



Association pour la santé environnementale du Québec  
Environmental Health Association of Québec



**EHAC • ASEC**

Environmental Health Association of Canada  
Association pour la santé environnementale du Canada

## RESOURCES

### Empowering Community and Removal of Barriers (ECRoB)

### Eliminating Barriers for People with Multiple Chemical Sensitivities (MCS):

*Creating Accessible and Inclusive Environments*

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## RECENT RESEARCH ON MULTIPLE CHEMICAL SENSITIVITY (MCS)

### 1. Anne Steinmann's research on everyday VOC exposure:

Fragranced products (2020):

<https://link.springer.com/article/10.1007/s11869-020-00928-1>

Pandemic products and toxic VOC emissions (2021):

<https://link.springer.com/article/10.1007/s11869-020-00912-9>

Car air fresheners and toxic VOC emissions (2020):

<https://link.springer.com/article/10.1007/s11869-020-00886-8>

Common household products and toxic VOC emissions (2019):

<https://link.springer.com/article/10.1007/s11869-019-00754-0>

Fragranced laundry product and dryer vent emissions (2021):

<https://link.springer.com/article/10.1007/s11869-020-00929-0>

### 2. Damiani et al. (2021) - Italian Expert Consensus on Clinical and Therapeutic Management of Multiple Chemical Sensitivity (MCS)

<https://www.mdpi.com/1660-4601/18/21/11294>

### 3. Hu and Baines (2018) - Ontario Ministry of Health Taskforce findings

<https://www.cfp.ca/content/64/6/413.short>

### 4. Masri et al. (2021) - Toxicant-induced loss of tolerance for chemicals, foods, and drugs: assessing patterns of exposure behind a global phenomenon

<https://enveurope.springeropen.com/articles/10.1186/s12302-021-00504-z>

### 5. Molot, Sears and Anisman (2023) - "It's Time to Catch Up With the Science"

<https://www.sciencedirect.com/science/article/pii/S0149763423001963?via%3Dihub>

### 6. Molot et al. (2021) - Neurological susceptibility to environmental exposures: pathophysiological mechanisms in neurodegeneration and multiple chemical sensitivity

<https://www.degruyter.com/document/doi/10.1515/reveh-2021-0043/html>

### 7. The Impact of COVID-19 Health Measures on Adults With Multiple Chemical Sensitivity: Cross-Sectional Study

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**Bray R, Wang Y, Argiropoulos N, Robins S, Molot J, Pigeon MA, Gaudet M, Auger P, Bélanger E, Peris R. The Impact of COVID-19 Health Measures on Adults With Multiple Chemical Sensitivity: Cross-Sectional Study. JMIR Form Res. 2024 Jul 17;8 . doi: 10.2196/48434. PMID: 39018551. <https://formative.jmir.org/2024/1/e48434>**

## **RESEARCH ON EXPOSURE INEQUITIES**

- 1. Miriam Diamond's research on exposure inequities**  
WAN Y, DIAMOND, ML, & SIEGEL, JA. 2020. Elevated Concentrations of Semi-volatile Organic Compounds in Social Housing Multi-unit Residential Building Apartments. Environ Sci Technol Lett.  
<https://doi.org/10.1021/acs.estlett.0c00068>
- 2. Other research on exposure inequities - PM Concentrations higher in Toronto social housing buildings (2022)**  
<https://www.sciencedirect.com/science/article/abs/pii/S2210670721007691>
- 3. The nationally representative 2007 -2010 Canadian House Dust Study (2022) associations between house dust, chemical exposure, and characteristics of housing interiors (such as air fresheners, carpet, cat products)**  
<https://www.mdpi.com/1660-4601/19/16/10329>
- 4. UCLA bibliography of academic articles about the intersections of chemical exposure, environmental inequity, MCS, and gender**  
[https://csw.ucla.edu/wp-content/uploads/2017/03/CE\\_WG\\_Master\\_Bibliography\\_11.2017.pdf](https://csw.ucla.edu/wp-content/uploads/2017/03/CE_WG_Master_Bibliography_11.2017.pdf)

