



AUSTRALASIAN FACULTY OF OCCUPATIONAL MEDICINE

**GUIDELINES FOR
HEALTH ASSESSMENT FOR WORK**



The Royal Australasian
College of Physicians

THE ROYAL AUSTRALASIAN COLLEGE OF PHYSICIANS

THE ROLE OF THE FACULTY

Occupational Medicine is the study and practice of medicine related to the effects of work on health and health on work.

The primary purpose of The Australasian Faculty of Occupational Medicine of the Royal Australasian College of Physicians is to promote excellence in occupational medicine. Such excellence will be achieved by a multi-dimensional approach that incorporates: -

1. developing and maintaining high standards in the education of occupational physicians;
2. developing high professional and ethical standards for occupational physicians;
3. instituting programs to ensure that Fellows maintain professional competence;
4. promoting research in occupational and environmental medicine;
5. promoting to governments, industry, employer and employee organisations and other bodies the occupational medicine perspective on key health, safety and environmental issues;
6. promoting occupational medicine within the medical profession;
7. providing the Faculty position on current issues surrounding the effects of work on the health of the community - by publishing technical documents and guidelines; and
8. Promoting the health of all workers in all occupational environments.

**GUIDELINES FOR
HEALTH ASSESSMENTS FOR WORK**

Prepared by

AUSTRALASIAN FACULTY OF OCCUPATIONAL MEDICINE

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FOREWORD

The Australasian Faculty of Occupational Medicine of the Royal Australasian College of Physicians is that body of the medical profession in Australasia, which represents specialist occupational physicians. Occupational physicians are concerned with the research and practice of occupational medicine, which is the study of the effects of health on work and work on health.

The World Health Organisation defines health as not merely the absence of disease, but a positive state of physical, mental and social wellbeing.

The Faculty has commissioned a Working Party to develop guidelines for health assessments for work. These guidelines aim to advise employers and their representative bodies, employees and their representative bodies, and health care professionals, who carry out the examinations, of what these assessments can and cannot achieve.

Guidelines are designed to point the way; they are to be considered as proscriptive and of universal application.

Health assessments for work include pre-placement, or pre-employment, assessments*, examinations on recommencing work following a period of absence, on leaving employment and periodic specific examinations.

The extent of the health assessment will vary with the nature and risk to the health of the individual occasioned by the actual work. Health assessments for work, which are cogent and effective, require a thorough and extensive understanding of the actual workplace, the demands of the job and the environment.

They must be carried out in accordance with best practice, with recognition of confidentiality and of the various state, federal or national legislation, including that on human rights and disability discrimination.

Health professionals have a responsibility to make accurate, ethical and appropriate assessments, which are designed to protect the health and welfare of the employees being examined and their fellow employees.

The Faculty will seek to circulate these guidelines to all those with a concern for health and welfare of people at work, and welcomes any further debate on improving the health of people at work through health assessments.

* The term 'pre-employment' has given way to 'pre-placement' in general usage.

PART 1: SCOPE OF HEALTH ASSESSMENTS

1. INTRODUCTION

Work places demands on our physical and emotional capabilities and subjects people to a wide variety of substances and conditions. Work itself may lead to ill health or injury, just as some health conditions may be worsened by work factors.

Some of those conditions may be acute, chronic or relapsing in nature. Impairments, disabilities or handicaps may also be temporary or permanent. These may or may not affect a person's capacity to do his or her normal job.

Health assessment for work involves matching the person's physical capabilities to the requirements of the task. It may be carried out as a pre-placement health assessment, for rehabilitation and return to work following illness or injury, or cessation of work due to disability or ill health.

The principles are the same whether the health assessment is to determine existing conditions, capabilities or other factors pre-disposing to ill-health, is carried out before employment, before placement in a new job or work environment, or periodically during employment.

1.1 History

The Factory Act (UK) of 1833 was the first legislation, which imposed on employers a responsibility for the health of their employees. It introduced the pre-employment medical examination by surgeons to ensure children had sufficient physical ability to carry out the required factory work. Some years later, the Factory Surgeon was required to certify whether children and young people were disabled by injury or disease caused by their work.

By the early twentieth century Factory Surgeons were required to carry out routine examinations of employees in such industries as those involving lead, phosphorus, chromium, radioactive materials and other chemicals. These early examinations in the United Kingdom considered two aspects: whether the employee was physically capable of carrying out the work and whether the work had affected the employee.

The first Australian legislation dealing with workplace safety was The Factories and Shops Act, 1885, of Victoria and it echoed the British legislation of that time. Throughout much of the 20th Century, both Australian and New Zealand safety legislation continued to be modelled on the British, with specific national, state and industry-related legislation being introduced at various times. Persons carrying out the health assessment in industries constrained by such legislation must be familiar with the legislative requirements.

2. OBJECTIVE OF THE HEALTH ASSESSMENT

The aim of the pre-placement health assessment is to evaluate a person's physical and mental capacity to carry out the tasks inherent in a job and in the environment in which they are to work.

The assessment helps to ensure that the job does not cause or aggravate any existing disease or injury and that the characteristics of any disease or disability will not cause harm to others, including fellow employees and members of the public, through inappropriate actions by the employee.

Equal opportunity and disability discrimination legislation ensures the person's ability to do the work is the paramount consideration. It is the employer's and the health professional's concern that the work can be carried out with safety to the employee and others, regardless of disability.

Historically, employers saw the physical pre-examination as a means of excluding individuals who might have an increased risk of absenteeism or injury.

Nowadays, pre-placement health assessments are not to be recommended for use as an exclusion tool against potential employees. Employers should not advise individuals that they be accepted for employment subject to a "medical clearance". The health assessment is only one factor in determining the most suitable person to place in a specific job and should be considered along with the interview, reference checks, psychological assessment, etc.

Its extent and purpose should be properly understood by the employer and the assessor, and clearly expressed to the person being assessed.

3. PROCESS OF THE HEALTH ASSESSMENT

3.1 Objective of the Assessment

A health assessment has 3 objectives:

1. To determine appropriately the capability to work safely in the internal and external environment of the workplace.
2. To assess the physical and mental capability for a particular job or work tasks, including development and advancement in that job.
3. To provide a baseline for health so those subsequent assessments can be compared and interpreted.

The welfare of the employee is important, but a regard for the safety of others, either co-employees or the public, is an overriding consideration.

3.2 Procedures

The process of the health assessment involves referral of the individual by the employer to a health professional who carries out the assessment. The interpretation of the result of the assessment is then referred back to the employer. The employer determines the employment or placement of the person (see Appendix).

The extent and purpose of the assessment should be outlined by the employer. However, the assessor should ensure the nature and purpose of the assessment is understood both by the employer, in general terms, and by the employee, or potential employee, at the commencement of the assessment. Some assessors provide written information to the person prior to attendance for assessment and obtain signed consent from the person to undertake the assessment.

The individual's privacy must be respected. Provision should be made for the person's privacy while dressing and during the examination, as well as for collection of specimens for testing, such as urine.

The information gained should be kept confidential, but the individual must be made aware of any abnormality that is detected and referred appropriately for consultation or treatment to their personal medical practitioner. With regard to the work proposed, the person should be advised when a recommendation for modification or alteration in work practices will be made to the employer.

Medical records generated for the purpose of health assessment for work must be kept confidential and clearly identified separately from the person's medical record obtained for any other purpose. The records are the property of the health professional who generated the record. Only results relevant to the performance of the job are conveyed to the employer.

In the case of health surveillance for exposure to particular substances there may be legislative requirements to inform the appropriate public authority of the results and to keep the records for a prescribed period of time.

3.3 Questionnaire and Examination

Ideally, a job specific questionnaire and physical examination protocol should be applied. However, it is accepted that the current usage of a general questionnaire and examination protocol simplifies and standardises the process, provided that consistency is applied and the assessment is directed to the job requirements. Additional assessment questions and/or testing procedures, that are specific to the work in question, may then supplement the "core" questions and examination. Standardisation of both questionnaire and examination also provides better data for epidemiological research.

Some information, which often seems irrelevant to the lay observer, can be important in the context of the environment inside or directly outside the place of employment, rather than the particular job. For example, in the case of a typist who has asthma or a chemical sensitivity, the condition may be relevant if the job entails walking through a factory area, with exposure to dusts or chemicals, either for access to the typist's own workplace, or to other people, facilities, notice boards, etc.

Investigations of an invasive nature, such as X-rays or blood tests, are only occasionally necessary and their use should be able to be justified on a rigorous scientific basis.

If the person has a known medical condition, it can be helpful, in order to arrive at an opinion for the employer, to consult the treating doctor in such instances. Written permission should be obtained from the person being assessed, as well as advising them of the degree of confidentiality of the information obtained.

3.4 Restrictions

The term "light duties" is meaningless in today's context and should be avoided.

Any recommendation of restriction on the individual's activity must be both informed and specific. Even statements such as "unfit for heavy lifting" are confusing to the employee and employer. If a restriction in terms of lifting is recommended, it should be specific and indicate the maximum weight to be lifted alone and with assistance, from what height, and the frequency of the lift.

A thorough knowledge of the workplace is essential for valid recommendations on work restrictions. When there is little knowledge, often the case when the assessor only occasionally carries out these examinations, the physical capacity of the person must be clearly defined so that the employer is able to match what is stated to the physical requirements of the job, and not to the job title, such as "fit for clerical duties" or "fit for office work".

The restriction should clearly state whether it is for a limited time or is indefinite, and whether a follow up to assess coping, is indicated (further discussed in Section 9).

4. TASK ANALYSIS AND THE ASSESSMENT

Different jobs obviously have different physical requirements, as well as the usual requirements based on intellect, experience, training and skills. The determination of physical requirements of jobs has been clouded by resistance to recognise that physical capabilities do influence the ability to perform work, and that some jobs, or tasks within a job, can be performed more productively, if not more safely, by persons who have the appropriate capability level.

The history of pre-placement examinations is that they were carried out with very little recognition of the physical demands of the tasks. This has detrimentally influenced opinions of employment practices. Many pre-placement health assessments are still carried out today by medical practitioners, nurses or others, who have little understanding that the assessment is intended to confirm or analyse whether a person has the specific physical capabilities to perform a specific job or task. This is a practice that has devalued the worth of pre-placement health assessments, and has led many persons and organisations to question whether they should be carried out at all.

The Australasian Faculty of Occupational Medicine wishes to establish pre-placement health assessments, as one of the many sources of information that are available to employers, when choosing an appropriate applicant for a job. The physical capability of the applicant is one, but only one, of the determinants of the ability to carry out the tasks effectively.

Obviously, for the above to be true, the examining practitioner, whether they be a doctor, nurse, or other, must have a reasonable, if not precise knowledge of the physical demands of the tasks involved in a job. There must also be some awareness of the intellectual and psychological requirements. Only then, can a balance be made between the job and the physical and psychological capabilities of the applicant.

The balance is not intended to, and should not create, a 'survival of the fittest' situation. The intention of the pre-placement health assessment is merely to confirm whether the applicant possesses the physical and mental requirements to perform the tasks. It determines the 'minimum' level rather than a maximum or 'fittest'.

4.1. Awareness of job hazards

The person carrying out the assessment must, therefore, be aware of the minimum necessary physical and mental requirements of the job. Such requirements are rarely established within 'job descriptions' or job titles and is only objectively assessed by worksite visits.

Those working solely within industry are aware of these requirements through observation and analysis of persons carrying out the tasks. They are also usually aware of changes in the task or the working environment that may occur from time to time. Workplace competencies are now being defined in many businesses, and consideration of physical requirements or capabilities is becoming accepted as one competency criterion.

For those health assessors working primarily outside industry, knowledge tends to be 'common knowledge', ie. the occasional and superficial observation of policemen, nurses, secretaries, retail workers, brickie's labourers, truck drivers, etc. This can lead to incorrect decisions about a person's physical capabilities in relation to the work for which they have applied, and may be coloured by the assessor's wish to facilitate the employment of the person.

However, some tasks have a low level of risk to health and safety and may not require detailed knowledge of the work practices and processes. The employer should clearly state, to the examining person, the types of hazards that would significantly impact on the health and safety of any employee.

When faced with an applicant who has a level of disability or impairment, or a general health problem, with uncertain significance for the workplace, it is incumbent on the assessor to contact the employer and inquire about the work conditions and requirements in more detail and, at times, to visit the workplace.

