

Fit for the Future: Global Perspectives on Building Inclusive Fire Services (Physical Employment Standards)

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Abstract

Physical Employment Standards (PES) in fire services are designed to ensure safety, yet research indicates these standards may inadvertently create barriers that limit workforce diversity. This presentation examines how seemingly neutral standards can produce unintended exclusionary outcomes and explores evidence-based approaches to inclusive PES design. Drawing on international legal precedents, particularly Canada's Meiorin decision, and physiological research, this work demonstrates how fire services can develop more effective standards that maintain operational integrity while expanding access to diverse candidates. The presentation discusses practical considerations for PES that balance safety requirements with legal compliance and organizational effectiveness.

Keywords: physical employment standards, firefighting, inclusion, gender equity, legal reform, human rights, occupational testing, diversity

Background / Introduction

Fire and rescue services worldwide face mounting pressure to build workforces that are both operationally capable and reflective of the communities they serve. Despite decades of equity initiatives, women represent less than 10% of firefighters in most developed nations, with similar underrepresentation affecting other marginalized groups. This demographic reality raises important questions about the systems and standards that shape firefighter recruitment and selection.

Physical Employment Standards sit at the heart of this challenge. Emerging in the 1970s and 80s as human rights legislation made direct discrimination illegal and women began challenging their exclusion from traditionally male occupations, PES offered a seemingly innocuous way to maintain workforce homogeneity. While framed as safety tools, these standards often embed assumptions about capability that fail to account for physiological variation, structural inequality, and the evolving nature of firefighting work and instead have evolved into one of the most significant barriers to inclusive workforce development.

The contemporary firefighting role extends far beyond traditional conceptions of physical labour. Modern firefighters serve as first responders to medical emergencies, technical rescue scenarios, hazardous material incidents, and community crisis situations that demand sophisticated communication skills, cultural competence, and collaborative problem-solving abilities. And while the importance of physical strength can never be downplayed, the discussion takes a broader view of PES and questions the emphasis on narrow physical metrics that may have limited correlation with actual job effectiveness while systematically excluding qualified candidates who could contribute significantly to fire service operations.

The consequences extend beyond individual career opportunities to encompass organizational effectiveness, community trust, and legal compliance. Fire services that fail to reflect their communities' diversity may struggle to build rapport with vulnerable populations, miss critical cultural insights that inform emergency response strategies, and expose themselves to legal liability under evolving human rights frameworks.

Description of the Practice

This presentation was developed for WAFA 2025 and delivered on behalf of Culture on Fire, targeting firefighters, equity leaders, operational managers, researchers, and policymakers across Australasia and beyond.

Primary Goals:

- Uncover the historical and legal roots of exclusionary PES practices
- Explore how seemingly neutral standards can produce discriminatory outcomes
- Examine the legal framework established by the Meirion decision and its implications
- Demonstrate how physiological differences can be accommodated without compromising safety
- Shift focus from individual "fitness" to institutional fairness and comprehensive capability assessment
- Discuss practical considerations for developing inclusive, legally defensible PES

Target Outcomes:

- Deeper understanding of how exclusion is embedded within seemingly objective standards
- Awareness of international legal frameworks and their practical implications
- Recognition of the full spectrum of capabilities required for modern firefighting
- Practical knowledge of accommodation strategies that have proven successful
- Commitment to proactive reform that balances safety and equity
- Tools for evaluating and improving existing organizational PES

Presentation Components:

Historical Context Analysis: The presentation opens with three individual cases highlighting the pattern of women being asked to prove themselves in ways their male counterparts never had to. This analysis reveals how physical standards often appeared or intensified when women began applying for firefighting roles.

Legal Framework Examination: An exploration of the distinction between direct and indirect discrimination, balanced with employer duty of care, while also examining how the Meiorin decision changed legal requirements for PES.

Adverse Impact Assessment: The presentation explains how to measure discriminatory impact using tools like the 80/20 rule, demonstrating how statistical analysis can reveal exclusionary patterns in seemingly neutral standards.

