

# ปริมาณรังสีที่เลนส์ตาและต่อมไทรอยด์ที่ผู้ป่วยและผู้ปฏิบัติงานได้รับจากการตรวจวิดีโอฟลูออสโคปี

Radiation Doses at Eye Lens and Thyroid Gland of Patients and Medical Staffs Received from  
Video Fluoroscopy

ช่วงเวลาดำเนินการ ปี พ.ศ. 2564

ผู้รับผิดชอบ ดร. วิหิต ผึ้งกัน

ตำแหน่ง รักษาการผู้เชี่ยวชาญเฉพาะด้านการประเมินค่ากัมมันตภาพรังสี

Email: vithit.p@oap.go.th

## รายละเอียดสรุป

Background and Objective: This study aimed to measure radiation exposure to eye lens and thyroid of patients and medical staffs during x-ray fluoroscopy. The measurement of area radiation dose inside and outside of fluoroscopic room were also observed. The radiation dose to eye lens and thyroids from different fluoroscopic techniques were measured in head phantom.

Methods: Optically stimulated luminescence (OSL) dosimeters were placed on eyes and thyroid of patients and staffs, and head phantom for radiation dose measurement. The survey of area radiation dose was conducted using OSL dosimeters.

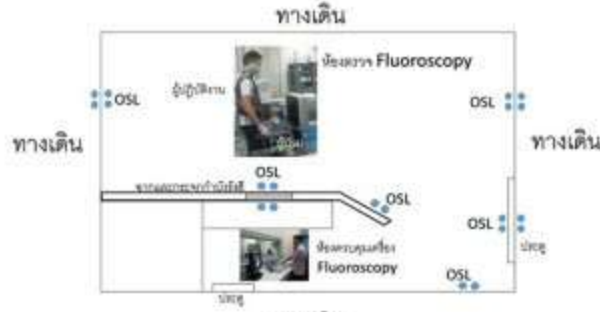
Results: Patients underwent fluoroscopy received the highest dose at right thyroid at 645.4  $\mu\text{Sv}/\text{min}$ . Staff's thyroid and hands received radiation dose in the range of 1-2.4  $\mu\text{Sv}/\text{min}$ . The radiation doses inside and outside fluoroscopic room were in the safety level. The different fluoroscopic techniques affect the resolution and noise of images. The continuous fluoroscopic technique releases higher radiation dose than the pulse fluoroscopic technique.

Conclusions: Radiation protection considerations can be performed by adjusting the appropriate exposure techniques, using the radiation protective equipment, training and providing staff knowledge's. Also, the monitoring of personal dose received from work will enhance an individual self's awareness of radiation protection.



ผู้ปฏิบัติงานทางสี

ผู้ป่วย



#1 pulse FOV m=0



#5 continuous FOV m=0



#6 continuous FOV m=3



#2 pulse FOV m=1



#3 pulse FOV m=2



#4 pulse FOV m=3