Living with Salivary Gland Disease

Salivary gland disorders are not typically life-threatening, but they are certainly life-impacting. Ask anyone who suffers from salivary gland stones, strictures, and ductal inflammation, and they’ll tell you it’s a debilitating condition. People afflicted with salivary gland disorders are often plagued by painful swelling that can lead to cosmetic disfigurement, discomfort due to swelling of the gland during mealtime, and a host of other symptoms that dramatically lower their quality of life.

Salivary gland disease affects a relatively small percentage of the population. According to conservative estimates, one in every 10,000 people per year suffer from salivary gland stones, the most common cause of salivary gland obstruction.\(^1\) These numbers represent a significant amount of pain and suffering, long treatment hours and hospital stays, and high cost of care. Because many patients with salivary gland disease go undiagnosed and untreated, in reality, those numbers are likely much higher.

To understand the impact of salivary gland disease, it’s important to understand the underlying causes and pathology.

An Inside Look at Salivary Gland Disorders

Salivary gland obstructions come in many forms, shapes and sizes. While sialolithiasis (salivary stones) are the most common form of obstruction, other types of obstructions may include stenosis or strictures, kinks and other anatomical anomalies, mucus plugs, polyps, foreign bodies such as hair and even fragments of toothbrush bristles, ductal scar tissue and debris. These obstructions most commonly affect the submandibular and parotid glands, with rare cases found in the sublingual glands.

The exact cause for salivary stones remains unclear, but possible causes may stem from microtrauma or infection. People suffering from autoimmune conditions...
such as Sjögren’s syndrome are highly susceptible to recurrent inflammation of the salivary glands and ducts. Upwards of 68% of thyroid cancer patients that have undergone radioiodine treatment also experience high rates of salivary dysfunction, including inflammation and fibrosis.2

**Traditional Treatments: Inadequate and Invasive**

Traditionally, the first line of defense against salivary gland obstruction and other disorders has been to manage the condition. This conservative management approach can include home treatments and medication aimed at reducing symptoms rather than identifying and eliminating the underlying cause of the obstruction.

Patients are told to drink more water and suck on sour candies or lemons in order to stimulate saliva production. They’re encouraged to apply warm compresses and massage their swollen glands. When symptoms grow more severe, patients may be given a course of antibiotics, salivary stimulants, and/or anti-inflammatory agents. While non-invasive, this conservative management approach fails to bring relief for up to 40% of people suffering from inflammation of the salivary gland.1 Patients whose symptoms reoccur and worsen are often left with a difficult decision: whether to undergo an invasive surgical procedure to excise the affected gland, or continue to live with pain and discomfort. Complete removal of the affected gland means, of course, the complete loss of gland function. This is particularly troubling, given that — aside from the obstruction — the majority of removed glands appear to be normal.

**The Risks of Surgery**

The surgical excision of salivary glands, especially of the parotid gland, is a time-consuming and difficult procedure that comes with a higher risk of complications, including post-operative paresis, numbness, skin scar and cosmetic deformity.3,4 One study of patients who had undergone parotidectomies for chronic swelling showed a 25% to 60% rate of prolonged facial paresis.1,4

Fortunately, a paradigm shift is underway in the way surgeons diagnose and treat salivary gland disorders. This paradigm shift is sialendoscopy, a minimally invasive, safe, effective and gland-preserving treatment that is steadily gaining momentum in the medical community.

**Sialendoscopy: Revolutionizing Salivary Gland Treatment**

Sialendoscopy involves the insertion of a miniature semi-rigid endoscope into the salivary duct system by way of the natural orifices of the glands. The scope provides intraluminal visualization of the salivary ducts and glands, allowing for the complete exploration of the primary and secondary ductal system of both the submandibular and parotid glands.
Today’s advanced sialendoscopes provide an all-in-one therapeutic system for directly targeting and treating a variety of salivary gland and ductal disorders. Endoscopes now come in a wide range of dimensions, including extremely small sizes that accommodate even the smallest ducts found in pediatric patients.

Surgeons now also have an arsenal of innovative working tools at their disposal to further the success of sialendoscopy. These include wire baskets, micro forceps, manual drill burrs, as well as balloon and dilating systems that can be inserted through the channel of the endoscope to assist with removing stones and stone fragments, irrigating ducts, infusing medications, and stretching strictures.

