# INITIAL SUBMISSION TO THE INQUIRY BY THE PRODUCTIVITY COMMISSION INTO NATIONAL WORKERS' COMPENSATION AND OHS FRAMEWORKS

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Date: 5 June 2003 **EXECUTIVE**

## SUMMARY

The Australasian Faculty of Occupational Medicine submits that the present state-based, cause-based compensation schemes in Australia could be assisted by the Commonwealth to:

- improve preventive activity and disability minimisation;
- gain through research a better evidence-base for interventions to achieve this; and
- focus compensation more strongly on the needs of an injured person rather than how their injury was caused;
- improve the resolution of disputes.

Booklets produced by the Faculty and supporting this theme are included with this submission.

## INTRODUCTION

The Australasian Faculty of Occupational Medicine (AFOM) is part of the Royal Australasian College of Physicians. AFOM has a primary interest in the prevention, detection, treatment and management of injuries and illnesses caused by and related to occupation. A secondary interest of AFOM is the effective management and work-placement of persons with medical conditions so as to minimise risks to those persons and to others.

Medical practitioners are able to become Fellows of the Australasian Faculty of Occupational Medicine after a four-year training period followed by an examination where they are tested, among other things, in the following competencies - clinical competence, workplace assessment, management, medico-legal matters and rehabilitation. A copy of the AFOM competencies is attached.

AFOM has a broad interest in workers' compensation and frameworks for occupational health and safety (OHS) and so will introduce this submission with some broad principles. However, AFOM professes no particular expertise in law, insurance, premium setting or licensing. Any recommendations that we make concerning these

things are made solely from the perspective of prevention and minimisation of adverse health outcomes. In short, we want to prevent injury and minimise disability; the issue of who pays for what and whether that is fair is secondary.

Our most particular interests concern:

- alternative (non-adversarial) dispute resolution, particularly a medical process for medical questions;
- effective interventions to limit disability and handicap.

Through this submission, we shall refer to four publications that we consider to be useful in this area:

- Australasian Faculty of Occupational Medicine and Royal Australasian College of Physicians. *Compensable injuries and health outcomes.* Sydney: RACP, 2001. [copy attached].
- Australasian Faculty of Occupational Medicine. *Occupational cancer; a guide to prevention, assessment and investigation.* Sydney: RACP, 2003. [copy attached].
- Australasian College of Occupational Medicine. *Workers' compensation reform: a medical view.* Melbourne: ACOM, 1990. [copy attached].
- Hadler NH. Occupational musculoskeletal disorders, 2nd ed. Lippincott Williams & Wilkins, 1999.

So that you are clear as to what we mean, we shall introduce this submission by defining some of the terms we use. We shall then go on to address:

- principles of fair compensation
- the situation now
- recommendations for change

These are taken in turn.

## THE MEANING OF TERMS USED FOR THE PURPOSES OF THIS SUBMISSION

*"state-based compensation systems"* shall include Comcare and the compensation system of the Northern Territory.
*"injury"* shall include *disease* unless stated otherwise.

*"prevention"* shall include *primary* prevention (that tackles causes of injury) and *secondary* prevention (that interrupts the progress of disease). Tertiary prevention - that aims to minimise disability - shall be referred to separately as rehabilitation.

*"impairment"* shall mean a partial or total loss of function (or structural loss) of a *body part.* It is measured as part of a clinical examination and reported in terms such as the range of movement of a joint, the exercise capacity for the heart, the hearing thresholds for the ears, and so on.

*"disability"* shall mean a partial or total loss of an *integrated body function* such as the ability to walk, reach, grasp, climb or speak.

*"handicap"* shall mean a partial or total loss of the capacity to perform *a role,* e.g. a petrol tanker driver, a kindergarten teacher.

We consider it necessary to state how these terms will be used here. Not everyone uses them in the same way. For example, the American Medical Association's Guide to the Evaluation of Permanent Impairment includes what we would call handicap within their definition of disability.

## PRINCIPLES OF COMPENSATION

AFOM believes that the principles laid out here should guide the operation of compensation schemes, whether for work-caused injury or for other reasons.

Firstly, do all that is practicable to prevent injury. However, where preventive effort fails then compensation schemes should:

*for insurers and those who engage them* -

- address the *needs* including the financial security of an injured person;
- deliver competent treatment according to generally-accepted guidelines;
- make early, strenuous efforts to minimise disability and handicap, particularly where a person's injury is severe, or an injured person seems otherwise at risk of *not* achieving full recovery [refer to p. 4 of *Compensable injuries and health outcomes];*
- deliver an appropriate flow of *claims-relevant* information to wherever it is needed to bring timely and fair decisions;
- base individual premium loadings on failure to prevent what *is practicably* preventable;

*for legislatures* -

- set conditions for insurers (including self-insurers) that deliver those five things, including incentives and penalties to guide fair dealing in funding of schemes and benefits to injured persons;
- audit all new initiatives in prevention and compensation through research that is focused to tell within a reasonable period what works and what doesn't;
- efficiently make it clear who provides funds and who receives benefits and when, through clearly-worded statutes and prompt dispute resolution procedures;
- arrange to decide medical issues (such as diagnosis and impairment level) by medical means and legal issues by legal means;
- aim to foster the best approach to management of disability and handicap rather than the lowest premiums;
- between compensation schemes, provide similar benefits for an injury of any one type (allowing, of course, for some variation in what has befallen individual claimants);

• provide all stakeholders with attractively prepared information and updates about the operation of their compensation schemes;
- provide a mechanism for attributing and distributing costs of a claim between different funding sources where the causes of a compensable disease are likely to be multiple.

## THE SITUATION NOW

### Compensation in general

- Workers' compensation is the employer-funded part of Australia's system to assist people with health afflictions.
- The Australian compensation system consists of separate cause-based compensation schemes that are State responsibilities apart from Comcare, war-related compensation and the disability support pension.
- Among the compensation schemes for health problems arising from work, traffic, crime etc. and from state to state, there is much variation in the extent of support given for any one type of health affliction.

