

Experience feedback from event, reporting and learning – How to share experience ? The French experience

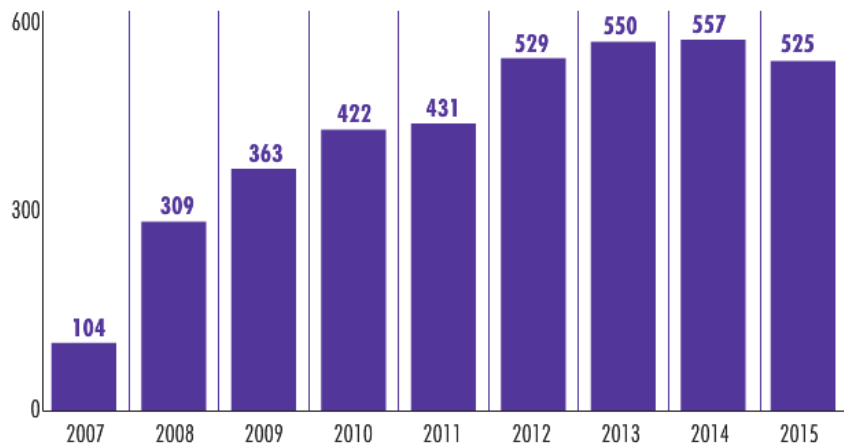
Montrouge, France, 27 Oct 2016

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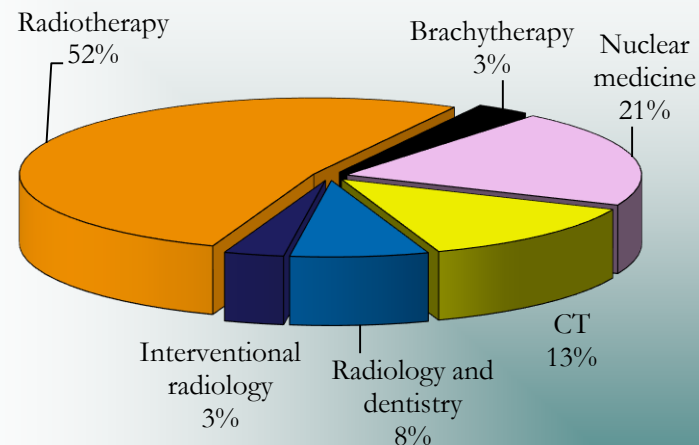
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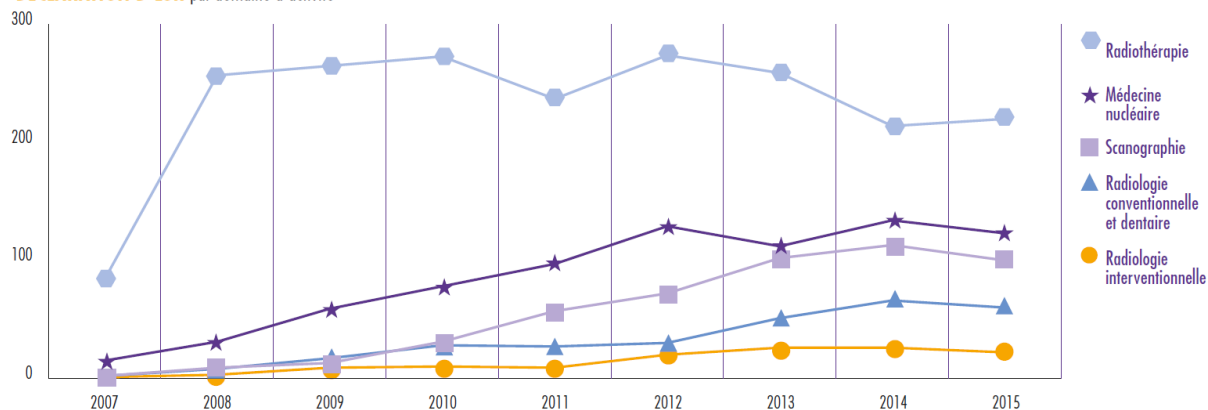
Significant radiation protection events related to the medical use of ionizing radiation



