Task: Working in Extreme Heat

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**Equipment used (if applicable):** Wet Bulb Globe Temperature WBGT

**Model Identification:** WBGT Heat Stress Meter - 800036

**Facility:** Integrated & Community Health

**Reference Documents** NOTE: Consider relevant Code(s) of Practice for the hazards identified, see WSLHD WHS Hazard Identification Checklist.

<table>
<thead>
<tr>
<th>POTENTIAL HAZARDS</th>
<th>HAZARD CONTROLS</th>
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</table>
| 1. High Air Temperature | Complete the daily Working in Heat – pre work checklist  
Monitor hourly temperature using Wet Bulb Globe Temperature (WBGT) and recording of data on Temperature Record Sheet  
Monitor hourly skin temperature and record on Skin Temperature Record when WGBT is 25°C and above  
Air conditioned tea room  
Fans in clinical areas - marquees  
Cool rest areas, e.g. air conditioned staff dining/lounge rooms, and access to showers and cold water to cool down body temperature. |
| 2. High Humidity | Complete the daily Working in Heat – pre work checklist  
Monitor hourly humidity using Wet Bulb Globe Temperature (WBGT) and recording of data on Temperature Record Sheet  
Monitor hourly skin temperature and record on Skin Temperature Record when WGBT is 25°C and above  
Portable air cooling and dehumidifying equipment.  
Cool rest areas, e.g. air conditioned staff dining/lounge rooms, and access to showers and cold water to cool down body temperature. |
| 3. Low air movement | Fans, at least one per room depending on the size of the room. |
| 4. High Work Rate, Lack of adequate rest breaks | Cool rest areas, e.g. air conditioned staff dining/lounge rooms, and access to showers and cold water to cool down body temperature.  
Where work in hot conditions cannot be avoided, scheduled regular rest breaks are required. For a light workload as in the COVID19 clinics the following is to be used as a guide only. *It is based on approximations for fit, healthy people, acclimatised to hot conditions.*  
- Continuous work is permissible at a WGBT of up to 30°C.  
- At 30.6°C WGBT, the Work-Rest regime should be 45min (Work) - 15 min (Break).  
- At 31.5°C WGBT, the work-rest regime should be 30(Work) - 30 min (Break).  
- At 32.2°C WGBT, the work-rest regime should be 15 (Work) - 45 min (Break).  
Complete skin temp check hourly at WGBT above 25°C |
5. Heat Illness:
   a. Heat Syncope
   b. Heat Cramps
   c. Heat exhaustion
   d. Heat Stroke

Rotate allocated work breaks across workers, slow down the pace of work and alternate work rate- heavy with light work

Monitor hourly for signs of heat illness when skin hourly temp check commences at WBGT above 25°C.

Any workers with symptoms of heat Illness must rest in a cooler environment, drink adequate quantities of water and have a cool shower if possible.

For workers showing signs of more serious heat-related illness commence monitoring of vital signs and record on a SAGO chart and seek medical attention

6. Restrictive Clothing, personal protective equipment (PPE) such as surgical gowns, theatre attire restricts air circulation and evaporation of perspiration.

Clinical staff wear Level 4 gowns which are completely impermeable to viruses & liquids
QLD Safe Work Heat Stress Calculator is not designed for situations where impermeable clothing is used

Workers are to wear loose clothing styles and cotton or cotton-based fabrics. All clinics have cotton surgical scrubs available

Wear Ice Vests beneath PPE

Complete skin temp check hourly at WBGT above 25°C

7. Sources of radiant heat (e.g. sunlight).

Workers are to work in undercover areas to avoid being in the sun

Wear broad brimmed hats

8. Failure of air conditioning and dehumidifying equipment

Routine maintenance of cooling equipment

Contingency Plans for possible equipment breakdown

Workers and supervisors must have training in recognising the symptoms of heat stress

Consume crushed/shaved ice, or having an ice block, is effective to core temperature

Avoid working in the sun

Workers are to have scheduled breaks to rest and cool down

9. Poor health and fitness and/or lack of adaptation to heat.

Ensure there is adequate amounts of easily accessible refrigerated cool drinking water
Schedule ½ - hourly breaks for staff to have regular a drink.
Encourage workers to drink enough fluid to maintain hydration even if they are not feeling thirsty.

Provide staff with a copy of the Urine Colour Chart. Educate staff on use of chart.

10. Lack of opportunity/access to cool drinking water to maintain hydration.

Ensure staff are aware of symptoms of heat illness. Any workers with symptoms of heat stress must rest in a cooler environment, drink adequate quantities of water and have a cool shower if possible.

Medical attention should be provided to anyone showing signs of more serious heat-related illness

Ensure staff are aware of the physiological effects of medicine:
SAFETY RULES/PRINCIPLES RELATING TO TASK

- Interference with sweating: anti-histamines, beta-blockers, vasoconstrictors
- Interference with thermoregulation: stimulants, anti-psychotics, thyroxin
- Decreased thirst: ACE inhibitors, butyrophenone
- Dehydration or Electrolyte imbalance: diuretics, alcohol, any drugs which cause diarrhoea/vomiting
- Reduced Renal Function: NSAIDs, sulphonamides, cyclosporine, indinavir
- Aggravation of heat illness by worsening hypotension: Vasodilators, anti-hypertensives
- Drugs which alter alertness, e.g. alcohol, narcotics, caffeine

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**SAFETY RULES/PRINCIPLES RELATING TO TASK**

- Long periods of extreme heat can have serious impacts on people's health.
- During extremely hot weather, it is easy to become dehydrated or for body's to overheat. Leading to life-threatening heat-related illness such as heat stroke and heat exhaustion
- Workers need to be able to keep body temperatures within normal range and cool down if they become elevated

**BASIC STEPS:**

1. Complete Daily Temperature Record using the WBGT
2. Complete Skin Temperature Record
3. Allocate regular scheduled breaks in accordance with WGBT and body temperatures
4. Ensure that the break room is sufficiently cooled
5. Ensure there is sufficient cooling equipment on site
6. Ensure that the cooling equipment on site (fans, air conditioner) is functional
7. Provide sufficient amounts of cool water and ice blocks for workers
8. Staff are to wear loose fitting clothing (scrubs)
9. Train workers to work to recognise heat illness
10. Monitor for signs of heat illness in workers and intervene according to severity

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Covid-19 Drive Through Clinic Team Leaders
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**NOTE:** Review the SWP at **least** every 3 years or if there are any accidents or incidents associated with the SWP or in response to changes in the workplace which could affect the task or procedure the SWP is for.

**References:**
- Based on information from International Standard ISO 7243 - 1989 Hot Environments – Estimation of the heat stress on workers, based on the WBGT-index (wet bulb globe thermometer).