Cardiac Risk at Work: What OHS and HR Leaders Need to Know

Cardiovascular disease (CVD) is both a health issue and a workplace risk that can surface suddenly as a heart attack or cardiac arrest or develop over years through chronic exposures and work patterns. In Canada, heart disease remains a leading cause of death, alongside cancer. And when cardiac arrest happens outside hospital, the stakes are stark: Heart & Stroke reports about 60,000 out-of-hospital cardiac arrests each year in Canada, with only about 1 in 10 surviving.

Which Worksites Pose Higher Cardiac Risk?

Cardiac risk rises wherever work increases strain on the heart, delays emergency care, or encourages unhealthy coping habits. Higher-risk worksites commonly include:

- **Remote or isolated sites (mines, forestry, rural construction, marine)**: longer EMS response times; limited AED access.
- **Hot or cold environments (roofing, roadwork, foundries, cold storage, winter field work):** thermal stress elevates cardiovascular load.
- **High-exertion settings (heavy civil construction,**

warehousing, agriculture): sustained high metabolic demand.
- **Safety-sensitive and high-stress operations (transportation, policing, corrections, emergency response, dispatch):** acute stress surges and fatigue.
- **Sedentary, high-demand office environments (tight deadlines, low control):** chronic stress and prolonged sitting can increase risk factors over time.

Specific Tasks and Exposures Linked to Heart Disease or Acute Events

Work doesn't have to cause heart disease to trigger an event. It can aggravate underlying risk or accelerate disease through repeated exposure.

Tasks/conditions that can precipitate acute events (heart attack, arrhythmia, cardiac arrest):

- Sudden heavy exertion (shovelling, lifting, pushing/pulling, climbing with loads), especially after inactivity.
- Heat strain or dehydration (high Wet Bulb Globe Temperature environments, impermeable PPE) which increases heart rate and thickens blood.
- Cold stress (vasoconstriction raises blood pressure; increased cardiac workload).
- High adrenaline/acute stress events (critical incidents, confrontations, near-misses).

Exposures and patterns that contribute to longer-term cardiovascular disease:

- Shift work and circadian disruption (sleep debt, metabolic changes, elevated blood pressure over time).

- Job strain and low control/reward imbalance (chronic stress pathways).
- Noise and some airborne exposures (often co-occur with other risks; manage via standard industrial hygiene controls).

Some "work culture" behaviours quietly compound risk:

- Skipping breaks and meals; chronic dehydration
- High caffeine/energy drinks to fight fatigue
- Smoking/vaping during high-stress shifts
- Reliance on fast food on the road
- Poor sleep due to overtime or rotating shifts

Prevention at All Levels

Employee-level actions (what to promote and enable)

- **Know personal risk factors** (blood pressure, cholesterol, diabetes, family history) and access preventive care.
- **Use paced exertion**: warm up, rotate heavy tasks, and avoid "hero lifts."
- **Hydrate and take cooling/warming breaks** in thermal extremes.
- **Prioritize sleep hygiene**, especially for shift workers.
- **Report symptoms early** (chest pressure, unusual shortness of breath, palpitations, fainting).

Management-level controls (what reduces risk systemically)

- **Heat/cold stress program:** acclimatization, work/rest cycles, shade/heated shelters, hydration stations, supervision training.

- **Fatigue risk management:** limit excessive overtime, improve shift design, and reduce consecutive night shifts where possible.
- **Job design:** mechanical assists, lift limits, realistic productivity targets, adequate staffing.
- **Emergency readiness:** AED placement, trained responders, drills, and clear EMS access plans—especially for remote worksites.

Sectors Most Susceptible

1. **Construction, utilities, resource extraction:** control exertion peaks, thermal stress, and remote response delays (AEDs, communications, rapid access routes).
2. **Transportation and warehousing:** address sedentary time + high time pressure (break enforcement, healthy-on-the-road supports, fatigue controls).
3. **Healthcare and public safety:** reduce chronic stressors (staffing, decompression time, peer support) and ensure frequent CPR/AED refreshers.
4. **Manufacturing:** manage heat, noise, and shift schedules; integrate cardiovascular risk into fit-for-work and return-to-work planning.

Quick checklist: How to Respond to a Suspected Cardiac Event

□□□□ Recognize: sudden collapse, no normal breathing, chest pain/pressure, severe shortness of breath, fainting.

□□□□ Call 911 immediately (or site emergency number) and send someone to meet EMS.

□□□□ Start CPR if unresponsive and not breathing normally.

□□□□ Get the AED and apply ASAP; follow prompts.

□□□□ Continue CPR/AED until relieved by EMS or the person

recovers.

□□□□ Post-incident: secure scene, document, debrief, and offer psychological support to responders.