Significant events notified to ASN [2007 - 2015]



DÉCLARATION D'ESR par domaine d'activité



Experience feedback

Radiotherapy

Nuclear medicine

Interventional radiology



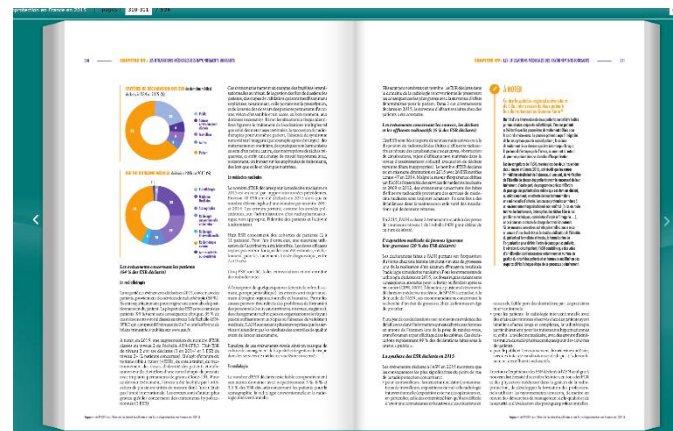
Tools

ASN annual report

http://www.asn.fr/annual_report/2015fr/#310

Letters to professionals on focused topics

<http://professionnels.asn.fr/Activites-medicales/Medecine-nucleaire/Lettres-circulaires-en-medecine-nucleaire>



Lettres circulaires en médecine nucléaire

Retrouvez toutes les lettres circulaires envoyées aux professionnels dans le domaine de la médecine nucléaire

Recherche avancée

Publié le 26/07/2016

Manipulation et administration des médicaments radiopharmaceutiques



Par lettre circulaire du 26 juillet 2016, l'ASN adresse aux professionnels de la médecine nucléaire ses recommandations concernant la manipulation et l'administration des médicaments radiopharmaceutiques (MRP).

Lettre circulaire médecine nucléaire juillet 2016.pdf
(PDF - 240,08 ko)

Publié le 22/05/2013

Recommandations de l'ASN pour la radioprotection des patients



Lettre circulaire de l'ASN concernant les recommandations de l'ASN pour la radioprotection des patients en médecine nucléaire

Recommandations de l'ASN pour la radioprotection des patients.pdf
(PDF - 112,08 ko)

Publié le 17/04/2012

Retour d'expérience sur les fuites de canalisations d'effluents liquides contaminés



Lettre circulaire de l'ASN concernant le retour d'expérience sur les fuites de canalisations d'effluents liquides contaminés en médecine nucléaire

Retour d'expérience sur les fuites de canalisations d'effluents liquides contaminés.pdf
(PDF - 3,03 Mo)

ASN AUTORITÉ DE SÛRETÉ NUCLÉAIRE

Votre recherche : Tout le site

Faire progresser la sûreté nucléaire et la radioprotection

INSTALLATIONS NUCLEAIRES ACTIVITES MEDICALES ACTIVITES VETERINAIRES ACTIVITES INDUSTRIELLES TRANSPORTS SUBSTANCES RADIOACTIVES ACEREMENTS, CONTROLES ET MESURES

Accueil > Activités médicales > Radiothérapie > Lettres circulaires en radiothérapie

Mettre en favoris Partager sur : f t y

ACTIVITÉS MÉDICALES

Lettres circulaires en radiothérapie

Retrouvez toutes les lettres circulaires envoyées aux professionnels dans le domaine de la radiothérapie