### Workers' compensation specifically

#### *Funding and benefits*

- Ambiguity over the definition of `employee' means that some employers are under-insured and so their workers are not effectively covered.
- It is fundamental to a cause-based compensation scheme, in this case workers' compensation, that work-caused health afflictions may be reliably identified and distinguished from what is not work-caused. There are difficulties in making such identification and distinction with diseases of long standing or long latency although seldom with `blood on the floor' injuries.
- The definition of work-relatedness is fraught for four reasons:
  slow-developing health afflictions (e.g. spinal degeneration, noise-induced deafness, arterial disease) have causes that cross boundaries within and between compensation schemes;
  it is difficult to establish or apportion cause in retrospect because much verifiable information is commonly missing [refer to p. 31 - 42 of *Occupational Cancer];* risk factors for many diseases may be known but not necessarily how the risk factors interact to produce the disease;
  some people regard a workers' compensation scheme as a source of local humanitarian aid and exert pressure through courts and tribunals to gradually push the margins of what is embraced by work-relatedness. This underlines the uneasy joining of need with cause.
- Thus, claims are initially accepted for an acute injury or 'flag of convenience' diagnoses such as "back strain" where, in truth, the symptoms are a manifestation of longstanding degeneration of the spine.
- As a result, the workers' compensation scheme pays both for what is in part workrelated and what was in part due to ageing or lifestyle. Even a modest contribution from work is equivalent to 100% contribution when it comes to translating causation

into costs of the claim. [refer to p. 16 - 21 of *Workers' compensation reform: a medical view]*

## *Recovery from the injury*

The very early stage of care is the best time to motivate self-assured recovery in a person has a serious injury or an episode of symptoms in a chronic disease. Treating practitioners vary in their will to actively assist a difficult recovery. Some compensation schemes address this variance by involving case managers. We submit that effective, early intervention reduces long-term disability and handicap.

## *Decision-making in dispute resolution*

Decisions about diagnosis and the nature and extent of impairment are truly medical. There is a trend to allow them to be made by medical experts, or panels or tribunals of medical personnel.

## *Common law*

Except in South Australia, access to common law assists a person with a serious injury to gain a financial basis for changing their lifestyle or mode of employment. However, its administrative costs are proportionally high and its slowness can delay recovery and act against minimisation of disability and handicap. This opposes what is needed. A compensation scheme should encourage recovery and minimise long-term disability. *[Hadler NM. Occupational musculoskeletal disorders, Chapters I1 and 12]*

Common law is potentially available for injury where the source of energy comes from *within* the body, i.e. over-exertion injury. However, all the manual handling practices implemented in the last two decades have had but a modest effect on the severity of overexertion injuries of the back, neck and shoulder. One is then forced to conclude that these injuries cannot be reliably prevented with existing knowledge, and that employers are right to question how they can be reasonably held to be negligent when they occur. So, while the potential for a heavy claim in common law may act as an incentive for an employer to comply with OHS law in regard to prevention of fractures, cuts, burns and electrocutions, it cannot reasonably do so in regard to muscle strains.

The availability of common law for pain and suffering does not improve health outcomes. In fact, the opposite has been shown in some jurisdictions [refer p. 9 - 1*1, Compensable Injuries and Health Outcomes]*

## *Prevention*

Hitherto, insurers have been unlikely to lower their premiums just because an employer has a preventive program in place. Premiums are generally set on the basis of past claims, and the most costly claims are due to degenerative musculo-skeletal diseases of the back, neck and shoulder for which preventive effort shows but modest benefit. Even were the whole of Australia's gross national product directed at the prevention of these diseases, many would still occur.

# RECOMMENDATIONS FOR CHANGE

## Prevention

AFOM considers that prevention of injury should be the first consideration. Strenuous efforts need be made to encourage workplaces, particularly medium-sized workplaces to assess and prioritise risks, and employer associations and unions harnessed to share information and resources to streamline the costs of implementing safety and health measures. Funding initiatives (with later auditing provisions) could be provided to industry associations or co-located groups of employers. *Habitual* failure to prevent should be dealt with severely under OHS law.

AFOM recommends that occupational health and safety law across Australia be as uniform as possible and that its enforcement be the prime incentive for prevention. Use of common law as an incentive to prevention is too slow and indirect, and its case-bycase processes do not make for orderly setting of priorities in prevention.

AFOM recommends that funding be provided to one or more research organisations for the gathering and ordering of Australia-wide compensation data with a view to:

- feeding back to improve its quality;
- more precisely establishing the interventions that will have greatest impact on reducing the incidence and severity of work-caused injury and disease;
- establishing the factors that lead to greatest effectiveness in injury management and the minimisation of disability and handicap.

## Compensation in general

Though Australia does not have a New Zealand-style national compensation scheme, there is nonetheless scope for Commonwealth-initiated co-ordination across different states and different cause-based systems. Commonwealth incentives for uniformity of key definitions, payment structure, rehabilitation initiatives and dispute resolution will make the system easier for nation-wide employers, will help to avoid claimants 'falling between the cracks', and should avoid perverse incentives to maintain disability ('forum shopping').

## Workers' compensation specifically

### *Funding and benefits*

AFOM recommends that attempts be made to obtain a definition of *employee* and *income* that aligns as far as possible with tax law. However, if this cannot be agreed, then we recommend a rule that the notional employer has responsibility unless the sub-contractors openly show that they carry workers' compensation insurance. AFOM recommends that there be a minimum standard and method of delivery of benefits.

