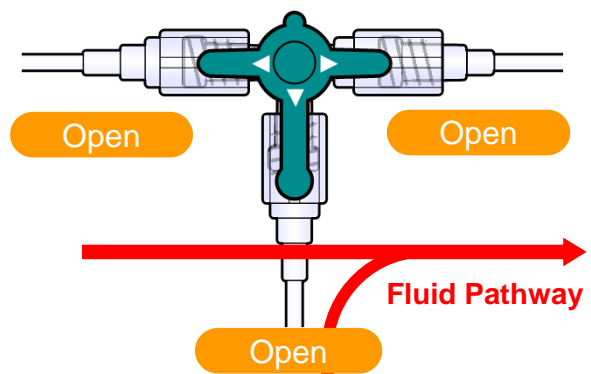
The “closed” and “open” fluid pathway indicated by the positioning of the cock/bar is reversed for a 1-bar type and a 3-bar type stopcock.
Make sure to confirm the fluid pathway as well as the cock/bar.

1-bar type



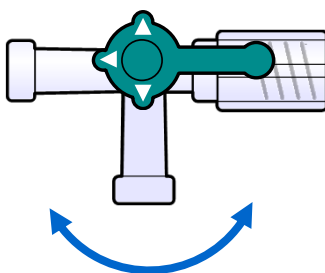
The cock/bar indicates **closed** fluid paths.

3-bar type



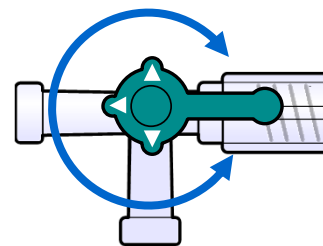
The cock/bar indicates **open** fluid paths.

180° Rotation

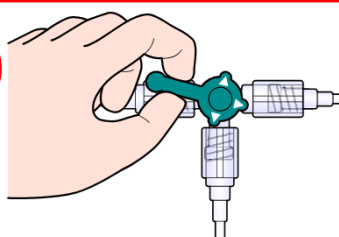


The cock/bar opens 2 ports.

360° Rotation



The cock/bar opens 3 ports.