Combined, these tools and capabilities enable surgeons to treat the cause of obstructions and effectively control recurrent symptoms while saving the gland and gland function — a benefit that definitely appeals to patients. While preserving the gland, sialendoscopy also reduces the risks associated with performing invasive, external gland-removal surgery.

In addition, sialendoscopy procedures can be performed in an ambulatory, outpatient setting, lowering the rate of complications and morbidity that come with gland-removal surgery. In the U.S., most surgeons prefer to perform these procedures while their patients are under general anesthesia. The vast majority of these patients, however, still return home the same day — minimizing their exposure to hospital-acquired infections.

**A Powerful Diagnostic Tool**

Sialendoscopy also provides a wealth of diagnostic information that assists the physician in determining and completing the appropriate course of treatment. Traditional diagnostic methods include radiography, such as x-rays, ultrasound, CT scans and sialography to evaluate the ductal system. However, in addition to exposing patients to radiation, these tools can sometimes miss smaller and/or softer obstructions and stones as well as ductal anomalies such as strictures and kinks.

Until recently, making a definitive diagnosis for patients with inflammatory and non-neoplastic swelling of the salivary glands was often difficult, if not impossible. Sialendoscopy addresses this issue by allowing the direct visualization of the ductal system, allowing surgeons to make a conclusive diagnosis that might otherwise have not been possible. In fact, a recent review of 450 diagnostic sialendoscopy cases indicated a 98% success rate in diagnosing the disorder. Reducing delays in delivering appropriate therapy contributes to positive patient outcomes.

The efficacy of sialendoscopy as a diagnostic and treatment tool is not based on anecdotal evidence alone. In recent years, a number of significant studies have been published that substantiate the positive outcomes of this minimally invasive, gland-saving procedure.
Clinical Studies Support the Success of Sialendoscopy

A recent study of 1,154 patients reported high stone-removal and symptom-free success rates of 100% and 98% for submandibular and parotid cases, respectively. This study also claimed a 90% long-term success rate for patients with submandibular and parotid stones treated through sialendoscopy. Another study of 1,522 patients reported a 91.6% successful extraction rate of stones using endoscopy, with yet one more study indicating a 92% success rate for removing sialoliths classified as mobile.

Published studies also support a lower incidence of surgical gland removal with sialendoscopy. A study of five independent centers conducted between March 1990 and December 2004 analyzed the outcomes of 4,691 patients whose salivary gland disorders were treated with minimally invasive procedures including endoscopes. In this study, stones were eradicated in 91.6% of cases with the use of wire baskets and/or micro forceps. The study also indicated a 91% success rate with endoscopically assisted release of parotid stones, with only one patient requiring gland-removal surgery.

In perhaps the most comprehensive study to date, a meta-analysis of 29 distinct studies looked at 1,213 patients who underwent sialendoscopy alone. The meta-analysis reported an average success rate of 95% for stone removal, with incidences of cases requiring sialadenectomy reported at 0% to 11%. The meta-analysis also revealed a 95% success rate for 374 patients that underwent sialendoscopy with a combined surgical approach; again, sialadenectomy was required in just 0% to 11% of these cases. The meta-analysis also showed a low rate of major complications following the procedure, with no reports of permanent nerve injury.

Studies have also shown that patients who undergo sialendoscopy experience excellent functional gland recovery rates as well as long-term symptom control. One study showed a 92.7% success rate in controlling symptoms for procedures completed in the U.S.

It should be noted that most studies support sialendoscopy as effective for removing round or oval mobile stones that measure less than four to five mm. Large palpable submandibular duct stones or intraglandular stones may require a combined approach that employs sialendoscopy, surgical procedures, and/or ancillary techniques, such as fragmentation. Large intraparotid stones, however, respond well to sialendoscopy-assisted approaches.

Treating Strictures Successfully

Sialendoscopy has also shown to be effective in treating patients suffering from anatomical anomalies of the salivary glands and ducts. An analysis conducted from 2002 to 2005 took a look at 39 patients presenting with symptomatic
strictures of Stensen’s duct. Over 74% of these patients underwent interventional sialendoscopy, with a success rate of 75.9%. In only 5.1% of the cases was parotidectomy unavoidable. In 94.9% of cases, the parotid gland tissue was preserved with full gland function returning to normal. Following therapy, 92.3% of all patients reported relief from symptoms and an improved quality of life.6

This growing number of clinical studies demonstrates the mounting evidence supporting sialendoscopy as an effective minimally invasive, gland-preserving treatment for salivary gland diseases. We’ve seen the studies. Now let’s take a closer look at the patients these studies represent. Who are they? And are there enough of them to justify making an investment in adding sialendoscopy to your practice? The answer: Yes.