Recherche avancée

Publié le 15/10/2018
Recommandations afin de prévenir la survenue d'événements de radioprotection en radiothérapie
Recommandations afin de prévenir la survenue d'événements de radioprotection en radiothérapie liés aux conditions de détermination de la dose absorbée, pour des faisceaux de photons et d'électrons.
 Recommandations afin de prévenir la survenue d'événements de radioprotection en radiothérapie.pdf
(PDF - 131,74 ko)

Publié le 07/05/2015
Asymétries de faisceaux en radiothérapie externe
Diffusion d'une lettre circulaire à tous les centres de radiothérapie sur les recommandations afin de prévenir la survenue d'événements de radioprotection liés à des asymétries de faisceaux en radiothérapie externe et d'améliorer leur détection.
 Lettre-REX-asymetrie.pdf
(PDF - 151,83 ko)

Publié le 02/06/2007
Recommandations aux fabricants relatives aux dispositifs médicaux de radiothérapie
Publication par l'Assaps en liaison avec l'ASN de recommandations aux fabricants relatives aux dispositifs médicaux de radiothérapie
 Recommandations aux fabricants relatives aux dispositifs médicaux de radiothérapie.pdf
(PDF - 291,73 ko)


- > Radiothérapie
- > Actualités dans le domaine de la radiothérapie
- > Bulletin officiel de l'ASN
- > Bilan des événements en radiothérapie
- > Bilan des inspections en radiothérapie
- > Lettres circulaires en radiothérapie
- > Bulletin La sécurité du patient
- > Fiches "Retour d'expérience"
- > Guides de l'ASN dans le domaine de la radiothérapie
- > Formulaires
- > Curiothérapie
- > Médecine nucléaire
- > Radiologie et scanographie

Additional tools in radiotherapy



A website to notify events in radiation therapy

<https://vigie-radiotherapie.asn.fr/>



The screenshot shows the homepage of the VIGIE RADIOTHÉRAPIE portal. At the top, there is a green header with the text "VIGIE RADIOTHÉRAPIE" and "Portail de déclaration des événements significatifs de radioprotection et de matériovigilance en radiothérapie". To the right of the header are the logos for ASN (Autorité de Sûreté Nucléaire) and ANSM (Agence nationale de sécurité du médicament et des produits de santé). Below the header is a navigation bar with links: "ACCUEIL / RÉGLEMENTATIONS / BILANS - PUBLICATIONS / F.A.Q.". A prominent blue button labeled "RÉDIGER UNE DÉCLARATION" is located on the right side of the header. The main content area features a welcome message: "Bienvenue sur le portail de déclaration des événements significatifs de radioprotection et des incidents de matériovigilance en radiothérapie". This is followed by a paragraph explaining the portal's purpose: "Afin de permettre aux professionnels de la radiothérapie de remplir simultanément leurs obligations de déclaration relative à la radioprotection et à la matériovigilance, l'ASN et l'ANSM mettent à disposition un portail de déclaration. Cet outil, s'inscrivant dans le plan national d'actions pour la radiothérapie du ministre de la santé, élaboré avec les professionnels, a pour objet de faciliter les déclarations et permettre de capitaliser les retours d'expérience pour une amélioration constante de l'efficacité et de la sécurité des traitements de radiothérapie, qui occupent une place majeure dans la lutte contre le cancer." Below this, it states: "Ce portail, dédié aux professionnels de la radiothérapie, permet de déclarer aux autorités compétentes :". A bulleted list follows: "• un événement significatif de radioprotection (ESR) relatif à tout incident ou accident susceptible de porter atteinte à la santé des personnes par exposition aux rayonnements ionisants ;", "• un incident de matériovigilance : tout incident ou accident mettant en cause un dispositif ayant entraîné ou susceptible d'entraîner la mort ou la dégradation grave de l'état de santé d'un patient, d'un utilisateur ou d'un tiers,", and "• un événement relevant à la fois de la matériovigilance et de la radioprotection (= événement mixte).". A note mentions: "Les complications observées à la suite d'une radiothérapie et n'ayant pas pour origine un dysfonctionnement identifié au cours du processus de soin ne sont pas à déclarer par l'intermédiaire de ce portail." A red line of text states: "Depuis juillet 2015, toutes les déclarations sont automatiquement transmises aux instances concernées. Il n'est plus nécessaire pour le déclarant de les transmettre manuellement." At the bottom of the main content area is a blue link: "RÉDIGER UNE DÉCLARATION".