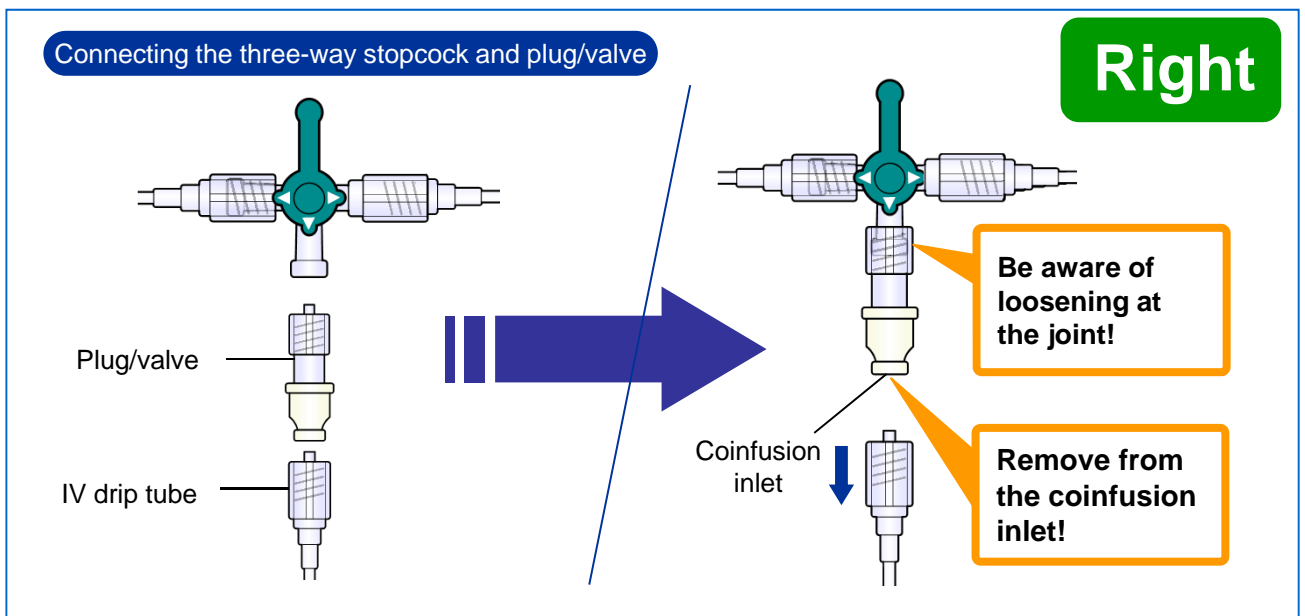
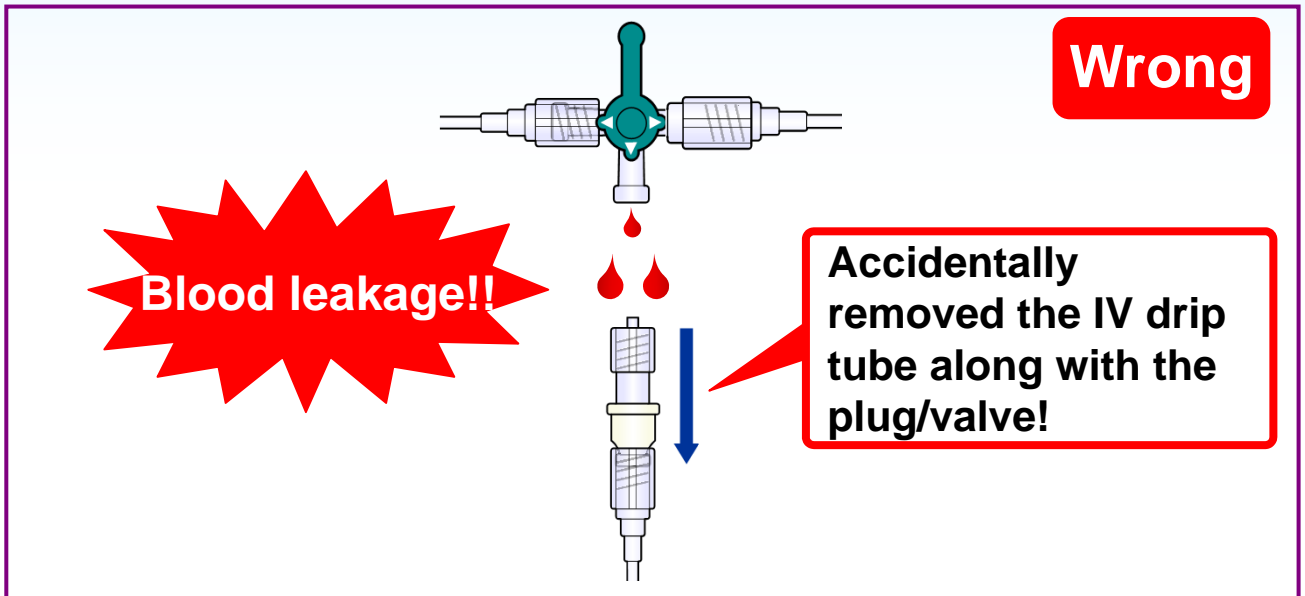


Do not rotate the 180° rotation stopcock more than 180° !
(The cock/bar will lift up and may cause drug solution to leak)

(Case 3) A plug/valve and IV drip tube were connected to a three-way stopcock to administer antibiotics. After administration of antibiotics, the plug was accidentally removed along with the IV drip tube and the patient's blood leaked out.

2 Precautions when using three-way stopcocks (Point 2)

- When removing an IV drip tube from a three-way stopcock, make sure not to accidentally remove the plug/valve.



Three-way stopcock with an in-built plug/valve

Does not come off

There are “three-way stopcock with an in-built plug/valve” as well.