If You Offer It, Patients Will Come

Salivary gland disorders are more prevalent than you might think. While sialothiasis is reported to affect 1% of salivary glands, this number is likely much higher. Many people with this and other salivary gland disorders may be symptomatic but undiagnosed and untreated. Before the introduction of sialendoscopy, patients living with salivary gland conditions had limited treatment options — among them, invasive surgery for gland removal. Sialendoscopy provides these patients a better alternative.

Patients seeking relief from their symptoms and a return to quality of life often go online to research their options. As more information becomes available, many of these patients land on web pages about sialendoscopy and its benefits. As a result, awareness for the procedure among the patient community is steadily growing. In fact, many surgeons report that once they started offering sialendoscopy as part of their practices, a surprising number of patients soon began surfacing who proved ideal candidates for the procedure.

The tip of the Sialendoscope can be visualized in Stensen’s duct due to transillumination.
SIALENDOSCOPY IN REAL WORLD PRACTICE

To understand the true impact of the procedure on patients as well as physicians, it’s important to talk directly with surgeons who perform this procedure regularly. Here we share with you the experiences of three physicians who have helped pioneer the practice of sialendoscopy in the U.S. with successful results.

Rohan Walvekar, MD
95% Success Rate in Stone Removal

Rohan Walvekar, MD, was one of the earliest adopters of sialendoscopy in the U.S. He was first introduced to the procedure in 2006, during his Head Neck Oncology fellowship at the University of Pittsburg Medical Center. Dr. Walvekar brought the procedure with him to Louisiana State University Health Science Center in 2008, where he completed his Skull Base fellowship and is currently the Director of Clinical Research for the Center’s Department of Otolaryngology.

Considered one of the nation’s preeminent experts in sialendoscopy, Dr. Walvekar has seen patient demand for this procedure increase steadily in the six years since he began performing it.

“Initially, there was not a lot of interest from physicians or patients,” he recalls. “Within a few years, a whole range of patients began surfacing. These were patients suffering from idiopathic swelling, systemic conditions like dry mouth and dry eyes, thyroid cancer patients, adults and pediatric patients. They had been told the only solution was to take antibiotics, take lemon drops, or take the glands out completely. Once patients realized they had another alternative — a minimally invasive one — demand for sialendoscopy began growing.”

In addition to the mounting scientific evidence that sialendoscopy provides an effective solution for diagnosing and treating salivary gland obstructions, Dr. Walvekar has experienced success in his personal practice.

“In the few hundred cases I’ve treated, I’ve only had to remove the saliva glands a few times,” he says. “The procedure can also mean putting off the removal of salivary glands for several years, depending on the symptom relief. And that’s very important for my younger patients.”

When used for irrigation and wash-out, the procedure has also been effective in
helping his patients experience relief from swelling and dry-mouth symptoms. “I’ve had patients tell me after the procedure, ‘This is the first time in a year I’ve felt saliva in my mouth.’” Dr. Walvekar estimates that 75% of his patients experience complete relief of symptoms after the procedure. He’s also seen a high incidence of functional improvements in glands after removal of stones.

For those patients with small obstructions, strictures, debris and mucus plugs that are more difficult to detect using traditional imaging, Dr. Walvekar says that sialendoscopy allows him to confirm his clinical suspicion that yes, indeed, these patients really do have a problem. Once diagnosis is confirmed, he’s able to treat the problem with highly successful outcomes.

Using sialendoscopy alone or combined with another technique, he’s been able to remove an estimated 95% of stones. He also conservatively estimates that he’s been able to preserve 80% to 85% of the salivary glands he’s treated. And 99% of his patients return home the day of their procedures.

While helping improve patients’ quality of life, sialendoscopy has also helped Dr. Walvekar build his practice. As awareness for the procedure and its successful outcomes increases, he’s been receiving more referrals from ENTs with patients suffering from debilitating salivary gland diseases. And as more patients research online for better treatment for their disorders, they’re finding Dr. Walvekar’s practice and contact him.

