

## Personal Protective Equipment

# Personal Protective Equipment - Body Type and Gender Considerations

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## What do we mean by gender?

The Government of Canada defines **gender** as “the behavioural, cultural and psychological traits associated with an array of gender identities, including female or male, in a given society,” whereas **sex** is “a defined set of anatomical and physiological characteristics, including chromosomes, gene expression, hormones, and reproductive or sexual anatomy.”

It is important that we consider body size, gender and sex in prevention methods to protect all workers' health and safety. Women and men are physiologically different, but not always. The impact of the differences may depend on the task being performed. Considerations should include different jobs, different body types and builds, reproductive hazards, personal protective equipment, ergonomics, and workplace set-ups.

For general information on reproductive hazards, please see our OSH Answers [Reproductive Health – Reproductive Hazards](#).

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## We have a PPE program that applies to everyone in the workplace. Is that enough?

Not always. Considering gender and body size when developing and implementing a personal protective equipment (PPE) program promotes inclusivity, improves safety, enhances comfort and usability, addresses cultural and social factors, and acknowledges the diverse range of individuals in different occupational roles. It is important to understand the differences between individuals, and this acknowledgement includes recognizing and addressing gender differences to create a safer and more equitable work environment for everyone.

Gender needs to be considered as there is a need for appropriately sized PPE specifically designed for women and people who do not fit traditional male proportions. Simply shrinking or enlarging the size of the PPE does not consider the physiological differences between people. Anyone, regardless of body size, sex, and gender, may have difficulties wearing PPE if they fall outside of the typical anatomical measurements used to design PPE.

Legislation is starting to incorporate the requirement for the proper fit of PPE for all workers. For example, British Columbia has included in their Occupational Health and Safety Guidelines the importance of proper fit in section 8.3, where they address the standard male PPE proportions and how a smaller size may not provide a proper fit for women, or for individuals whose bodies do not conform to the standard.

This OSH Answer addresses some concerns about poor-fitting PPE and why it is important to consider different body types and genders when selecting PPE.

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## Why is it important to think about body size, gender and PPE?

Body size and gender differences can influence how individuals experience and interact with PPE, which can affect their safety, comfort, and the PPE's overall effectiveness. When it comes to PPE, the following differences between individuals should be considered:

- Physical differences
- Comfort and usability
- Occupational roles
- Cultural and social factors
- Intersectionality of gender and identity

First, men and women have different body sizes and shapes, which can impact the fit and functionality of PPE. Poorly fitting PPE can compromise its protective qualities and increase the risk of injury or exposure to hazards. For example, women typically have smaller hands and narrower faces than men, so standard-sized gloves or respirators may not properly fit women.

PPE that is designed with consideration for differences can enhance comfort and usability. For instance, women may require adjustable straps or alternative designs to accommodate their anatomical features. When PPE is more comfortable and easier to use, workers are more likely to wear it correctly and consistently, ensuring their safety and well-being.

In addition, different occupations have varying gender distributions, and the type of available PPE needs to be tailored accordingly. For example, industries that are traditionally dominated by men may have PPE primarily designed for male bodies, while neglecting the specific needs of women in those roles. Recognizing the diverse range of individuals working in various occupations and ensuring that PPE meets their requirements is crucial for promoting safety and equality in the workplace.

Gender norms and cultural expectations can influence the acceptance and use of PPE. In some cases, certain colours of PPE may be marketed to a specific gender and may lead to resistance or discomfort when individuals are required to wear equipment that does not align with their expectations. By considering these cultural and social factors, PPE can be designed and promoted to address these concerns and encourage inclusive participation.

Finally, gender intersects with other aspects of identity, such as race, ethnicity, disability, and sexual orientation. These intersections can further influence how individuals experience and perceive PPE. Taking an intersectional approach to PPE design and implementation helps ensure that the needs and safety concerns of individuals from different gender identities and backgrounds are properly addressed. Please note that there may also be human rights considerations when it comes to PPE. For more information, see [Human Rights in the Workplace](#) and [Human Rights in the Workplace – Personal Protective Equipment](#).

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## Is there any research in this field?

The CSA Group published a research report in 2022 which included the findings of a review of the scientific and other literature, an environmental scan of PPE regulations in Canada, key informant interviews, and a survey of nearly 3,000 women in Canada who use PPE as part of their job.

The key findings of the report are as follows:

- Anthropometric differences exist between men and women, emphasizing that women cannot simply use scaled-down versions of PPE designed for men. Proper anthropometric data is essential for inclusive PPE design.
- Canadian regulations do not consistently ensure that selected PPE provides appropriate protection or fits the user properly.
- PPE standards and editions referenced in regulations vary across the country, lacking consistency.

- Functional fit and comfort are crucial in PPE design. Canadian women identified these factors, along with trust in the protective abilities of their PPE and the freedom to move, as key to their satisfaction.
- A significant number of women reported problems with their PPE.
- The most common issues reported by Canadian women with their PPE were improper fit, discomfort, and inadequate availability of women-specific PPE.
- To address these problems, women are personally sourcing, and paying out of pocket for, better-fitting or women-specific PPE or modifying their existing equipment for safety and comfort.

