Reducing stress with Down patients

Case study examines the use of oral rinse to improve oral hygiene in adolescent and adult patients with Down syndrome

By Cindy Andrews, RDH

Children and young adults with Down syndrome are one of the most simultaneously rewarding and challenging groups of patients I have ever had the pleasure of working with in my 39 years as a clinical dental hygienist. Individuals with Down syndrome are some of the most loving, happy, and gentle people you will ever meet, but their abnormal development made the existing challenge of maintaining a healthy oral cavity that much more difficult.

Dr. John Langdon Down first discovered Down syndrome in the 19th century, although it took until 1959 for the French physician Dr. Jerome Lejeune to identify Down syndrome as a chromosomal condition. Individuals with Down syndrome have a full or partial extra copy of chromosome 21; this additional amount of genetic material alters normal development, leading to a variety of cognitive and neuromuscular deficits along with an altered physical appearance.

The secondary effects of these developmental differences of Down syndrome are of particular interest to the dental practitioner, as they affect the health and well-being of the patient. Macroglossia (i.e., enlarged tongue) is present, which also contributes to sleep apnea (i.e., pauses in breathing while sleeping), halitosis, and gingivitis. Macroglossia also makes a routine prophylaxis difficult because it prohibits the clinician from adequately reaching all areas to clean. Working in a tiny little opening with a tongue that is not only very large but very strong—and pushing the clinician’s tools out of the way—is tiring and frustrating for both patient and clinician. The patient also experiences the difficulty of cleaning adequately—it is difficult to clean this type of tongue for both the patient and clinician. Soreness is also a concern and makes the patient not want to be compliant both in the chair and at home, again creating stress and frustration.

The mouth breathing caused by the developmental differences in Down syndrome leads to dry mouth, which also leads to increased bleeding and inflammation of the gums resulting in gingivitis. This increase in bleeding makes it difficult for the clinician to diagnose oral conditions and also makes doing a routine prophylaxis challenging because the clinician’s field of vision is hampered. This puts stress on the clinician.
Both of these conditions cause increased soreness of the gums and the tongue, making the patient’s ability or desire to sit for any length of time for dental procedures a real challenge.

Finding oral care products to treat these conditions and a home-care regimen that this special population could comply with was an ongoing challenge. Down syndrome patients are as sensitive as the general population to strong flavors and the impact of stinging or abrasive ingredients on irritated tissues. The difference from the general population, however, is that a Down syndrome patient will very quickly indicate that there is a problem with a product and thereafter adamantly refuse to use it again, regardless of whether it is providing beneficial clinical impact or not.

**STRESS LESS: MY EXPERIENCE WITH CLOSYS RINSE**

I truly saw decreased stress and an increase in operator time due to patients being made more comfortable by use of the CloSYS rinse.

In this case study I present my experience with the use of CloSYS fluoride-free oral rinse (hereafter referred to simply as CloSYS oral rinse) with six Down syndrome patients in the clinical setting, four from a private practice and two from a volunteer clinic that I worked in.

All of the patients were suffering from one or more conditions of increased caries, gingivitis, halitosis, spontaneous bleeding upon eating and brushing, thrush, and Type I-II periodontal disease. All patients responded favorably to the use of CloSYS oral rinse.

**Patient 1**

14-year-old male with Down syndrome

This patient presented with bright red gums that bled spontaneously upon eating and brushing. The patient’s mother, a registered dental hygienist herself, was most concerned with the gingivitis and halitosis and had already exhausted her known treatment options. Unfortunately, her son complained that everything she had tried “burned.” I recommended that she try CloSYS oral rinse and toothpaste, instructing the patient to rinse three times a day with three ounces of CloSYS and to use the toothpaste twice a day. I recommended use of the rinse three times a day in the hopes of actually achieving compliance with one or two uses and increased the normal suggested quantity of product from one half ounce to three ounces, again in the hopes of achieving compliance.

The patient’s mother reported that the patient was hesitant to try CloSYS at first because everything else “tasted bad and burned.” With a small amount of encouragement, the patient tried both the CloSYS rinse and toothpaste and, to our amazement, he not only liked it but also looked forward to using the product.