The assessor may also be asked to advise about accommodations or adjustments to the workplace, which may allow the applicant to work safely. Assessors must take responsibility for ensuring their opinions or recommendations are given with full knowledge of the relevant criteria in the workplace and are judicious and equitable. Further discussion on the legal implications is in Section 8.

4.2 Safety of Others

There are a number of jobs for which the physical capabilities relate not so much to the ability to carry out the tasks, but the ability to ensure the safety and health of others. Little argument is raised over whether airline pilots require a level of physical and mental capability that would ensure the safety of themselves and their passengers, but the same issues arise whatever the means of public transport, as well as in other types of work which interact with the public and where public safety is an issue.

There are some individuals who cannot appropriately recognise or respond to a hazard. Such a hazard may be innocuous to a person with the appropriate physical abilities but become hazardous to someone without such abilities. For instance, colour blindness; does not normally cause dysfunction at work, but may do so for jobs with electrical work. In the current era of multi-skilling, employees may extend skills into other trade areas. A person applying for a process worker job may not realise that training in the electrical trades can accompany the job, nor even be aware of their colour blindness. Far less aware is the examining doctor or nurse who has not been given the necessary information about that job, and declares the person 'fully capable' without appropriate testing.

5. TYPES OF ASSESSMENT

There are many types of health assessment or medical examination associated with employment, but this document deals with those relating only to determination of the appropriateness of a person's physical and mental capabilities for a specific task including baseline treatments as a reference for later health surveillance.

5.1 Pre-placement health assessment

This is a medical examination or assessment prior to commencing work with a new employer, or in a new area or department, or in an entirely new job role. In the instance prior to employment, the employer has no experience of the person's physical ability to carry out the work and seeks, through the pre-placement health examination or assessment, to be given adequate information on those matters.

A pre-placement assessment may also be considered to occur at any time during employment where the person is already employed and is being considered for transfer to another job with the same employer, or where the tasks involved in the job have significantly altered. Very often, even though tasks may have altered, the employer now has a history of that person's physical capabilities and health, and will not request a pre-placement examination, unless there is an exposure to a significant hazard which was not present in the employee's previous work environment.

Postings overseas, particularly to developing or underdeveloped countries, are examples of the type of circumstances, which require these medical examinations. Even relatively minor alterations in a person's work may necessitate an examination, such as exposure to a noisy environment, or the need to gain a forklift driver's licence in some Australian states.

Again, the examining doctor or nurse must be aware of the work environment and the physical and mental demands of the task. The employer must provide appropriate and detailed information on the hazards for doctors who are not frequently involved in occupational medicine issues.

5.2 Periodic assessments

These fall into the category of health surveillance, as the examination is usually carried out in response to a known hazard in the workplace, eg. noise, specific chemicals, etc. There is an established periodicity to the protocol that commences with an examination or tests to determine a pre-exposure or baseline level for the individual. The pre-exposure examination or test may be incorporated into the pre-placement health assessment.

It is necessary that any health professional undertaking these type of examinations is aware of the characteristics of the hazard, as well as the characteristics of the workplace,

including monitoring and normal work procedures, as well as breakdown and maintenance conditions.

For further discussion on health surveillance see the Australasian Faculty of Occupational Medicine (AFOM) document on "Workplace Health Surveillance", 1993.

5.2.1 Health promotion

Any pre-placement or periodic examination is an opportunity to inform the individual of any abnormal findings, which may require follow up and referral to a personal medical practitioner. This should be by letter setting out the specific abnormalities. Information about unhealthy life styles provides an opportunity for counselling on the ill effects of the lifestyle, and what is of benefit for good health. Health promotion can be included as a minor aspect of pre-placement or periodic health assessments, but may be an activity in its own right (for further information, consult the AFOM document "Health Promotion", 1983).

5.2.2 Executive Health

These examinations tend to focus on cardiac risk factors and, in more recent times, incorporate various cancer detection techniques.

In the past, these examinations were called 'Periodic Medical Examinations' and were performed on all manner of employees with varying periodicity. The examinations were general and fairly simplistic, usually able to be carried out in a general practitioner surgery, and with little regard for the hazards the person may be experiencing at work.

Unfortunately, such examinations engendered a false sense of security in both the person being examined and the organisation, which provided them for its employees. They were invariably expensive examinations, considering the time involved by a doctor, as well as the time the employee lost from work, and they only occasionally achieved any benefit for the employee by the early detection of an illness, usually hypertension. They did not, in any way, prevent illness, and were often cursory and uninformative. At best, they were seen as a perquisite.

Their evolution has been to focus on senior management in an organisation, with the intention of preserving their health and well being so that they may continue to contribute at a high level throughout their working life. It is recognised that senior management has skills and experience that are essential to the organisation and often, after many years within an organisation, specific to that organisation.

In addition, it is believed that many senior executives now undertake extensive travel and do not have the ability to maintain an ongoing relationship with one medical practitioner, and often, with a pressure of time and workload, neglect minor health symptoms and have difficulties maintaining a healthy lifestyle.

It is intended that the executive health examination provide feedback to the person on current state of health and sufficient information to enable alteration in lifestyle to improve health, and thereby working life.

5.3. Sickness absence

A justifiable reason for carrying out such an examination is to determine whether the person's illness or injury has resulted in a permanent or temporary impairment and/or disability, which may necessitate an alteration in the method of work, the equipment the person uses at work, or the time frame of the working day.

Very often, liaison with a treating doctor is required to gain a fuller knowledge of the medical aspects of the illness, as well as with the supervisor or manager of the employee, to determine whether appropriate alterations or concessions can be made in the workplace or the method of work.

Rehabilitation for personal medical conditions utilises the same principles as rehabilitation for work injuries (for further information consult the AFOM and Australasian Faculty of Rehabilitation Medicine document "Occupational Rehabilitation", 1987).

Some employers will request a medical examination of an employee after a period of personal illness or injury with the intention of determining whether the illness or the period of absence was "genuine". This assessment is not considered an efficient or even valid means of determining that answer. Whilst doctors are able to give an opinion, they often have only anecdotal knowledge from the patient/employee. Additionally, they may feel uncomfortable in the role of questioning a treating doctor's management, including certifying absence from work. It would be more appropriate for the employer to inform the employee's personal medical practitioner of the employer's concerns in any dubious or questionable case, and ask that doctor to consider whether the employee may be able to carry out some work, despite the illness.

Special sick leave benefits, as provided in some enterprise agreements, may automatically require a medical examination.

5.4. Retirement

These examinations are often carried out as a perceived benefit to employees to enable them to be aware of any health problems and implications for quality of life, or to discuss the need for ongoing medical surveillance. In this sense, retirement should be considered as future 'occupation', which will entail physical and mental demands on the person.

Early retirement solely because of ill health or injury may require a medical examination to determine whether the person should permanently cease work, or whether a program of rehabilitation could be implemented to maintain the person within the workforce. The consequences of illness or injury do not necessarily cause incapacity, so that retirement must not be seen as an alternative to pre-injury or illness work, but as a last resort.

Unfortunately, career advice for the person who already has an established career is rarely suggested. Those with a disability, or with one that is developing, tend to persist with their established career. They proceed to an early, unproductive retirement, or

social security benefits, rather than examine alternative career options at an early stage when income and attitude have not been eroded through enforced unemployment.

Occupational physicians are attuned to the likelihood of unemployment through chronic, increasing impairment and are able to discuss and advise on natural progression of medical conditions and the implications for employability. Rehabilitation resources are available to both compensable and non-compensable injury and illness patients, but tend to be utilised by difficult cases with an established significant degree of disability, rather than early ones with better prospects for training.

5.5 Statutory Examinations

The employer must determine whether a statutory examination is necessary and then the appropriateness, if not the accreditation, of the doctor to carry out these examinations.

It is usually a requirement that the doctor who carries out the examination has had training and/or experience in these examinations and is familiar with the workplace environment. In some states in Australia, only doctors who have had such training are legally permitted to carry out the examination.

Whilst many of the statutory examinations relate to a small sector of industry (eg. asbestos removal, industries involved with lead, spray painting, etc.), the list is lengthening as more and more hazards are recognised and are being targeted to ensure the safety of those employed in those industries. On the other hand, the food industry (from manufacture to delivery in restaurants, food outlets and institutions) has legal requirements relating to hygiene and the transmission of disease, but few pre-placement health assessments occur outside large employers.

These examinations have a specific periodicity and reporting protocol that is defined within the relevant legislation.

5.6 Superannuation and Pensions

5.6.1 Pre-employment

Entrance to a superannuation or pension fund these days is usually linked with the pre-placement health assessment. In the past admission to a fund could be accepted or rejected on the basis of the examination, but today this is no longer valid and is no longer separated from the person's ability to perform the work.

There may be the provision in some funds to exclude from specific benefits some applicants with health problems that do not impinge directly on their ability to work.

It should be recognised that the examining doctor may be required to provide a report to the superannuation fund administrator, and that the report may disclose

medical information. Such information should only be relevant to the terms of the superannuation fund, and not divulged purely for the sake of revealing an abnormal finding. For this reason, the examining doctor must be aware of the superannuation fund requirements prior to writing such a report, and the applicant aware of the possibility of disclosure prior to presenting for examination.

5.6.2 Total disability benefit:

Superannuation funds, or government bodies such as the Departments of Social Security, Veterans' Affairs, often require an examination to determine the granting of a pension or benefit. In this sense, the applicant must be fully informed and willing for adequate and appropriate medical information to be passed on, not just to the examining doctor, but incorporated in the opinion or report to the organisation (either the employer/superannuation organisation or the government department).

6. CHOOSING THE ASSESSOR

Most organisations and all businesses would nominate cost minimisation as one of their priorities. Despite safety and welfare being recognised as a beneficial thing, most people would like to see good value for the price to be paid for safety. The area of pre-placement health assessment, or any other type of health assessment of employees, is no exception.

Some organisations, even without significantly hazardous environments, consider the health assessment, or any kind of medical screening process, to be inherently good and of personal benefit to their employees.

For those businesses upon which there is a statutory requirement to examine employees, the question of who should carry out the examination is prescribed by the legislation. They can only consider cost minimisation through the choice of the accredited assessor.

A health assessment prior to commencing work is necessary if the hazards involved in the organisation are significant, and are of a nature that the person's physical capabilities could increase the risk to themselves or to others. The nature of the hazard and the clinical expertise required determining whether the person has a disability or medical condition that could increase the risk should determine the necessary qualifications and experience of the person carrying out the examination.

For instance, only medical practitioners have been trained to adequately examine and assess the respiratory system, and therefore are an essential component of that pre-placement health assessment where normal respiratory function is necessary to perform the work safely.

6.1 Occupational physician

The expertise of an occupational physician is necessary for workplaces where the risks are significant (ie. the likelihood of the risk event occurring is high and/or the outcome is serious), and the occurrence can be affected by the worker's physical capabilities.

The range of knowledge, the competencies, skills and the level of awareness of the implications of decisions on health and safety issues, are greater with a specialist occupational physician than for other professionals capable of carrying out assessments.

Some organisations have acquired the service of an occupational physician on a sessional basis, utilising the physician for many purposes, such as rehabilitation, injury prevention, advice on product safety, etc. as well as dealing with the more difficult pre-placement health assessments.

It may also be worthwhile for an organisation to consider a 'one-off' expenditure by utilising the services of an occupational physician to establish the pre-placement health assessment protocol. An occupational health nurse, general medical practitioner, other health professional, or other professional, or non-professional, person (see below) then implements the protocol. The occupational physician will be able to consider the

accident experience of the organisation, the hazards involved and the risks, the sensitivity of various examination procedures or tests to detect problems, and then the appropriate referral resources for the more complex medical cases.

For those organisations involved in public safety issues, the reassurance of utilising pre-placement health assessments carried out with the highest possible degree of skill and knowledge, warrants utilising an occupational physician.

Whilst many medical practitioners with both interest and experience in occupational medicine describe themselves as occupational physicians, for Australia and New Zealand only those accredited by the Australasian Faculty of Occupational Medicine are able to demonstrate, in a publicly acknowledged standardised manner, their level of expertise. At this stage, the cost between those acknowledged as Fellows of The Australasian Faculty of Occupational Medicine (AFOM) and those physicians without such specialist qualification, is identical or negligible, recognising that within any specialty, the cost of a physician's services will vary.

The Australasian Faculty of Occupational Medicine can provide listings of qualified Fellows in all parts of Australia and New Zealand, as well as in some overseas countries.

