

## CLINICAL: CASE STUDY

# REDUCING CARIES AND IMPROVING GINGIVAL STATUS WHILE SLEEPING

One study takes a look at the effectiveness of using OraCoat XyliMelts.

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We present a case where an adult patient used each night while sleeping two OraCoat XyliMelts adhering discs, each disc releasing one-half gram of xylitol over 4 to 8 hours, and thereby eliminated previously ongoing cervical caries. Her gingival and periodontal status improved as well.

## Background

Dental caries is a significant problem for adults. The Xylitol for Adult Caries Trial by Bader et al. studied the daytime use of ordinary xylitol lozenges with ordinary dissolution durations to reduce caries in adults. Root caries were significantly reduced, but caries on other tooth surfaces did not show a significant difference from placebo lozenges that stimulate saliva as much but contain no xylitol or other polyol.

To reduce caries, xylitol must linger in the mouth. Once it is swallowed, xylitol is ineffective. The effectiveness of xylitol to reduce caries is a function of hours per day that an adequate concentration of xylitol is maintained in the mouth. To achieve an adequate concentration over a maximum number of hours per day, the xylitol should be slowly released. Too much ingested xylitol can cause gut discomfort. To obtain maximum benefit from xylitol with minimum gut discomfort, the xylitol should be released when saliva flow is lowest, which is while sleeping.

OraCoat XyliMelts adhering discs are designed to dissolve slowly and last up to 8 hours while sleeping. OraCoat XyliMelts have been specifically assessed for use during sleep. Subjects reported that they still tasted xylitol in their mouths upon awakening after 8 hours of sleep. During the day, XyliMelts discs last 1 to 4 hours, depending in part on location in the mouth, rate of salivation, and amount of mouth movement. Until 2016, XyliMelts discs contained 500 mg of xylitol per disc. Starting in 2016, they contain 550 mg per disc (Figs. 1-2). With this delivery vehicle, xylitol may be more effective for reducing caries and gum disease than in lozenges, chewing gum, gels or sprays.

In an independent survey of 1,168 dentists by the nonprofit CR Foundation about effectiveness of dry mouth remedies known to the dentists, those who were familiar with OraCoat XyliMelts rated it as more effective for dry mouth than did dentists who reported experience with other non-prescription remedies for dry mouth.

## Patient history

The patient is an 88-year-old retired female with a history of excessive xerostomia not related to an underlying medical condition, with resulting caries and periodontal disease and repeated new carious lesions. Despite use of multiple OTC remedies, dry

mouth was reported by the patient to have been a problem for more than 15 years. Oral complications thought to be related to the oral dryness included cervical caries, oral discomfort both daytime and nighttime, gingival inflammation and persistent periodontal disease.

The patient initially self-treated the oral dryness using a fluoride/xylitol lozenge from Norway (Xerodent - www.xerodent.de/xerodent.html - not sold in the U.S.). In addition, she had tried using other products including Prevadent, Biotene gel and Peridex (chlorhexidine) without significant change in her condition. Her typical hygiene protocol included tooth brushing twice a day, once before bed time. Prior dental treatment had included deep scaling, a gingivectomy for crown preparation and fractured tooth repair as well as yearly recall for hygiene prophylaxis.

Other than slightly elevated blood pressure not needing medication, the patient's medical history was essentially unremarkable. In April 2015 she fell and broke ribs without complication. She is legally blind with very poor vision and has an artificial left knee.

In 2013 the patient presented for dental evaluation. Examination revealed gingivitis, dry oral mucosa and new cervical caries in teeth 24, 25 and 26. The patient was instructed to continue with her normal hygiene practices and was

delivered XyliMelts adhering discs (OraCoat XyliMelts; OraHealth, Bellevue, Wash.) to be used at night according to manufacturer instructions: two discs adhered on the upper alveolar ridge opposite the parotid duct, one on each side, prior to bed time (Fig. 3). Each disc slowly released 500 mg of xylitol while sleeping. This protocol, coupled with her typical oral hygiene and dietary practices, was followed consistently for one year until she returned for reevaluation in 2014.

## Results

After one year of regular XyliMelts use, the patient reported significant reduction in perceived oral dryness and discomfort. The product had been used every night as directed. Examination revealed moist/wet intraoral tissue absent prior observed dryness. The gingiva appeared healthy and could be characterized as having less gingival inflammation than observed the prior year. Periodontal pocket depth had not changed in the year. There were no new carious cervical lesions, in contrast to one year earlier when three new lesions were present. No side effects or adverse reactions to the

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[ **Figs. 1-3** ] OraCoat XyliMelts discs may be effective in reducing caries. Figs. 1-2). Each OraCoat XyliMelts disc releases one-half gram of xylitol over 4 to 8 hours. Fig. 3.) The patient adhered two discs on the upper alveolar ridge prior to bed time.

disc use were reported.

The nightly use of two XyliMelts adhering discs during sleep, which released 500 mg xylitol per disc, appears in this case to have resulted in elimination of new carious lesions and an improvement in her gingival and periodontal status.

### Conclusion

We present a case of an elderly patient with complaints of dry mouth and associated dental and mucosal abnormality in which an OTC adhering disc product, OraCoat XyliMelts, was used while sleeping (night-time use) for one year. At the one-year recall and after daily night-time use, per manufacturer's instructions, the patient reported that she was experiencing

a significant reduction in perceived oral dryness and discomfort. In contrast to her initial presentation, the intraoral tissue appeared moist and healthy. No new cavities had occurred, in contrast to her visit one year earlier when three new lesions were identified. The OraCoat XyliMelts adhering discs were well tolerated and their use did not incur unwanted side effects or adverse reactions. The above case suggests this remedy can be an important adjunctive treatment for individuals with caries or gum disease exacerbated by dry mouth. ●

*References available on [dentalproductsreport.com](http://dentalproductsreport.com).*



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