Within four days of starting to use the CloSYS products, we saw a significant reduction in redness of the patient’s gums and complete resolution of the halitosis. This patient also had to have frequent antibiotic treatment due to a high incidence of otitis media and had presented with what appeared in my clinical judgment to be a case of thrush on his tongue when I first examined him. This also rapidly resolved with the ongoing use of the CloSYS regimen.

This patient had a 15-year-old friend who also had Down syndrome. The friend’s mother asked patient 1’s mother what she used for her son to keep his gums from being so red, especially during the time he had to take antibiotics.

Patient 1’s mother called me and asked if the CloSYS oral rinse was available over the counter, as she wanted to recommend it to this friend’s mother. Although I never treated this patient directly, the friend’s mother reported that her son loved the rinse, said that it didn’t burn, and that his gingivitis and bad breath were both gone.

**Patient 2**

16-year-old male with Down syndrome

This patient presented with burning tongue syndrome. At the patient’s routine six-month checkup and oral prophylaxis, it was determined that his home care was above average but consistent with what I had been able to achieve with this patient population. He did confirm, however, that his tongue burned sporadically and that from time to time he did have reddened gums.

I recommended that the patient rinse with three ounces of CloSYS oral rinse three times per day, again in the hopes of achieving compliance at a minimum of twice-a-day use. I called the next day to see how the patient was doing and his mother reported that the patient had rinsed with CloSYS as instructed and reported that his tongue had stopped burning and that the redness in his gums was gone. The mother

who wants to do an adequate job; again, comfort becomes an issue, which makes the patient combative and fidgety. Clinicians often feel exhausted by the end of these appointments.

The physical narrowing of the oropharynx and nasopharynx also contributes to these challenges. The alterations in the paranasal sinuses exacerbate the oral conditions of gingivitis, halitosis, and periodontal disease. Stenotic ear canals (i.e., malformation of the Eustachian tubes) increases the occurrence of otitis media, which results in frequent antibiotic treatment and thus changes in the normal flora of the oral cavity. Here again, increased inflammation and bleeding decreases the field of vision, making adequate care by the clinician a challenge.

There is also an increased incidence of candidiasis or thrush in the Down syndrome patient.

The difference from the general population, however, is that a Down syndrome patient will very quickly indicate that there is a problem with a product and thereafter adamantly refuse to use it again, regardless of whether it is providing beneficial clinical impact or not.
reported that the patient only rinsed twice a day but he continues to willingly use the CloSYS oral rinse as needed and reports great success with its use.

**Patient 3**

**Late-30s male with Down syndrome**

This patient is an unusual case. He would accompany his mother to her dental appointments but had never been seen or received oral care for himself. We inquired of the mother if we could see her son as a patient and she expressed that she had tried numerous times to have his teeth checked and cleaned with no success. In fact, she told us that her prior attempts had been met with violent protest.

However, she did ask if I could recommend something for home use, as his gums were very red and he complained that they hurt. She indicated that efforts to brush his teeth twice a day were battles and that she was concerned by his halitosis and excessive drooling. I was reluctant to recommend anything without being able to examine the patient first, but after taking a thorough oral history on her son, I suggested she try to get her son to rinse with CloSYS oral rinse mixed with Act Anticavity Fluoride Rinse (for added caries control) three times a day. I also recommended that the patient brush with CloSYS toothpaste twice a day, if possible.

When the mother returned for her own hygiene appointment approximately four months later, she reported that the battle to get her son to brush was easier and that he did not cry or complain about doing so anymore. Equally important, she reported that the red swollen gums and halitosis were gone and that the patient’s excessive drooling had stopped as well. This was an extremely compelling result as this patient had never had his teeth cleaned nor had he even been examined by anyone.

**Patient 4**

**56-year-old male, very high-functioning Down syndrome**

This patient came to the free clinic where I worked and volunteered for his first-ever oral prophylaxis. Although I was surprised by how clean the patient’s mouth was, he did present with a substantial amount of plaque, gingivitis, and light generalized subgingival calculus and halitosis. He also had at least three to four 4–5mm pockets in all quadrants.

