Sweat, Sun, and Safety: Rethinking Work in Canada’s Rising Heat

When Lester woke up on June 15, 2023, in Fort McMurray, he expected a warm day—this is northern Alberta after all—but he wasn’t prepared for the 36 °C blast furnace greeting him at dawn. By 10 a.m., as he crawled beneath a rig floor to tighten bolts, sweat drenched his shirt. His vision blurred for a moment, and the wrench slipped out of his hand. It was only the quick hands of a colleague that guided him to the shade and a cool drink before more serious symptoms took hold.

Lester’s close call wasn’t unique. Across Canada—from the sun-baked prairies to heat-trapped warehouses—workers are facing unprecedented temperatures that challenge traditional notions of “normal” summer weather. And as OHS managers and directors, we can no longer rely on the same static schedules and hydration reminders we’ve always used. Instead, we must weave heat forecasting and acclimatization science into our daily safety fabric.

This isn’t about adding boxes to your to-do list. It’s about seeing heat as the hazard it is, learning from real-world missteps, and adopting an empathetic, data-driven strategy that keeps people safe—and productive—even when the thermometer soars.

Canada’s Heat Reality Check

For decades, summer heat in Canada meant the occasional 30 °C day, packed beaches, and mid-July heat domes that felt novel. But recent years have rewritten that story. In 2021, over 600 heat-related deaths were recorded in British Columbia alone, as a historic heat wave blanketed the Lower Mainland with temperatures exceeding 40 °C—an event that dwarfed previous records and caught many municipalities flat-footed. In 2022, Ontario reported more than 200 heat-exhaustion injury claims among outdoor workers, a spike directly tied to multiple multi-day heat events.

A 2023 report from Environment and Climate Change Canada revealed a troubling trend: average summer temperatures have risen by 1.7 °C since the 1940s, and days above 35 °C have tripled in many regions. Even cities once known for mild summers—think Vancouver and Halifax—have seen record highs and sweltering nights that leave concrete jungles steaming well after sunset.

But the numbers only tell part of the story. Behind each statistic is a worker like Lester, fighting to maintain focus and muscle control under oppressive heat. One in four outdoor workers reports feeling dizzy, nauseated, or disoriented during high-heat days. And such symptoms aren’t mere inconveniences—they double the risk of on-the-job injuries, from cuts and falls to heavy-machinery mishaps.

Not All Heat Is Created Equal: The Heat Index

It might feel intuitive that 35 °C with 30% humidity is no picnic, but what about 30 °C with 80% humidity? That latter scenario, common on rainy Prairie afternoons, can incapacitate a crew faster. Enter the Heat Index, a metric combining air temperature and relative humidity to convey the “felt”

temperature.

Picture two worksites: one under a crystal-clear sky at 33 °C, RH 20%, and another shrouded in humidity at 28 °C but RH 80%. The former feels like 34 °C; the latter feels like 36 °C. Sweat evaporates easily in dry heat, cooling the body. But in high humidity, sweat lingers on the skin, robbing your body of its natural thermostat.

Sadly, many of Canada's workplaces still glance casually at the morning weather report and call it a day. To safeguard workers, we must elevate that cursory check into an actionable metric—one that dictates when to slow production, offer extra breaks, or even halt the job until conditions improve.

Acclimatization: The Body's Secret Shield

Our bodies are remarkably resilient. Exposed to heat day after day, they adapt—sweating earlier, pumping blood more efficiently to the skin, and stabilizing core temperature under stress. This process, called acclimatization, unfolds over one to two weeks of steady heat exposure.

But here's the rub: a worker who spends winters in climate-controlled shops and flies north for the summer is essentially starting from zero each season. Without a structured acclimatization plan, they're much more vulnerable to heat illnesses.

Consider a 2022 case from an Ontario paving contractor. Their new hires, flown in from cooler regions, were scheduled straight into full eight-hour shifts under the midday sun. Within days, several suffered debilitating cramps and dizziness. Emergency responders noted that most incidents happened before the end of the first week—long before their bodies had a chance to adapt. The company responded by rolling out a "slow-start" protocol: 20% shift on day one, ramping up

by 20% each day. Cramps and near-misses fell by 70% in the subsequent wave.

The Human Side: Respecting Limits

Beyond charts and indices lies an often-overlooked truth: **each individual's heat tolerance varies**. Age, fitness level, hydration habits, medications, and even genetics play roles. A 60-year-old foreman with decades of summer shifts under his belt likely tolerates heat differently than a 22-year-old rookie on their first assignment. When prescribing work modifications, OHS managers must consider these human variables alongside the numbers.