AFOM recognises that, in regard to slow-developing disease, it is very difficult to define the perimeter of *work-relatedness* and its accompanying verbal 'baggage' in terms such as aggravation, acceleration and exacerbation. We consider that the ultimate way out of this mire is to develop a mechanism to apportion costs between the cause-based schemes. This could take the form of guidelines based on epidemiology together with some form of medically-advised panel that arbitrates apportionment in individual cases.' For example, we consider that a caring community would support a woman who was a victim of crime and later on sustained a work-related injury causing similar symptoms; she should not be left to fight it out on her own between the two compensation schemes.

AFOM recognises the ambiguous situation of a person who submits a claim for a degenerative disease shortly before retirement. A well-run compensation scheme will, in the normal way, make efforts to assist the person to return to work; yet this is contradicted by the person's decision to retire. AFOM recommends, on the basis of avoiding pretence, that weekly payments should cease once a retirement benefit (including superannuation) has been paid, although payment of a lump sum for any permanent impairment is, of course, appropriate and payment of treatment costs should continue for a period.

AFOM recommends establishment of a 'community fund' from which payment can be made for that component of any worker's disease that relates to genetic make-up or ageing. Western Australia has something akin to this in its 'second-injury' fund; its purpose is to avoid the usual disincentive that exists for an employer to take on someone that has pre-existing impairment. AFOM considers that, where a person's disease is clearly of long standing (e.g. degenerative disease of the back, neck or shoulder), then it *is not* appropriate to assume that pathology is 'virgin' just because it's the first time that the person has complained publicly of symptoms. The existence of such a 'community fund' would reduce the premium increase likely to be experienced by an employer whose claimant employee's disease is primarily degenerative. Apportionment of costs between competing causes and therefore between funds would be assisted by those with expertise

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Work-relatedness is a legal issue but decisions about it benefit from medical input. Proper apportionment among competing causes in their contribution to cancer, adverse outcomes of pregnancy, degenerative disease and other chronic disease is likely to depend on knowledge of epidemiology and pathogenesis, fields where medical opinion may assist a legal decision-making process. Essentially, a doctor trained to elicit the causes of disease can assist to place probabilities on each of the likely contributing factors; however, it will then be a legal process as to what probability constitutes grounds for an individual claimant's access to any one particular cause-based compensation scheme.

in causation through their knowledge of epidemiology and pathogenesis. Thus if an injury is fairly judged to be 80% due to ageing and 20% due to current work; then the injured worker would receive full benefits but the costs of the claim would be apportioned between funds. This 'community fund' may indeed receive substantial contribution from employers, as a group of members of the community, but costs met by such a fund would not be ascribed to individual employers. Such a fund could also be used to pay benefits in the first 3 - 4 weeks of a claim before it is accepted. Where appropriate, the fund would be reimbursed by the employer's insurer once a claim *was* accepted.

AFOM recommends special benefits to assist persons with very serious injury. This may include financial assistance for training or setting up a new business. The idea of this would be to obviate the need for common law action.

AFOM recommends that "ground-breaking" attribution of cause - e.g. a recent case where bowel cancer was held to be related stress at work - should be subject to review by an independent medical panel who would offer advice to the state or federal workers' compensation authority on whether such a finding should set any precedent.

### *Recovery from the injury*

AFOM considers central to an effective compensation scheme is competent early diagnosis and early case management of the vocational rehabilitation of persons with serious injury or with an acute manifestation of a chronic disease. The purpose would be to motivate self-assured recovery, to reduce disability and handicap.

AFOM recommends that the injury management procedure be legislated as in NSW. Rehabilitation providers should be independent of insurers.

Though it is difficult to say this without appearing to be self-serving, AFOM considers that medical practitioners are central to the injury management process. Depending on their interest, abilities and focus, treating doctors may act as case managers or else delegate to other persons trained to do this work. AFOM considers that doctors in general should be appraised of the aims of injury management and how it would operate, e.g. through Divisions of General Practice and Specialist Colleges as part of training programs.

AFOM considers that, where it would assist the welfare of an injured person, independent medical examiners or medical panels be permitted to provide medical information and advice to the injured person. What was said to the injured person should be relayed also to the treating practitioner. AFOM considers that timely advice from such sources can reinforce apt medical interventions and assist to minimise disability and handicap. Prohibition of the giving of such advice is contrary to the expectation of many injured persons and thwarts the medical ethic of providing assistance where it seems called for.

AFOM recommends legislation to set performance standards for insurers and for medical, allied service and rehabilitation providers.

AFOM recognises that methods such as Reiki, Feldenkrais and Pilates are used to maintain and develop muscle function following musculoskeletal injury. We realise that responses to such therapies are varied. We recommend that continuation of such treatments be made contingent on demonstrable improvement in function and reduction of disability.

AFOM recommends, for any claim for work-related stress, that the first step in any dispute-resolution be counselling on a 'no prejudice' basis.

## *Decision-making in dispute resolution*

AFOM recommends that legislated mechanisms for dispute-resolution be made to favour early resolution of disputes. Disputed claims have worse outcomes [refer to p. 4, 16 and 17 of *Compensable injuries and health outcomes]*. We recommend an initial process of conciliation which, if unsuccessful is followed by review and, only if that fails, by court processes.

AFOM recommends that medical panels be used to make decisions about diagnosis and state of impairment. The American Medical Association Guidelines, 5'$^{h}$ ed, with Australian clinical modifications (as in NSW) would form the basis for impairment assessment. We recommend that members of medical panels be appointed by the courts or government based on a doctor's demonstrable competency in relevant areas, lack of identifiable bias and commitment to impartiality.

## *Preventive activities*

AFOM recommends that narrowly-focussed, proven-effective, preventive activities should be rewarded by reduction of insurance premiums. This amounts to a sort of cash advance in anticipation of a lower incidence or duration of claims. Such preventive activities would be directed at:

- primary prevention of injury;
- prevention of impairment and disability by early, competent rehabilitation treatment;
- prevention of handicap by case management, redeployment, retraining or realignment of life goals.

