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# SUSTAINABILITY IN DENTISTRY

**Pirkko-Liisa Tarvonen**
University of Eastern Finland, Finland

Dental care produces a lot of material overuse, waste and residues, for example gloves, masks, impression materials, amalgam, micro plastics and emissions of fixatives. They end up inside the bodies of patients or into the wider environment. Patients use transportation as they visit the dentist. Further, traditional prosthetic and orthodontic care requires deliveries between the dentist and the dental laboratory technician. The environmental load varies between societies; in the most advanced societies, waste is recycled or used as fuel for heating while in other parts of the globe waste may be thrown directly to the nature. In addition to environmental load, repetitive repair and placement of composite fillings places a heavy burden on dental care services which may be regarded at least as alternative expenditure. Oral diseases are mostly preventable and prevention is always the most cost-effective intervention. If restoration is needed, the chosen treatment should be sustainable. A treatment plan based on a detailed examination is the foundation. Procedures and their sequence should be considered. Extraction of tooth is the best solution when the prognosis is poor. RAYO3D Tooth Fill technology by digital imaging and 3D printing provides most precisely fitting tooth fillings and restorations for occlusion rehabilitation and aesthetic dental care. Digital imaging is fast which provides novel possibilities for the planning of the restorations and produces less waste than the traditional impression methods. The filling fits instantly, is durable, wears equally with the natural tooth and has a tooth-like color and translucency. Precise fitting reduces the probability of secondary caries and the need for repairs or replacements. Chair-side manufacturing during the single appointment reduces the CO2 emissions of traffic. For the dentist, a substantial amount of time is released for more efficient care and more meaningful content of the working day. Affordable cost makes premium quality dental care more widely accessible. Improved oral health promotes general health. All of this reduces healthcare costs. RAYO3D tooth fill provides a most convenient, sustainable and long-lasting tooth fillings and restorations for today's dental care.

## BIOGRAPHY

Pirkko-Liisa Tarvonen has a specialist degree in dental public health from the University of Turku, Finland and a PhD degree from the University of Eastern Finland, Finland. She acts as dental Marketing Director at Rayo 3D-Toothfill Ltd and as University Lecturer at the University of Helsinki and at the University of Eastern Finland. As a voluntary project coordinator for ten years she has had a remarkable contribution in the support of primary dental care and dental education in the Democratic People's Republic Korea.

pirkko-liisa.tarvonen@rayo3d.fi

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