



**Australasian Faculty of Occupational and Environmental Medicine  
Annual Training Meeting 2019  
3 to 5 May, Auckland New Zealand**

**Worksite Scenarios**

**Group A**

9.30am – 12pm	Auckland International Airport Rescue Fire Service
1.30pm – 4pm	Lion Brewery

**Group B**

9.30am – 12pm	Wiri Electric Train Depot
1.30pm – 4pm	Tegel

**Group C**

9.30am – 12pm	New Zealand Steel
1.30pm – 4pm	New Zealand Post International Mail Centre

## **WORKSITE SCENARIOS**

### **Auckland International Airport Rescue Fire Service**

#### **Background**

The Auckland International Airport Rescue Fire Service (AIA) Rescue Fire Service responds to aircraft, medical, general fire and hazardous substances emergencies in and around the airport environs. The service also provides marine rescue operations on the Manukau Harbour adjacent to the airport, not just for aviation emergencies, but for boaties in distress.

Firefighters work in dedicated team called a 'watch' who all follow the same shift pattern together. There are a number of watches to cover this 24/7 operation.

#### **Scenario**

You are an occupational physician assisting an AIA fire fighter (Dave) with return to work planning following knee surgery (meniscus repair). You have arranged to visit the worksite to better understand the task requirements, hazards and general work patterns.

- 1. Having reviewed the site, what hazards have you observed (or can be inferred)? Do not forget psychosocial hazards which can be significant in the rescue worker cohort.**
  
  
  
  
  
  
  
  
  
  
- 2. What is involved in the fitness test that Dave will need to pass to be cleared back to operational duties?**
  
  
  
  
  
  
  
  
  
  
- 3. Having viewed the worksite, can you identify any common activity/action that Dave is going to need to take care with in order to reduce the risk of re-injuring his knee?**





4. How would you go about assessing the noise hazard in the plant and what are some ways of managing noise?

5. The employee with the hearing loss works in one of the noisier areas of the plant. He has glasses and you determine that the glasses are preventing his ear muffs from forming an adequate seal around his ears. How do you manage this?

### References and reading list

Reliable information on managing noise hazards at work can easily be found by searching noise on the following sites:

- Australia: [www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au)
- New Zealand: <https://worksafe.govt.nz/>

Useful studies on repetitive stress injuries:

- Work-related risk factors for specific shoulder disorders: a systematic review and meta-analysis; Henk F van der Molen, Chiara Foresti, Joost G Daams, Monique H F Frings-Dresen and P Paul F M Kuijjer; *Occup Environ Med*; 74:745-755; July 2017
- Risk factors for work-related musculoskeletal disorders: A systematic review of recent longitudinal studies; Bruno da Costa et al; *AJIM* 2010; 53:285-323
- Carpal tunnel syndrome and its relation to occupation: a systematic literature review, Keith T. Palmer, E. Clare Harris and David Coggon, *Occupational Medicine* 2007;57:57–66
- National Institute for Occupational Safety and Health (NIOSH). *Musculoskeletal Disorders and Workplace Factors*; Second Printing, July 1997.
- *AMA Guides to the Evaluation of Disease and Injury Causation* Second Edition; J. Melhorn, James B. Talmage, William E Ackerman III and Mark H Hyman; The American Medical Association; 2014

## **Wiri Electric Train Depot**

### **Background**

The Wiri Electric Train Depot is an extensive maintenance and stabling facility for the electric trains located in Wiri, south of Auckland which was opened in July 2013. The purpose-built facility comprises a maintenance building, rail track sliding and stabling for 28 trains and a platform for cleaning.

There are also seven maintenance berths in the depot, some of them electrified and some are not. Overhead gantries (a bridge-like overhead structure with a platform) installed assist in the lifting of heavy equipment on and off the trains. In addition, jacking systems have been installed to lift the body of the trains for the purpose of wheel chassis removal and underfloor pits to enable easy access to the trains.

In addition to maintenance activities the Wiri Electric Train Depot houses facilities which enable virtual driver training and to run various driver training scenarios.

The facility also houses a control room with an overall plan of the Auckland rail network with live positioning of the trains.

The Wiri Electric Train Depot contains several distinct worksite areas as noted above. You should get to view all of these areas during your visit.

### **Scenario**

You are a member of a team of health and safety experts invited to do a Health and Safety Audit of the Wiri Electric Train Depot due to the nature of the heavy and complex machinery and systems in operation.

The list of questions below will serve as a check list for your audit.

- 1. When visiting the maintenance area consider what hazards and what control measures you can see. Try to do this in a systematic manner so that no important hazards are missed.**
  
- 2. When visiting the driver training facility consider how modern automated trains make train travel safer for commuters than older trains.**



## **Tegel**

### **Background**

Tegel has been operating since 1961 and has been offering a huge range of products to meet New Zealand's demand for chicken. While predominantly meeting their domestic demands, Tegel also exports to international markets including Australia and other emerging markets in Africa and Asia, excluding China. The company employs over 1500 workers across its three plants and offices.

Tegel has three slaughterhouse or meat processing plants in New Zealand, with the most recent line opening at the end of 2012 in Henderson, located west of Auckland. The Henderson plant produces over 350 tonnes of chicken per week.

### **Scenario**

You provide occupational medical services for Tegel on a regular basis. Recently there has been an increased number of workers with various respiratory complaints. They all believe that their symptoms are caused by the work they do.

