# Routine Medical Surveillance and Assessment of Accidental Overexposure Incidents

**David Black**

MBChB FAFOM MARPS, Senior Lecturer, iTmedical,
University of Auckland, Private Bag 92019, Auckland, New Zealand

d.black@auckland.ac.nz

RF exposure Standards are intended to prevent established, deterministic effects of energy absorbed or induced by external EMF's. Certainty of avoidance of effects is largely achieved by the provision of generally wide safety margins, particularly those specified for exposure of a large undefined population. Smaller margins can be justified where the characteristics of the exposed population are known and risk factors are managed. Such sub-populations are RF Workers, however the ability to manage these implies at least some specific knowledge about the group's health status. This can be obtained by pre-placement and ongoing surveillance of the RF workforce.

Higher permitted levels of exposure also provide a buffer region between general public and prohibited potentially harmful levels, which can place RF workers near to the margin of safety and potentially in harm's way. When overexposure is thought to have possibly occurred, a medical referral in which the worker is regarded as a patient provides a constructive environment. The first step for the assessing physician must be an attempt to quantify the dose, distribution and duration of energy and hypothesise possible effects and potential mechanisms of harm. Application of relatively simple physical models can often quickly clarify the situation and in many cases provide evidence based reassurance that no harm is likely to have occurred. The speed and authority by which such judgements are made and conveyed to the patient is critical to minimising harm which otherwise can be profound even in the absence of physical damage.