Patient appointments and treatment at the free clinic are limited due to high demand but using a topical anesthetic, I did an aggressive gross scaling and fine scaled and polished this patient. I also consulted with the supervising dentist who agreed that I should give this patient a sample of CloSYS oral rinse to assist with control of the halitosis and gingivitis.

Because I met this patient in the free clinic, I was not able to conduct a follow-up visit. However, I did see this patient in a supermarket parking lot located just a few blocks from the free clinic several months later. The patient recognized me, came over to me, and happily pointing to his mouth said, “No more red and blood.” He also reported that his girlfriend said that his mouth didn’t stink any longer. He then pulled a bottle of CloSYS oral rinse out of his backpack and told me he carried it with him.

**Patient 5**

**62-year-old female with mosaic Down syndrome**

I saw this patient every six months and she had very thick, rropy saliva and gingivitis. Her home-care routine was marginal, but the patient always tried and I knew she truly cared. She was frustrated because she said her gums were always irritated and puffy. She also had macroglossia and had reported an on-and-off burning sensation on her tongue.

Once again, I recommended that this patient use three ounces of CloSYS oral rinse three times per day for 30 seconds. When I saw the patient at her next hygiene appointment, approximately six months later, her gums were not sore or red and the gingivitis was under control. She also reported that she no longer experienced the burning sensation on her tongue since she had been using the CloSYS oral rinse.

**Patient 6**

**18-year-old male with high-functioning autism and Down syndrome**

I had been seeing him since he was approximately six years of age. He had spontaneous bleeding upon brushing as reported by his mother, as well as red, puffy, and sore gums. His home care regimen was sporadic, and his mother stated that he did not like to brush or floss, but he made efforts to maintain his oral care.

I recommended to his mother that the patient rinse with CloSYS to help keep the puffiness under control. I recommended this patient rinse with at least three ounces of CloSYS three times a day in the hopes of achieving compliance at a minimum of once-a-day use. When I saw this patient six months later, the interdental papilla was no longer puffy and did not bleed spontaneously as before.

I have presented six cases of clinically based evidence on the use and results of using CloSYS oral rinse and toothpaste for patients with Down syndrome who suffer from one or more conditions of gingivitis, halitosis, burning tongue, Type I periodontal disease, and antibiotic related thrush.

In all patients, there was a significant increase in compliance with a home oral care routine. More importantly, there was significant improvement in, if not complete elimination of, the problems reported. It appears that regular use of CloSYS oral rinse in Down syndrome patients helps control thrush caused by frequent antibiotic therapy for otitis media as well as the burning tongue syndrome that occurs more frequently in Down syndrome patients due to their large, fissured tongues. Similarly, halitosis was eliminated in all cases where it was reported.

Furthermore, as clinicians treating patients with Down syndrome, you can only get in as quickly as you can and do the best that you can in terms of prophylaxis and treatment. I found using CloSYS not only made my Down syndrome patients healthier, it also made them more comfortable so that I had more time to achieve a better standard of care for them. It appeared everyone was happier when CloSYS was part of the Down syndrome patients’ home care.

Of course, this is a small observational study and additional clinical research should be conducted to verify these clinical treatment observations. I have used CloSYS oral rinse and toothpaste for many years and have had nothing but amazing clinical results improving the oral health of both this special group as well as my regular patients. I would like to encourage other clinicians working with this special and rewarding patient population to conduct similar observational studies in their own clinical practices. RDH

Cindy Andrews, RDH, is a retired dental hygienist after 39 years of clinical work. The last 21 years was devoted to practicing in the office of Dr. John Cutts in Dinuba, Calif. Cindy graduated from Wichita State University in Wichita, Kan., and took her expanded functions training at University of California Los Angeles. Cindy is past president of the San Joaquin Valley Dental Hygienists’ Association and past trustee for the California Dental Hygienists’ Association. Cindy is currently an independent professional educator on behalf of Water Pik Inc.