**1. How do you go about investigating these complaints?**

**2. You decide to visit the workplace.**

**a. What are the potential problems that an occupational physician may face in conducting workplace visit? How do you deal with these issues?**

**b. How do you conduct the visit – the “walk-through survey”?**



3. What occupational and environmental hazards can you identify in this site?

4. What control measures did you observe?

5. How do you advise the management about the workers' complaints?

**References and reading list**

1. Agius, R. and Seaton, A. (2012). *Practical Occupational Medicine*. 2nd ed. pp.47-77.
2. 2016 AFOEM Annual Training Meeting, Adelaide, South Australia.
3. Snashall, D. and Patel, D. (2012). *ABC of Occupational and Environmental Medicine*. 3rd ed. p.12.
4. [https://www.ccohs.ca/oshanswers/hsprograms/hazard\\_risk.html](https://www.ccohs.ca/oshanswers/hsprograms/hazard_risk.html)
5. <https://www.cdc.gov/niosh/topics/hierarchy/default.html>

## **New Zealand Steel**

### **Background**

New Zealand Steel is a leading manufacturer of quality steel. They supply to all major markets including constructions, manufacturing, infrastructure, packaging and agriculture. It is the owner of Glenbrook Steel Mill, located 40 kilometres south of Auckland. The Mill was constructed in 1968 and began producing steel by the following year. Over 90% of steel is produced at Glenbrook while the remaining volume is produced by Pacific Steel, located in Otahutu, Auckland.

The Mill employs over 1000 full staff and over 150 contractors, and approximately, 1.2 million tonnes of irons and ore are delivered to the Mill annually.

### **Scenario**

You provide occupational medical services for New Zealand Steel on a regular basis. Recently there has been an increased number of workers with various musculoskeletal complaints. They all believe that their symptoms are caused by the work they do.

**1. How do you go about investigating these complaints?**

**2. You decide to visit the workplace.**

**a. What are the potential problems that an occupational physician may face in conducting workplace visit? How do you deal with these issues?**

**b. How do you conduct the visit – the “walk-through survey”?**

3. What occupational and environmental hazards can you identify in this site?

4. What control measures did you observe?

5. How do you advise the management about the workers' complaints?

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1. Agius, R. and Seaton, A. (2012). *Practical Occupational Medicine*. 2nd ed. pp.47-77.
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3. Snashall, D. and Patel, D. (2012). *ABC of Occupational and Environmental Medicine*. 3rd ed. p.12.
4. [https://www.ccohs.ca/oshanswers/hsprograms/hazard\\_risk.html](https://www.ccohs.ca/oshanswers/hsprograms/hazard_risk.html)
5. <https://www.cdc.gov/niosh/topics/hierarchy/default.html>

## **New Zealand Post International Mail Centre**

### **Background**

New Zealand Post has been part of the New Zealand's national landscape for nearly 180 years. It entered the 20<sup>th</sup> century as a government department with over 1700 branches. By the middle of the century, it was a complex and financially successful organisation fulfilling political, social and economic needs.

In the 1960s and 1970s, the installation of New Zealand's first mechanical mail sorting machine and the introduction of postal codes helped to simply and manage the ever-increasing volumes of national and international mail. However, by the 1980s increasing tensions between political and commercial pressure meant the business model was not operating efficiently. Before 1987 NZ Post office ran all postal services, plus the telephone system and a bank. In April 1987, the New Zealand Post was corporatised and its core business separated into three companies – Telcom, Post Bank and New Zealand Post.

In 1998, New Zealand postal market was deregulated and opened it to more competition.

In the digital era, New Zealand Post has evolved with time and has incorporated the use of automation to increase efficiencies in areas of mail sorting and mail processing. These machines include the Culler Facer Canceller which 'sees' stamps and cancels the stamps with an ink postmark; Optical Character Reader that can read all addresses printed or typed and sorts the mail as per the destination and the all in one Integrated mail processor (IMP) that can sort all the letters into different destination slots. Use of technology helps in speeding up the process of mail sorting and up to 35,000 letters can be processed per hour.

However, machines cannot do all the mail processing and sorting in particular for envelopes, packets and parcel or for mail going overseas and these activities still require some degree of human involvement.

New Zealand Post International Mail Centre, Auckland is the hub for handling overseas mail. The centre is open seven days a week and works from 1am to 8pm most days. Mail is received from international flights every day. All inbound mail passes are carefully checked in accordance with the New Zealand Customs Service or the Ministry for Primary Industries requirements to ensure illegal goods and/ food are not sent through mail into New Zealand. In addition to machine and human involvement in mail processing, help is taken from trained sniffer dogs to sniff out illegal goods such as drugs.

### **Scenario**

Auckland International Mail Centre (IMC) is planning to do a health and safety review at its premises. The Health and Safety Manager of IMC has approached you to join their team of Health and Safety representatives to conduct a walkthrough survey of work site and to assist in the development of a Health and Safety risk assessment and risk mitigation plan.

- 1. As you are walking through the worksite, systematically identify the various hazards that you see.**

2. **The Health and Safety team want your input with the risk assessment and risk mitigation plan that they plan to have in place over the next six months. Identify the top two main hazards in terms of their importance of the hazards that you have identified.**
3. **Briefly outline the hierarchy of hazard control. Discuss the Risk Assessment and Management plan for the identified hazards at IMC.**
4. **What might be the concerns related to use of automated mail processing equipment in the IMC?**
5. **The Human Resources Manager has asked for your input to develop a pre-employment medical assessment for potential employees. What would be the key components of a pre-employment medical assessment?**

6. An employee has had a lumbar disc prolapse that required surgical intervention. He presents to you for a fitness for work assessment with a request from the Occupational Therapist (OT) to enable a graduated return to work. What are your considerations and how will you implement this?

#### References and reading list

- <https://www.nzpost.co.nz/about-us>
- <https://www.britannica.com/topic/postal-system/Postal-services-in-the-developing-countries#ref367153>
- Australia: [www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au)
- New Zealand: <https://worksafe.govt.nz/>

#### Useful studies on repetitive stress injuries:

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