Such preventive activities should be subject to open audit for efficacy and cost-effectiveness.

## Conclusion

A New Zealand-style national compensation system gives primacy to an injured person's *needs* rather than to the *cause* of his or her injury. AFOM considers that this gives the correct emphasis but acknowledges that such a system is unlikely to be brought to Australia in the short term. Instead, our recommendations have been made here to assist the present plethora of state-based, cause-based schemes to better assist the injured members of our community, in this case the working community. The Commonwealth government could serve this end most particularly by:

- setting standards and providing incentives for compensation schemes to reward effective prevention and early, effective interventions to minimise the disability and handicap of injured workers;
- encouraging research and the sharing of information to give an evidence-base for prevention and disability minimisation;
- setting out principles for dispute-resolution including who should make decisions on legal matters and medical matters;
- working toward a future where comparable payments would be made for comparable injury - whatever its cause - and so payments for any one person's injury could be made from more than one appropriate source.

## COMPETENCIES AND THE TRAINING PROGRAM

### OBJECTIVES OF THE TRAINING PROGRAM

This section sets out the overall objectives of the AFOM training program and is followed by the specific requirements in each of the nine competencies for an occupational medicine trainee to meet these overall objectives.

Working within the ethical guidelines of the Faculty, the occupational physician will be able to:

(a) apply the skills of a specialist medical practitioner in order to:

- diagnose, assess and advise on the management of disease and injury in relation to occupation;
- determine the relationship between health and fitness to work; and
- advise on the impact of major contemporary health issues in a workplace.

(b) conduct workplace and preliminary environmental assessments in order to recognise, evaluate and control physical, chemical, biological, design and psychosocial hazards in the workplace;

(c) retrieve, critically appraise and disseminate occupational health and safety information in readily understandable terms;

(d) design, conduct and interpret investigations of health problems of individuals and groups and design, implement and evaluate prevention strategies in the workplace;

(e) apply management skills in order to:

- manage and co-ordinate occupational health and safety services, including health surveillance programs;
- implement effective change in the workplace; and
- negotiate and resolve conflict relating to occupational health and safety issues;

communicate effectively in order to secure the cooperation of management, employees and colleagues in the provision of a safe and healthy workplace;

(f) interpret the legislative, regulatory and medico-legal aspects of occupational health and safety and be able to apply these in practice;

(g) (h) design, implement and manage a vocational rehabilitation program in the workplace;

advise on the effects on humans of physical, chemical, biological, psychosocial and mechanical factors, arising from industry, in the general environment;

(i)

continue professional development in order to respond to changes in the workplace and evolving occupational health and safety knowledge; and

U) (k) recognise the limits of his or her competence and seek advice from experts in related disciplines.

## THE COMPETENCIES

For the purposes of the AFOM training program, the term 'competency' is used to mean the knowledge, skills and behaviours which a specialist occupational physician is required to have in order to practise occupational medicine effectively.

AFOM has defined the following nine competencies for occupational physicians, which reflect the clinical, preventive and population-based aspects of occupational medicine:

- Clinical
- Workplace Assessment
- Critical Appraisal
- Research Methods
- Management
- Communication
- Legislation
- Rehabilitation
- The Environment

These nine competencies are used to guide the overall aims and objectives and individual components of the AFOM training program and are used as the basis for setting the Fellowship examination.

Like other areas of science and medicine, occupational medicine is an evolving discipline, and these competencies are not meant to include all the detailed information that a graduating occupational physician is expected to know, nor are they meant to represent a totally inclusive syllabus. Therefore, trainee occupational physicians who are completing the AFOM training program and are seeking to obtain their AFOM Fellowship are expected to be aware of new developments and expanding areas of knowledge within the framework of the nine competencies, which are outlined in detail below.

### 1 CLINICAL

**1.1** The trainee occupational physician, at the conclusion of the program, will be able to:

(a) take and record a general medical history from an individual, including reproductive, social, family and behavioural characteristics;

(b) take and record a complete chronological lifetime work history from any person capable of giving such a history, which will include any other activities potentially involving exposure to hazards;

(c) for any job description given by a person who has worked in that job, make appropriate enquires of the informant in order to clarify the exact nature of the job or process, the materials used in the job and the condition under which the job was usually performed, to the extent of the knowledge of the informant; and

(d) perform a clinical examination at the level of competence attained by a medical graduate who has completed at least three years post graduation experience.

1.2 Given the above information, the trainee will be able to:

(a) demonstrate the ability to obtain information concerning the technical details of any described process, known hazards, potential or actual, of such a process, and recommended and/or legislative health and safety requirements for that process to be carried out (where relevant).

(b) arrive at a reasonable estimate of work conditions likely to have an impact on health;

(c) from a given work history, indicate a past or present occupation that has potential to contribute to the cause of a disorder and explain why this might be so;

(d) elicit, interpret, and describe to colleagues, the clinical features of each disorder, and describe the pathogenetic mechanisms responsible for the symptoms or signs elicited;

(e) describe the appropriate personal protective devices, environmental and biological monitoring, and engineered protection; and

## 1.3 ORGAN SYSTEMS

(f) in a given clinical situation, discuss the implications for employment, risk of exposure and fitness to return to a specified job.

In addition to the above, the trainee will be able to undertake the following for each of the listed organ systems which follow:

a) recognise and describe the clinical features of occupational and environmental disorders, and their aetiological factors;

b) recognise and describe relevant investigations, their purpose and range of normal findings;

c) describe toxicological mechanisms, where relevant, including important interactions with other lifestyle factors, such as medications, tobacco smoking and alcohol consumption;

d) describe the impairment, disability and handicap arising from these medical disorders, in particular their effect on a person's ability to work; and

e) undertake appropriate investigation, management and referral using an evidence based approach.

