

# Inadequate radiation protection endangers Sri Lankan health workers

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The cardiac investigation unit (CIU) at the National Hospital of Sri Lanka (NHSL) has been closed since November 5, except for emergency cases, after employees began to suspect that the lack of adequate radiation protection was endangering their health. Workers are demanding proper protective gear, an insurance scheme and compensation for anyone whose health has been affected.

Health workers at the unit became suspicious about the dangers of radiation exposure after a senior radiographer, who worked there for more than 20 years, was diagnosed with thyroid cancer.

Other cases involving longstanding CIU employees or former employees also suggested a possible link to poor radiation protection. These included a labourer who had his bladder removed last year; a consultant cardiologist who now has a brain tumor; a nurse who died of cervix cancer following her retirement; and a female radiographer who is suffering from an early eye cataract.

After CIU staff raised their concerns, the Atomic Energy Authority (AEA) was called in to conduct an investigation. A significant number of health workers—including nurses, radiographers, cardiographers and labourers—tested positive when they were scanned last week for thyroid nodules.

One of the unit's nurses told the WSW: "Early on we didn't have good lead aprons that covered the whole body. We had small aprons that covered only our chest and abdomen from the front. We didn't have thyroid shields, eyeguards or lead gloves then. Some workers don't have them even now. Currently we have some aprons that cover the whole body and some thyroid shields. But they have now been found to have holes in them."

"There isn't a single pair of lead-coated gloves nor a

single pair of lead eyeglasses to protect the operator's hands and eyes when cardiac investigations are to be done under fluoroscopy screening," a radiographer explained. "Sometimes we see the hands of the operator—a senior registrar or a cardiologist—on the screen which means that they are being severely exposed to X-rays."

The AEA has admitted that some of the protective gear was defective. "A large number of lead aprons, thyroid shields and other safety equipment were found to have holes in the lead layer. Some of the others were found to be thinner than the recommended standards," a senior medical registrar told the WSW.

The AEA is responsible for radiation protection at X-ray facilities in government hospitals. It conducts random surveys to determine whether workers in these units are within safety exposure limits. Every two months, it checks the radiation badges worn by staff members to monitor exposure levels. Health workers point out, however, that AEA always reports that they are working "within safe limits".

If the CIU workers had not complained, the protective equipment in their unit would not have been found to be defective. According to a senior radiographer at the Radiographers School, there is no reliable and regular monitoring system in radiology departments at government hospitals. "The problem would have been identified earlier if there had been a such system," he said.

According to superintendent radiographer Christie Fernando, the Digital Subtraction Angiography (DSA) machines at the CIU do not have accessories like ceiling shielding and tableside aprons that are essential for radiation safety. As a result, radiation workers, particularly the operators, can be severely exposed.

Citing the International Atomic Energy Authority

(IAEA), Fernando explained: “There is a 1 millisievert (mSv) environment around the DSA machine operator during operation. If he operates 3 hours per day and works 5 days a week and 50 weeks a year without appropriate safety gear, including headgear, eyeguards, thyroid shielding and lead aprons, he is exposed to 750 mSv a year. His head is exposed to approximately 375 mSv, which is 50 percent of the total. But the maximum exposure level for a radiation worker should not exceed 20 mSv a year.”

International experts have recommended that medical physicists or radiation safety officers be employed in catheterisation and electrophysiology laboratories. But none are working in any government hospitals in Sri Lanka.

In order to cut radiation exposure, there must be inspection and testing of X-ray units and their protective gear, along with proper operator shielding, monitoring of personal exposure levels, radiation safety training and more advanced equipment. Pregnant women require particular protection from high radiation levels.

However, none of these standard precautions are practiced in Sri Lankan hospitals. Radiographers complain that they are not even given dates for servicing their machines, as waiting lists for patients are stretched out for months or years. They also say they do not have the facilities or the manpower to practice international safety precautions.

The National Hospital of Sri Lanka alone is short of 40 radiographers even though its CIU is one of the few such facilities on the island. The unit is involved in the diagnosis and treatment of coronary artery disease, valve defects and congenital heart defects as well as the placement of temporary and permanent heart pacemakers. Radiography is, of course, essential to its procedures.

Such are the waiting lists that CIU employees work long hours to try to keep up. “Before the unit was closed due to this radiation problem, we were doing angiograms for the patients who were registered under our consultant cardiologist in March last year. These days we are turning away the patients who are trying to get admitted for these tests and treatments” a health worker told the WSWs.

Similar cardiac units exist in private hospitals but most people cannot afford to pay for such treatment

involved. The cost of a coronary angiography in a private facility is 30,000 to 40,000 rupees (about \$US 300-400), or nearly a half of the annual income of an ordinary worker. More sophisticated procedures cost far more.

In order to appease the public and health workers, Health Minister Nimal Siripala de Silva last month called a meeting of senior health officials and the director of the National Hospital of Sri Lanka. Health authorities promised to spend 15 million rupees to purchase protective radiation gear but compensation for the CIU workers affected was not even discussed. The new equipment is yet to arrive.

This ad hoc measure will not solve the lack of adequate radiation protection at the cardiac unit, let alone the chronic shortage of such facilities in Sri Lanka. The closure of this unit at the country’s premier government hospital is symptomatic of the serious erosion that has taken place throughout the public health service as a whole. Lack of adequate funding has led to staff shortages, poor conditions, a lack of equipment and growing waiting lists for key treatments.

Last week, the media reported that the 25 government hospitals collectively owe more than 100 million rupees to pharmaceutical companies and oxygen suppliers for the past two months alone. In recent months, every section of health workers, including doctors and medical staff, has been engaged in protests to demand the payment of accumulated unpaid overtime.

During the recent budget debates, the United Peoples Freedom Alliance (UPFA) government boasted that it was increasing the health budget for the year. But coming after years of cutbacks to health spending by both of the major parties, the extra funds will do little to avert the growing crisis in public hospitals. Even those limited funds are by no means certain. When the government applies to the IMF and World Bank for additional money, it will no doubt come with restructuring and privatisation strings attached—including in the area of health.



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