Physiological Evidence Integration: Current research on sex-based physiological differences is examined, challenging assumptions about necessary capabilities while demonstrating how women's

different physiological characteristics can be equally effective for achieving job-relevant performance outcomes.

Accommodation Strategies: Practical examples show how targeted training programs, structured familiarization, and organizational supports can eliminate adverse impact while maintaining safety standards. A Canadian correctional officer study demonstrates the success of female fitness test pass rates jumping from 32% to 82% without changing standards.

Best Practice Framework Development: Discussions on designing fair, scientifically valid, legally defensible, and operationally relevant PES, including diverse input, job-based validation, and ongoing evaluation requirements.

The presentation recognizes that PES reform is not merely a technical exercise but addresses fundamental questions about what capabilities fire services value and how they define merit. The methodology integrates critical theory perspectives that expose how dominant norms around gender, merit, and physicality shape employment standards in ways that reinforce existing hierarchies.

Connection to Research

The presentation employs Indigenous feminist research methodology, which centres relationships, honours different ways of knowing, and recognizes that knowledge is not neutral—it's shaped by who gets to ask the questions, whose voices are heard, and whose experiences are validated. This approach asks us to examine not just what the data tells us, but who has been excluded from creating that data in the first place.

This practice is extensively grounded in interdisciplinary research spanning legal analysis, physiological science, organizational behaviour, and equity studies. The theoretical foundation also draws from critical theory to examine how power dynamics shape seemingly neutral employment standards.

Legal Research Foundation:

The landmark British Columbia (Public Service Employee Relations Commission) v. BCGSEU decision (Meiorin case) provides the central legal framework. This Supreme Court of Canada ruling established that employers must demonstrate employment standards are: (1) rationally connected to the job; (2) adopted in good faith; and (3) reasonably necessary, meaning accommodation to the affected subgroup is impossible without undue hardship to the employer. The decision emphasized substantive equality focusing on results and outcomes rather than formal equality that treats everyone the same.

Cox and Messing (2006) extend this analysis through their comprehensive review of legal and biological perspectives on employment testing in the post-Meiorin environment. Their research demonstrates how tests rooted in narrow conceptions of ability can perpetuate discrimination even when developed with good intentions, emphasizing the need for rigorous validation studies considering diverse populations.

As Adams (2016) highlights, the contrast between Canadian and other common law countries' legal frameworks reveals differences in justification requirements. While other countries (UK, Australasian countries) must apply "genuine occupational qualification" tests focusing on whether standards are generally necessary, Canada's Meiorin decision requires employers to prove standards are "reasonably necessary" and provide accommodation if / when adverse impact has been identified. This higher bar has made Canadian PES significantly more legally defensible – even if we still see a gap between legal requirements and practical implementation.

Physiological Research Evidence:

Roberts et al. (2016) provide crucial physiological evidence challenging traditional PES assumptions. Their comprehensive analysis demonstrates that while average strength differences exist between men and women, substantial individual variation means many women can meet job requirements through different performance pathways. Their research reveals that job-relevant performance depends on multiple physiological systems working in coordination rather than single metrics like absolute strength.

Roberts et al. found that while men had higher aerobic capacity scores, women with lower scores performed equally well on job tasks, demonstrating that performance—not lab scores—is what matters for operational effectiveness.

Messing and Stevenson (1996) provide foundational analysis of how strength testing built around male norms creates systematic disadvantages for women. They describe the "Procrustean bed" effect—rigid models that exclude rather than accommodate natural variation. Their research documents how neutral tests become exclusionary tools through biased design assumptions.

Cox and Messing warn that ignoring biological differences actually increases inequality by preventing adaptation of tests, tasks, equipment, and environments to include everyone. Personal protective equipment designed for male bodies doesn't just fit poorly—it restricts movement and reduces efficiency, creating unequal burden that compounds disadvantage.