Dr. Walvekar encourages any surgeon considering adding a sialendoscopy program to talk to other physicians who have been performing sialendoscopy for some time. Still a relatively small community, sialendoscopy experts are more than willing to share their experiences, expertise and best practices with their colleagues.

M. Boyd Gillespie, MD

95%-98% Success Rate in Preserving Gland Function

A head and neck surgeon practicing in the Otolaryngology department at the Medical University of South Carolina (MUSC), M. Boyd Gillespie, MD, learned about sialendoscopy in 2007. Intrigued by the procedure and its apparent benefits, Dr. Gillespie attended sialendoscopy courses at the University of Pittsburgh’s International Salivary Conference followed up by additional courses in Germany. Convinced of its effectiveness, Dr. Gillespie integrated sialendoscopy as part of his practice at MUSC.

“When I first learned about sialendoscopy, I wasn’t aware at the time how many patients were in need of a procedure like this,” Dr. Gillespie recalls. He points out that because salivary gland diseases are neither lethal nor life threatening, they don’t often get the attention they deserve.

“But for these patients, it’s a matter of quality of life,” he explains. “For many patients suffering from salivary gland diseases and obstructions, the option of
gland removal doesn’t appeal to them. So instead, they’ve had to put up with their chronic swelling and pain.”

Sialendoscopy offers these patients another viable option for treating their disorders, finding relief from their symptoms, and enjoying a better quality of life.

Dr. Gillespie now knows that salivary gland disorders are not as rare as perceived, particularly in urban areas. “In a city of one million people, you’ll typically see 100 patients with salivary gland disease per year,” he says. “That’s enough to keep you pretty busy.”

Dr. Gillespie currently takes on about four cases per week, year-round. And his sialendoscopy program has steadily become a larger part of his practice. About half of his sialendoscopy patients come to him as referrals from other physicians. The other half has found Dr. Gillespie’s practice while researching treatments online — a sure sign that the demand for more effective treatment options is out there.

Dr. Gillespie has even been able to open his practice to patient populations he might not otherwise have had the opportunity to treat, including patients suffering from autoimmune disorders like Sjögren syndrome and thyroid cancer patients undergoing radiiodine treatments. “Sialendoscopy has allowed these patients to reduce inflammatory episodes and pain, and improve their quality of life, where before they didn’t have many options available to relieve their symptoms.”

Like other surgeons who specialize in sialendoscopy, Dr. Gillespie has experienced the benefits of this minimally invasive procedure first-hand. “Sialendoscopy allows me to avoid making external incisions to remove obstructions or glands,” he explains. “This results in fewer complications, less risk of nerve damage, and no external scarring for the patient.”

Because Dr. Gillespie performs the vast majority of his sialendoscopy procedures in an outpatient setting, his patients are able to return home the same day. This allows them to recover in the comfort of their own homes, while also saving the center money on multi-day hospital stays.

But perhaps the most compelling benefits Dr. Gillespie has seen from his sialendoscopy practice are his patient outcomes. He estimates that 85% to 90% of his patients have experienced relief from their symptoms. He also estimates a 95%
to 98% success rate in avoiding gland removal. As for complications, he estimates a 2% to 3% rate of very minor complications, most which resolve on their own.

With around 30% of procedures requiring the scope alone, Dr. Gillespie estimates that about 70% of his procedures use a combined approach of sialendoscopy, fragmentation of the stones, and small ductal incisions to remove the fragments. “Sialendoscopy has proven to be a very effective therapeutic tool,” he explains. “The scope allows me to see things that better explain what’s going on with my patient. It’s a tool that allows me to determine the site of blockage, and guides the appropriate level of surgery.”

**Barry Schaitkin, MD**

**Pain Relief for 90% of Patients**

Barry Schaitkin, MD, attended his first course in sialendoscopy at the American Academy of Otolaryngology meeting in 1989. Instantly, he knew he’d seen something extraordinary, but the instruments were not FDA approved in the U.S. at that time.

“It was so obviously better than what we were doing then to treat salivary gland diseases and stones,” Dr. Schaitkin recalls. “It allowed one to see anatomy one never saw before, and take care of the problem in an elegant, minimally invasive way that up until then required removing the gland. There was simply no comparison.”