About 200 notifications in 2015 (criterion 2.1 (patients))



A working group with radiotherapy professionals

Since 2007, a **working group** with radiotherapy professionals :

- Radiation oncologists
- Medical physicists
- Radiographers



This group first worked on the ASN SFRO scale (see afternoon presentation)



A working group with radiotherapy professionals

A **working group** with radiotherapy professionals :

- Radiation oncologists,
- Medical physicists
- Radiographers,
- Quality and safety engineers in RT



And the participation of national institutions

French Institute for radiation protection and nuclear safety



French health products safety Agency



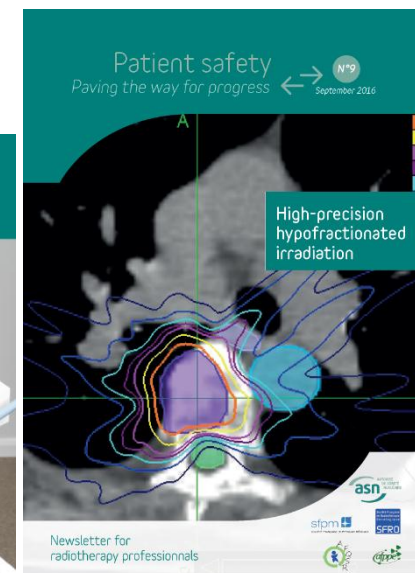
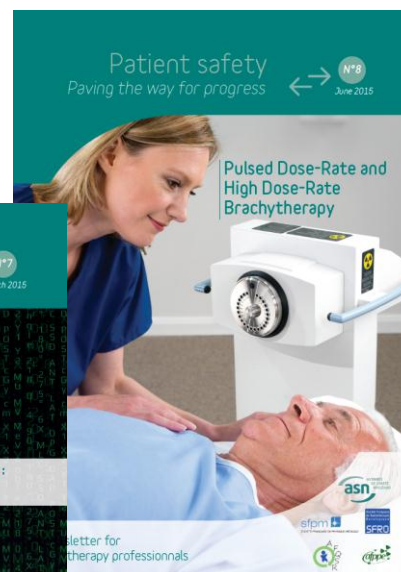
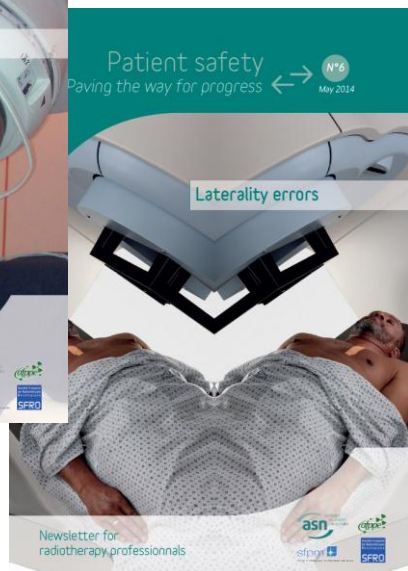
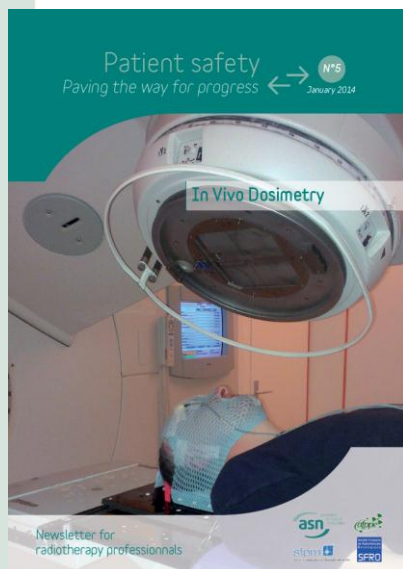
French national Authority for health