6.2 General practitioner

Many general practitioners carry out examinations associated with work, commonly for workers compensation purposes. However, a significant number carry out pre-placement health assessments for local businesses and organisations. Costing is usually on a fee-for-service basis and can vary considerably between practitioners.

The examination carried out by a general practitioner is usually thorough, but often is based on the procedures of examination taught in medical schools. Such procedures are designed to detect illness and abnormality based on symptomatology and history that has been disclosed by the patient or others. An examination for the physical capabilities required in a workplace utilises the hazards of the workplace as the starting point for examination, and only that familiar with the workplace can competently carry out such a focussed examination.

General practitioners may also not be aware of the significance of a disability or medical condition in a workplace setting, even if they have visited the workplace, or have communicated with the management. Many disabilities become problematic at times of breakdown or maintenance situations, which is not usually obvious at the time of a visit. Occupational physicians, and occupational health nurses, through years of experience and knowledge, are aware of, or will consider, all probable circumstances of a workplace.

General practitioners, who are sent their own patients to examine for suitability to work, are in an invidious position. Already a doctor/patient relationship exists. There are constraints of confidentiality and trust which are unlikely to be contravened at a time of pre-placement examination. The general practitioner in that situation is usually under pressure to accommodate the patient, rather than the employer, and hopes that non-

disclosure of disability, or other medical condition, will not eventuate in injury or illness for the patient or any other person in the workplace.

An employer who wishes to utilise the services of a general practitioner, should ensure the doctor is willing to visit the work site; there can never be sufficient understanding of physical and other requirements, such as work organisation, without such direct contact.

6.3 Occupational Health Nurse

A general nurse with postgraduate qualifications in occupational health and accepted as a Fellow in the Australian College of Occupational Health Nursing, is considered to be a capable professional at a cost that is accessible to many employers.

However, it is strongly recommended, and acknowledged by Australian College of Occupational Health Nursing (ACOHN) and the New Zealand Occupational Health Nurses Association, that access to the advice and consultation service of a medical practitioner is necessary for any nurse. Therefore, utilisation of a medical practitioner should be part of the pre-placement health assessment or other examination procedure, when necessary.

There are certain types of examinations that nurses have not been trained to carry out, and therefore they cannot be recognised as having the skill to do so, no matter what experience they may have attained over time. Examination of the respiratory system (such as lungs and upper airways), of the abdomen, much of the cardiovascular system, the neurological system and others, have not been part of the training of either general or occupational health nurses. If the pre-placement health assessment requires any such testing, a medical practitioner must carry it out. Specific health surveillance activities in accordance with the hazardous substance legislation, where it exists, should be carried out under the supervision of a medical practitioner adequately trained in the requirements of health surveillance. Aspects of the health assessment can actually be performed by the occupational health professional.

6.4 Other health professionals

Various other health professionals have carried out examinations associated with employment and are being utilised either in conjunction with an occupational physician, occupational health nurse or alone. They usually have little or no knowledge of the workplace or of occupational health issues, and are focussed on the body systems involved with their specialty. The implications of these within a workplace are seldom incorporated within their training, and rarely in their experience.

It should be clearly understood that these professionals, depending on their actual profession, are restricted in their competency and knowledge to that associated with their profession. If the employer wishes to focus on a particular examination, eg. range of joint movement or eyesight testing, then utilising a health professional, such as a physiotherapist or an optometrist, may be appropriate, but is narrow and can only be interpreted within the criteria of the testing protocol. If an abnormality is found, the

interpretation of the abnormality, the restrictions placed upon the person being examined in relation to the workplace, and the implications for that person's present or future employment, are outside the capabilities of the examiner.

6.5 Other professionals

In some organisations, members of other professions carry out assessments of persons associated with employment. This varies considerably, but again tends to be focussed on the detection of particular types of abnormality or disability. Because these professionals are not trained to understand human physiology and pathology, they may be inaccurate in their interpretation that the presence of an abnormality as a contraindication for employment in the workplace.

Many of these professionals are already employed within the organisation in another primary role to that of carrying out the health assessments. Employers should be wary of utilising any non-health trained person to carry out these assessments without supervision, which should be by a medical practitioner, preferably with some training in occupational medicine, or an occupational health nurse with access to a medical practitioner.

6.6 Non-professionals

Occasionally organisations utilise an employee to carry out a simple form of health assessment, such as 'hygiene check for food handlers'. Some training should be involved, but this is often not the case, and the person learns through reading and experience. Invariably, there is no interpretation of the observations when carrying out the examination, and like the non-health professional, there is an 'all-or-nothing' criteria base. That is, the person being examined either meets the required criteria, or does not.

The quality of the examination and the opinion that is given at the end of the examination varies enormously down through the various grades of expertise. Many organisations utilise occupational health nurses, with the back up resource of an occupational physician for difficult cases. Where access to an occupational physician is difficult, a general medical practitioner is used for guidance to determine whether a particular condition is present or not. The occupational health nurse then determines the implications for performance at work.

Some persons may request their own medical practitioner perform the examination, but for reasons already outlined above, the opinion of a doctor with whom a person has already established a doctor/patient relationship, will not necessarily provide the employer with the required information. In small country areas, where only one medical practitioner is in practice, this problem may not be able to be resolved.

7. WHO IS ASSESSED?

Even organisations which have a commitment to pre-placement health assessments on all employees still find themselves wondering whether there are further groups of people (eg. visitors, contractors) who ought to have some degree of assessment before entering their workplace. The question, from an occupational health and safety perspective, relies on whether there are significant hazards in a workplace

Weighted against that are the practicalities and feasibility, as well as the expense, of carrying out the assessments. Even well intentioned employers may find themselves unable to implement their decisions to the degree they would wish. Any employer who wishes to implement health assessment of any kind, must clearly define, in consultation with affected employees, the jobs that require these examinations. If the decision to assess is left until the time of interview it may lead to allegations of discrimination.

7.1 The issues to be considered

To determine whom to assess, the employer must consider: -

- * The hazards that may be encountered in the workplace;
- * The safety of the public, other employees, the product and of the environment;
- * Whether the work entails a skill or level of physical competency that requires a particular degree of dexterity, observation, range of movement, coordination, or other attribute;
- * Whether there is a condition of work that may influence, or deleteriously affect, an employee with a medical condition, but would not affect a person without the condition; and
- * Legislative constraints.

7.2 Employment status

In addition, and influenced by the above, the employer may consider other criteria for carrying out health assessments, such as full or part-time work, contract, seasonal or casual, employees who enter certain areas, and whether a certain duration of employment is expected. An example of the latter is a casual worker who works occasionally in an organisation may not be assessed, but one who works repeatedly for the organisation may be included. These considerations are a matter for the employer to decide, depending on the individual circumstances of each organisation and workplace.

7.3 Inappropriate considerations

Arbitrary reasons, and criteria not recommended as part of the decision-making process, are age, (youth examinations are still present in some legislation), sex of the person, history of workers' compensation claims or other personal injury claims, and the intention of minimising future workers' compensation claims or absenteeism. These latter

objectives are accomplished through careful management of those employees with medical conditions in the workplace, and the management of the workplace hazards.

7.4 Overseas Workers

A number of Australian and New Zealand companies are now operating as multinational organisations, with staff being sent overseas, as well as recruitment of nationals in foreign countries. Regardless of the standard of employment procedures in the overseas country, an Australasian organisation morally should not be seen to be satisfied with a lesser standard than in Australia or New Zealand.

However, in countries without similar health care standards to Australasia, the general level of health in prospective employees may be worse than that experienced here. An organisation may wish to implement extensive examinations looking for contagious or crippling diseases which would only rarely occur in Australasia. Examinations in those situations are more oriented toward detection of disease and disability, in order to implement treatment and care. Only secondarily are they designed to facilitate integration into a workplace of an employee with a medical condition.

PART 2: SOCIAL ISSUES

8. LAW AND ETHICS

Legislation in both Australia and New Zealand is designed to protect workers from injury and illness at, or through the course of, their work, to protect the privacy of all individuals and to ensure that those with any disability, whether major, such as quadriplegia, or minor, such as short sightedness, are not prevented from pursuing a course of employment of which they are capable.

On the other hand, common law provisions and various legislation place an onus on employers to protect employees, the public and now the environment as well, from actions of their employees that might damage, injure or interfere with the well-being of any person or the environment.

8.1 Occupational Health & Safety and Workers' Compensation

As part of the responsibilities to protect the safety and health of employees and the public, the employer must ensure that there is no undue risk.

In the context of the health assessment, if a disability or medical problem is disclosed, the examining doctor, nurse, or other health professional, must be able to assess whether that disability or medical condition places the person at a risk which is significantly greater than that experienced by other persons who do not have the same disability or condition.

The disability or medical condition may become pertinent in the context of only some tasks of work, and not in others. The assessor must be aware of what types of disabilities or medical conditions would impact on the workplaces or work tasks in question. In addition, the assessor must be able to make a judgement relating to the degree of the person's impairment or disability, and of the risk to which the person would be exposed.

This gives rise to a recommendation both to the person being assessed and to the employer. It is the employer who makes the ultimate decision whether to employ the person in those allocated tasks or implement modifications or otherwise, based on all knowledge available regarding the person's competencies and capabilities and the capabilities of the organisation. Ultimately, the employer must not place any person within the workplace at risk of injury or illness. A reasonable balance must be made between employing a person with a disability or medical condition which places him or her at some risk, modifications to the workplace or work procedures, and avoidance of workers compensation liability.

Some jurisdictions incorporate a specific onus on the employee to not knowingly misrepresent any previous injury. This includes the pre-placement health assessment situation; otherwise forfeit of workers compensation (accident compensation) entitlements may occur in the event of a recurrence. However, determining proportionate liability for future injury should not be part of the process of pre-placement assessments.

8.2 Privacy and Confidentiality

Invariably, the question becomes one of how much ought a person to disclose of their previous medical history. Many conditions do not manifest as an impairment or abnormality that can be detected through simple examination, and it is only through the medical history that the assessor becomes aware of the need to examine in more depth.

Medical practitioners, occupational health nurses and other health professionals carrying out medical examinations of any sort are encouraged to desist from asking the traditional 'medical history' type of question which are based on body system review. Instead they should reorientate their question protocol towards the conditions and tasks that must be carried out in a workplace, or would affect the person's working life in the near future, and, therefore, what the individual is capable of doing rather than detection of abnormality.

It should be clearly understood that when someone attends a doctor or nurse, or other health professional, for an examination in relation to their employment, that some information might need to be discussed with the employer. All medical conditions should not necessarily be disclosed to the employer, nor, for that matter, every relevant aspect to the employment situation, if a reasonable course of action to fulfil the responsibilities of ensuring workplace safety can be taken within the functioning of the occupational health or examining medical service, (as for example, monitoring of medical conditions such as hypertension, diabetes).

The person must be advised of the necessity for disclosure of any medical condition or disability which has implications for safety and which the examining doctor or nurse considers will be necessary to discuss with the employer (often the relevant manager or supervisor who will be responsible for the person). The person must be allowed to express their own opinion and be permitted to enquire about any alternative course of action with the doctor or nurse. A compromise may be reached about what information can be passed on, whilst still ensuring the safety of the person concerned.

Musculoskeletal problems involving the back, and in recent years repetition strain injury or occupational overuse syndrome, often cause a dilemma about disclosure. In a workplace where the highest prevalence of injury is of the type the individual has experienced, employment of the individual may require extensive discussion with a supervisor or manager about whether arrangements can be made to enable the person to work. If there is lack of full knowledge, which would inhibit free and full discussion, the probability of further injury inadvertently occurring is reasonably high.

Generally, disclosure of medical information that is directly pertinent to ensuring the safety of the person within the workplace, or of other persons, is considered a reasonable criterion for disclosure, but such disclosure should only be to persons, such as supervisors or managers, who are directly able to influence the conditions under which the person works. It would not be reasonable; for instance, to inform employers of an employee with HIV, Hepatitis B or C infection, where the risk of blood borne disease transmission is negligible eg. Office workers. It may, however, be reasonable to disclose, for example, a diabetic with problems accommodating the treatment of their condition to shiftwork rosters.