### 1.3.1 Musculo-Skeletal System

Disorders of the musculo-skeletal system with particular reference to the following anatomical areas:

- cervical, thoracic or lumbar spine
- shoulder and elbow
- wrist and hand
- knee, ankle and foot

### 1.3.2 Respiratory System

Respiratory disorders such as:

- asthma

- chronic bronchitis and emphysema
- acute and chronic respiratory failure
- lung cancer
- pleural disease
- infections of the lung
- pneumoconiosis
- interstitial lung disease

**1.3.3 Skin** Dermatoses,

such as:

- bacterial infections
- fungal infections
- scabies
- atopic eczema
- psoriasis
- irritant contact dermatitis
- allergic contact dermatitis
- acne
- skin cancers (including melanoma)

**1.3.4 Ear, Nose and Throat**

Disorders of the auditory canal, the tympanic membrane and the nasopharynx, including:

- noise induced hearing loss
- barotrauma

**1.3.5 Cardiovascular System**

Cardiovascular disorders such as:

- coronary heart disease
- major valvular heart disease in adults
- hypertensive cardiovascular disease
- atherosclerotic vascular disease
- cardiac failure
- arrhythmias

**1.3.6 Gastrointestinal System**

GIT disorders such as:

- gastroenteritis
- hepatitis (viral/toxic)
- splenomegaly
- inguinal and other hernia

**1.3.7 Nervous System**

Nervous system disorders such as:

- peripheral neuropathy
- toxic neuropathy
- epilepsy
- stroke

- narcosis

- neuropsychological problems
- parkinsonism

### 1.3.8 Psychiatric and Behavioural Disorders

Behavioural disorders such as:

- alcohol and other substances abuse disorders
- post-traumatic stress disorder
- somatoform disorders
- psychoses
- affective disorders
- adjustment disorders

### 1.3.9 The Eye

Ocular disorders such as:

- eye trauma
- colour blindness
- visual acuity
- cataracts

### 1.3.10 Reproductive System

Reproductive disorders such as:

- infertility
- miscarriage
- abnormal pregnancy

In addition for pregnancy the trainee should be able to discuss the implications for employment, risk from exposure to hazards and fitness in returning to a specified job.

### 1.3.11 Other Organ Systems

Common disorders of the:

- haematological system
- renal system
- immune system
- endocrine system

## 2 WORKPLACE ASSESSMENTS

### 2.1 GENERAL OBJECTIVE

The trainee occupational physician, at the conclusion of the program, will be able to undertake assessments of the working environment in order to recognise, evaluate and control physical, chemical, biological, design, and psychosocial hazards in the workplace. These skills are required to enable the occupational physician to prevent disease and injury resulting from, or being aggravated by, exposure to these hazards.

### 2.2 SPECIFIC OBJECTIVES 2.2.1

**Description of Hazards**

The trainee will be able to describe the potential health effects of common important hazards including:

(a) physical hazards such as:

- heat
- cold
- noise
- vibration
- electro-magnetic radiation
- electricity
- pressure

(b) chemical hazards such as:

- metals
- gases
- solvents and other bulk liquids
- pesticides
- dusts (including fibres)
- carcinogens

(c) biological hazards such as:

- bacteria
- viruses
- rickettsia
- protozoa
- fungi

(d) design hazards demonstrated in:

- equipment
- furniture
- workstations
- task design
- manual handling
- illumination
- stairs, ladders and access platforms

(e) psychosocial hazards such as:

- shift work
- occupational stress
- organisational structure
- boredom/fatigue
- organisational commitment to a healthy and safe workplace

(f) other hazards such as:

- flammable substances
- explosive substances
- work surfaces
- machine guarding
- tip hazards
- work at heights and on roofs

### 2.2.2 Assessment of Hazards

(a) **Recognition -** The trainee will be able to recognise the presence of hazards by conducting a walk-through survey. During this survey, the following factors should be taken into consideration:

- characteristics of the worksite
- characteristics of the plant and processes
- substances used in the processes
- hazards generated by the processes
- presence and adequacy of information on substances (eg. Material Safety Data Sheets)
- presence of confined space(s)
- maintenance/cleaning procedures
- inventory of hazardous substances
- procedures for handling hazards
- level of supervision
- task design
- workstation design
- shiftwork arrangements
- presence and effectiveness of existing control measures
- hygiene facilities
- first aid facilities
- level of employee training
- adequacy of signposting and labelling
- storage, transport and disposal procedures for chemical substances
- the use of personal protective equipment
- emergency procedures

(b) **Evaluation -** The trainee will be able to conduct some preliminary quantitative measures of workplace hazards, particularly those in the physical and chemical categories. This includes being able to use, and outline the limitations of pieces of equipment such as:

- a Drager pump using gas detector tubes
- a sound level meter
- a light meter
- a black globe thermometer, dry bulb thermometer and wet bulb thermometer to determine the wet bulb globe temperature index (WBGT)

In addition, the trainee will be able to outline the indications for, and the principles of, measurement techniques and interpret the results of these measurements including:

- portable air monitoring equipment such as a flame ionisation detector
- static and personal air monitoring equipment
- biological monitoring tests used to assess exposure to chemical hazards
- personal dosimeters and octave band analysers for measuring noise
- ionising radiation dosimeters
- anemometer and pitot tube to measure the effectiveness of ventilation
- microbiological testing for biological hazards

(c) **Control -** Once the recognition and evaluation phases of hazard assessment have been completed, the trainee will be able to determine whether the current hazard control mechanisms and procedures are satisfactory. This will include taking into account legislative standards, Australian Standards, codes of practice and other guidelines, such as those from professional bodies, in making this assessment.

