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Information sheet: General health requirements considered essential for a firefighter to function effectively and safely in their job.

This information sheet outlines the general health requirements for firefighters, including both overarching health requirements and specific body system requirements. It provides a summary of the health requirements that enable a firefighter to perform safely and effectively both individually and as part of a firefighting team.

This information sheet is intended for use by health practitioners when assessing a firefighter's medical fitness to complete their ordinary duties at work. It is expected that the health practitioner will undertake a comprehensive health assessment to determine a firefighter's fitness to work, recognising that this information sheet has been developed to provide guidance only. Comprehensive health assessment requires a health professional to incorporate their professional assessment of the firefighter's physical and mental health for their ordinary duties with FRNSW.

All firefighters hold a rank which gives them lawful authority to command others who hold a lower rank.

Title	Definitions
Permanent firefighter	A permanent firefighter is a full-time, paid employee who is stationed at a fire station, often around highly populated areas. Unlike on-call firefighters who respond from home or work, permanent firefighters are part of a crew that generally work 24-hour shifts, and are dedicated to tasks like equipment checks, drills, and responding to emergencies from the station.
Retained firefighter	Also known as an on-call firefighter, who is on call from their regular workplace or home to respond to fires and a variety of emergency incidents in their local community.

General comments on the role of a FRNSW firefighter

When assessing a firefighter's health, it is vital that the health professional understands the work conditions that a firefighter will be expected to manage. A firefighter:

- operates as an integral member of a team, where ***impairment or sudden incapacitation of a member can impact adversely on that member's safety, and that of other crew members and/or the public.***
- works for long periods of time requiring sustained physical activity and intense concentration while performing complex tasks under emergency conditions.
- is often rostered for long shifts.
 - Permanent firefighter predominant shift roster: 24 hour', consisting of two 24-hour shifts separated by 24 hours off, followed by five days off.
 - Retained firefighters are on-call responding anytime from their workplace or home. Hours worked are usually in addition to primary employment.
- must be qualified to drive a medium rigid vehicle, requiring a commercial vehicle driver license. All permanent firefighters (up to and including position of senior firefighter), and some retained firefighters.
- responds to emergency incidents that are unpredictable in timing and duration.
- may be exposed to a variety of hazards including physical, biological, chemical, ergonomic and psychosocial.

Operational demands and considerations for FRNSW firefighters

The following sections focus on **specific body systems**, providing information for health professionals to consider when assessing a firefighter's health. These examples should not be considered in isolation; a firefighter's health assessment should always be a comprehensive assessment. This section outlined examples of typical firefighting duties and relevant health information related to known occupational health issues. It is essential that the firefighter's health is reviewed in the context of these examples, which illustrate potential experiences at work that may impact both mental and physical well-being.

Cardiovascular demands

- Acute cardiovascular events are the most common causes of on duty deaths in firefighters.
- Operational firefighting duties can place extreme demands on the cardiovascular system. Acute incapacity can pose an immediate safety risk to the firefighter, their crew and the public who are dependent on them for their safety.
- A combination of factors in the firefighting context can increase the likelihood of cardiac complications: extreme physical demands, heat stress conditions, sympathetic nervous system arousal, dehydration and potential exposure to products of combustion (e.g. carbon monoxide). There are physiological responses that increase the risk of thrombosis even after a fire simulation exercise.
- Fire suppression duties (when the firefighter is actively fighting a fire) are disproportionately associated with acute cardiac complications over and above that with exercise and physical training. This is the case even in younger firefighters. Those with pre-existing cardiovascular conditions are at particular risk (e.g. latent or known coronary artery disease, left ventricular hypertrophy, and other structural abnormalities).

Musculoskeletal demands

- The basic personal protective equipment including self-contained breathing apparatus (SCBA)

weighs over 20kg.

- Firefighters often operate other heavy equipment and use heavy rescue tools which weigh over 15kg.
- While wearing personal protective equipment weighing over 20kg, including SCBA, firefighters are required to:
 - Perform firefighting tasks, including: handling charged lines of hose under high pressure, extensive crawling, squatting, crouching, lifting and carrying heavy objects, obtaining forcible entry, carrying and handling rescue equipment including heavy power and hand tools, overhead raising of 10.5m ladders, working in awkward spaces and positions under emergency conditions which may not allow for best practice manual handling techniques, and can lead to unpredictable musculoskeletal loading.
 - Climb multiple flights of stairs (depending on location) whilst carrying equipment and tools.
 - Climb ladders.
 - Undertake search and rescue, including prolonged squatting or crouching, dragging or carrying victims ranging in weight from newborns to grossly overweight adults. They may need to rescue a collapsed fellow firefighter who is also wearing full personal protective equipment.
- The work is performed in hazardous environments, where surfaces may be uneven, wet, oily or slippery, and often in poor visibility.

Respiratory demands

- Physical exertion and atmospheric contaminants can precipitate or aggravate asthma or other respiratory problems.
- SCBA is not routinely worn for bush and grass firefighting due to limited duration of protection and additional workload.

Psychological demands

The psychological demands and exposures of firefighting are significant, with regular exposure to potentially traumatic events. Psychological resilience is an important trait as:

- Firefighters witness the deaths and serious injuries of victims. These situations can be violent, even horrific, ranging from burns, motor vehicle and industrial accidents, to suicides, giving rise to critical incident stress.
- Firefighters must make critical decisions that can affect others under emergency conditions.
- The cognitive and decision-making demands are high, even for those not in command positions.
- Any condition that can affect arousal, perception, learning, memory, concentration, emotion, decision making capacity etc., may impact adversely on situational awareness, thus posing a risk to the health and safety of the individual firefighter and others who are relying on them for their safety (their team and the public). Firefighters must have the ability to undertake appropriate and safe actions on the incident ground, which is often dynamic and complex.
- Current medications are considered carefully in relation to potential interactions with firefighting working environment and tasks e.g. thermal stress, shift work and on-call duties, situational awareness.

Sensory perception

- Good visual acuity and visual fields are required. Tasks include reading street signs, chemical placards, casualty identification, and identifying hazards to firefighters when moving through the incident ground.

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- Emergency driving relies on being able to process good quality visual information quickly.
 - The fire and industrial environments involve hazard signs, ducts, wires and controls that are colour coded.
 - Work may be undertaken in conditions of poor visibility.
 - Emergency duties and communication are often in noisy environments and require the ability to hear speech and fire behaviour noises against a range of background noises, and to discriminate different sounds and localise the direction of sounds including speech e.g. casualty cries for help.
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