## **MCS CLINICAL ASSESSMENT AND EDUCATION**

- 1. Marshall et al. (2002) "Identifying and managing adverse environmental health effects: Taking an exposure history:" CH2OPD2 mnemonic (Community, Home, Hobbies, Occupation, Personal habits, Diet and Drugs)**  
<https://www.cmaj.ca/content/166/8/1049.long>
- 2. Damiani et al. (2021) - Italian Expert Consensus on Clinical and Therapeutic Management of Multiple Chemical Sensitivity (MCS)**  
<https://www.mdpi.com/1660-4601/18/21/11294>
- 3. Video - Diagnostic Consensus Criteria**  
<https://www.youtube.com/watch?v=azVbJJ2f10I&t=19s>



4. **Link to the Chemical Intolerance Self -Assessment (BREESI & QEESI) from the University of Texas Health San Antonio**  
<https://tiltresearch.org/qeesi -2/>

5. **Toxicant Induced Loss of Tolerance (TILT) booklet**  
[https://issuu.com/eliseco/docs/tilt\\_ebook](https://issuu.com/eliseco/docs/tilt_ebook)

### **SUPPORT FOR MCS PATIENTS**

1. **Video: What is MCS?**  
<https://www.youtube.com/watch?v=ZZ4D0sgHJdQ>
2. **Managing Multiple Chemical Sensitivity (MCS) for Healthcare Providers and Patients**  
<https://aseq -ehaq.ca/en/managing-multiple-chemical-sensitivity-mcs-for-healthcare-providers-and-patients/>
3. **Step-by-step environmental management for MCS**  
<https://aseq -ehaq.ca/en/biologicalvideos/>
4. **Managing life with MCS**  
<https://aseq -ehaq.ca/en/social-toolbox/>  
<https://aseq -ehaq.ca/en/biological -toolbox/>
5. **Videos on best management of MCS**  
<https://aseq -ehaq.ca/en/socialvideos/>
6. **The Legal Aspect of MCS: Includes sample letters for accommodation, and include documents on the duty to accommodate, dispute resolution, province specific human rights, and videos**  
<https://aseq -ehaq.ca/en/legal-2/>

### **DISABILITY RECOGNITION AND ACCOMMODATIONS**

1. **Canadian Human Rights Commission, Policy on environmental sensitivities (Multiple Chemical Sensitivity)**  
<https://www.chrc -ccdp.gc.ca/en/resources/publications/environmental -sensitivities-and-scent-free-policies>



2. **Canadian Center for Occupational Health and Safety (CCOHS) Scent -Free Policy for the Workplace**  
[https://www.ccohs.ca/oshanswers/hsprograms/scent\\_free.html](https://www.ccohs.ca/oshanswers/hsprograms/scent_free.html)
3. **Guidelines: Accessible service delivery during emergencies including COVID -19 (includes Multiple Chemical Sensitivities)**  
<https://accessible.canada.ca/resources/accessible-service-delivery-during-emergencies>
4. **Creating an Accessible Emergency Response Plan: Guidelines for Federally Regulated Organizations (includes Multiple Chemical Sensitivities)**  
<https://accessible.canada.ca/resources/creating-accessible-emergency-response-plan-guidelines>
5. **Artificial scents have no place in our hospitals - CMAJ, November 3, 2015, 187(16)**  
<https://aseq-ehaq.ca/wp-content/uploads/2020/07/artificial-scents-hospitals.pdf>
6. **The Case for Making Health -Care Fragrance -Free**  
<https://aseq-ehaq.ca/en/resources/fragrance/>
7. **Fragrance -Free Poster - Why Fragrance -Free Facilities? *Fragrance is the new second-hand smoke* . (You can place your organization logo on these posters)**  
[https://aseq-ehaq.ca/pdf/fragrance-free\\_Colour\\_EN.pdf](https://aseq-ehaq.ca/pdf/fragrance-free_Colour_EN.pdf)  
[https://aseq-ehaq.ca/pdf/fragrance-free\\_B-W-1-EN.pdf](https://aseq-ehaq.ca/pdf/fragrance-free_B-W-1-EN.pdf)

