



## Service Priorities and Programmes Electronic Presentations

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### **How We Improved Staff Compliance in Wearing Thermoluminescent Dosimeters**

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#### **Introduction**

According to guidance notes on radiation protection for diagnostic radiology and HA code of practice on radiation safety, employees who are issued with a thermoluminescent dosimeters (TLD) should wear it as instructed all the time when they are at work. The TLD badge or ionization dosimeters, must be worn at all times when on duty. It should be worn on the trunk at chest or at waist height.

Staff working in interventional radiology have the potential to receive radiation doses approaching or exceeding the classification dose levels.

If personnel do not wear their dosimeters during procedures, this can lead of an underestimation of doses received.

#### **Objectives**

This project aimed to improve the compliance rate of wearing TLD and correct positioning and placement of the dosimeter before exposure to ionizing radiation through gentle reminders at strategic locations and incorporation into routine practice before procedures.

#### **Methodology**

Spot checks were performed by the Radiation Protection Supervisor (RPS) at interventional radiology and fluoroscopy suites. All radiological staff, including radiologists, radiographers and nursing staff present were assessed on compliance and correct wearing of TLDs.

Phase 1: Assessment of baseline staff TLD compliance and correct wearing of TLDs.

Phase 2: Introduction of interventional measures.

1. Custom-made poster reminders displayed at strategic locations outside interventional radiology and fluoroscopy suites.

2. Periodic e-mail gentle reminders.

Phase 3: Routine check of TLD compliance just before commencement of procedure.

Reassessment was performed after introduction of each interventional measure.

## **Result**

Initial phase revealed unsatisfactory staff compliance (radiologists: 53.8%, radiographers: 63.4%, nurses: 100%, overall: 68.8%) Major contributing factors to non-compliance included staff forgetting to bring their TLDs: 70% (7/10) and TLDs kept on white coats: 30% (3/10)

Serial assessment revealed stepwise increase in compliance (final compliance rate of radiologists: 90%, radiographers: 90.9%, nurses: 92.3%, overall: 90.9%)

Contributing factors to non-compliance at final phase were staff forgetting to bring their TLDs: 80% (4/5) and visiting staff with faulty TLD sent back to cluster hospital for inspection 20% (1/5)

Correct wearing of TLD with correct side and position was 100%.

In conclusion, improvement in TLD compliance and awareness of correct wearing of TLD can be achieved with simple measures. Measures for improving compliance will be continued and further reinforced. A larger scale follow-up study encompassing all areas in the radiology department will be performed.