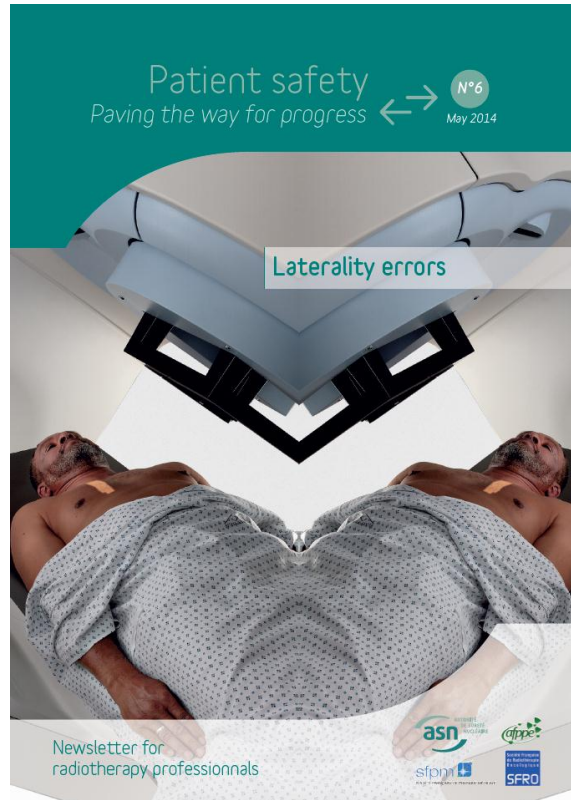
HAUTE AUTORITÉ DE SANTÉ

Ministry of Health

Newsletters for radiotherapy professionals (9 issues)



<http://www.french-nuclear-safety.fr/Information/Publications/Publications-for-the-professionals>

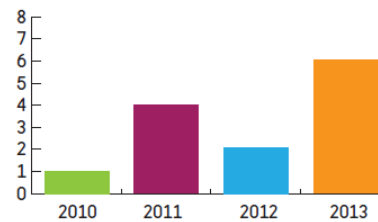


> Key figures

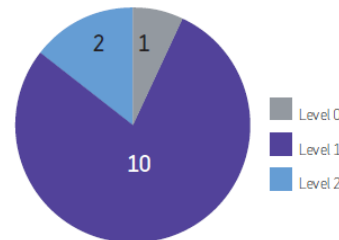
During the 4 years 2010 to 2013, ASN has received 936 notifications of events (SRPE - Significant Radiation Protection Events) in external beam radiotherapy involving a patient.

Among these SRPE, this newsletter decodes 13 laterality errors when delivering treatment. The laterality errors considered do not include organ or level (vertebral) errors. Patient errors having led to a side error arise from an identity monitoring issue covered in newsletter no.1 (March 2011).

Distribution of 13 laterality error notifications since 2010



Classification of 13 laterality error notifications on the ASN-SFRRO scale.



> Decoding

1. Description of events leading to a laterality error

Treatment technique

- conformational radiotherapy for the majority,
- 2 tomotherapies,
- one treatment by neurosurgery.

Number of sessions involved

1 session: 4 SRPE including one single-session treatment (therefore all treatment involved),
Between 3 and 5 sessions: 5 SRPE,
10 sessions and more: 4 SRPE, including one involving almost the entire course of treatment (38/39 sessions).

Who detected the error?

The radiographer detected the error in more than half of cases. The patient was also able to highlight the error on several occasions, as well as the spouse (once). The error was detected by a radiation oncologist on 2 occasions.