When the surgical instrumentation became more widely available, Dr. Schaitkin decided to add the procedure to his practice at the University of Pittsburgh Medical Center. In 2005, he traveled to Switzerland to complete more courses taught by the procedure’s original pioneers. And in 2006, he began offering sialendoscopy to his own patients. It wasn’t long before the patient demand became apparent.

“When I originally got my equipment to perform the procedure, I thought I’d do 25 cases a year,” he explains. “Now I do at least four a week. Doctors underestimate the demand, but once people hear that they have the option to not have an incision in the face, to not have the nerve dissected, they want it.”

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**Success Rate of Individual Practice | Dr. Schaitkin**

- **90%** Patients who experience relief of symptoms after the procedure
- **4%** Limited percentage of patients whose salivary glands had to be removed
- **95%** Stones that were successfully removed with this non-invasive procedure
Dr. Schaitkin also soon discovered that his sialendoscopy practice would help a broader patient population than he originally anticipated. “The procedure isn’t just for stones, that’s a misperception,” he says. “Cases with stones make up about half to two-thirds of what I do.” His other cases include patients suffering from narrowing of the ducts and other disorders that had previously proved difficult to treat.

To the question, “But is there enough volume?” Dr. Schaitkin answers yes. He’s seen his practice steadily grow, with patients coming from other states as well as nearby providers. Many doctors are hesitant to operate on inflamed parotid glands and run the risk of doing devastating damage to the facial nerves in that area. These physicians are more than happy to refer their patients to a sialendoscopy specialist like Dr. Schaitkin.

“You can start by doing procedures for the parotid gland,” he recommends. “Then when physicians see the positive outcomes, they’ll start referring patients to you for submandibular problems.”

Dr. Schaitkin also points out that awareness of sialendoscopy and its benefits is expanding. He recalls one patient who came to him, still wearing her hospital gown. She had just been admitted by a surgeon who wanted to remove her parotid gland. A nurse told her to go see Dr. Schaitkin instead. “So she put on her coat and left,” he says.

For patients who, like this woman, are in desperate need of symptom relief but don’t want to have facial surgery to remove the gland, sialendoscopy provides a preferable alternative — one with excellent outcomes. Dr. Schaitkin points out that sialendoscopy is low-risk, with no vital structures incurring injury. And in the overwhelming majority of cases, he’s been able to successfully preserve the gland.

“I’d say I’ve had to remove 1% of parotid glands and 3% of submandibular,” he estimates. On the other hand, his stone-removal rate has been very high. “About 95% of stones can be successfully removed, and more than 90% of patients experience pain relief following the procedure.”

For Dr. Schaitkin, adding sialendoscopy to his practice was an easy decision that has also proven to be a smart one. “We don’t take out the kidneys when there’s a kidney stone,” he explains. “Why take out the gland when you don’t have to?”

It makes sense to his patients. And it’s made sense for his practice.
Understand the Learning Curve

Because it employs a tiny scope used in a small working space, sialendoscopy does have a learning curve attached to it. One study showed a remarkable decrease in time for both diagnostic and interventional sialendoscopy after the first 10 patients and again after the first 30 patients, indicating that the procedure becomes easier to perform with each application.5

What's more, many surgeons who launch sialendoscopy programs already have experience using endoscopes in procedures. This provides an excellent foundation of knowledge to build on. To increase proficiency as well as confidence with the procedure, training courses taught by leading experts are available here in the U.S. as well as in Europe.

Low-Risk Procedure

Studies indicate that sialendoscopy is a safe procedure that reduces the risk of neural injury in the face, tongue and hypoglossal nerve, as well as the risk of scarring and cosmetic disfigurement that can accompany gland-removal surgery. Sialendoscopy has also shown to have a lower risk of morbidity than invasive surgery, and lower incidence of surgical complications.

Better Patient Outcomes and Satisfaction

Patients who have undergone sialendoscopy report a significant improvement in their quality of life. Sialendoscopy has shown to be substantially more effective at relieving and eliminating symptoms than conservative management for salivary gland diseases, especially for those patients suffering from chronic conditions. Studies report that effective symptom control has been achieved in more than 90% of patients without requiring a sialendectomy.1

Shorter Time-to-Treatment

An effective diagnostic tool, sialendoscopy provides direct visualization of the duct that allows you to identify and diagnose obstructions and diseases more quickly. Sialendoscopy has also been effective in identifying duct abnormalities that other diagnostic modalities overlook, enabling you to confirm clinical suspicions about patients’ conditions and take the appropriate course of action sooner.
Shorter Length of Stay
Cases of obstructive salivary gland that require surgical removal of the gland typically result in a one to two-day hospital stay. This increases the cost of care, while also increasing the patient's exposure to hospital-acquired infections and other risk factors. The vast majority of patients undergoing sialendoscopy are able to return home the same day, eliminating the costs and risks associated with longer hospital stays.

