Precautions in Handling of Radiopharmaceuticals for Injection

**Key points for safe use**

*(Case)* Technetium-99m (99mTc) was supposed to be injected for bone scintigraphy. However, medical staff mistakenly injected iodine-123 (123I) which was placed beside 99mTc for cerebral blood flow measurement in another patient.

1. **Precaution on mix-ups of radiopharmaceuticals for injection**

   - Caution should be exercised so that mix-ups do not occur when handling multiple radiopharmaceuticals for injection.

Radiopharmaceuticals for injection look very similar, as they are covered by a syringe shield made of lead, etc. Measures to avoid mix-ups should be taken.
Preparation of radiopharmaceuticals for injection

**Vial type**

1. Container shield
2. Radiopharmaceutical for injection
3. Assemble a syringe shield and a disposable syringe and draw the drug into the syringe.

**Prefilled syringe type**

1. Container shield
2. Syringe shield
3. Plunger
4. Radiopharmaceutical for injection
5. Connect a plunger to a syringe in a container shield to pull out the syringe.

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Assemble a syringe shield and a disposable syringe and draw the drug into the syringe.
2 Measure to avoid mix-up

- Make sure to use identification labels indicating notes such as the patient's name when preparing radiopharmaceuticals for injection.

Example of identification labels

- Patient identification label
- Drug identification label
- Body part identification label

Identification labels to affix to the syringe can be provided by the manufacturers. Make sure to use them to avoid mix-ups!!

Besides affixing the identification label on the syringe, do not prepare several injections on one tray, but prepare one injection on one tray when handling multiple radiopharmaceutical injections.