Accommodation Research:

Research on effective accommodation demonstrates practical solutions that can eliminate adverse impact while still maintaining safety standards. Canadian studies show targeted training programs can dramatically improve test success rates—female correctional officer candidates improved from 32% to 82% pass rates through job-specific preparation without changing standards. Women achieved 11% improvement in aerobic capacity and 23% improvement in job-simulated performance.

Structured familiarization and coaching make significant differences when women have opportunities to rehearse tasks and receive technique guidance. Organizational supports including fitness facility access, flexible entry timelines, and staged testing that builds confidence progressively create conditions for success rather than high-stakes barriers.

Contemporary Role Analysis and Reframing Value and Merit:

Research on modern firefighting requirements reveals expanding demands for communication skills, cultural competence, technical proficiency, and collaborative decision-making. However, the critical question becomes; when in the hiring process are PES introduced. If PES assessments are positioned first and foremost in the selection process, this sends a strong message about organizational priorities and what qualities are deemed most important in candidates. This approach may be particularly problematic given that physical attributes like strength, fitness, and speed are often trainable and can be developed through targeted preparation programs.

This sequencing asks fire services to examine what they truly value in firefighters. If physical employment standards are applied before assessing judgment, leadership, communication, or teamwork, organizations risk "prioritizing muscle over merit" and filtering out people with enormous potential before discovering their broader capabilities. Modern firefighting requires skills supporting medical response, incident command, community engagement, and risk assessment—muscle-

independent capabilities requiring communication, empathy, leadership, and cultural competence that may be filtered out before they can even be assessed.

Furthermore, studies on emergency services team performance indicate that diverse teams often outperform homogeneous groups in complex problem-solving scenarios, while equipment advances and team-based operational approaches may reduce individual strength requirements while increasing the value of collaborative capabilities that PES rarely assess.

Legal and Organizational Implications:

Fire services should regularly review their existing PES to assess effectiveness and legal compliance. The Meiorin decision and similar international precedents establish clear expectations for organizations to demonstrate that their standards are necessary, justified and that reasonable accommodations have been considered.

The key question is not 'Do we need standards?' but 'Are our current standards achieving their intended purpose—fairly, legally, and effectively?' Organizations that proactively review and update their practices are better positioned to avoid costly litigation and implement changes that align with both operational needs and legal requirements.

Strategic Implementation Framework:

Phase 1: Assessment and Audit

- Conduct comprehensive PES audits using adverse impact analysis tools like the 80/20 rule
- Examine whether standards are rationally connected to actual job tasks as they exist today
- Analyse who has been excluded from standards development processes
- Review any current accommodation policies and support systems

Phase 2: Stakeholder Engagement and Redesign

- Include diverse voices—particularly women and underrepresented groups—in standards development
- Base new standards on real job analysis rather than idealized or outdated conceptions
- Aim for "acceptable" rather than "ideal" performance thresholds
- Design tests that account for natural variation in how people accomplish tasks

Phase 3: Accommodation and Support Development

- Implement targeted training programs that focus on job-specific skills
- Provide structured familiarization and coaching opportunities
- Create organizational supports including fitness facilities, flexible timelines, and staged testing
- Develop mentorship / sponsorship and preparation resources

Phase 4: Implementation and Monitoring

- Gather data at every recruitment stage and monitor trends
- Continuously evaluate and adapt standards as work and equipment evolve
- Update standards to reflect technological advances and changing operational contexts
- Share successful practices with other organizations

Broader Systemic Implications:

Coming back to Indigenous knowledge, we have long known that removing balance from any system causes breakdown and harm—not just to excluded people, but to the whole system. Rigid, one-size-fits-all approaches create imbalance manifesting in workplace culture problems, bullying, harassment, and higher attrition rates for women and protected groups.

Fire services work best when reflecting the full range of human strength—physical, mental, emotional, and ethical. The goal should not be legal compliance or meeting diversity targets but building workforces exceptional at their mission while honouring the wisdom that "we are better together."

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Title VII of the Civil Rights Act of 1964, 42 U.S.C. §2000e-2.