8.3 Medical Records and Confidentiality

Access to medical records generated in a pre-placement health assessment do not have the same status as medical records kept by a medical practitioner, or other health professional, as a result of a consultation for diagnosis and treatment of injury or illness. The ownership of the records is considered to be that of the doctor or nurse, if functioning in a private practice, but that of the organisation if the doctor or nurse is employed or contracted by an organisation. In the latter situation, the doctor or nurse is considered the 'custodian' of the medical records, and must ensure the privacy of the information through ethical practice.

These issues have been discussed in "Ethics for Occupational Physicians", 1997, by the Australasian Faculty of Occupational Medicine, and in publications of the Australian and New Zealand Society of Occupational Medicine. At least one of these documents should be consulted prior to establishing the practice of pre-placement health assessment, or other type of medical examination, for an occupational purpose.

8.4 What can be asked?

Since Human Rights legislation forbids unreasonable discrimination in employment, it is unlawful to ask any potential employee about any matters not directly related to the requirements of the job. It is usually inappropriate, for example, to ask about pregnancy and childbirth history, marital or family status, religious and ethnic beliefs, national or ethnic origins, or disability not directly related to performing the job or ensuring the employee's own or others' safety.

In the face of these prohibited grounds of discrimination, the examining physician is restricted to asking the following questions:

- * Whether the prospective employee has any condition which could adversely affect the productivity, or quality of the job, or the safety of themselves or others. Avoid an inclusive list of diseases, which may not be relevant to the job. Some specific enquiries may be allowed, for example, uncontrolled epilepsy in heavy commercial vehicle drivers, certain communicable diseases in food handlers. These must be based on a careful job analysis or, in certain cases, in accordance with specific legislation.
- * Any past or present injury likely to be aggravated by the proposed job.
- * Any requirement for job or workplace modification to enable them to carry out the job adequately and safely.

However, the assessor may, with the person's permission, seek further medical information for baseline purposes. The person must be aware of the purpose for the collection of this information, the source and manner of collection of the information, storage and access, security and disposal of the information.

8.5 Lifestyle Questions

A doctor or nurse may find it difficult to disregard the general health of a person, having been trained to improve people's health. Questions about general health are often included with the intention of giving lifestyle advice to the person being examined, but they should not be considered a part of the assessment for work capability and employment.

The community, generally, is comfortable with a doctor or nurse obtaining such information and giving personal advice. The person may decline to answer such questions or to undertake the examination unless a direct connection can be made with the intended work tasks.

The doctor (or nurse) should be aware that once embarking upon general health questions and examinations, rather than those directly related to the workplace and tasks of work, they accept the role of 'treating doctor', rather than one who is carrying out an assessment for an employer, where there is no 'contractual' arrangement between the person being examined and the doctor or nurse. This has implications for the legal question of medical confidentiality, as well as the duty of care between the doctor and patient.

9. DISABILITY DISCRIMINATION

The first consideration of any employer is whether the person can meet the essential or inherent requirements of the job. This includes a consideration of reasonable length of employment, as there is an "expense" to an employer of training and familiarising a person with a job. A year's employment is a reasonable return to an employer, recognising that there can be no guarantees of duration of employment and people leave for many reasons, only one of which is illness or disability.

A further consideration is whether the employee, in carrying out the work, imposes a significant safety risk to him or herself, or to others (see Section 8). These are matters that can only be determined on a case-by-case basis and it is the occupational physician's role to advise on the risks presented by the disability and the means of diminishing those risks. Good occupational medicine practice involves the consideration of 'How can we enable this person to work at the job?' rather than 'This person does not conform to our criteria and therefore is "unfit" for the job'.

The examining person must be very wary about making assumptions or value judgements regarding an applicant. Therefore, the assessor should begin with the same baseline questions and examination for each applicant, neither avoiding asking questions of an applicant because of an assumption (for example, because the person has a walking stick, or artificial limb, or limbs), nor asking questions that are not asked of other applicants (for example, because the person is older than the usual applicants for the job). However, if a response is elicited by a question, or from the examination, that gives rise to further questions and/or examination, these can be carried out.

9.1 Disability Discrimination

Most Australian states and the Australian Federal and New Zealand governments, have legislation, which, in broad terms, advises employers that they must not discriminate against a person on the basis of physical disability. 'Disability' can be interpreted to involve any medical condition or abnormality, which causes an employer to make a decision disadvantageous to a person both in the pre-employment stage or after employment.

It is the employer who must make the decision to employ and bears the legal consequences of the decision. It is in the employer's interest to ensure that this is done with the most appropriate and experienced occupational health opinion. If in any doubt, the employer should reassure himself by: -

- a) Reiterating with the assessor the work conditions or tasks that the person would be unable to undertake;
- b) Possibly by obtaining a medical assessment (such as by an occupational physician if this has not occurred), and
- c) By examining the work situation to determine whether any alteration could reasonably occur which would allow the person to work safely.

This does not mean that the employer cannot discriminate in any circumstance whatsoever. The various acts, and the associated tribunals, are able to accept reasonable grounds for discrimination by an employer. However, it must be demonstrated that employing the disabled person would place an unreasonable liability on the employer, (eg having to employ a further person to assist the person), or would place the disabled person at a high risk of injury or illness, in comparison to others working alongside. Such a consideration as the latter must be able to be defended on a scientific as well as pragmatic basis.

9.2 Accommodating Existing Medical Problems

Some organisations have initiated, or agreed with their workers, to provide 'equipment' or devices to enable persons with some impairment to work effectively. For example, mid-distance lenses for visual display screen users who are experiencing the normal effects of aging of the eye (presbyopia). It should be clearly understood that, in this case, the impairment (unable to focus on close objects) is not peculiar to the use of visual display screens, and disables the person from reading any close document without the use of spectacle lenses. The agreement to supply appropriate spectacle lenses was argued on the basis of visual display screens being only a phenomenon of the workplace. That argument clearly is no longer valid.

However, should the above, or any other prosthetic device or special requirement for someone with an impairment or medical condition, be the employer's responsibility? Should an employer pay for someone to have surgical correction of bunions, so that the person can wear safety shoes? Whose responsibility is it to ensure an individual is in a suitable state of health or physical ability to carry out the work?

What is agreed in one workplace should not be seen as a precedent to extend to other workplaces, because, whilst the disability or medical condition may exist, the responsibility of managing it will depend on factors unrelated to the disability. The assessor may only advise on what course of action could correct or modify the impairment, whereas agreement on carrying out the action lies with the person and the employer.

10. SOCIAL, CULTURAL AND RELIGIOUS SENSITIVITIES

No individual doctor, nurse or employer is going to understand all possible social, cultural or religious taboos or interpretations that could be implicated in a pre-placement health assessment, or any other kind of medical examination. There is no practice that could always avoid any possible controversy in this area.

It should be understood that there would always be barriers to some questions and examinations in certain ethnic or religious groups. If the person is unable to converse or understand conversation in English (those with speech or hearing disability should also be considered), an interpreter should be sought, rather than have the person undertake an examination which could be frightening, threatening or embarrassing. Access to an interpreter by telephone, in an 'urgent' situation, may be found through those listed in the telephone directories. They are often to be found in association with the government departments of ethnic or community affairs.

If a large number of persons from one ethnic group are to be examined in succession, the employer could arrange for an interpreter to be present at the health centre or medical rooms.

Caution should be exercised in the selection of an interpreter. The difference between a trained interpreter and 'a friend or family member who can translate' is important to note. An interpreter will not edit the conversation in a way that a 'friend', who seeks to make it easy for the assessor to understand, does. "Have you ever had pain here?" can become "Does it hurt here?" because the person interpreting may believe only current problems are relevant.

Clear communication with a person who has only an adequate or limited understanding of the English language is essential if an interpreter is not present. ESL (English as a Second Language) teachers advise, that speech should not be spoken loudly and that words not be excluded 'to make it simple'. The person should be allowed time to 'process' what has been said to them and to formulate an answer. If repetition is required, it is done initially with the same words, and then, if no appropriate response, the question or instruction is reworded.

Some medical terms can be extremely difficult for a non-medical person to interpret, either by the proverbial 'friend' or a trained interpreter, so that simplifying terms as much as possible should be done throughout the examination. In many Asian languages, a question with the negative tag (... don't you?.... can't you? isn't it?) is often interpreted in the opposite sense to English.

It is also advisable that colloquial phrases and words are excluded from questions or instructions to non-English speaking persons, as they are often literally translated.

The problem of the male medical practitioner or nurse not only requesting a female to undress to some degree, but also of merely being alone in the same room, can be particularly problematic. The various Medical Boards or Councils in Australia and New Zealand have already cautioned doctors on the subject of sexual overtures, both overt and inadvertent, and further advice on this may be sought through those organisations. Various ethnic and religious groups forbid such contact without another female being present, or at times, the husband or father.

Examination of the sexual areas of the body, including the breasts, is not usually an aspect of a pre-placement health assessment but the assessor should be aware that handling clothing in those areas could be misconstrued as a precursor to examination of the sexual areas. Even an examination with a stethoscope of the chest or the heart can be interpreted as an examination of the breasts, which in some cultures is considered very private. Doctors should explain their intention and purpose at every step of the examination process.

In addition to the assessment process, the results of the examination could have an unexpected impact on someone from a non-English background. Despite being born or brought up in Australia or New Zealand, the children of immigrants are also often subject to beliefs about health, causation of ill health and means of coping with ill health. Many people have a superficial or incorrect understanding of medical conditions, their causes and prognoses. This can be even more distorted for someone who has difficulties with simplified lay terms for parts of the body, medical conditions and the treatments for such conditions.

Any doctor or nurse with good communications skills will attempt to explain a medical condition and its implications in a way that elicits positive or comfortable responses from the patient. There is also the necessity to ensure that the person undertakes appropriate action as a consequence of being informed about a condition, but without generating undue anxiety. Usually, this involves a referral to the person's medical practitioner.

11. SAFETY CRITICAL JOBS

Certain types of work or tasks can be considered here, because they require considerations beyond those of the capabilities of the person being assessed for the work. Many organisations in the chemical and the transport industry, particularly air transport, are already familiar with the concept and have implemented it for many years.

In more recent times, the issue of privacy has impacted significantly on the type and depth of questions that may be asked of a job applicant, as well as the extent of 'reference check' that may be made, with the result of overly constraining the quality of information available in making employment decisions. This may not have been the intent of the legislation, and a balanced view must obviously be encouraged, as the issue of safety critical jobs can have disastrous outcomes if privacy is overly protected. (eg. the Clothier Inquiry into the case of a nurse suffering Munchausen syndrome causing the death of four children - see Reference List).

Pre-placement and periodic medical assessments for employees in safety critical jobs not covered by specific legislation will, in general, follow the same principles. The tasks and hazards associated with the job will need to be determined, as well as history taking, medical examination and special tests to specifically assess fitness to carry out the tasks and avoid hazards. The difference with safety critical jobs is that these tasks and hazards also include public and environmental safety issues. In addition to physical impairments, diseases such as uncontrolled epilepsy or diabetes, and mental attributes, such as the ability to cope under stress or in an emergency, may also need to be considered.

A safety critical job is any type of work or task where the safety of others can be seriously at risk through inappropriate or incorrect actions of another. This is interpreted only in situations where the risk of life-threatening injury is not only possible but has a reasonable likelihood. The question of 'likelihood' varies from industry to industry and is often based on community perceptions of acceptable risk, so that an accident in the nuclear industry, despite being more than one in several million, is unacceptable, whereas the risk of motor vehicle accident, involving fatality, at thousands to one, is "acceptable".

Legislation may determine the standard, utilising the concept of safety critical jobs. For example, in the New Zealand Transport (Vehicle and Driver Registration and Licensing) Act it is obligatory for drivers of passenger service vehicles to have annual medical examinations in a prescribed form; for heavy commercial vehicle drivers, there are obligations for examining doctors, who become aware of health problems or disabilities in such drivers, to inform the Transport Authority if voluntary cessation of driving does not occur. For further information on medical examinations for heavy vehicle transport drivers in Australia, consult the National Road Transport Commission's document "Medical Examinations of Commercial Vehicle Drivers", prepared in consultation with AFOM

Other jobs that may also be considered "safety critical" are those responsible for vessels at high temperature and/or pressure, processing, storage or transport of chemicals that are either highly toxic or explosive, those responsible for the safety and welfare of persons who are unable to make decisions or act to remove themselves from potentially dangerous situations (eg. rescue crews, firefighters, nursing and medical staff, leaders or instructors in adventure or physically challenging activities).