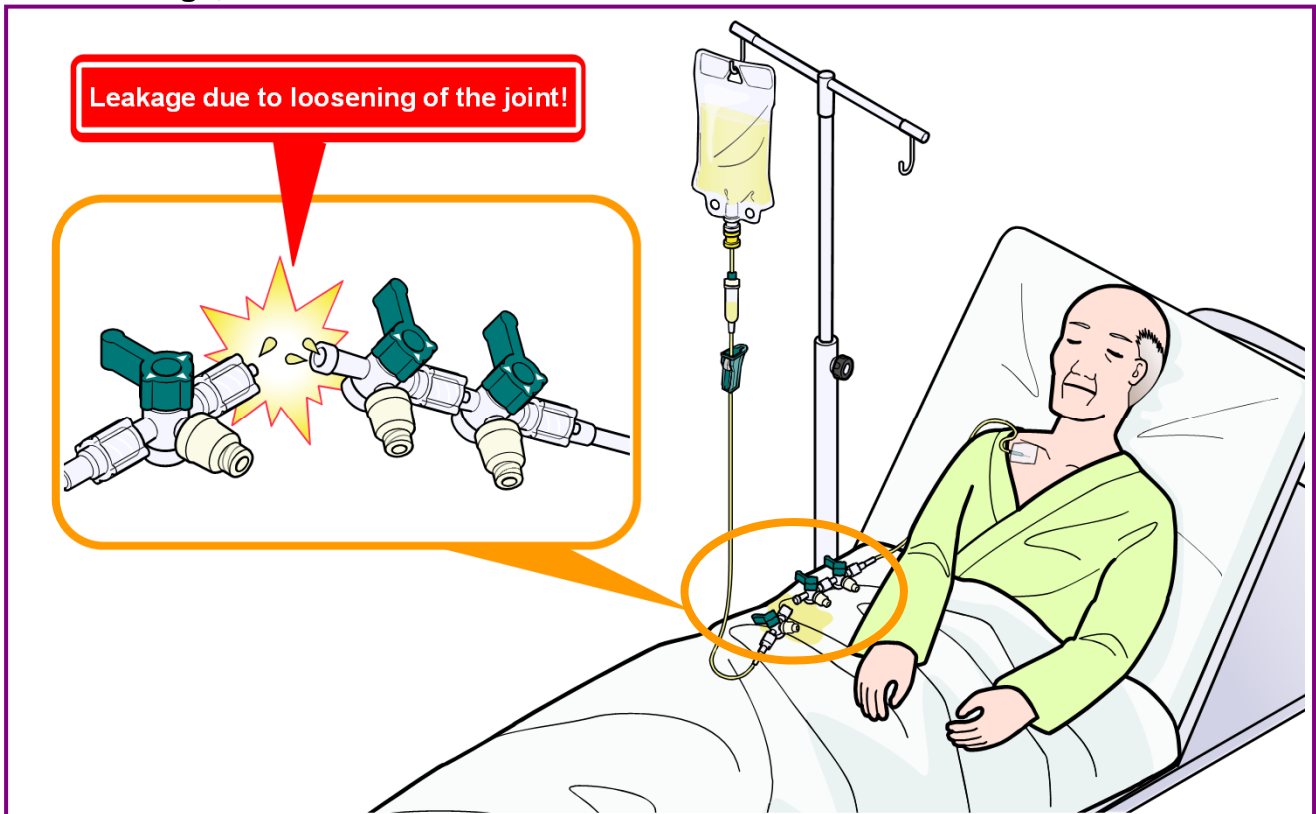
Always confirm whether the stopcock you are using has an in-built plug/valve or not.



(Case 4) Several three-way stopcocks were connected together to the central venous catheter. A while after reclining the bed, the joint between the three-way stopcocks loosened, and blood as well as infusion fluid leaked out.

2 Precautions when using three-way stopcocks (Point 3)

- If it is necessary to connect several three-way stopcocks together, be cautious about loosening and breaking of the joint due to being pinched or pulled by the body, etc.
- Regularly check that there is no loosening and/or shifting of the joint or fluid leakage, etc.



When three-way stopcocks are connected together, there is a risk of breakage or loosening of the joint. Avoid connecting three-way stopcocks together as much as possible.



About this information

- * PMDA Medical Safety Information is issued by the Pharmaceuticals and Medical Devices Agency for the purpose of providing healthcare providers with clearer information from the perspective of promoting the safe use of pharmaceuticals and medical devices. The information presented here has been compiled, with the assistance of expert advice, from cases collected as Medical Accident Information Reports by the Japan Council for Quality Health Care, and collected as Adverse Drug Reaction and Malfunction Reports in accordance with the Pharmaceutical Affairs Law.
- * We have tried to ensure the accuracy of this information at the time of its compilation but do not guarantee its accuracy in the future.
- * This information is not intended to impose constraints on the discretion of healthcare professionals or to impose obligations and responsibility on them, but is provided as a support to promote the safe use of pharmaceuticals and medical devices by healthcare professionals.

Access to the most up to date safety information is available via PMDA medi-navi.

