

Medical Surveillance in Biomedical Research

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Occupational Medicine specialists serve as de facto public health officers for the working population. A major part of this service is providing medical surveillance. Workers in the biomedical research industry, in particular, require medical surveillance for a wide variety of workplace hazards. Since the 1930s, the medical literature is replete with studies detailing the mortality and morbidity of biomedical research workers related to such hazards (especially biohazards).

Laboratory-associated illnesses often reflect the specific methodologies utilized in biomedical research (e.g., latex allergies, animal dander hypersensitivity, repetitive motion illness, blood-borne pathogens, B virus, etc). In addition, the ever changing nature of laboratory-associated hazards, and exposure to workers, reflects the industry's tendency to use novel technologies as well as to study emerging diseases of current public health significance. Some examples of these new technologies and agents are the study of avian influenza, XDR tuberculosis, SARS, Ebola using aerobiology, non-GMP manufacturing processes and nanotechnology. As a result, the medical surveillance and management of exposures to biomedical research workers remains problematic at best and often without precedent, given the absence of prophylaxis and/or treatments for many of the current agents studied such as "select" agents, prions, and the hemorrhagic viral diseases.

The primary focus of medical surveillance in biomedical research has largely been on immunosuppression, or hypersensitivity and their effects on the worker's risk to a wide variety of biohazards. The unique requirements for prophylaxis of biomedical research workers with various "experimental" vaccines and/or live vaccines makes it critical that these workers be surveyed for contraindications prior to receipt of these vaccines. Examples of these vaccines are vaccinia, botulinum, anthrax, hemorrhagic viral vaccines, Yellow Fever, Flumist, and Rubeola. Several conditions that need to be monitored in these workers are prior allergic reactions, pregnancy, and immunosuppression. In addition, these workers need to be monitored for adverse reactions following receipt of these vaccines.

Finally, the cutting edge nature of biomedical research necessitates that any medical surveillance program remains a "work in progress." Medical surveillance pro-

grams for biomedical research workers that are simply "compliance driven" cannot keep up with the rapidly changing nature of the industry. In my experience, such programs have been inadequate in protecting the workers from both the newer technologies used and the novel hazards studied.

Attached is a list of the updated "guides" that I have found helpful over the past 20 years in tailoring medical surveillance programs for biomedical research companies.

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Office of Health and Safety. www.cdc.gov/od/ohs

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