The trainee will be familiar with the provision of these for common hazards such as noise, hazardous chemicals, manual handling as well as others specific to certain industries. Where control is not satisfactory, the trainee will be able to recommend appropriate control measures to minimise the risks from exposure to these hazards in the workplace. These control measures should follow the principles of prevention, including:

- elimination of the hazard
- substitution of a less hazardous substance
- segregation or enclosure of the hazard
- ventilation (dilutional and extraction)
- wet methods
- task redesign
- workstation redesign
- j• ob rotation
- the provision of information (including Material Safety Data Sheets)
- training of employees
- medical surveillance
- personal protective equipment
- occupational hygiene monitoring
- first aid provisions
- employee assistance programs

The trainee will be able to recognise those situations where the opinion of a specialist in a related discipline (such as a radiation physicist, occupational hygienist, psychologist or ergonomist) is required and to seek the advice of such a person.

### 2.2.3 Assessment Report

At the conclusion of the workplace assessment process, the trainee will be able to compile a report which can be understood by people with limited or no scientific training. This report should outline the hazards present, the risks to health of such hazards, whether appropriate standards are being met and clear recommendations regarding action necessary for further control.

### 2.2.4 Workplace Assessments in Different Industries

The trainee will be able to outline the major hazards to be found in industry and to describe the general principles of workplace assessments with particular reference to (but not limited to) the following industries:

- construction
- mining
- forestry
- manufacturing
- chemical
- petroleum
- electronics
- service
- food

- agricultural
- health
- transport

## 3 CRITICAL APPRAISAL OF OCCUPATIONAL HEALTH AND SAFETY INFORMATION 3.1

**GENERAL OBJECTIVE**

The trainee occupational physician, at the conclusion of the program, will be able to, locate and access the literature in order to identify relevant scientific evidence. The trainee will be able to critically appraise, using an evidencebased approach, relevant occupational health information to assist in professional decision-making relevant to the other competencies. **3.2**

**SPECIFIC OBJECTIVES**

### 3.2.1 The trainee will be able to:

(a) undertake a literature search of relevant occupational health information sources, including on-line and CD-Rom databases; and

(b) access other relevant sources of information, including legislation, government reports and occupational health statistics.

### 3.2.2 Diagnostic and Screening Tests

When presented with the literature concerning the use of a diagnostic or screening tests, the trainee will be able to:

a) distinguish between screening and diagnosis;

b) decide upon a test's usefulness and define its appropriate use; and

b) interpret the data according to the characteristics of the tests (such as sensitivity, specificity and predictive value), and characteristics of the individual or group being subjected to the test.

### 3.2.3 Causation

The trainee will be able to:

a) appraise the results of cohort, case control and cross sectional studies investigating associations between workplace and environmental hazards and occupational and environmental disease and injury, taking into account possible sources of bias and confounding;

b) appraise the evidence concerning causation of occupational health problems from workplace factors by applying criteria for causation, based on those of Bradford Hill; and

c) make recommendations based on this appraisal.

### 3.2.4 Interventions

The trainee will be able to:

a) appraise the value of reported interventions;

b) appraise the evidence concerning the economic evaluation of an intervention; and

c) make recommendations for the efficient use of occupational and environmental health interventions based on this appraisal. **3.2.5 Prognosis and Clinical Course**

The trainee will be able to:

a) appraise the literature concerning prognosis and course of work-related disorders;

b) make evidence-based recommendations concerning the management of employees with recognised injury or disease; and

c) provide advice to patients/employees, with regard to their prognosis and management,

### 3.2.6 Compliance Strategies

The trainee will be able to:

a) appraise the evidence for strategies to improve compliance; and

b) recommend strategies for the improvement of compliance with health-related practices.

## 4 RESEARCH METHODS

### 4.1 GENERAL OBJECTIVE

At the conclusion of the program, the trainee occupational physician will be a practical field epidemiologist who is able to design, conduct and interpret investigations of health problems in occupational and environmental settings and able to design, implement and evaluate prevention strategies in the workplace.

### 4.2 SPECIFIC OBJECTIVES

**4.2.1 Defining research questions.** The

trainee will be able to:

a) identify the essential elements of a health problem affecting a group of people in a workplace;
b) undertake a critical appraisal of the literature to summarise past published work;
c) pose specific questions which can be answered in an investigation of the problem;
d) outline the distinction between descriptive and analytical approaches to an investigation; and
e) describe the major analytical study designs and their strengths and limitations.

**4.2.2 Evaluation of Workplace Interventions** The

trainee will be able to:

a) list the available methods for evaluating a workplace intervention, including a health-promotion endeavour;
b) recognise that a randomised controlled trial would usually be the ideal evaluative design, but would conduct such a trial with appropriate advice;
c) list the limitations which result from an observational study instead of conducting a randomised controlled trial; and
d) list the limitations of a before/after survey, or other type of study, as an evaluative design for the intervention in question.

**4.2.3 Selection of subjects for investigation**

The trainee will be able to:

a) outline the principles of selecting a group of people for an investigation;

b) describe the major methods of drawing a sample of subjects from a population, and describe the implications of the various types of sampling;

c) discuss the influence of the methods used to assemble groups on the results of the comparison of two or more groups; and

d) assess the validity of such a comparison in relation to the question which the investigation is designed to answer.

### 4.2.4 Planning Data Collection

The trainee will be able to:

a) identify the data required to answer the research questions posed;

b) prepare a research protocol which would outline the ways in which the data could be obtained by making measurements or observations (eg. environmental or physiological measurements), by administering a questionnaire, or by obtaining information from documentary sources;

c) explain random and systematic error and their influence on measurements or observations;

d) discuss the factors that influence random and systematic error, the consequences of these types of error, basic methods of estimating random error and methods of minimising systematic error;

e) discuss the factors which influence the validity of responses to a questionnaire; and

f) prepare a submission to an ethics committee, ensuring that all possible ethical and confidentiality factors are addressed.

### 4.2.5 Recording and Storage of Data

When undertaking a research project the trainee will be able to:

a) devise a simple system for recording and storing the required data in an organised and standardised manner which facilitates subsequent analysis. The system may comprise paper forms or a simple computerised database; and

b) outline contemporary perspectives on the security and confidentiality of personal data on individuals, and use data recording and storage procedures which comply with these perspectives.