The survey revealed that Canadian women frequently encounter issues with their PPE, such as wearing the wrong size (58%), not wearing all required PPE due to fit issues (28%), and resorting to workarounds to make their PPE fit (38%). Workarounds included using rubber bands, safety pins, and duct tape. Approximately 40% of women reported experiencing injuries or incidents they attributed to their PPE.

To read the full report, please see the CSA Group's [Canadian Women's Experiences with Personal Protective Equipment in the Workplace](#).

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## Is poor-fitting PPE really a big deal?

Yes. While PPE should be the last resort and alternative controls should be prioritized, employers often rely on PPE as a simple and cost-effective method to control exposure or provide additional protection. Therefore, it is crucial that PPE fits properly, offers maximum protection, and instills trust in workers that it will prevent injuries and exposures.

If PPE is supplied to workers and it does not fit properly, workers may need to adjust or modify the PPE, which can reduce the equipment's effectiveness. Constantly making adjustments to the equipment can decrease productivity. Physically modifying the PPE can impact the effectiveness of the equipment and may impact whether the PPE complies with the standard it was designed for.

Without any adjustments or modifications, the PPE could lead to other hazards, including decreased protection. Examples include long sleeves on coveralls that could get caught in machinery, a respirator that is too big to fit comfortably on the face, which could result in air leaks, or earplugs that do not fit snugly in the ear canal which may allow for noise to cause harm.

Wearing PPE inappropriate for the user can also increase the risk of musculoskeletal disorders from heavy or bulky items or make the PPE ineffective against the hazard if they are modified in a way that alters the protective aspects of the equipment.

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# How can we make sure we are accommodating our diverse workforce?

Recognizing that everyone is on a spectrum and that we are all unique individuals, it is important to make sure inclusivity and accommodate everyone when it comes to PPE. Everyone may have unique needs and preferences that may not align with the traditional binary categorizations of men's and women's fit. Here are a few considerations and potential strategies to accommodate individuals regarding PPE:

- **Gender-inclusive design:** PPE manufacturers should strive to develop gender-inclusive designs that consider a range of body types and sizes beyond the binary gender norms. This production can involve providing a broader range of sizes and using adjustable features to accommodate diverse individuals.
- **Individual assessment and consultation:** Take an individualized approach by assessing individuals' unique needs and preferences to help find suitable PPE solutions. Consulting with individuals directly and involving them in the selection process can make sure their concerns are heard and addressed.
- **Flexible policies:** Establish flexible policies to allow individuals to choose the PPE that aligns with their gender identity, body size, and comfort. These policies can help with inclusivity. Consider providing options beyond the traditional men's and women's categories, "one size fits all" sizing, or allowing individuals to select the most suitable PPE based on their own preferences and needs.
- **Education and awareness:** Promote awareness among employers, workers, and PPE manufacturers about the needs and experiences of individuals. Awareness can help foster a more inclusive and accommodating environment. Provide education on gender diversity and sensitivity training to promote understanding and support for all genders' PPE requirements.
- **Collaborative approach:** Collaboration between PPE manufacturers, occupational health and safety professionals, and organizations representing individuals of varying needs can lead to more effective solutions. By working together, it is possible to develop PPE standards and guidelines that explicitly consider and address the needs of individuals. This collaboration may include offering customization options for PPE. Variations may include adjustable straps, padding, or modular components that allow individuals to tailor the fit and comfort according to the individual's specific requirements.

It is important to note that the needs and preferences of individuals can vary widely. Therefore, an individualized and consultative approach, along with ongoing dialogue and feedback, is essential to ensure that the accommodations made for PPE are respectful, inclusive, and responsive to the diverse experiences of all individuals in the workplace.

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## Is there anything else employers can do?

Most importantly, listen to the workers' concerns about fit, comfort, and other safety issues.

Employers are responsible for providing PPE to workers, whether that means purchasing the equipment, providing the equipment to purchase, or helping workers find the appropriate and required PPE. Workers must be trained on the proper use, fit, maintenance, and storage of PPE. By providing awareness to workers about the importance of fit, and offering many options, workers will be more likely to be comfortable in their PPE and wear it properly.

When procuring PPE, employers should consider ergonomics during the selection process. Consider the weight and comfort of the PPE, the range of motion of the worker, and if many different types of equipment must be worn together. Conduct a risk assessment for all new and existing PPE to ensure that it provides adequate protection and that many different options are offered.

Several companies in Canada have been working towards developing inclusive workwear and PPE. We recommend researching or inquiring with your safety supplier to get the most up-to-date information on the specific companies and what they offer.

A PPE program should be reviewed and updated regularly. This update should include considerations for gender and PPE and how the workplace fosters an inclusive approach to PPE selection. For more information, please see our OSH Answers [Designing an Effective PPE Program](#).

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