Each industry must determine for itself which tasks or work it would consider 'critical' to the safety of others, whether they are fellow workers or the public at large. It is obvious, but not recognised, that risk to the safety of fellow workers is accepted by society more than the risk to the public, which is considered 'an innocent victim', particularly if children are involved.

Once the 'safety critical' jobs are determined, the organisation must, with the assistance of safety and occupational health advisers, determine which medical conditions or capabilities could significantly affect the performance of the worker. Alcohol and illicit drug abuse are invariably a major component of such screening, because of their potential to alter cognitive function as well as reflex times and coordination. Some state laws prevent epileptics with a specified frequency of attacks (varies between states) and others with medical conditions that may cause episodes of unconsciousness, from holding a driving licence, which excludes them from driving on public roads. This does not apply within private precincts, such as fork lift drivers within factories, where a judgement must be made by a medical assessor of the severity of the person's condition, its possible manifestation in the workplace, and the risk to others in that workplace.

The onus can be left to an occupational physician or nurse to determine whether a person's condition would affect the ability to work safely, but if the guidelines are developed in consultation with the workers already in employment in a sensible and conscientious manner, the reason for exclusion need not be debated on an individual case basis.

PART 3: MEDICAL ISSUES

12. SCREENING FOR DRUGS AND ALCOHOL

This topic has been handled in a separate AFOM document, "Management of Alcohol and Other Drugs in Australian Workplaces". Many of the issues relating to a pre-placement health assessment, as well as a health surveillance regime of drug and alcohol screening in a workplace, are dealt with more thoroughly in that document to which reference should be made on this subject.

In those industries and organisations where a drug and/or alcohol policy is in place, procedures for examining and screening for these substances will have been determined. If there is, within the policy, a section that relates to periodic health assessments and pre-placement situations, the assessor should be made aware of the policy requirements.

The United States experience has revealed the problems of deciding work capability on the basis of alcohol or illicit drug ingestion, or evidence thereof, and it is worthwhile for anyone who is contemplating introducing such a screening procedure to not only familiarise themselves with the AFOM document, but also with the US experience and the reasons for the strict controls. In Australia, where litigation is not, at this stage, at the US level, screening, and the consequent decisions, does not have such onerous responsibility. However, any assessor must be able to give clear, objective evidence which is related to current or foreseeable performance issues and must not be based on value or moral judgements, or intuitive or 'gut feelings' about the person.

The information regarding substance abuse would not normally accompany any communication between the assessor and the employer unless there was a possibility of a direct impact on work performance and/or is defined in the organisation's policy. Again, it must be made clear to the person at the commencement of the assessment that the purpose is to determine suitability for work and that some communication between the assessor and the employer will occur as a result of the examination. The role of the assessor in this situation must be clarified to the person at the outset, not at the end or when a dispute arises as to what and how much can be revealed to the employer.

If determination of substance abuse is an essential part of determining physical and mental capability for work, a physical examination searching for objective signs of such abuse is necessary. These days it is often accompanied by non-invasive pathology tests for the substance. Blood tests can be done, but there should be an understanding by the person being examined of the type of test, the reasons for it, and the possible consequences. If the person refuses to undertake any type of pathology test of urine, blood, respiratory function, and possibly hair, the assessor should make it clear to the person that the employer may be informed that the appropriate testing did not occur and the assessor can make no statement regarding substance abuse.

13. PSYCHIATRIC DISORDERS

The presence of a mental disorder, and whether it is controlled, may be of importance in determining fitness for work. As with any physical illness or disability, it is important to know the nature of the work, its responsibilities and requirements as well as the nature of the diagnosis, and what treatment is being used, its effectiveness and the natural progress of the condition.

Many people with either a past or current history of psychiatric illness are employed and maintain responsible and productive positions within organisations. Managers of organisations or businesses are, however, often wary about offering employment to a person with a known psychiatric history because of many misguided beliefs about the behaviour of psychiatric patients.

To a lesser extent, those in the health sector often suffer a similar prejudice, feeling more comfortable sorting out a disability that is identifiable in physical terms than the perceived 'hidden' disability of a psychiatric disorder that may be 'released' at a later date in an uncontrollable manner. Many psychiatric patients, or those with a past history of psychiatric illness, therefore choose not to disclose their past. This may become revealed at a later date during employment, causing the employer to feel deceived, to lose trust in the employee, and generally to be more negative towards the employee than may have otherwise occurred.

It is important, therefore, for those carrying out a pre-placement assessment on a person with a known psychiatric illness to carefully and objectively assess the potential for problems if this individual is placed in that specific job.

13.1 Personality Disorders

These are possibly the most difficult to determine suitability for employment, as the behaviour is well-entrenched, may not be manifest at the time of the assessment, most likely will not have had psychological assessment for 'treatment' methods, and is only likely to be discerned through discussions with the person relating to previous employment, relationships with employers or co-workers, relationships with family or friends. None of these are routine in a health assessment for work, and may only be revealed through general conversation.

Mode of dress, alterations of personal appearance, and mannerisms, may give some indication of a personality disorder, but depending on the type of work the person intends to carry out, these are superficial criteria upon which to base a medical opinion and do not indicate the person's flexibility or ability to adjust to altered circumstances or requirements of the job.

Personality disorders may become management problems in a workplace, and should be tackled as a problem of unsatisfactory work performance, rather than a 'medical' condition, which can be modified through medical treatment. The indications that an individual has a personality disorder are more likely to be elicited through the interview process with the employer rather than the assessment with the health professional, and therefore, are part of the employer's process of selection.

13.2 Neurotic Disorders

These are, if revealed, often associated with the word 'stress'. The person often discusses the disorder in terms of 'breakdown' due to some identifiable 'stress' and unfortunately, once that stress becomes associated with work, the health assessor is hesitant to impose the burden of 'another workers compensation claim for stress' on the employer.

The situation need not be so, and it is important that once such a situation is revealed to the assessor, the assessor carefully and methodically determines whether the precipitating factors that caused the 'work stress' problem could occur in the position applied for, as well as whether the person was treated adequately and appropriately, made reasonable attempts to return to the workplace, and whether the workers compensation process encouraged and facilitated the prolongation of the disorder. The duration, severity and time elapsed since the illness are important considerations in determining success of the rehabilitation process and predicability of future problems.

It may be necessary to ask advice from the treating doctor, or therapist, about the potential for recurrence under the given circumstances of the proposed employment. This should be done with the individual's consent.

One of the difficult neurotic conditions for an occupational physician, or other health professional, to deal with in a work setting is hypochondriasis. Whilst this condition may lead to unwarranted absence, excessive treatment or difficulties in rehabilitation, it is an occupational health management problem, not a condition to exclude the person from employment.

13.3 Psychotic Disorders

These are quite rare in occupational settings, but are not necessarily conditions to exclude a person from employment, and in the past, may have unnecessarily been treated as chronically disabling conditions. Schizophrenia and other disorders which have altered thought processes and delusions, can be difficult to manage and often prevent the patient from achieving as high an occupational potential as they might have otherwise gained.

Work demands that are within their capabilities need to be defined, but may be below previous work status, and therefore are a source of conflict for the patient and the employer. Entering into new employment situations does not present such a dilemma, but assessment for possible work alternatives may be required for a current employee.

Unusual behaviour, or thoughts expressed, may be able to be tolerated in some work situations, particularly if the work colleagues are aware of the nature of the problem and can accept rather than challenge the non-conformity. In other situations, such as dealing with the public, such behaviour may not be understood or tolerated. Career advice, given at an appropriate time, may be of more use than trying to persist in placing someone into a work situation that is potentially fraught with problems of acceptance and adaptation. However, the pre-placement assessment process almost certainly is not the appropriate time to undertake such advice effectively, and liaison with treating health professionals may be more effective in exploring means of enabling the person to be employable.

Bipolar Disorder or Manic-Depressive Psychosis may, in some work situations, actually be 'advantageous' in the manic phases. The entertainment industry is such an area where unusual and manic behaviour may not only be tolerated but also encouraged. As well as the entertainment industry, media and communications, advertising and marketing, and sales areas, as well as some persons who are entrepreneurial and self-employed, are able, if managed appropriately, to utilise their 'manic' stages to improve their careers and earning potential and are often deemed to be successful.

13.4. Medications

Unfortunately, many of the medications utilised for psychiatric patients have intolerable side effects in a work situation. The adjustment of dosage to normal functioning of the patient may be difficult, and may cause the patient to abandon or adjust treatment without consultation with the treating medical practitioner, in order to 'appear' normal for a pre-placement assessment or job interview.

Drowsiness is the obvious concern of the assessor in relation to work capabilities, but often, in consultation with the treating psychiatrist, the period or nature of the drowsiness can be altered or is self-limiting, and therefore, not a hindrance to employment, although it may delay commencement.

A similar situation may occur with medications that alter fine motor control, but again, if this is a critical job requirement, consultation on treatment modification may be the appropriate course of action, rather than immediate exclusion from employment.

Awareness of the interaction of psychotropic medication with chemicals within the workplace, such as solvents, may be critical in some employment situations. Only familiarity with the workplace will enable the assessor to be aware of such hazards for one individual compared to another.

14. REPRODUCTIVE ISSUES AND PREGNANCY

The community invariably sees reproductive hazards and concern for the neonate as issues for women. In occupational medicine concern for the male reproductive function should be as great as for the female. There is also the additional concern for the maternal well being during the pregnancy as factors, which do not affect the foetus directly, may affect the mother.

Reproductive hazards have been viewed as almost entirely chemical, apart from the rubella virus and radiation. The range of chemicals has now widely expanded more viruses and various bacteria-like organisms have been identified as a cause for concern (such as listeria and toxoplasma). There has also been significant community concern not just about nuclear radiation and radiotherapy, but any form of radiowaves, including visual display terminals and electric appliances. Concern has also occurred about the relationship between manual labour, 'stress', shiftwork, diet, air travel, and possibly other 'physical' factors, on reproduction and the embryo.

Possible exposure to a reproductive or teratogenic hazard is not in itself sufficient grounds to bar a person from employment. However, an accurate pre-exposure history and examination assists in later determining whether an untoward event has occurred.

In an industry where an acknowledged reproductive hazard exists, the pre-placement assessment should include a reproductive history for both males and females. This includes the subjective data of miscarriage as well as parity, menstrual history and contraception usage.

14.1. Chemicals

The problem of chemicals and reproduction is not as ubiquitous as it would first seem. Only a handful of chemicals have been clearly documented as causing a problem for reproduction, such as affecting fertility, spontaneous abortion or miscarriage, and alteration of gene material. The 'doses' of the chemicals required to cause these effects are invariably orders of magnitude less than the levels that cause toxic effects on other body systems or organs, and the risk probability can be seen as analogous to carcinogenic hazards. Those industries involved with such chemicals should be aware and informed through the material safety data sheets that accompany the purchase of the chemicals and other relevant information sources.

Minimisation of exposure to such chemicals is essential. The organisation should not consider its responsibility fulfilled by informing the employees of the hazard, then permitting the individual to determine whether to accept the risk of exposure for reasons such as completed family numbers, older age, encouragement of voluntary sterilisation or acceptance of past sterilisation.

If there is a reproductive risk, strict hazard control and hygiene procedures must be followed. However, even in the best organisations, despite strict controls, the 'unexpected' or 'unforeseen' may occur particularly as it may involve doses or quantities much smaller than those that damage the non-reproductive organs. For this reason, constraints on employment of females occur in some industries where there is a clear

nexus between the chemical and reproductive aberrations, and particularly if the effect is greater on female reproduction or the embryo than on male reproduction.

14.2 Organisms

Some organisms, such as rubella or listeria, may have minimal or no effect on a healthy adult, but quite severe effect on the embryo. Organisms commonly encountered in workplaces are not associated with detrimental effects on reproduction. The exception is rubella, which is easily transmitted in the community. For women of childbearing age involved in any occupation where such transmission is frequent (such as health care, teaching, infant and pre-school care), immunity prior to entering the industry is recommended.

For other organisms, only specific industries should be concerned with employment of pregnant women. Dairy and cattle farming and slaughtering for brucella, veterinary practices for toxoplasmosis, and in the health industry, a range of infections from patients with opportunistic infections. For the majority of such organisms there is no vaccination or effective treatment to avoid the effect on the embryo or foetus. Avoidance of exposure through meticulous hygiene practices is the only means of working in those industries. Once pregnancy is intended or confirmed, organisations should have a contingency plan for moving the employee away from high-risk exposure, unless immunity through pre-existing infection or vaccination has occurred.