Which stage of the clinical radiotherapy process caused the significant event?

Errors leading to the event occurred at:

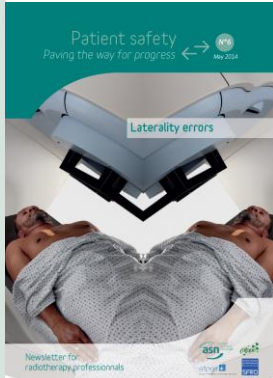
- prescription: 2,
- delineation: 9 (including one error associated with a protocol error),
- treatment planning (dosimetry): 1,
- treatment: 1.



Identified risk situations

- file incomplete at first appointment,
- prescription made without stating the side or by indicating the laterality,
- target volume not visible or poorly visible on imaging (e.g. after a surgical procedure or for prophylactic treatment),
- patient positioning (head to feet - which disturbs the usual positioning markers),
- changing the treatment machine (with possible change of patient's head to feet orientation),
- files handled by a large number of different people (transmission problem).

Newsletters : the content



Decoding •

2. Main causes identified

Organisation of work

Effect of context on the organisation:

- the summer period affects the availability of resources (only one physicist present),
- change of machine: changing the patient's head to feet orientation.

Organisation of side check:

- no rules for checking the side to be treated,
- inconsistent practices,
- non-systematic verification of the side (restricted to certain locations),
- sectorisation of responsibilities (medical vs medical physics),
- confidence at each stage in the previous stage,
- numerous manual inputs into different documents,
- attention given to clinical accuracy (technical data) to the detriment of more general information (side not specified).

Technical tools and devices

- inadequate opening of the field to carry out imaging,
- impossible to project a light field and display rotation of an arm (tomotherapy),
- impossible to record the side to be treated in the software so that it shows up on the treatment console,
- no possibility of positioning imaging (Gamma Knife®),
- no encoding of the table in the R&V to check positioning of the patient,
- merging MRI and CT images not available at the time of delineation.

Patient

- radiotherapy treatment deadlines restricted by the pathological context,
- grouping certain treatment stages on the same day to reduce journeys for patients living a long way from the centre (treatment performed at day 0).

3. Barriers that functioned

- new radiographer who takes up a file in progress,
- seeing healing on the right side to be treated,
- questioning the patient or their spouse about the side to be treated,
- radiation oncologist present at the treatment station during the first session.

4. Improvement actions implemented by the centres involved

- obligation to indicate the side to be treated in the prescription for side-specific irradiation,
- modification of the software to show the side to be treated on the console,
- radiographers question the patient at all treatment stages,
- addition of the side parameter to the checklist for parameters before starting treatment (in dosimetry and treatment),
- check by the physicist of the side of the dosimetry using a checklist,
- check by the radiographer using a checklist, comparing the side treated versus the side prescribed,
- check of the side during weekly staff meeting by reviewing clinical history.

> Centre experience

« Simplify practices for better management of increasingly complex techniques! »



Interview with Dr Philippe LAGARDE, radiation oncologist and manager of the Radiotherapy experience feedback multidisciplinary team at the Bergonié Institute in Bordeaux

What type of laterality error have you encountered?

In 2013 we discovered a laterality error in the treatment of an iliac pelvic ganglion recurrence. After being questioned by the patient, the radiographers performed a 'cross-check' that revealed the error in the side treated.

You led the analysis of the event with the medical manager, radiotherapy department quality manager and your hospital's quality department manager. What causes for the error were identified?

The radiation oncologist delineated the laterality under the effect of two influencing factors:

- The change of treatment equipment: in fact, at the time the incident was notified, irradiation of the pelvis was carried out on a 'head-first' linac and on the other linac in 'feet-first'; the dosimetry scan is performed in the treatment position. The change of treatment equipment after the dosimetry scan therefore led to presenting this scan to the radiation oncologist

- for delineation with head and feet the wrong way round.
- Absence of radiological target (operative site without clip)

What measures have you implemented to avoid laterality errors occurring?