### 4.2.6 The Handling and Summarisation of Data

The trainee will be able to:

a) inspect a set of data, and summarise and present the data in a meaningful and logical way;

b) prepare and interpret appropriate tabulations which summarise the distribution of a single variable or the relationship between two or more variables;

c) prepare and interpret appropriate illustrations which summarise graphically the distribution of a single variable or the relationship between two or more variables. Such illustrations include histograms, bar charts, pie charts, and line graphs; and

d) calculate and interpret descriptive statistics of central tendency and spread, which summarise distributions of discrete and continuous variables:

### 4.2.7 Expressing the Occurrence of Health-Related Phenomena

The trainee will be able to:

a) explain the difference between the expression of health-related phenomena as frequencies or rates;

b) define and interpret a rate and the information which it conveys;

c) calculate the rates of prevalence, incidence and incidence density and interpret their meaning;

d) explain that incidence gives a measure of absolute risk; and

e) interpret the following epidemiological measures of association:

- relative risk
- odds ratio
- attributable risk
- population attributable risk

**4.2.8 The Play of Chance** The trainee

will be able to:

a) explain that chance (random variation) may affect not only measurements or observations but also the results of an investigation;

b) interpret a confidence interval, as applied to a measurement (eg. the 95% confidence interval of a mean), a proportion, a rate or an estimate of an association; and

c) explain the meaning of a p-value.

**4.2.9 Extraneous Effects** The trainee will

be able to:

a) describe how the association between a putative determinant and an outcome may be distorted by extraneous factors (potential confounders);

b) outline the importance of potential confounders in the conduct of an investigation and the interpretation of data;

c) outline (but not necessarily be able to apply) the variety of methods available to deal with confounding, including restriction, matching, stratification, standardisation and application of multivariate statistical methods; and

d) distinguish between confounding and interaction (or effect modification).

**4.2.10 Investigation of an Outbreak**

The trainee will be able to:

a) investigate an outbreak of an acute disorder, such as an infectious disease, or an apparent cluster of disease cases or symptom complaints;

b) identify what information is required and assemble it rapidly;

c) generate and test hypotheses as to the cause or trigger of the outbreak or cluster, and deal with the human and political factors which accompany such events; and

d) identify and evaluate appropriate preventive measures, where appropriate.

**4.2.11 Reporting on an Investigation**

The trainee will be able to:

a) prepare a succinct verbal or written report of an investigation, which identifies the problem and its background, states the questions addressed by the investigation, describes the methods, presents the

findings (including tables and graphs), interprets the findings, states conclusions and formulates recommendations.

## 5 MANAGEMENT

### 5.1 GENERAL OBJECTIVE

At the conclusion of the program, the trainee occupational physician will be able to understand how organisations function and be able to manage an occupational health and safety service to assist the organisation to promote and continuously improve its occupational health and safety performance.

### 5.2 SPECIFIC OBJECTIVES

The trainee will be able to:

a) describe the roles and responsibilities of:

- line and functional management,
- government and regulatory authorities and
- trade unions;

b) describe and demonstrate an understanding of the effects of the following factors on occupational health and safety performance:

- workplace culture,
- organisational structure,
- business plans and organisational objectives, and
- financial and economic factors;

c) discuss methods of continuous improvement within the organisation including:

- aligning their contribution to the overall organisation objectives,
- providing leadership through participation, education and ideas promotion,
- practising high moral and ethical standards,
- providing a vision for improvement and a process to achieve it,
- providing a positive, professional and influential presence,
- identifying and communicating issues of relevance and priority, and
- practising effective negotiation; and

d) demonstrate an understanding of the principles of managing an occupational health service, including:

- identifying the health and safety needs of the organisation,
- identifying the goals and objectives of the service,
- developing an effective team to meet the needs of the organisation and the objectives of the occupational health service, including health promotion programs,
- negotiating and managing budgets,
- communicating to the organisation the role, strengths and value of the occupational health service,
- encouraging high performance and conducting performance appraisals,
- evaluating the performance of the service against the objectives, and
- maintaining the independence of the service.

## 6 COMMUNICATION

### 6.1 GENERAL OBJECTIVE

At the conclusion of the program, the trainee occupational physician will be able to communicate knowledge and opinion at individual, corporate, organisational and community levels in order to put the principles and concepts of occupational health into practice.

### 6.2 SPECIFIC OBJECTIVES

#### 6.2.1 Language

The trainee will be able to:

a) read, write and converse proficiently;

b) organise and write a report;
c) listen actively; and
d) use plain English for explanations.

#### 6.2.2 Organisational Communication

The trainee will be able to:

a) identify barriers to communication;

b) distinguish between objective and subjective arguments;
c) identify ways in which messages may be distorted; and
d) test comprehension of messages transmitted to people at all levels within the organisation.

#### 6.2.3 Cultural and Language Barriers

The trainee will be able to:

a) identify the causes of conflict and the principles of resolution of conflict, in

particular the strengths and weaknesses of conciliation and compromise; b) overcome barriers to communication with people who have special needs, including those with non-English speaking backgrounds;
c) respond sensitively to people from different cultural backgrounds;
d) outline the major theories of personal interaction in order to initiate and reinforce change; and
e) demonstrate methods by which people may learn new behaviours or adjust to new situations.

#### 6.2.4 Presentations

The trainee will be able to:

a) make clear presentations to audiences by speaking coherently and fluently;
b) effectively use audio-visual equipment;
c) participate effectively as a member or chairperson of a committee; and
d) present a well-written curriculum vitae.

## 7 LEGISLATION AND MEDICO-LEGAL

### 7.1 GENERAL OBJECTIVE

At the conclusion of the program, the trainee occupational physician will be able to interpret the legislative, regulatory and medico-legal aspects of occupational health and safety and be able to apply these in occupational health and safety practice. As specific legislation and standards form the basis for ensuring health and safety in the workplace, an understanding of the

legislative framework will enable the occupational physician to advise management and workers.