14.3 Physical Factors

In the case of physical factors, apart from radiation and its identified sequelae, the issues are of miscarriage or spontaneous abortion, premature delivery, and diminished foetal growth. These have not been resolved and are confounded with problems of defining outcomes, prejudicial reporting, early pregnancy detection and other methodological issues.

Physical factors, however, are acknowledged as causing a pregnant woman discomfort and should be considered from that perspective. Heavy manual labour and work, which entails excessive standing, has circulatory problems for pregnant women, particularly late in the pregnancy. This exists more as an issue for currently employed workers rather than for those an organisation intends to employ, so that large organisations create contingency plans for enabling women with uncomplicated pregnancies to continue working.

If a woman applies for a position in the early stages of pregnancy, and is capable of carrying out the work at that time without undue risk to her well-being or that of her foetus, her work capabilities should be considered in the same light as any current employee at the same stage of pregnancy. If the woman applies at a time in the pregnancy when she would clearly have difficulties in performing the work, the employer would not, within reason, be required to create a particular work pattern or range of duties to suit her, but could deem that she is not suitable at that time for the work.

Any consideration that a pregnant woman is an inappropriate image of the organisation is clearly an outmoded viewpoint in today's society and would be considered discriminatory. Employment considerations must only rely on the risk to the woman and to her foetus in determining whether she is capable of carrying out the duties, and therefore should be based on sound medical knowledge of the progress of the pregnancy, any other medical condition the woman may have (such as asthma, diabetes or epilepsy) and reasonable knowledge of the conditions and hazards of the workplace.

14.4 Visual Display Terminals

Visual display terminals and other computer based equipment should be especially mentioned because of the concerns that have been raised in the community through medical reports in the early stage of introduction of this type of equipment into offices.

Fifteen or more years ago, reports of spontaneous abortion, neonatal abnormalities, and failure of reproduction did occur with the introduction of new and untried (as far as those matters were concerned) technology that had a high usage by females. Despite the ensuing years which have produced numerous reports identifying other factors in the workplace causing the problems, or no difference between those who do use visual display terminals and those who do not, there still lies a concern in the minds of some. The World Health Organisation, International Non-Ionising Radiation Committee of the International Radiation Protection Association, and Worksafe Australia have all concluded there is no radiation risk to pregnant women working with any type of visual display terminal.

15. ALLERGIES

Like the issues of reproduction and carcinogenesis, allergies are manifest at exposures or quantities that do not affect individuals without the allergy. Allergy is not like a toxic effect where the symptoms of exposure increase with increases in exposure quantity, and where symptoms occur in all individuals, with only slight variations. For this reason, persons without the allergy are able to work with the substance without any deleterious effect at exposure levels that persons with the allergy can find unbearable.

Allergies are manifest in many ways, but exposures in occupational settings are usually confined to inhalation and skin contact rather than ingestion. Some substances are more likely to cause allergies than others, and whilst most organisations attempt to avoid utilising chemicals or other substances which are known to be highly allergenic, at times the exposure is unavoidable (eg. chrome can be ubiquitous).

Once the person has become allergic to the substance, even with treatment and abatement of symptoms, the allergy remains, waiting for a re-exposure to become manifest again. Unfortunately, re-exposure symptoms are not necessarily at the higher exposure levels experienced before the allergy occurred. They can be at minuscule levels, at times below the level of technological detection.

Rehabilitation of a person with a recognised allergy into the same industry or type of work can be very difficult. Some persons persist in the same line of work, despite their allergy, and treat resurgence of symptoms as they occur, but this is poor occupational medicine practice. The degree and persistence of symptoms will become greater and greater with each exposure, and entrenched states of symptomatology may occur even when there is no subsequent exposure.

Allergies to substances at work are often confused with the irritant effects of many of the substances, so that allergic responses must be clearly defined through sound history and appropriate testing before future employment opportunities are curtailed. An irritant effect, either by inhalation or by skin contact, can appear identical to the allergic response or may not be easily distinguished on the basis of history and re-exposure. A careful occupational history, identifying sources and concentrations may indicate the most likely type of response, but specific testing is often necessary to determine whether the response is allergic or irritant. Such testing may be necessary before determining whether a person can continue employment or renew exposure to the substance.

Once an allergy is identified, the only reasonable course of events is to avoid further exposure. For someone entering a new workplace, the risk of causing further, and possibly a more persistent allergic reaction, may be one an employer does not wish to accept, particularly if alternative work is not feasible.

The usage of gloves and/or mask (depending on the type of exposure) may only be of benefit if exposure is very slight and occurs only on rare occasions. Such protective clothing often is not effective if work practices for the employee remain the same; only when accompanied by altered work practices as well as protective equipment to minimise exposure, does some balance eventuate. At other times, the use of protective clothing is not reasonable if the person must carry out the work rapidly and with precision, or in a manner satisfactory to customers, such as occurs

in preparing or chopping vegetables or other contact allergy foods, or with dyes and perming solutions used in hairdressing. In those instances, development of the allergy can mean leaving the industry altogether.

Some individuals are 'prone' to allergies, and many people do identify themselves as being highly allergic. Some occupational respiratory allergies do have a predisposition in individuals who are atopic hay fever or asthma sufferers, but this only relates to allergies caused by long chain molecules, and does not appear to be related to chemical induced asthmatic responses, such as occurs with toluene diisocyanate.

For contact allergens, someone with a history of eczema is not more prone to develop a skin allergy at work, provided the skin remains intact and there is no exposure to the allergen when the skin is in an active state of dermatitis or eczema. Good control of the eczema or any other chronic skin disease is essential to prevent either allergic or contact dermatitis. Persons with active, poorly controlled skin diseases may be excluded from working in industries where exposure to substances is likely to cause contact dermatitis (either allergic or irritant) is prevalent and unavoidable.

16. GENETIC SCREENING AND BIOMARKERS

16.1 Genetic Screening

Connections are becoming apparent with certain chromosomal formations and the likelihood of subsequent disease. As medical technology proceeds down the track of being able to predict the medical future of individuals, it also promises to make testing protocols simpler and cheaper, and thereby more accessible, at a time when the community has not yet decided whether it would like to know the medical future of the individual.

Medical research is proceeding to identify respiratory carcinogen indicators with greater and greater sensitivity and specificity. Avoidance of exposure to respiratory carcinogens during the life of the individual may mean that the gene (or genes) never becomes outwardly manifest; in other words the person never develops the cancer. One day the ability will exist to exclude all persons who have that gene from substances or conditions associated with lung cancer. This currently is hypothetical, but is one of the issues that must be debated in the future before the ease of testing enables the technique to be used freely in the workplace context.

In addition to carcinogens, cardiac risk is becoming more and more readily identifiable by research into lipoprotein factors, alcoholism by gene identification, and various metabolic disorders which may be precipitated by exposure to certain chemicals, usually ingested, but occasionally faced as an inhalation hazard in workplaces. Although only research techniques at the moment, they must be viewed as a realistic possibility in the foreseeable future and will have implications for superannuation fund and insurance issues, or workers compensation and common law.

16.2 Biomarkers

These have similar implications for the community and must also be encompassed in the concept of disease prediction. The biomarker is the indicator of an early disease state at the time when cells are beginning to malfunction, and long before the individual is aware of any sense of ill health. Often, the biomarker is a particularly sensitive and specific biochemical abnormality. It may involve any type of pathology testing technique, including radioimmunoassays and electron microscopy. Because of the difficulties of the detection techniques, many biomarkers, which could be used in medical workplace screening, have not yet been refined to a level that would make them feasible. Some biomarkers, as a precursor of an impending disease state, may alter with time and evolution of the disease or with remedial action reverse the outcome, so that disease is not inevitable and may be avoided.

For further information on this area, refer to the AFOM document 'Genetic Screening and Occupational Medicine A Position Paper', 1995.

PART 4: MEDICAL EXAMINATION

17. CARDIOVASCULAR AND RESPIRATORY SYSTEMS

Physical activity places demands on the respiratory and cardiovascular systems. Endurance, strength, dexterity and alertness are dependent on adequate cardiovascular and respiratory function.

Reduced heart function, for example from ventricular dysfunction by arrhythmia, myocardial ischaemia or from mechanical dysfunction such as valve defects, reduced peripheral perfusion, or reduced lung function due to airway, interstitial or chest wall disease, can affect the individual's endurance, strength, dexterity and alertness.

Job requirements relevant to cardiorespiratory function include physical abilities such as walking and climbing, lifting and carrying, pushing and pulling, and cognitive tasks such responsibility and decision making, and the pace of work.

The evaluation of job requirements relevant to cardiorespiratory function requires information about current and anticipated workplace exposures, required exertion levels, how critical the individual's performance level is, and the consequences of temporary worsening of any cardiorespiratory disorder. This process may involve a worksite visit, review of material safety data sheets or hygiene surveys, estimation of perceived exertion of current employees, and examination of the job description. Oxygen consumption can be measured but requires considerable technical effort and would not usually be recommended.

A person whose cardiorespiratory function is adequate to perform designated tasks, but not over sustained periods, may be able to perform a particular job if modification of work breaks, rest periods and the pace of work can occur. Respiratory protection or substitution of materials may be able to reduce or eliminate a respiratory hazard.

17.1 Assessment

Assessment of the adequacy of cardiovascular function requires an evaluation of physical capacity. This will include obtaining a history of symptoms, which can impinge on effective job performance, including chest pain, claudication, shortness of breath and fatigue, and episodic loss or change in consciousness, somnolence and cough.

A general cardiorespiratory examination should be performed. A raised blood pressure is one of the most likely conditions to be encountered, and high readings persisting after rest should be referred to a personal medical practitioner. Systolic murmurs may also warrant referral to a personal physician.

Note should be taken of treatment, including medication, bypass surgery and pacemakers, and anything which improves cardiorespiratory function, reduces symptoms and improves task performance.

Self-report of symptoms and activities and a clinical examination are generally sufficient to assess cardiovascular function for job placement. Persons with cardiovascular impairment may require specialist cardiologist assessment, for example, involving formal exercise testing, or pacemaker evaluation. Formal exercise testing can be of benefit in assessing post-infarct patients before return to work. A work simulation program and workplace assessment may also be useful in individuals with shortness of breath, angina or fatigue following infarction.

Spirometry for FEV₁ and FVC should be measured where the person will work with respiratory hazards including irritants, allergens and fibrosing dusts. It can assist in determining physical capacity, although more extensive testing, for example diffusion capacity of the lung to carbon monoxide and oxygen consumption, may be needed. The acceptable values for lung function tests depend on the physical needs of the particular job.

Risk Factor Screening:

Several risk factors occur in the general population for cardiorespiratory disease. There is no statistically sound evidence on which to base a judgement about risk, for example, driving or operation of dangerous machinery in asymptomatic people with high risk factors. Routine risk factor screening is not recommended for health assessments for work.

17.2 Special considerations - Cardiovascular

General: Syncope, fainting, collapse and sudden loss of consciousness can result from cardiac arrhythmia, infarction, severe angina, or pacemaker failure. These conditions may exclude persons from some jobs, such as commercial transport and heavy vehicle driving, operating cranes or similar machinery, working at unguarded heights, or with hot or corrosive liquids and working in isolation.

Giddiness or weakness may occur in hot environments when a reduced capacity of the cardiovascular system is unable to compensate for the heat-induced vasodilatation. Activity that precipitates angina should be avoided.

Hypertension: When hypertension is well controlled and there are no anti-hypertensive side effects or complications which could impair consciousness, there will generally be no work restriction. Jobs where there is a risk of accident or injury to others occurring through a sudden loss of consciousness, such as commercial vehicle driving, may be unsuitable for hypertensive persons until a good control of blood pressure has been achieved. A similar situation will arise when there is altered judgement or performance of skilled tasks due to the hypertension, its complications, or treatment side effects.

Peripheral

Vascular disease: This can reduce lower and upper limb function resulting in reduced walking tolerance, restricted or reduced ability to use stairs or ladders, or reduced arm strength and the capacity of rapid movement. Abrasions and lacerations may not heal well and the limbs may need protection.

Raynaud's symptoms can be precipitated by vibration from tools or cold environments, such as refrigerated areas.

