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Wasted Space

The ever-present threat
of confined spaces

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BATTLE WEARY

Fighting the good fight once home

GENDER BENDER

Injury picture for women changing

BELOW THE SURFACE

Digs can unearth surprising hazards

EYE SPY

Sussing out visual strain



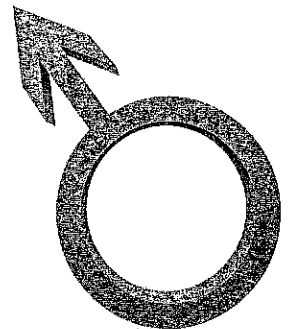
BY ASTRID VAN DEN BROEK

It was the summer of 2004 when then-student Jessica Vliegenthart landed a coveted summer job fighting forest fires. One day, Vliegenthart's crew received word that a large-scale blaze had broken out in the Northwest Territories. They set out for the long trek up north, not knowing if their "tour" would last days or stretch into weeks.

"About 10 to 11 days into our tour, we were wondering when we'd get a day off," recalls Vliegenthart, the only woman on the crew of an estimated 80 to 90 people. The lack of free time soon transformed into something far worse.

The beginning of the day promised only mundane tasks for the 21-year-old and her crew mate, three years her senior: they were to patrol the edge of the 90,000-hectare fire. "We were using a back country road as a fire break, so our job, quite literally, was to drive back and forth on this road for 12 hours a day," Vliegenthart says.

Perhaps to combat the monotony, her co-worker set the truck to cruise control. But control was fleeting. Somehow, the vehicle got off course and flipped violently a number of times. Vliegenthart was hurtled out of the truck, breaking her back and paralyzing her for life.



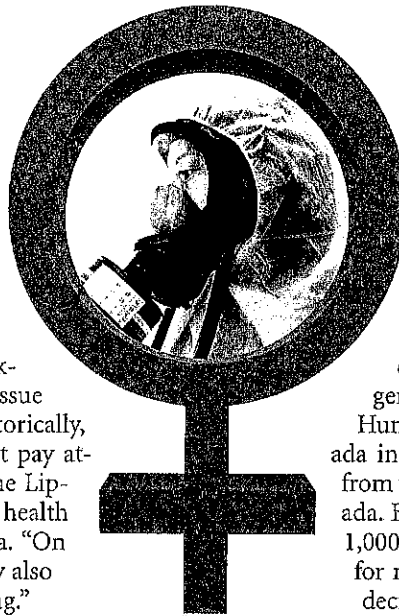
Vliegenthart's very inclusion on the otherwise all-male crew shows how the work force is changing. And with more women in so-called non-traditional jobs, their injury experience is changing as well.

While some experts point to rising rates of women being injured or developing work-related disease, many also contend the issue does not receive sufficient attention. "Historically, the health and safety community does not pay attention to women's work," argues Katherine Lippel, Canada research chair on occupational health and safety law at the University of Ottawa. "On top of that, the women's health community also doesn't pay any attention to women working."

The challenges may be further exacerbated at the physician level. In many cases, doctors still do not ask women "what they do for a living when they come in complaining about symptoms," Lippel says.

Traditionally, some female-dominated jobs include teachers, nurses, health care workers, clerks, cashiers and servers in both accommodation and food services, notes a new report from WorkSafeBC in Richmond, British Columbia. "Although there has been an increase recently in the number of women working in transportation, construction and manufacturing, these occupations are still dominated by male workers," states WorkSafeBC Statistics 2010.

That is also the story told elsewhere, with the tale reflected in injury statistics. Consider these figures from Manitoba's Workers' Compensation Board: between 2000 and 2003, men reported more than 90 per cent of all accepted claims in mining, forestry, construction and transportation/communication, and more than 80 per cent in manufacturing,



notes the Workplace Injury and Illness Statistics Report for 2000-2003.

Women reported more claims than men (greater than 70 per cent) in only the service sector, the report adds.

Overall, occupational injuries and diseases have dropped in the past two decades. However, the real story may lie in the gender disparity in that decrease.

Human Resources and Skills Development Canada in Ottawa offers calculations based on data from the Workers' Compensation Boards of Canada. Between 1993 and 2007, the injury rate per 1,000 employed workers halved from 44.6 to 23.4 for men. For women, the rate over that period decreased from 19.1 to 13.6.

In British Columbia, women accounted for 36 per cent of the accepted injury claims last year. Interestingly, the injury rate decreases for men as they age, while it increases slightly for women.

The WorkSafeBC report notes that from 2001 to 2010, the board accepted 84 claims for fatal benefits for female workers and 1,456 for male workers. Sectors registering the greatest number of fatality claims among women included health care and social assistance, 15; business services, nine; and accommodation, food and leisure services, eight. For men, industries with high fatality claims included general construction, 304; transportation and related services, 264; and forestry subsectors, 135.

