

CDSS POSITION STATEMENT ON PLASTICS POLLUTION FROM SASKATCHEWAN DENTAL OFFICES AND A CALL TO ACTION ON ENVIRONMENT PROTECTION, SUSTAINABILITY, AND RESPONSIBILITY



Status:	Approved
Original:	January 2026
Amended:	
Updated:	
To be Reviewed:	January 2031

PREAMBLE

The CDSS recognizes the environmental impact of plastics, single-use items and other disposable materials used on a daily basis in Saskatchewan dental clinics. Dental offices generate substantial waste that impacts ecosystems, contributes to microplastic pollution, and adds to the global carbon footprint.

Growing use of plastic based materials in digital dentistry such as clear aligners, 3D printed models, and occlusal splints raise valid environmental concerns as none of these materials can be recycled through conventional means and find themselves accumulating in landfills.

With the environmental implications several practical strategies for sustainability exist by applying the 4 R's and encouraging proper disposal and innovative recycling campaigns at Saskatchewan dental clinics.

Common sense allows us to avoid printing every digital model or cast, by working with the software directly. With an ever-increasing digital workflow, we can be selective and sustainable in how we produce and dispose of plastic based components. Patients can be encouraged to "bring back" oral health care appliances (clear aligners, night guards, plastic retainers, toothbrushes, floss containers etc.) to allow recycling instead of "landfilling".

Dental office education on recycling all single use plastics that meet recycling parameters and utilizing recycle companies that will properly recycle dental clinic plastics, can significantly arrest our plastics pollution contribution.

But why be concerned about plastics going to garbage landfills?

INTRODUCTION

Planet plastic burden is already overwhelming and is predicted to exponentially increase.

Currently 500 million tons of plastic is produced globally (>1/2 is single use plastic).¹

By 2050, prediction is for 1.5 billion tons of plastic production (13,000 on end CN Towers).²

¹ Helmore, *Plastic Pollution in some lakes* (The Globe and Mail, 2023)

² Khan, *Recycling won't solve our planet* (The Globe and Mail, 2024)

Global plastic use, currently at 10 billion tons, to rise to 34 billion tons by 2050.³

Globally, 350 million tons of plastic is thrown out each year (>20% ending up in the environment causing harm to people and to all forms of nature).⁴

Globally, 15% of plastic waste is collected for recycling with only 9% being recycled.⁵

Currently Canada produces 7 million tons of plastic (using only 5% recycled material), with 5 million tons ending up as waste (with <10% of it being recycled).⁴

Plastics, once in landfill, take anywhere from a decade to thousands of years to decompose.¹

Plastics, which can contain a variety of 16,000 chemicals,⁶ mostly toxic, degrade to microplastics (<5 mm in length) and nanoplastics (1 to 100 nanometers in length) and enter our ecosystem.³ These particles evade water filtration systems entering rivers, lakes, and oceans.¹ They are picked up by wind and fall as rain.¹ Humans and animals ingest them, as plastics are present in the “air we breathe”, “the water we drink”, and the “food we eat”.³

Science reveals buildup of micro and nanoplastics in the environment, widespread presence in humans, and demonstrated in the remotest parts of our planet in over 7,000 studies.³ Science reveals microplastics in lakes right now were mostly manufactured in the 1950's, taking this long to breakdown. Microplastics in play today are from breakdown of legacy plastics in the environment.¹ Hypothetically, if all plastic production and use stopped today, we would still experience an exponential increase of micro and nanoplastics in the environment as current waste plastics break down.¹

The health impacts of plastics pollution are not just on our generation, but on all future generations, as plastics production, use, and waste continue to exponentially rise.⁵

Accumulation of plastics in humans, with evidence of plastics able to cross the placental and brain barriers, and the subsequent plastics toxicity leads to an increased potential of several debilitating medical conditions.

Nanoplastics are able to cross cellular membranes and gather within cells, subsequently damaging our cells, adding to chronic low-grade inflammation, creating a burden on our overall wellbeing, acting in synergy with other factors driving ill health.⁷

Microplastics found in carotid arteries, create a 4-5-fold greater risk of stroke, heart attack, or sudden death.⁷

Microplastics in those who had been diagnosed with dementia prior to their death, had 10 times as much plastic in their brain as compared to those without a dementia diagnosis.⁷

High concentration of microplastics in stool samples has created a possible link to rising prevalence of colorectal cancer.⁷

High plastics concentration in the air has been linked with chronic asthma.⁷

Microplastics amplifying inflammation has been linked to cancers development by being implicated with tumor formation and disease progression.⁷

Lastly, plastic particles are capable of placental translocation, subsequently depositing in fetal tissues and exerting toxicity.⁸

As oral health professionals, we share a responsibility to protect not only the health of our patients but also the health of our planet. This aligns with the principles of the United Nations Sustainable Development Goals and global initiatives such as the FDI Sustainability in Dentistry Project and the WHO Global Oral Health Action Plan (2023-2030).