Pacemakers: A pacemaker will not usually interfere with work capacity, although there may be limitations due to the underlying condition. Rarely, electrical interference and strong magnetic fields affect pacemaker function. Work in close proximity to certain high-energy electrical signals may interfere with pacemaker operation. Formal testing of the pacemaker by the cardiologist may be appropriate to quantify the risk of interference.

17.3 Special considerations - Respiratory

General: Severe respiratory disorders, including advanced occupational fibroses, can limit ability to operate machinery and vehicles safely because of agitation, drowsiness, poor judgement and reduced concentration. They may also cause difficulty in the use of respiratory protection devices because of the increased resistance due to filter or hose.

Some people with asthma, chronic bronchitis, emphysema or cystic fibrosis have an increased sick leave need related to exacerbations of their conditions. When placing individuals with these conditions into shiftwork rosters, attention should be given to any diurnal pattern of symptoms and treatment effectiveness.

Asthma: There would usually be no limit to the type of work a person with asthma can perform, although exposure to agents accepted as a high risk of allergenicity, or to which the person is already sensitised, should be avoided.

Care should be taken with placement in isolated work and remote area travel when there is a history of severe asthma exacerbations.

Sleep Disorder: Sleep apnoea can interfere with work because of associated fatigue, daytime sleepiness and reduced concentration. It is particularly pertinent in jobs involving public safety or which is safety critical.

Pneumothorax: Individuals with a history of pneumothorax should avoid rapid changes in ambient pressure, such as occur with diving and flying, or work in isolated locations because of the risk of recurrence of the pneumothorax.

Lung Cancer: Following surgery for lung cancer, there may be a decrease in vital capacity and a reduced exercise tolerance, which may limit heavy work. As lung cancer has a significant risk of cerebral metastases it is recommended that persons be excluded from safety critical jobs, particularly involving public safety, such as heavy vehicle driving, flying, etc.

18. GASTROINTESTINAL SYSTEM

The gastrointestinal system is concerned with body maintenance. Adequate functional capacity can encompass adequate gastro-oesophageal sphincter function, bowel control and the absence of conditions which require extensive sick leave, such as chronic inflammatory bowel diseases.

Job requirements relevant to the gastrointestinal system can include the need to bend or stoop, lifting and carrying, and the availability of toilet and washing facilities.

18.1 Assessment

Assessment of adequate function of the gastrointestinal tract includes obtaining a history of illness and current symptoms, and a general abdominal and gastrointestinal examination. Examination for the presence of hernias should be included where work will involve lifting, pushing and pulling, and repeated postural changes.

A pre-placement assessment should not include a rectal examination, nor special tests such as faecal occult blood, as screening for cancer is not part of a pre-placement assessment. A recommendation can be made for the person to attend their personal physician for assessment and screening if indicated by symptomatology or familial risk factors.

18.2 Special considerations

General symptoms of fatigue and weight loss can occur with upper or lower gastrointestinal tract disorders and may limit endurance and strength. Sick leave needs may be related to exacerbations of conditions or to surgical treatment.

Upper gastrointestinal tract:

Conditions, such as peptic ulcer and oesophagitis, can cause nausea, vomiting, epigastric and chest pain, dysphagia or haematemesis, and interfere with concentration and endurance and necessitate sick leave.

Bending and stooping, for example, can exacerbate some symptoms eg oesophageal reflux. Peptic ulcer symptoms may be exacerbated by cigarette smoking and perceived mental stress.

Lower gastrointestinal tract:

Conditions, such as irritable bowel syndrome or ulcerative colitis, can cause diarrhoea, urgency, frequency and abdominal pain. The need for ready toilet access may limit outdoor work and travel, and may cause difficulties with protective clothing. Exacerbations of chronic conditions, such as Crohn's disease, may require sick leave.

Abdominal and inguinal hernias can be surgically repaired, but may still limit lifting, pushing and pulling and repeated postural changes.

Stomas do not prevent people undertaking most jobs, but they may have difficulties with excessive stooping, bending, heavy carrying or work in very confined spaces. Persons with stomas are capable of food handling work because of low bacterial levels in the stoma effluent.

Infectious disease: Gastroenteritis is of special concern for food handlers from whom enquiries should be made regarding acute diarrhoea, changing in stools and overseas travel. There may be occasion to obtain stool or nasal swab cultures.

Certain workers, such as health care or infant care, institution care, frequent travellers to developing countries and others with increased exposure should be vaccinated against Hepatitis A and Hepatitis B.

18.3 Liver Disease

Exposure to hepatotoxic chemicals should be avoided in those with chronic or acute liver disease. Individuals with resolved viral hepatitis and normal liver function tests should have no restrictions.

Liver function tests should be performed prior to work with hepatotoxins particularly when there is a history or signs of liver disease. Screening for hepatotoxins, such as heavy metals and pesticides, should be performed where there has been a history of previous occupational exposure and the placement position will involve further exposure.

Alcoholic liver disease can cause psychomotor impairment and encephalopathy, which may impair physical and cognitive task performance.

19. HAEMOPOIETIC SYSTEM

Diseases of the haematopoietic system, with appropriate investigation and treatment, will not usually have any effect on work capacity. Anaemia, coagulation deficiency or malignancy may impinge on work ability in some individuals because of associated fatigue, lethargy, reduced physical strength and endurance. There is a need to avoid certain chemicals or medications with some familial haemopoietic diseases.

Where a history or physical examination indicates the presence of a previously unrecognised haemopoietic disorder, the person should be referred to their personal medical practitioner.

19.1 Haemophilia and other Coagulation disorders

Because of the risk of bleeding in moderate and severe cases of coagulation factor deficiency, jobs where lacerations and bruises are likely to occur, or the person is in an isolated location, should be avoided. Avoiding heavy work may reduce the risk of haemarthrosis.

20. ENDOCRINE SYSTEM

Diseases of the endocrine system are usually readily treated and, with good control, generally do not restrict the type of employment, which can be undertaken.

Thyroid and adrenal gland disease can cause fatigue and lethargy resulting in reduced strength, endurance and concentration. The person with adrenal gland disease may need assistance with emergency provisions where work involves travel and isolation from usual medical resources.

20.1. Diabetes

The effectiveness of blood sugar level control and the presence and severity of complications affect the work ability of the person with diabetes. Where a screening urinalysis reveals the presence of sugar, the person should be referred to their personal medical practitioner.

Those with diabetes controlled by diet should be able to work without restriction. When control is achieved with oral agents, most occupations can be performed, with the possibility of some restrictions, such as commercial flying, because of the risk of hypoglycaemia. Job restrictions for the person with insulin dependent diabetes mellitus are more stringent than for oral hypoglycaemics and depend on frequency of hypoglycaemic episodes and the potential consequences, and the risk to the person or others, of change in consciousness associated with hypoglycaemia.

Frequent shift changes may interfere with ease of blood sugar control, but careful management should enable diabetics to work variable shift regimes.

21. GENITOURINARY SYSTEM

The urinary system is involved in the excretion of waste products, acid base and fluid balance, and acts as an endocrine organ. Impaired urinary tract function can involve renal parenchymal disease, urinary tract infections and prostate disease.

Job requirements relevant to the urinary system can involve the ability to travel or work away from toilet facilities. Adequate functional capacity includes bladder control and the absence of conditions, which require extensive sick leave or reduce endurance and concentration because of fatigue.

21.1. Assessment

Assessment of the adequacy of the urinary system includes a history of illness and current symptoms, including fatigue and lethargy, dysuria, frequency and incontinence, and a general physical examination seeking signs of urinary system impairment. An internal pelvic examination or prostate assessment is not appropriate and should not be performed in the context of health assessments for work.

A urinalysis for sugar and protein is a useful and simple screening test for diabetes and renal disease. A positive result would not generally indicate limited work capacity but should be referred to the individual's general practitioner.

21.2. Special considerations

Frequency and dysuria, which can be associated with renal disease and with urinary tract infections, can reduce effective work time. Infrequent recurrences of infection are unlikely to interfere with work capacity.

Persons with renal failure on dialysis have special dietary requirements and need to attend for dialysis, which may interfere with work, or be difficult to adjust to rapidly changing shift rosters.

Renal transplant patients require on-going medication and follow-up. In the absence of complications, urinary tract symptoms or significant medication side effects, there should be little restriction in work capacity. Workers with renal disease may be precluded from work with renal toxins, for example lead.

21.3 Female Reproductive System

Significant menorrhagia and dysmenorrhoea can be managed with medication and in some cases, surgery. Severe symptoms may decrease work efficiency and require frequent leave. Ready access to appropriate toilet facilities may be required.

The placement of pregnant women involves consideration of the physical strength and endurance required and possibility of exposure to reproductive hazards.

Breast disorders, with the exception of malignancy, are unlikely to place any restriction on physical work capacity. As clinical screening for breast cancer involves a thorough and specific examination, a brief examination is unlikely to be sufficient, may lead to a false sense of security, and is not considered appropriate in most pre-placement assessments.

A lactating woman should avoid exposure to toxic chemicals, which can pass into breastmilk and be absorbed by the infant. This may limit work-involving heavy metals, pesticides and solvents.

22. MUSCULOSKELETAL SYSTEM

Limb and spine movement, strength, dexterity and sensation are dependent on adequate muscle, joint, bone and nerve function.

Mechanical, inflammatory, neoplastic, metabolic and degenerative processes can impinge on the functional capacity of the limbs and spine. These include mechanical back injury, rheumatoid arthritis and degenerative joint disease. The effects of the nervous system on limb and spine function are considered in Section 24.

Aspects of job requirements relevant to musculoskeletal and neurological function include maintenance and change of posture, gait, bending and stooping, lifting, carrying, pushing and pulling, fine motor skills, balance and coordination, at a defined pace and duration.

22.1 Assessment

Assessment of the adequacy of functional capacity of the limbs and spine requires information about the strength and endurance, dexterity, pace of work and posture required in the job. For manual handling tasks, information is required on the load to be moved or carried, its physical characteristics and location, the type and frequency of lift, stooping, bending, twisting, pushing, pulling and the duration of effort needed.

Obtaining this information can involve a work site visit, reviewing physical task requirements, examining the job description and communicating with site supervisors or management.

A history seeking evidence of pain, weakness, numbness, joint locking or giving way should be taken. A clinical assessment, including range of movement, power, coordination and sensation is necessary, with attention to the particular requirements of the job. It may be advisable to obtain further information from a treating doctor or health professional.

22.2 Predicting Back Injury

There is extensive research on tests to predict back injury in the workplace. Risk factors that have been considered include anthropometry, posture, spinal mobility, muscle strength, physical fitness, radiography, psychological and psychiatric problems and social factors, job satisfaction and smoking. There are various investigative procedures available, which can be used to assess work capabilities; however, no definable benefit, in terms of work fitness, has been identified.

The studies reported contain flaws, such as confounding by concurrent implementation of other safety measures. Overall, the findings are inconsistent and contradictory. They are research tools, which may be of benefit in the future. There is insufficient evidence to recommend their use in clinical practice at present.

Computerised models of biomechanical analysis can be used to quantify an existing hazard in the workplace, but do not identify the risk in any individual person. Work simulator systems have been developed to test work capacity for return to work following injury, such as the ERGOS simulator. Although these systems have concurrent validity there is lack of any 'gold standard' and a paucity of validity studies. In general, a good understanding of English is necessary, limiting their application for persons of non-English speaking background.

The medical history is recognised as probably the most important reliable factor to identify those who could pose a risk of low back workplace injury, with previous back problems identified as the most important historical factor.

The more detailed the history and objective risk data available, the better the prediction of low back pain. The history obtained should include personal risk factors including previous low back pain, extent of treatment and time off work, psychosocial stressors at home and work (for assessment of re-placement after injury), and a thorough physical examination with particular attention to a neuromuscular evaluation of the lumbosacral spine and lower limbs.

23. NEUROLOGICAL ASSESSMENT

An intact neurological system allows perception, communication, cognition, alertness and limb and trunk function.

Job requirements relevant to the neurological system include cognitive skills such as interpretation, planning, decision making, speech (including clarity, comprehension and fluency), reading, posture, and physical activity. Certain jobs have specific smell, taste and visual requirements.

Assessment of the adequacy of neurological functional capacity requires a general evaluation of cognition, alertness, speech, hearing and vision, gait and balance, co-ordination, limb power and sensation.

A formal neuropsychologic evaluation may be indicated where the clinical assessment indicates the presence of a cognitive deficit, which will impinge on job capabilities or efficiency.

