STUDY CASE N° 8: RADIOGRAPHY INCIDENT IN ITALY

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❑ Description of the incident

In May 1992, a 19-year-old radiographer, on the first day of his employment, received a significant overexposure, while performing his first radiography on a part of a gas duct in an open site. The source he was using was an iridium-192 source of about 1480 GBq (40 Ci). He was working completely alone and had been given almost no training and extremely poor information by his employer. At some stage the source became disconnected from the drive cable and he found it on the ground. He was not able to immediately recognize it as the source, picked it up to examine it and tried to insert it in the projection sheath. All these actions lasted 2 to 3 minutes.

The evening of the same day, his hands grew swollen and red. The young radiographer was admitted to the nearest hospital with radiation dermatitis.

His doses were estimated as follows:

- Whole body dose: 499 mSv;
- Eye lens dose: 151 – 517 mSv;
- Hand dose: 74 – 113 Gy.

The events that caused the overexposure can be summarized as follows:

a) The radiographer was left alone by the person in charge of his training during the exposure with a gammagraphic apparatus, whose operating conditions had not been regularly checked;

b) He had inadequate training, and no accurate information about the risks connected with the use of ionizing radiations;

c) He had never seen a diagram, nor a picture of a source;

d) He was not aware that he should use his portable monitor, nor did anyone tell him to switch it on.

❑ Lessons learned

Training and Information for workers: This is a duty on the responsible administrators of the firms, at least in Italy. Usually they transfer this task to the qualified expert; but it is not always the case; they sometimes disregard this task, with heavy consequences. It is absolutely essential that appropriate training is provided.

Management: Providing training is one aspect of radiological protection but this is just one part of an overall approach to managing radiation protection.