



Guidelines for Vaccinations and Disease Prevention in the Solid Waste Management Industry

Introduction

WorkCover SA, with the support of COMPOST SA and the Waste Management Association of Australia (WMAA), commissioned a study in August 2003 of the information available on vaccine-preventable disease in the Solid Waste Management (SWM) Industry. The aim was to provide a useful set of guidelines for both employers and employees on the vaccination types needed for workers in the industry. The diseases hepatitis A & B, tetanus and Q fever were considered important to be covered in this study.

It should be noted that the health risks in the industry are low, but that incidents do occur from time to time.

Activities and Operations Covered by this Guideline

The following activities were considered in the formation of this guideline:

- Composting operations involving green organics, manure or similar wastes
- Solid Waste collection, sorting and handling
- Landfilling, including landfill gas control and management.
- Recycling and resource recovery from domestic, commercial, construction or demolition wastes
- Consultants, service technicians and visitors to all of the above sites.

The Literature Review

A professional literature review was done by researchers from ASERNIPS, an arm of the Royal Australasian College of Surgeons. A total of 49 published sources worldwide were consulted and summarised in the review.

...there have been no cases... of Hep A, Hep B, tetanus or Q fever being acquired by SWM workers

The review of literature on vaccine preventable diseases found that :

- A. there were pathways for infection in SWM occupations, and
- B. workers do experience injuries which could theoretically lead to infection. For example, there were 10 needle stick injuries in 1999-2002, part of a total of 57 wound (broken skin) injuries.

However, there have been **no cases** reported in the medical literature of these diseases (i.e. Hep A, Hep B, tetanus and Q fever) being acquired by Solid Waste Management workers.

In addition to reviewing articles on vaccination, the review found information on the following aspects of disease prevention:

- A number of papers discussed problems resulting from breathing biological dusts (bioaerosols). Three articles suggested that composting operations may result in



- increased bioaerosols. Breathing or working in bioaerosol dust can produce respiratory disease and sore/red eyes and in some cases stomach and intestinal upsets in SWM personnel. Breathing contaminated dust is also the usual pathway of Q fever infection.
- The risk of hepatitis A infection is high for sewerage workers, but this could be improved by routine handwashing before meals. Hepatitis A vaccination is recommended for sewerage workers.

Vaccination and Health Guidelines

Hepatitis A vaccination is clearly recommended for personnel working with sewage.

Q fever vaccination is recommended in the NHMRC guidelines (8th edition) for abattoir workers "and others exposed to cattle, sheep, goats and kangaroos or their products." Regular visitors to abattoirs may also be at risk.

However there is not sufficient evidence to either recommend or discontinue vaccinations of the four common diseases (Hep A, Hep B, tetanus, Q fever) for SWM workers in general. Therefore, vaccination for these diseases should continue to be made available by employers. However, acceptance by employees of any or all of these vaccinations should be a matter of personal choice (i.e. voluntary).

General Disease Prevention Guidelines

Diseases caused by bioaerosol may be controlled by the wearing of dust masks. The use of water sprays to raise moisture levels in waste storage or processing stockpiles, may also help to control potentially harmful dusts, particularly if spraying is done when personnel are away from site.

Studies have shown that dusts travel less than 100 metres in most cases, therefore site operations such as spraying and windrow turning should keep this in mind.

Injuries resulting in open wounds account for the second highest number of WorkCover claims (17%). Therefore, close attention to the use of gloves and other appropriate protective clothing is essential for health and safety. Machinery guards should also be kept in place and regularly checked for effectiveness. Training in safe operating techniques is also important. Handwashing before eating meals or snacks is recommended.

...breathing or working in bioaerosols (dusts) can produce respiratory disease & sore/red eyes

Sprains and strains resulted in the highest number of WorkCover claims in the period studied. Training and adherence to safe practice methods is necessary to minimise the risk of strains.

Further Reference:

See section on Biological Hazards from WorkSafe Victoria's OH&S guideline on the Collection Transport and Unloading of Non-Hazardous Waste and Recyclable Materials.

For more details contact your local branch of the WMAA.