23.1. Special Considerations

Disorders of balance can increase the risk of injury and may preclude work at heights with dangerous machinery and driving, particularly commercial vehicles or driving passengers. A specialised ear, nose and throat or neurological assessment may be needed to determine prognosis, just as a practical driving assessment may also be arranged with a rehabilitation authority.

Tremor or sensory loss may interfere with fine motor function.

Sleep apnoea, headache and medication can reduce alertness, **affect** cognitive skills, reduce concentration and limb function. Attendance may be affected if headaches are frequent and severe, such as with cluster headaches (atypical migraine). Migraine (classical) usually can be sufficiently controlled by appropriate medication and control of trigger factors.

23.2. Epilepsy

The control of epilepsy, frequency and type of seizure and side effects of medication need to be considered when placing a person with epilepsy. When there is a reasonable risk of seizure in the workplace, appropriate information should be provided to co-workers.

Caution is needed where jobs with special hazards are being considered, for example, vehicle or crane drivers, working at unprotected heights, with dangerous and unguarded machinery, high voltage electricity, fragile and valuable objects or equipment, near tanks of fluids, and in enclosed or isolated work spaces.

Some jobs, such as passenger vehicle driving, have statutory prohibitions, which would exclude people with epilepsy.

24. VISION

Evaluation of job requirements relevant to the visual system requires information about the visual tasks required, the need to recognise visual cues to perform the job with safety, and workplace exposures.

Assessment of the adequacy of the visual system relates to the functional needs within the job. Depending on the job requirements, formal evaluation of vision will generally involve near and distance visual acuity, oculomotor coordination, astigmatism, peripheral fields and colour vision. The external eye should be checked for lid function, pterygia and inflammation.

When there is a visual impairment, an assessment by an ophthalmologist regarding diagnosis, assessment of visual functioning, and determining that optimal function has been achieved, may be required before placement. Consideration should be given to the individual's ability to use alternative skills in accomplishing job tasks in the workplace.

24.1 Special considerations

Poor visual acuity can increase the risk of accidents in hazardous situations. Visual dysfunction may limit work with special hazards such as at unguarded heights, operating dangerous machinery or driving.

Visual field deficits and **monocular vision** may put an individual at increased risk of accident. The former is of particular concern for vehicle and forklift drivers and crane operators. A further consideration for the monocular sighted person is the risk to the other or 'good' eye.

Variation in vision can occur with some conditions, such as changes in blood sugar level in **diabetes** and during **migraine**. The assessor must judge whether frequency of such variations and risk to the person and others is sufficient to influence employability.

Colour vision is necessary for certain tasks, such as colour coding for safety purposes. Where formal evaluation indicates a deficit in colour vision, a practical test in the workplace may reveal function is adequate. Where fine colour discrimination is an essential component of a person's work, careful assessment of colour vision, at an appropriate optometry centre, and discrimination with the materials used in the job, should be made.

Spectacles and contact lenses may cause some limitations, but rarely leads to exclusion. Contact lens wearers may be intolerant of dust particles and fumes. Soft lenses should not be worn when electric arc welding because of excessive drying out of the cornea under the lens. Ultraviolet and infrared rays can cause photophobia and cold, dry environments can also cause discomfort in contact lens wearers. Glasses can be difficult to wear with some protective clothing and may cause difficulty-reading indicators through a protective visor or other equipment. There are available attachments or variations to standard equipment that can facilitate the use of protective facemasks or respirators for spectacle wearers.

Regular prescribed **reading glasses** may not be appropriate where work requires reading of computer screens. The focal length for reading spectacles is usually 300-350 mm while typical screen reading distances are 400 mm to 1 m. Assessment by an ophthalmologist or optometrist may be needed to determine the adequacy of current correction for the job to be performed and evaluate the need for special correction.

Conjunctivitis, uveitis and lid dysfunction can cause eye discomfort, watering and itch. Individual assessments should be made, as there is rarely a need for exclusion.

25. HEARING

Job requirements relevant to ear function include the ability to understand conversation and comprehend warnings, balance and response to atmospheric pressure changes.

Hearing loss can affect efficiency and safety. Tinnitus can cause much annoyance and interfere with concentration and can contribute to fatigue if it interferes with sleep.

Adequate Eustachian tube and middle ear function is needed in certain occupations, such as diving and flying.

25.1 Assessment

The adequacy of hearing does not usually require formal assessment using audiometry, as most jobs only require the ability to comprehend speech in a working environment without high level noise exposure.

Baseline audiometry can be performed for persons with a history of hearing disorders who require a high degree of hearing acuity and for those who may be at risk of hearing loss due to their work environment. Air conduction thresholds at 500 Hz, 1000 Hz, 1500 Hz, 2000 Hz, 3000 Hz and 4000 Hz should be measured.

Pure tone audiometry only detects reduced hearing thresholds at specific pure tones and is not an accurate measure of an individual's ability to comprehend speech. For an individual with some hearing loss, a practical test in the workplace may be appropriate if there are specific auditory requirements of the job, eg. accurate hearing of warning signals in background noise.

25.2 Special Considerations

Certain occupations, such as pilots, have specified hearing requirements based on safety considerations.

Hearing aid use usually presents no difficulty unless there is a high level of noise in the environment. In such circumstances, the aid may not be of use and may increase the noise hazard.

Persons with total or severe unilateral loss should not be placed in jobs with a risk of damage to the other ear. A person with a pre-existing hearing loss need not be excluded from more noise exposure if adequate personal protection is available and able to be rigorously used.

Dermatitis affecting the external ear, otitis external and otitis media can be exacerbated by hearing protection devices and may limit their use temporarily or indefinitely.

26. SKIN

The skin has important barrier and sensory functions, which can be affected by dermatoses. Dermatoses include irritant and allergic dermatitis and can be manifest as cracking, bleeding, scaling and thickening of the skin. These changes can affect hand dexterity, limit the wearing of protective gloves or boots and be unsightly. Job requirements relevant to the skin include fine motor hand function, cosmetic appearance and the ability to wear protective equipment.

26.1 Predicting skin disease

The history and clinical examination for skin disease is the most important factor in determining the risk of susceptibility to irritants. The presence of atopy is predictive of susceptibility to skin irritations, but is not of contact allergy.

Patch testing detects already existing sensitisation but does not predict future sensitisation. Non-invasive tests of irritancy, such as transepidermal water loss or laser Doppler flowmetry, are experimental techniques, which demonstrate changes in the skin in response to chemical application but have not been shown to be predictive of dermatitis.

Certain skin types are more susceptible to solar skin damage and skin cancers. However, all outdoor workers should use appropriate protective measures, such as clothing covering body and limbs, wide brimmed hats and liberal use of UV blocker creams or lotions.

26.2 Special Considerations

Work which involves **wet work**, such as kitchen and cleaning work, soluble oil exposure or hairdressing is most likely to be a problem in those with atopic eczema because of the increased susceptibility to skin irritations.

Where there is a documented history of **contact allergy**, further contact should be avoided as exacerbations can occur with minimal exposure.

Psoriasis involving the hand may be aggravated by trauma, such as in heavy manual work, and by contact with chemical irritants.

The potential for hand dermatitis to develop **secondary bacterial infection** should be considered in some occupations, for example, food handlers.

26.3 Skin Cancer

Extensive lesions may require repeated treatment sessions, which can interrupt work time. During the healing process some protective clothing and exposure to chemicals may be uncomfortable and/or aggravate symptoms.

There may be practical limitations with the wearing of personal protective equipment in extremes of hot and humid climates. The presence of numerous lesions or a history of multiple treated malignant lesions may necessitate avoidance of sun exposure and limit outdoor work.

27. HEALTH SURVEILLANCE - TOXICOLOGICAL SCREENING

Health Surveillance which includes biological monitoring should be performed where work involves exposures to certain toxic agents, including pesticides and heavy metals. Where monitoring shows unacceptable levels of agents in the person, or their effects on the individual, a change in job placement may be required. It is essential however that the controls for the substances are reviewed at the same time.

Where there has been a history of exposure to toxic agents and further exposure will occur in the position for which the person is being assessed, health surveillance should be undertaken, including screening for the presence of the chemical or its metabolites, or its effects, if there is an appropriate screening test. Screening may be required where there has been no history of previous exposure, in order to establish a baseline and to exclude previously unknown and/or non-occupational sources of exposure.

Both Australia and New Zealand have published Codes of Practice for the Control of Workplace Hazardous Substances. The Worksafe Australia code includes a section on Health Surveillance, with specific information about those requiring Health Surveillance, responsibility for health surveillance, employers' responsibilities, and the responsibilities of the appointed medical practitioner.

Most Australian state governments have proclaimed specific chemicals which require health surveillance measures to be implemented. Guidelines to Health Surveillance for seventeen substances have been developed by Worksafe Australia.

New Zealand has also proclaimed several specific chemicals which have Codes of Practice for their management as well as 10 Health Guidelines for Health Surveillance – updated in 1998.

Compared to the number of chemicals that can be encountered in workplaces, the number requiring toxicological screening is very small indeed.

The Worksafe document on the competencies required by medical practitioners and occupational physicians who may undertake health surveillance has been released in May 1998.

28. INFECTIOUS DISEASE/HIV/AIDS

There is considerable concern within the general population regarding the risk of transmission of HIV and more recently, of Hepatitis B and C. This concern often extends to the workplace.

The individual who is HIV positive and asymptomatic does not have any physical limitations but may need support and reassurance in the work placement process.

Where lymphadenopathy and associated fatigue has developed the ability to maintain physical effort and mental concentration may be reduced. With full-blown AIDS there is severe fatigue and generalised illness with a poor prognosis. Nervous system involvement may cause

deterioration in intellectual function and this should be taken into account where the employee is responsible for others' safety.

Exacerbations of fever, night sweats, weight loss, malaise and infections may require sick leave and fatigue may be an ongoing factor limiting employability.

There are certain occupations, which require particular precautions in the HIV positive individual, including sex workers and the health care professions, because of the potential risk of transmission from an infected worker to a client or patient. Similar concerns have now arisen regarding other blood borne diseases, including Hepatitis B and C and the transmission factor of Creutzfeld-Jacob disease.

No additional precautions are needed where an HIV infected worker is employed. Generally, workers can be reassured regarding the possibility of workplace transmission of such blood-borne infectious agents, provided appropriate hygiene practices are maintained. In the vast majority of workplaces adequate training of first aid staff in handling of body fluids should always be in place and is sufficient.

Pre-placement testing for HIV or hepatitis is not recommended in the majority of circumstances because the HIV positive individual, or one who has Hepatitis B or C, does not have any work restrictions, and the course of the infection varies. There is no valid test of prognosis, and there are false negative screening test results, which can negate the purpose of carrying out the test.

Compulsory testing of health care workers has been suggested, but there is currently no consensus and it is not a recommended procedure by the health sector authorities.

29. MEDICATION

While most people do not have to take medication, some individuals are unable to work unless they do, for example, insulin dependent diabetes, hypertension, cardiac and respiratory diseases, some psychiatric disorders. Some take medication because of the nature of their work, eg. in malaria endemic areas.

The past experience of medication side-effects in the individual should be ascertained and the chance of side effects occurring with continuing treatment and the risk to the individual or others, if side effects do occur, assessed.

Central nervous system side effects may impair cognition, causing somnolence and reducing concentration, decision making and planning. They may also impair motor function through tremor and ataxia. These side effects may be associated with sedatives, hypnotics, antipsychotics and anti-depressants.

Some **anti-hypertensive medications**, eg beta-blockers, may also cause lethargy and postural hypotension.

Adaptation to environmental **temperature extremes** may be impaired by medications, which affect skin blood flow or sweating.

The change in circadian rhythm associated with shift work can affect the **dosage requirements** of some medications, eg. steroid replacement in Addison's disease, insulin in diabetics.

**SAMPLE ASSESSMENT PROCEDURES
SUMMARY**

1. The employer obtains for the individual an appointment with the assessor.

2. The employer provides the individual, with instructions on time, date, location, purpose of the assessment and post-assessment instructions.

The individual may also be provided with a health questionnaire, or other information and/or instructions required for the assessment, such as pathology request papers.

3. The assessment is carried out.

4. Further information or tests may be required before the assessor can give an opinion to the employer. The assessor will provide further instructions to the individual, and inform the employer, either verbally or in writing, of the additional requirements.

5. When the assessment is completed the assessor informs the individual and, in writing, the employer, of the capabilities of the individual in relation to the workplace.

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