We have systematised performing the 'head-first' scan to reduce the risk of a laterality error during delineation. The treatment table of our tomotherapy equipment, which dates from 2007, has been upgraded to modify the 'head-first' treatment position as in IMRT on the multi-purpose linac (Rapidarc technique).

In addition to this standardisation of practices, we have worked on procedures to increase vigilance over the side to be treated.

- the computerised prescription, set up with templates, specifies the side.
- the radiotherapy preview is rechecked when performing the dosimetry scan (dose, volume, treatment equipment, etc.) and any change in this preview leads to a new radiotherapy preview (traceability) to replace the previous one.

Do you have any recommendations for readers of the newsletter?

Simplify practices for better management of increasingly complex techniques! And avoid introducing multiple delineation tools, particularly in a university department receiving large numbers of junior doctors undergoing training, to reduce the risks of error.

> Steps for progress

1. Good practices

Prevention measures:

- take all necessary measures so that a radiotherapy cannot begin without first having the patient's complete medical file, including the surgical report, the pathological report and the imaging file,
- ensure, for paired organs, that the information from these different documents is consistent with that supplied by the patient or their family and the multidisciplinary team meeting report,
- meet deadlines for the different preparation stages for the treatment,
- avoid treatment on day 0,
- always question the patient at all stages of treatment, including a question about the side to be treated,
- medical staff present on day 0 to confirm positioning and validate images,

- inform the patient (and their family) about the treatment to be carried out and get the patient involved in their care.

Detection measures (radiation oncologist):

- review the file in detail during the first follow-up appointment (particularly for files identified as at risk - cf. Decoding),
- review the positioning images regularly.



Note: certain recommendations arise from coordination between departments (e.g. with the surgical department to obtain the surgical report sufficiently early).

1 Avoiding a positioning error during kV-kV imaging

2 Jammed source in high-dose-rate brachytherapy

> Experience feedback

Focus on an event notified to ASN through vigie-radiotherapie.fr

May 2014

Avoiding a positioning error during kV-kV imaging

Positioning of the patient during treatment under the accelerator can be checked periodically using an imaging system capturing images in kilovoltage mode (kV-kV), by locating bone structures. Positioning errors may be associated with an error identifying a bone marker.

5 patient positioning errors associated with incorrect identification of a vertebral marker on a kV image were notified to ASN between June 2013 and February 2014.

One of the notifying centres shares its analysis and measures for avoiding positioning errors during kV-kV imaging

> The significant event in brief

Patient treated for a bronchial tumour with oblique fields at a total dose of 40 Gy (20 sessions of 2 Gy).

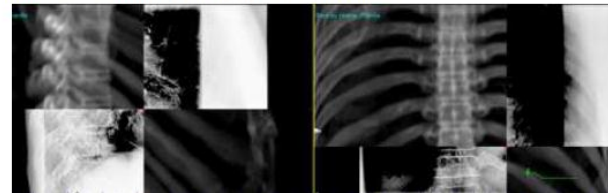
In addition to an MV image on day 0 and then weekly, a daily check of patient positioning is made by kV-kV imaging (orthogonal images).

Repositioning is carried out by checking the alignment of the spinous processes (see picture below).

Daily kV-kV images are approved by a radiation oncologist at least twice a week.

During the first 6 to 10 sessions, a positioning error of 2.5 cm occurred longitudinally (head to feet).

The error was detected by a radiographer during the 10th session.



Verification of the positioning of a patient through the registration of a DRR and a kV image (side view (left) and anterior-posterior view (right))



These publications are :

- Available on line on the ASN website
- Sent to each medical departments (RT, NM...) through the ASN regional agencies,
- Distributed during inspections,
- Distributed during professional meetings, national society congresses.