### 7.2 SPECIFIC OBJECTIVES

The trainee will be able to:

a) describe the legislative framework for occupational health and safety;

b) describe the various tiers of government and their respective powers in relation to workplace hazards and those hazards in the general environment arising from industry;

c) locate sources of legislation;

d) describe the coverage of, and the difference between:

- common law,
- health and safety legislation, and
- workers' compensation legislation;

e) discuss the differences between:

- acts,
- regulations,
- codes of practice,
- national standards, and
- other guides;

f) locate and interpret legislation applicable to specific work hazards both in the workplace and in the general environment;

g) describe the status of industrial agreements, particularly those containing a health and safety component;

h) discuss the issues of confidentiality, particularly with regard to:

- medical records,
- privacy legislation, and
- pre-employment and routine health assessments;

i) describe the standard setting process;

j) outline the role of the industrial relations commissions;

k) indicate the relationship of equal employment opportunity, antidiscrimination and privacy legislation to occupational health and safety;

l) describe the role of medical panels, and medical referees;

m) outline the role of the medical expert witness; and

n) describe the adversary system, court procedure and principles of the law of evidence.

## 8 REHABILITATION

### 8.1 GENERAL OBJECTIVE

At the conclusion of the program, the trainee occupational physician will be able to assess the need for and manage rehabilitation at the workplace, advise management on all aspects of rehabilitation including policies, procedures, implementation and monitoring of rehabilitation and ensure that the necessary infrastructure and organisational culture is developed to support rehabilitation.

### 8.2 SPECIFIC OBJECTIVES

**8.2.1 Policy and Program Development** The

trainee will be able to:

a) develop a rehabilitation policy and advise on procedures to implement rehabilitation at a workplace;
b) set up a rehabilitation program for an organisation, specify the information requirements to monitor the program and monitor its effectiveness;
c) evaluate the range and nature of the tasks at the workplace where rehabilitation is required and assess potential alternative jobs for injured or ill employees; and
d) ensure that adequate or necessary facilities are available to injured or ill employees (including first aid, appropriate equipment, reasonable modifications in the workplace).

**8.2.2 Rehabilitation Process**

The trainee will be able to:

a) facilitate early referral to another specialist where necessary for diagnosis and management and monitor the progress;
b) determine the degree of impairment and disability which may present in an injured or ill employee and determine capacity for work;
c) assess the ability of the workplace to provide specific rehabilitation duties for each injured or ill employee, for example restricted or alternative duties, change in working hours, transport needs, rotation through various duties, or additional equipment;
d) organise a rehabilitation program for an employee, taking into account the demands of the available jobs and the degree of impairment and/or disability of the employee;
e) assess the psychosocial and/or cultural factors which may influence the return to work of an injured employee and use appropriate resources to deal with these factors;
f) apply the rehabilitation process to employees returning to work after an absence due to any illness or disability;
g) develop strategies for managing difficult patients, employers and treating doctors;
h) assist the injured or ill employee, the organisation and the rehabilitation team (particularly the rehabilitation co-ordinator where such a function is specified) to set the program for the individual's rehabilitation progress and the ultimate vocational goal, either within the organisation or external to it;
i) participate in case management in the role of a medical adviser and interpreter of medical opinion into workplace activities and restrictions;
j) identify the industrial relations aspects of a return to work program and seek the assistance of appropriate personnel to resolve any conflicts, for example by communicating with union advisers or state compensation authorities;
k) communicate the rehabilitation program planned for the individual to supervisors and senior management and facilitate its implementation;

l) apply the legislative requirements concerning rehabilitation of ill or injured workers (including other relevant legislation regarding confidentiality and anti-discrimination); and

m) assist in minimising the costs while maximising the benefits of rehabilitation to the organisation.

## 9. THE ENVIRONMENT

### 9.1 GENERAL OBJECTIVE

At the conclusion of the program, the trainee occupational physician will be able to advise on the effects on people outside the workplace of physical, chemical, biological, psychosocial and mechanical hazards arising from industry in the general environment.

### 9.2 SPECIFIC OBJECTIVES

The trainee will be able to:

a) demonstrate an understanding of the differences between occupational medicine and environmental medicine, with particular regard to demographic differences - the populations at risk, the presence of susceptible subgroups in the community, differences in exposure pathways and doses, and the socio-political settings;

b) undertake the clinical appraisal and management of individuals exposed to environmental hazards arising from industry;

c) describe the concepts and methods used in:

- population health monitoring including the use of biomarkers, assessment of subclinical effects and 'clusters' of health events,
- health-based environmental risk assessment, including its four stages of hazard assessment, dose-response relationship, exposure assessment and risk characterisation,
- risk management of environmental hazards, and
- risk perception, acceptable risk, risk communication and community consultation;

d) conduct an investigation into real or perceived health effects from environmental hazards arising from industry, while understanding the important differences between investigating health risks in an occupational versus a community population;

e) advise industry and the community on the prevention of hazardous exposures in the general environment, including waste disposal, storage and transport of hazardous substances;

f) describe the process of environmental standards development for hazards arising from industry, how this differs from occupational standards development, and the strengths and limitations of environmental standards;

g) recognise that stake holders in environmental health issues may have differing perceptions and agendas, and develop strategies to understand and address these;

h) recognise and utilise other professionals with environmental health expertise (such as public health physicians who have particular

expertise in environmental hazards not arising from industry), and be able to function effectively in a team solving or managing problems;

i) contribute to the development of health policy relating to exposure to hazards arising from industry, exposure guidelines, monitoring and action plans; and

j) demonstrate an understanding of how environmental health risk and hazardous exposures are monitored, including environmental audit, and how such information can be accessed.