The injury rate has been trending downward for both genders in the past decade, the report notes. However, the decrease for female workers "has been less dramatic, comparatively. In fact, since the early 2000s, the injury rates for male and female workers appear to have been converging."

WOMEN'S WORK

Things are not as they once were — work force-wise — and that has resulted in increased injuries involving female workers in British Columbia.

"Over the past 30 years, there has been an increase in the proportion of claims with time loss accepted by WorkSafeBC for female workers," notes the 2010 statistics report from the board.

In 2010, 36 per cent of the accepted workers' compensation claims were related to injuries suffered by women, the report states. That is up from 15 per cent in 1980, and more recently, the 30 per cent mark from 1998 to 2005.

The increase "was in part due to the gender shift in the labour force. The growth in female participation in the work force increased during the 1980s, but has slowed since the early 1990s," the report adds.

Two occupation groups — health and service — account for almost 50 per cent of the accepted claims from female

workers between 2001 and 2010, WorkSafeBC reports.

Those sectors come as little surprise since women make up the biggest chunk of the work force. In terms of injuries, some were more commonly experienced by female workers. For example, women had more accepted claims for needle-stick injuries, infectious diseases and tendonitis, as well as a higher proportion of strains (not back strains).

And while ergonomic incidents, falls and overexertion accounted for approximately equal parts of the pie for both male and female injuries, women made up a lower proportion of work-related injuries from struck-by or struck-against incidents, the report notes.

The differences in the modes of working — hours worked, shift work and type of employment — between male and female workers and the characteristics of the jobs they undertake are becoming more similar over time."

— By Angela Stelmakowich

MARS V. VENUS

Researchers from Yale and Johns Hopkins universities sought to determine if female workers in a heavy manufacturing environment have a higher risk of injury compared with males performing the same job. Results were published in 2008 in the *American Journal of Epidemiology*.

Human resources and incident surveillance data for hourly workers at six aluminum smelters were considered and injuries from 1996 through 2005 were analyzed. Separate analyses were conducted for acute injuries (which included burns, contusions, fractures, dislocations, eye injuries, bites and stings, and amputations) and for musculoskeletal disorders (such as strains and sprains, joint pain, non-specific musculoskeletal pain and hernias).

The review showed that of the 11,867 injury events reported, 10 per cent involved female employees, although women accounted for only 7.5 per cent of the work force. Of the 414 female workers who reported an injury, 33 per cent reported only one injury, 25 per cent reported two injuries, 14 per cent reported three injuries, and 28 per cent reported more than three injuries.

"Multivariate logistic regression analysis showed that female workers in this industry have a greater risk of sustaining an injury after adjustment for age, tenure and standardized job category, as well as for sustaining an injury that required medical treatment," notes the study.

"This excess risk for female workers persisted when injuries were dichotomized into acute injuries and musculoskeletal disorder-related injuries," researchers point out.

"As female workers increasingly move into jobs in the heavy manufacturing sector, employers should revisit tool, equipment and work station design to ensure suitability for a broad population of female workers," the study notes.

Taking into consideration potential differences in life experience between new female employees and new male employees, special orientation and/or mentoring programs for females "may be beneficial in making those workplaces more sex-friendly," researchers add.

— By *Angela Stelmakowich*

ON THE JOB

Is this convergence simply the result of more women being employed and more being represented in traditionally male-dominated industries? Not exactly.

Consider psychosocial and musculoskeletal disorders. A 1998 Quebec Health Survey attracted 11,735 paid work respondents. In all, 7.5 per cent more women than men reported neck pain; 5.7 per cent more women than men reported upper back pain; and 3.4 per cent more women than men reported shoulder pain.

"If you take a pan-Canadian perspective, the regulatory authorities have not necessarily been forthcoming in preventing those types of problems," Lippel contends.

"There's a tradition looking at health and safety as being classic hazards," she points out. "When you look at Quebec workers' compensation, for example, over 40 per cent of the compensable injuries are musculoskeletal. And there are no ergonomic regulations. That's worth a thought."

Compounding the problem is that women have a history of underreporting, whether they are doing so intentionally or not. Pain following a fall-related injury — say, a broken leg or arm — can be linked to a single incident, but waking up in the middle of the night with a sore wrist might not be automatically associated with at-work conditions.

Women themselves may not make the connection to work, Lippel says, looking to possible non-occupational factors instead. Perhaps, it was the way the woman slept? Maybe she lifted an extra heavy bag of groceries? "There's a whole systemic problem historically," she suggests.

Sometimes, however, there is a conscious decision to underreport when working in male-dominated industries for fear of possible — or further — marginalization. Vliegert-hart says she clearly remembers overhearing some male co-workers openly complaining about her presence on the crew, saying that she should not be there and they felt they needed to cover for her work.

"When I was working, I do remember feeling like this is really, really challenging and my body is hurting, but I'm just going to keep going because I've already been told I can't do it, I shouldn't be here and I'm not going to be the one to say, 'Hey, I need a break,'" she says.