Expand Your Patient Reach
Clinical evidence supports sialendoscopy as providing a safe, effective, minimally invasive diagnosis and treatment option for a wide range of salivary gland disorders, beyond the common salivary gland stones. By offering sialendoscopy, you'll be able to help patients with autoimmune diseases, such as Sjögren's syndrome, that affect the salivary glands, thyroid cancer patients undergoing radioiodine treatment, pediatric patients suffering from chronic parotitis and sialectasia, and patients with painful strictures, kinks and other anatomical anomalies of the ducts. Because sialendoscopy can be performed in an outpatient setting under local anesthesia, it can also be performed on elderly and unstable patients who might not be good candidates for invasive, gland-removing surgery.

Differentiate Your Practice
Ask any surgeon performing sialendoscopy, and they'll confirm the patient demand for a safe, effective, minimally invasive and gland-preserving treatment for salivary gland disorders. By integrating sialendoscopy into your practice, you will be able to set yourself apart from the competition. This will likely lead to a growth in your collateral business as well. Surgeons who begin offering sialendoscopy to patients with salivary gland stones typically begin to treat other patients with related disorders. For example, after introducing its sialendoscopy program in 2008, the Medical University of South Carolina saw an increase in patients seeking treatment for salivary tumors.

Educate Your Peers
Like their patients, many physicians are unfamiliar with sialendoscopy and the benefits it offers, or have no interest in developing a sialendoscopy program in their own practice. Raise awareness among your colleagues about the procedure and its positive outcomes. Speak on the topic at local physician dinners and meetings, and contribute articles to publications read by other physicians. This will encourage physicians to refer their patients to you.
Primary care doctors, endocrinologists, rheumatologists and pediatricians all present excellent opportunities for patient referrals.
When symptoms become frequent and severe, patients are often told that salivary gland removal surgery is the only option for eliminating symptoms and treating the disorder. Patients and physicians alike, however, are reluctant to proceed with this invasive surgery, which comes with a higher risk of facial nerve damage, scarring, cosmetic disfigurement and morbidity.

Sialendoscopy offers patients and physicians a minimally invasive and gland-preserving option for the diagnosis and treatment of a wide range of inflammatory salivary gland disorders. Increasing numbers of studies indicate that sialendoscopy has an exceptionally high success rate for the removal of stones and obstructions as well as the control of symptoms, with a very low incidence of complications, risks and morbidity. The vast majority of sialendoscopy procedures have resolved the underlying condition, while preserving the gland and gland function.

Physicians who integrate sialendoscopy into their practice stand to benefit in a number of ways. In addition to offering patients a safe, effective, minimally invasive treatment for their disorders, a sialendoscopy program is an effective way to reach a wider range of patients, build a practice, shorten length of stay and related costs, and improve patient outcomes as well as satisfaction.

Before launching a successful sialendoscopy program, physicians are encouraged to research and implement best practices, including educating themselves about the procedure, instrumentation and outcomes; completing hands-on training courses under the supervision of a sialendoscopy expert; enlisting the support of hospital administration; educating patients and colleagues about the procedure and its benefits; marketing the program; building a physician referral base; pursuing continual education to keep up with emerging advancements; providing a comfortable patient experience; and performing appropriate patient follow-up after the procedure.

The advancements in sialendoscopy are changing the lives of patients who have suffered with debilitating salivary gland diseases, often for years with little or no relief. It is also changing the way physicians diagnose and treat these patients, with lower risk and better outcomes. Consider adding a sialendoscopy program to your practice, and watch your patient base grow.

IN SUMMARY

Each year, thousands of patients in the U.S. suffer from symptomatic salivary gland disorders that cause painful swelling and dry mouth, and which can lead to bacterial infection and even abscesses. Traditional conservative management, including home therapies, have produced disappointing results in helping patients control and relieve their symptoms, leading to frustration and poor quality of life.
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