Identifying best practice through the unification of guidelines for patient preparation, immobilization and imaging in four radiotherapy centers in two countries

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PURPOSE

The purpose of this project is to create unified guidelines for the preparation, immobilization and imaging of patients that will undergo radiation therapy in four centers in two countries, in order to ensure safe and best practice.

METHOD

A working group comprising of one medical physicist (MP) and one radiation therapy technologist (RTT) from each center was formed. The following categories were defined for the scope of the project:

I  Head and head & neck: for brain, head and neck and craniocervical irradiation
II  Pelvis: for gynecological, anus, rectum and genitourinary system irradiation
III  Chest: for lung, breast, pancreas, gastric system and esophageal irradiation
IV  Limbs: for lower and upper limbs irradiation
V  Individual: for the construction of individual immobilization vacuum mattresses

A template table was created and distributed to the centers to provide information for the process followed for patient preparation, immobilization and computed tomography (CT) scanning protocol parameters used for each of the above categories, including reference point and radiopaque markers position. Collected data was analyzed and the best guidelines for each category were determined taking into account differences in immobilization devices and imaging, as well as radiation therapy equipment of individual centers.

RESULTS

Following the information obtained from individual centers, a unified technical instruction was created for each category, detailing the immobilization and imaging process to be followed:

CONCLUSIONS

Despite the differences resulting from the use of various equipment for patient immobilization, imaging and treatment and the different practice of teams working in distant centers, a unified process was successfully introduced and adopted by all centers.