In traditionally male-dominated industries, female workers are making some inroads, but progress is certainly not complete. "Less than four per cent of workers across the construction industry are women," says Tammy Evans, president of the Toronto-based Canadian Women in Construction.

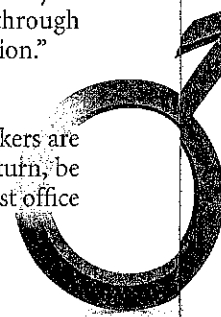
"Although we are making progress through the efforts of organizations such as ours, provincial and federal initiatives and more targeted and gender-neutral educational programs, we still have a long way to go to meet the demands of the industry to address issues such as succession and equal opportunity hiring, while at the same time focusing on the needs of women in the industry facing workplace challenges," Evans goes on to say.

Back in 1999, there was sufficient concern about what women entering construction faced on the job that recommendations around equitable OH&S protection were submitted to the Occupational Safety and Health Administration in the United States. "The small percentage of women within the construction trades and the serious health and safety problems unique to female construction workers have a circular effect," the study notes.

"Safety and health problems in construction create barriers to women entering and remaining in this field. In turn, the small numbers of women workers on construction work sites foster an environment in which these safety and health problems arise or continue." Researchers concluded many of the identified problems "are amenable to change through engineering, behavioural or administrative intervention."

NEW LOOK

Sometimes, it is all about how things look. Male workers are often assigned visibly strenuous duties that may, in turn, be perceived as more taxing as well. For example, in a post office



there is both the physically demanding task of lifting mail bags and coding, which is less physical, but highly repetitive.

"So when coding people develop tendonitis, there's going to be huge contestation saying this is a 'light job,'" Lippel says.

Some equipment manufacturers apparently see responding to the needs of female workers as making good business sense. Rather than launch completely separate lines, however, Mine Safety Appliances (MSA) has opted to alter existing product offerings to include smaller, more female-appropriate sizing. That includes air-purifying respirators to better fit smaller facepieces and hard hats available in smaller sizes.

Why not create a whole new line for women? "There's a push to be more cognizant of women in the industrial workplace," reports Sean Donovan, MSA's Toronto-based senior product line manager, industrial products. From a manufacturer's point of view, the reaction to a changing workplace may be slower "because it's based on economies of scale. So you've got one woman and 20 guys and it obviously can take a bit longer."

Lippel agrees. "We're finding that the large employers who have hired women and have put in a lot of energy determining that safety equipment is inappropriate because it's been designed with the average man in mind," she says. "What we don't know is if it's driven by the employers, or are they specifically reacting to requests?"

SHIFTING SHIFTS

Another factor potentially influencing the injury picture for female workers is the dramatic shift in work schedules — while full-time jobs were once the norm, part-time, flexible and even multiple jobs are much more a part of the employment landscape today.

A study published just this year in the *Scandinavian Journal of Work, Environment & Health* notes that "rotating and night-shift workers appear to have a higher risk of work injury, particularly among women." Results indicate that the risk of injury was 14.4 per cent for women compared with only 8.2 per cent for men.

"A Statistics Canada report found that women are generally the primary caregivers in the household and spend more time per week on household tasks than men," says Imelda Wong, lead researcher of the study out of the University of British Columbia in Vancouver. "With the increased demands at home, working at night may

have a detrimental effect on the work-life balance for women and lead to increased fatigue."

The jury is still out on how fatigue influences work-related incidents. "Fatigue levels are not easily measured or quantified; therefore, it is difficult to isolate the effect of sleepiness on accident and injury rates," notes information from the Canadian Centre for Occupational Health and Safety in Hamilton, Ontario. "Of the studies reporting accident rates, some show an increase whereas others found no change in accident rates," the centre reports.

What may be clearer is that, in general, sleepiness is usually regarded as having some impact on work performance.

Wong points out that between 1996 and 2006, the number of women in rotating and night shift work almost doubled. For men, it increased by 50 per cent.

Over the 10-year period, "the injury rate among women remained the same, but decreased among men," she reports. "For women in non-daytime shifts, the combination in steady growth plus a constant injury rate suggests that this might be a group that may benefit most from targeted safety policies and programs."

With so many part-time or short-term workers entering and exiting the workplace, the concern is that health and safety training could suffer.

Lippel suggests, for example, that local hazards may not be known. "If there's a loose plank on a floor, you don't know because you've only been in there for one day," she says.

"We're starting to create a society where that flexibility is the new norm. It's flexible for the employer, but it's not flexible for the worker in the sense that someone's on call and often on call for five or six agencies to be able to cobble together an income. Therefore, every day is your first day on the job," Lippel adds.

So what is the solution? For one, a need exists to raise the profile of the work women perform and the injuries that they experience. "For women in non-traditional roles, we need to revisit all our prevention strategies to ensure that we take into account the different health issues for women in traditionally risky work," Lippel says. **•HS**

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