Docket #: S23-192

Cooling Device for Preventing Oral Mucositis

Oral mucositis (OM) is a painful side effect of chemoradiotherapy, especially in children and adolescents, with a high incidence rate of over 20%-40% and up to 90% in high risk patients. Severe OM can lead to significant oral pain, malnutrition, and treatment complications, greatly affecting quality of life and increasing health care costs. While cryotherapy has shown promise in reducing OM severity by cooling the oral mucosa, current methods are uncomfortable, leading to poor patient adherence.

Inventors at Stanford have designed an oral cooling device that can be used to prevent the ulceration, injury or inflammation of the mouth during chemotherapy or radiotherapy. The device leverages soft materials to reduce friction with surfaces within the oral cavity and insulating materials to protect teeth from hypersensitivity. This simple and portable device would be beneficial in decreasing incidence and severity of oral mucositis and reducing hospitalization costs.

Stage of Development
Prototype

Applications

- Cancer therapy
- Dental devices
- Sports medicine

Advantages

- Cost-efficient
- Small, portable
- User-friendly and customizable, and increases patient adherence

Patents

- Published Application: WO2024243457
- Published Application: 20260165877

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