³ Verny, *Microplastics create huge health problems* (The Globe and Mail, 2025)

⁴ Murray, *Canada Seeks to restore Indigenous rights* (The Globe and Mail, 2025)

⁵ OECD, *Global Plastics outlook: (Paris, OECD Publishing, 2022)*

⁶ Monclus et al., *Mapping the chemical complexity of plastics* (Nature, 2025)

⁷ Cox, *How do the microplastics in our bodies affect our health?* (BBC, 2025)

⁸ Medley et al., *A Systemic Review of the Placental Translocation of Micro* (Curr Environ Health Rep, 2023)

GUIDING PRINCIPLES

- Patient Safety First: Infection control remains paramount; sustainability measures must never compromise patient care.
 - Reduce, Reuse, Recycle: Prioritize reducing unnecessary single-use plastics, adopting reusable alternatives where safe, and implementing recycling programs.
 - Responsible Procurement: Source materials and products from suppliers committed to sustainable practices and environmentally friendly packaging.
 - Education and Awareness: Promote sustainability education among dental professionals, staff, and patients.
 - Continuous Improvement: Encourage innovation and adoption of new technologies that minimize environmental impact.
-

RECOMMENDED ACTION FOR DENTAL PROFESSIONALS

1. Minimize Plastic Waste: Transition to biodegradable or reusable alternatives for items such as suction tips, patient bibs, and packaging where feasible.
 2. Implement Waste Segregation and Recycling: Follow best practices for separating recyclable plastics from biomedical waste.
 3. Digital Transformation: Reduce paper and plastic use by adopting digital records, forms, and communication.
 4. Energy and Water Efficiency: Use energy-efficient equipment and water-saving devices to reduce resource consumption.
 5. Safe Disposal of Hazardous Materials: Comply with regulations for amalgam separators and proper disposal of chemicals.
-

CALL TO ACTION

The CDSS urges all members to integrate sustainability into daily practice. By taking proactive steps, we can collectively reduce the environmental footprint of dentistry while maintaining the highest standards of care. Together, let us lead by example in protecting oral health and the environment for future generations.

POSTAMBLE

We encourage CDSS registrants to research recycling companies that can provide recycling boxes that can be loaded and picked up from the dental office at a box fee from the recycling company and would be the least intrusive to any

dental practice.

At this time, TerraCycle is the only option available in Canada willing to recycle all plastic pollution from dental offices, including dental aligners, that has not been contaminated with blood/blood products, however, saliva contamination is acceptable. TerraCycle cannot accept hazardous waste, medical waste or biodegradable plastics with regular plastics. To recycle aligners, 3D models, occlusal splints, toothbrushes, floss containers, nitrile examination gloves we encourage the registrant to contact TerraCycle's [customer service team](#) or the recycling company of your choice that can cover the parameters recommended.

For further clarification on accepted waste, please refer to the [Zero Waste Box Accepted Waste Guidelines](#), which are also available directly on TerraCycle's website under "Important Shipping Information" for any box.

REFERENCES

- Cox, D. How do the microplastics in our bodies affect our health? BBC [Internet]. 2025 July 25 [cited 2025 Jan 15]. Available from: <https://www.bbc.com/future/article/20250723-how-do-the-microplastics-in-our-bodies-affect-our-health>
- Helmore, K. Plastic pollution in some lakes, reservoirs is more concentrated than in oceanic regions, study finds. The Globe and Mail [Internet]. 2023 July 12 [cited 2026 Jan 16]. Available from: <https://www.theglobeandmail.com/business/article-plastic-pollution-in-some-lakes-reservoirs-is-more-concentrated-than/>
- Khan, AR. Recycling won't solve our planet killing plastic pollution problem. The Globe and Mail [Internet], 2024 Dec 20 [cited 2026 Jan 16]. Available from: <https://www.theglobeandmail.com/opinion/article-recycling-wont-solve-our-planet-killing-plastic-pollution-problem/>
- Medley EA, Spratlen MJ, Yan B, Herbstman JB, Deyssenroth MA. A systematic review of the placental translocation of micro- and nanoplastics. *Curr Environ Health Rep.* 2023;10(2):99-111. doi:10.1007/s40572-023-00391-x
- Monclús L, Arp HP, Groh KJ, Faltynkova A, Løseth ME, Muncke J, Wang Z, Wolf R, Zimmermann L, Wagner M. Mapping the chemical complexity of plastics. *Nature.* 2025 Jul 10;643(8071):349-55. doi: 10.1038/s41586-025-09184-8
- Murray, N. Canada seeks to restore Indigenous rights language in UN plastics treaty. The Globe and Mail [Internet]. 2025 Aug 6 [cited 2026 Jan 16]. Available from: <https://www.theglobeandmail.com/world/article-us-asks-countries-to-reject-un-goal-of-limiting-plastic-production/>
- OECD. Global plastics outlook: economic drivers, environmental impacts and policy options. Paris: OECD Publishing. 2022. doi: 10.1787/de747aef-en
- Verny, TR. Microplastics create huge health problems. The Globe and Mail [Internet]. 2025 Sep 26 [cited 2026 Jan 15]. Available from: <https://www.theglobeandmail.com/canada/article-microplastics-pollution-health-problems-environment/>