## **MCS EXPOSURE PREVENTION RESOURCES**

1. **ASEQ-EHAQ Eco Living Guide**  
<https://EcoLivingGuide.ca>
2. **Environmental Working Group Product Guides:**  
EWG Skin Deep Database (assesses over 97 000 personal care products):  
<https://www.ewg.org/skindeep/>  
  
EWG Guide to Healthy Cleaning (assesses over 2500 cleaning products):  
<https://www.ewg.org/guides/cleaners/>  
  
EWG (2023) Article “What are VOCs?” <https://www.ewg.org/news-insights/news/2023/09/what-are-vocs>
3. **Nova Scotia Integrated Chronic Care Service (ICCS) (2022) Approved Scent -Free Product Guide and (2018) Scent -Free Resource Binder**



<https://www.nshealth.ca/sites/nshealth.ca/files/patientinformation/1943.pdf>

4. **UCLA Center for the Study of Women Fragrance -Free Toolkit**  
<https://csw.ucla.edu/toolkit>

## MCS DISABILITY ADVOCACY

1. **The Legal Rights and Challenges Faced by Persons with Chronic Disability Triggered by Environmental Factors**  
<https://archdisabilitylaw.ca/resource/paper-the-legal-rights-and-challenges-faced-by-persons-with-chronic-disability-triggered-by-environmental-factors/>
2. **Letter Template for Clinicians**  
[https://aseq-ehaq.ca/wp-content/uploads/2021/04/Letter-of-support-EN\\_Website.pdf](https://aseq-ehaq.ca/wp-content/uploads/2021/04/Letter-of-support-EN_Website.pdf)
3. **Canadian Human Rights Commission Duty to Accommodate and Policy on Environmental Sensitivities**  
<https://www.chrc-ccdp.gc.ca/en/about-human-rights/what-the-duty-accommodate>  
  
<https://www.chrc-ccdp.gc.ca/en/resources/publications/policy-environmental-sensitivities>
4. **UCLA Center for the Study of Women compilation of resources on gender, race, class , and chemical sensitivity**  
<https://csw.ucla.edu/cswresearch/chemical-entanglements/>
5. **Article (2003) supporting the view that “chemical -free living space and chemical avoidance were rated by 95% of respondents as helpful”**  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241653/pdf/ehp0111-001498.pdf>
6. **Canadian Center for Occupational Health and Safety (CCOHS)**  
[https://www.ccohs.ca/oshanswers/hsprograms/scent\\_free.html](https://www.ccohs.ca/oshanswers/hsprograms/scent_free.html)
7. **Perales et al. (2022) study demonstrating that air quality accessibility interventions improve MCS**  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8822326/>
8. **Artificial scents have no place in our hospitals - CMAJ, November 3, 2015, 187(16)**  
<https://aseq-ehaq.ca/wp-content/uploads/2020/07/artificial-scents-hospitals.pdf>



**9. Fragrance -Free Poster (Why Fragrance -Free Facilities? *Fragrance is the new second - hand smoke* )**

[https://aseq-ehaq.ca/pdf/fragrance-free\\_Colour\\_EN.pdf](https://aseq-ehaq.ca/pdf/fragrance-free_Colour_EN.pdf)

[https://aseq-ehaq.ca/pdf/fragrance-free\\_B-W-1-EN.pdf](https://aseq-ehaq.ca/pdf/fragrance-free_B-W-1-EN.pdf)

**10. Multiple Chemical Sensitivity: Chemical indoor air pollution is the new tobacco**

<https://aseq-ehaq.ca/en/multiple-chemical-sensitivity-chemical-indoor-air-pollution-is-the-new-tobacco/>

**11. Canadian Committee on Indoor Air Quality: Module 6, Scents -Free Buildings**

<https://iaqresource.ca/wp-content/uploads/2019/06/CCIAQB-Module-6-Eng.pdf>

**12. Canadian Committee on Indoor Air Quality: Module 13, Addressing Chemical Sensitivities**

<https://iaqresource.ca/wp-content/uploads/2020/09/CCIAQB-Module13-Eng.pdf>