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COMMENTARY

Co-operation of employers in the area of personal monitoring: a commentary on BIR guidance on the UK regulatory situation

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ABSTRACT

The requirement for organizations to co-operate regarding doses to staff who work across organizational boundaries is well established. However, in the field of personal dosimetry there is little guidance as to how to actually achieve legal compliance. Following improvement action in the UK by the regulator, The Health & Safety Executive, a guidance document was developed by the leading professional bodies in this area. This guidance was also commented on by the Health & Safety Executive Specialist Inspectorate (Radiation) enabling the published guidance to represent a compliant standard. This commentary describes the guidance and discusses the issues involved with developing systems for compliance in this area.

There has long been a legal requirement for employers whose employees work in different organizations' radiation areas to co-operate over their radiation safety.¹ In healthcare the need to do this arises in many cases, such as consultant medical staff who work in both the public and independent sectors and for employers liaising with installers over new radiation facilities. However, the area of co-operation that has generated most concern among both inspectorates² and radiation protection professionals is the management of staff radiation exposure where those staff work at more than one employer's premises. This concern is added to the already active interest of the relevant inspectorate in the general management of staff exposure in healthcare with examples of enforcement action taken.

To try to generate a consensus regarding how management of staff exposure should be undertaken, two professional bodies, the British Institute of Radiology (BIR) and the Institute of Physics & Engineering in Medicine met with the Health & Safety Executive's Specialist Inspectors (Radiation) to develop a joint approach to the issue. These discussions led to the drafting of guidance that has broadly received the approval of all relevant professional bodies (BIR, IPPEM, Royal College of Radiologists, Society & College of Radiographers and the Society for Radiological Protection) and the publishing of the agreed text on the BIR website³ under the title "Guidance on the management of personal dosimetry

systems for healthcare staff working at multiple organizations". This document has been commented on by the HSE Specialist Inspectors (Radiation) but not formally issued by them. However, it represents a level of practice that if implemented would ensure organizations had a sound defence in the event that things go awry.

The guidance itself is divided into three main sections, General Management Responsibilities, Co-operation of Employers and Practical Implementation. As it is electronic, this means that as practice or requirements evolve then the guidance may be amended easily. It also means that practitioners may submit interesting case studies to develop a library of best practice examples.

Interestingly, the general personal dosimetry system management requirements apply to all systems whether or not an employee works across employers. These include the standard requirements of good documentation, training in the procedures to be followed and training in the use of dosimeters themselves (e.g. how to wear them and what to do when things go wrong) along with good training records. Furthermore, it is expected that management responsible for such monitoring systems check that they are working as intended—this implies some form of audit against agreed local standards (such as timeliness of dosimeter return from user for subsequent reading).

Finally there must be robust systems in place to ensure all dose-meter results are properly scrutinized and action taken if doses are not as low as reasonably practicable (The ALARP principle).¹ Ultimately, the responsibilities for such a system must be described most usually within an organization's radiation safety policy.

The above management requirements of a personal dosimetry system are straightforward when a single employer is involved. However, where employees work across organizational boundaries, the above management requirements must be delivered through co-operation of two or more separate organizations, thus making the management system far more complex and burdensome. The first stage is for each co-operating employer to agree who may, on its behalf, communicate and collaborate with other employers. In one particular Trust this responsibility is given to service heads who have direct knowledge of their staff. However, this approach is not prescribed in any way by the guidance, which itself is flexible in the means of compliance. As with the general management requirements, how each employer "co-operates" must be documented.

The complexity of this documentation will depend upon the complexity of the situation facing each employer. As the guidance states, "Probably the most difficult area to issue prescriptive advice is that of who wears which dosimeter when". The guidance breaks the advice into three distinct risk levels. Level 1 (low risk) is where the sum total of an employee's likely dose is very small, less than, for instance, 10% in total of any dose limit. The guidance recommends that in this case the simplest solution is a single set of dosimeters issued for the employee to wear across all their employers. There would then be an onus on the employers to share the resultant dose reports to give assurance of continued low doses.

The second level, namely that of "medium risk" is describing the situation where an employee is not Classified but who receives measurable doses and is actively managed for optimization of protection. This situation arises for interventional staff for instance who regularly work at tableside exposed to scattered radiation. Here the guidance admits that it is impossible to either recommend a single set of dosimeters or multiple sets, but rather generates issues that must be taken into account when agreeing between employers—the best approach. Issues affecting this decision may be "what is the total dose likely to be?", and "is the dose predominantly received at one employer or evenly spread?". It also gives guiding principles such as do not monitor separately at a site likely to give doses below a dose threshold (the sum of doses would then be underestimated), if single sets of dosimeters are employed then audit single site doses periodically with an additional dosimeter (*e.g.* electronic), through to advice when things go wrong, for instance, if an Investigation Level is breached then issue dosimeters to all sites to try to find out what had changed. However, as the guidance points out, the individual radiation risk assessments for each site, when shared, should illuminate the correct path to follow.

The final level is that of high risk and explicitly refers to employees who are Classified. In this instance, the advice is prescriptive—issue separate dosimeter sets for each employer and develop robust management of dosimeters so that dosimeters are not lost and returned promptly for analysis.

The guidance document therefore provides an excellent framework for the management of radiation exposure of healthcare workers who work across different employers. However, there are still hurdles at a practical level to be overcome. Probably the most difficult is caused by the variation in practice of which workers receive which type of monitoring regime. For instance, the finger monitoring and eye dose monitoring of interventional staff varies greatly across employers. A good example of where this causes issues are when, for interventionalists at the site where most dose is received, a minimal monitoring regime is in place, leading to a low workload centre potentially advising on finger monitoring but these dosimeters not being worn at the high workload centre.

The second major hurdle is the difficulty of the logistics. There are independent sector hospitals with many consultant staff working across many different employers leading to a most complex logistical exercise of tracking and communicating doses. In turn large NHS Trusts may have many tens of such staff who work across many different independent sector hospitals. Also, agency staff and bank staff need to be included in any system. At a time of increasing pressures on frontline clinical services, the required systems often do not get the continual scrutiny they require.

The guidance does not address the issues of what happens when an employee of multiple organizations exceeds a dose limit, nor does it express an opinion as to who has ultimate responsibility for exchange of information. Regarding the former, one would expect detailed discussions between relevant employers and the HSE to occur and this issue is beyond the scope of the guidance document. The latter issue is one for any Co-operation of employers agreement to state; however, if two employers who should co-operate don't because one employer has tried but the other has not responded, then one would expect the diligent employer to have a better defence in any enforcement action by the regulators.

However, whatever the difficulties in implementing a robust co-operation system for personal monitoring, it must be stated that legal compliance is not optional, so there is an onus on all professionals to design systems that are as effective and efficient as possible.

In summary, this guidance provides an excellent framework for such a system and describes both the general management requirements along with the need to co-operate. It also provides a means whereby organizations may co-operate and in that sense is a very worthwhile document.

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