Report from a French incident

Loss of an Iridium 192 wire in a brachytherapy department (Report No. 2)

Description of the incident

Iridium-192 wires were used for the treatment of genital cancer by endocavitary brachytherapy using a vaginal mould. At the end of the treatment, the doctor first withdrew the Ir-192 wires (whose number had not been specified) without counting them and then removed the vaginal mould. During this procedure, one of the wires was left in the mould.

During the subsequent cleaning of the mould, the wire slipped and became lodged into a groove in the washing mat. However, this was not noticed at the time.

The next day, after checking the container where wires are stored, the radio-physicist noted the absence of a wire. A search with a radiation meter revealed the location of the missing wire.

Radiological consequences

No estimates of the doses potentially received by persons were reported; and the linear activity or the length of the wire were not specified either. However, assuming typical dose rates for this type of source (3 mSv/h on contact and 20 µSv/hr. at 1 m), the doses received from this specific incident are thought to have been low (probably only a few µSv).

Lessons to be learned from the incident

During the placement of iridium-192 wires, it is imperative the number of wires used is known and recorded, and that they are counted when removed.

A simple radiation check of the mould would immediately show whether a wire is still present.

The radiation physicist should check the inventory of radioactive sources at the end of each working day, and the source records updated accordingly.