At a Saskatchewan grain elevator during a late-July heat wave, the night shift foreman noticed that one young loader operator—new to the job—never seemed his usual self. While others lingered at the water station voluntarily, this worker pushed on, determined to prove himself. It took an impromptu heart-rate monitor readout to show he was dangerously close to heat exhaustion. A one-on-one talk, not a blanket policy, saved him from a trip to the ER.

Weaving Heat into Your Safety Fabric

1. **Dynamic Scheduling, Not Static Rules**
   On a 30 °C day, you might move strenuous concrete-pouring to early mornings, reserving afternoons for lighter duties. But what about indoor staff? In a Toronto warehouse during a heat event, supervisors shortened afternoon shifts by two hours and staggered start times—shifting from a uniform 8 a.m. start to a blend of 6 a.m., 7 a.m., and even 9 a.m. This simple tweak cut afternoon fatigue complaints by half.
2. **Breaks: More Than a Resting Spot**
   Breaks are your frontline defense. Under a 32 °C Heat Index, every 45 minutes of work should be followed by at least a 10-minute rest in a shaded or air-conditioned

area. It’s not micromanagement—it’s lifesaving. One Ontario landscaping firm noticed that crews complying with timed breaks saw a 40% drop in heat-related clinic visits.

3. **Hydration: Beyond Water Bottles**
   Plain water is great—but when you sweat heavily, you lose electrolytes. Consider offering electrolyte drinks for long shifts. In Alberta’s oilpatch, crews given electrolyte mixes instead of plain water reported fewer muscle cramps and maintained higher productivity toward the end of shifts.
4. **PPE 2.0: Cooling Vests & Moisture-Wicking Gear**
   Traditional high-visibility vests and coveralls can intensify heat stress. Today, manufacturers offer moisture-wicking fabrics and phase-change cooling inserts. One mining operation in northern Ontario equipped its drill crews with cooling vests that dropped core temperatures by an average of 1 °C during peak heat—enough to stave off early fatigue.
5. **Data-Driven Decisions**
   Mobile apps and wearable sensors now let managers track Heat Index and even workers’ core temperatures in real time. Alerts flag when conditions cross safety thresholds, prompting immediate action. In a Nova Scotia forestry camp, supervisors used a Heat Alert app that combined satellite fire data and on-site humidity sensors—when the app triggered, crews paused chainsaw work until conditions eased.

Gaining Buy-In: Conversation Over Command

Policies only work if people follow them. That means ditching the top-down lecture and opting for genuine dialogue. At a Manitoba construction firm, the OHS lead started weekly “heat huddles” at sunrise—five-minute chats where workers shared how they were feeling, suggested gear improvements, and raised

concerns. When a longtime carpenter asked for wider-brim hats to shield necks, the company immediately stocked them. That simple gesture-built trust, turning break schedules and hydration reminders into team-owned practices, not edicts.

Lessons from the Frontlines

- **Flexibility wins**: No two sites or crews are identical. Adapt your heat protocols to local microclimates and workflows.
- **Visibility matters**: Post daily Heat Index readings on job boards and digital displays. When workers see the data, compliance rises.
- **Empathy empowers**: Recognize that heat stress isn't a badge of toughness. Validate discomfort and reward safe practices—cold towels in break rooms, "Heat Hero" shout-outs for those who enforce rest breaks.
- **Continuous improvement**: After each heat season, analyze incident reports, hydration logs, and worker feedback. What worked? What didn't? Refine protocols before the next wave.

Looking Ahead: Beyond the Heat Wave

Canada's summers will only grow hotter and more volatile. Integrating Heat Index and acclimatization into your safety program isn't a temporary fix—it's building climate resilience into your organization's DNA. Soon, AI-powered forecasting will automate shift schedules, wearables will provide minute-by-minute thermal risk assessments, and digital twins of worksites will optimize shade structures before ground is ever broken.

But technology alone isn't enough. The heartbeat of heat-stress management is people: their stories, their sweat, their trust. As OHS managers, your greatest tool is empathy—listening, adapting, and standing beside your teams under the blazing sun. Because when you champion their health,

morale, and performance, you’re not just protecting workers—you’re igniting a culture where safety thrives, even in the hottest summer days.

So this season, as temperatures climb and the sun beats down, remember: **working smarter, not harder**, means respecting heat, leveraging data, and putting people first. That’s how we keep Canadians safe—one shift, one break, one cool-down at a time.