

Communications from Dr. Subinoy Das to the ENS community

(on the EmptyNoseSyndrome.org Forum)



January 2016 Update for Therapies and Advocacy Efforts by the US Institute for Advanced Sinus Care & Research

January 1, 2016

Dear ENS Community,

We are growing increasingly optimistic about our therapies for ENS and hopes for a cure in the future. Attached in an update of our efforts over the last six months.

1. How have the results of PRP/Matristem therapy been progressing?

We now have treated 180 patients from 25 countries. Of these, 148 patients or 82% of patients have reported an improvement in their symptoms. 17 patients (9%) have not reported any followup, 11 patients (6%) have reported no improvement at all, and 4 (2%) patients have reported getting worse.

Of the 148 patients who have reported an improvement, approximately 25 (17%) have reported a life changing/dramatic improvement, 102 (69%) have reported a moderate benefit, and 21 (14%) have reported a mild benefit. Almost 100% have reported fluctuation in their symptoms; most report an initial improvement and then some initial loss of the initial benefit and then a later gradual improvement. 32 of 148 (22%) patients have reported a temporary benefit with complete loss of their initial improvement over the course of weeks to months after the initial benefit. Many of these patients have only had 1 or a few injections.

I have seen visible regrowth of turbinates in over 30 patients, increased moisture and mucus production in over 50 patients. Many patients have reported improved sleep, cessation of their suffocation symptoms, decreased anxiety, resolution of dysautonomia and significant improvement in their global health. I continue to believe each injection seems to provide an additive benefit, however there might be an exponential benefit during the first three injections. We have had 15 patients who have completed between 4 and 12 injections and have reported return to their pre-surgical level of health. I am now confident in the therapy and engaging in efforts to perform a controlled study and publish results supporting the use of PRP/Matristem. The costs are substantial to perform a Level 1B study. They will cost me approximately 10,000 for Institutional Review Board fees, \$15,000 for study coordination/data collection, and \$75,000 for treatment materials. We are actively engaging in fundraising efforts to support the completion of this study.

2. What is the new therapy you will be implementing in 2016?

We have purchased a new, cutting-edge system for platelet rich plasma (PRP) system extraction. This system utilizes a laser and advanced centrifuge to enrich PRP to levels four times greater than our current system. As a result, we are hopeful that this system will lead to near-physiologic levels of chemotaxis and stem cell signalling. Due to the added expense of this system, our costs will increase per treatment from

\$1850 to \$1985 for initial treatments and from \$1500 to \$1635 for repeat injections. However, we are hopeful that patients will need fewer injections to restore their turbinate function and hopefully reduce overall costs for each patient.

3. How have your efforts been in developing new stem-cell based therapies for ENS?

We participated in a conference call with Dr. Anthony Atala, who is probably the leading stem-cell scientist in the world in October. Dr. Atala invited me to his laboratory to discuss future therapies for ENS. Dr. Atala is a urologist by training and has been able to regrow penile tissue in his lab; penile tissue is cavernous erectile tissue very similar to inferior turbinate tissue. We also hope to participate in the World Stem Cell Summit in 2016, and develop contacts with industry partners to expedite the development of therapies to regrow new turbinates for patients who have suffered irreversible turbinate damage.

4. How did your meeting with the Blue Tail Medical Group go?

In October, we met with one of the leading orthopedic stem cell groups that are performing therapies for arthritis and joint damage. There we learned new techniques to utilize bone marrow and fat for stem cell harvest. We are actively working to vet these therapies and implement these therapies for our patients.

5. How was the American Rhinologic Society annual meeting?

The meeting was very promising. There continues to be greater recognition that ENS is a problem. Dr. James Palmer, Chief of Rhinology at the University of Pennsylvania lamented that ENS was his greatest fear that kept him concerned at night. Many panels within the ARS are discussing ENS as a real problem and leading discussions on the best way to solve this problem.

6. Any new changes to your practice?

While our practice has become extremely busy, we will continue to devote more time to education and prevention efforts. We will try to develop a web series that will provide weekly lectures on the web on the basic science, clinical practice, and general education of sinus and turbinate disease. We will also continue to perform second opinion phone consults for patients with ENS. One thing that I have become more aware of over the last year, is that many patients with severe nasal problems are not necessarily suffering from ENS, but suffering from poor surgery that may have missed the original nasal problems. We have performed several operations unrelated to ENS based on reviews of people's ct scans. Overall, we are hopeful that 2016 will be a promising year where significant progress is made towards preventing and curing ENS.

Best wishes, and happy new year to you all.

Subinoy Das
MD, FACS

<http://guest.fr.yuku.com/topic/5936/January-2016-Update-Therapies-Advocacy-Efforts-Institut#.Vp6J15P-JzMU>



**July 2015 Update for PRP/Matristem Therapy & Advocacy Efforts by US Institute for
Advanced Sinus Care and Research**

July 22, 2015

Dear ENS Community,

We have had a lot of promising advances in our efforts to understand/prevent/cure ENS. Attached is an update of our efforts.

1. How have the results of PRP/Matristem therapy been progressing?

Since we began employing PRP/Matristem therapy, we have treated 132 patients from 17 countries. Of these, 111 or 84% of patients have reported an improvement in their symptoms, 13 patients (10%) have not reported any followup, 5 patients (5%) have reported no improvement at all, and 3 patients (2%) have reported getting worse after therapy. Of the 111 who have reported an improvement, I would say that 17 have reported a dramatic/life changing benefit, 83 have reported a moderate or significant benefit, and 11 have reported only a mild benefit. Of the 3 patients who have reported getting worse, they have reported that their ENS symptoms have been getting worse, such as the paradoxical obstruction and/or the pain or burning in their nose is worse. I have not been able to tell if this is do to the injections or just a result of the progression of their symptoms. I have had 1 patient who said that their mouth dryness got worse after an injection, but they reported an improvement in ENS symptoms with the injection and stated that they had preexisting mouth dryness. I have now seen visible turbinate regrowth in an estimated 20-30 patients from endoscopy. Number of injections have ranged from 1 to 11 injections. I believe that each injection is providing an additive benefit, and I have not noticed that the timing of the injections is very important.

Overall, I am very encouraged and now confident that this therapy is working and helping the majority of my patients. I plan to present these data at a tissue reengineering conference in the near future and I am now working to create a protocol for a randomized, blinded, placebo-controlled crossover study to provide level IB evidence that this therapy is helpful, and will begin fundraising for such study. This study will be expensive, costing about \$10,000 for IRB review, approximately \$75,000 for treatment materials, and probably \$15,000 for study coordination/logistics. So, overall, I will need to raise probably \$100,000 to fund a study for 40 patients.

2. How did the ARS Summer Symposium go?

The American Rhinologic Society holds an annual course in Chicago each year, where we teach ENTs about current advances in sinus surgery. This year, the course became free for all ARS members and we had record attendance with an additional 90 ENTs present. During one panel, James Palmer discussed to the entire audience that his biggest fear was creating Empty Nose Syndrome. I was invited to moderate the panel on Socioeconomic Changes in Sinus Surgery, and I invited Eric Holbrook, a rhinologist from Harvard Medical School and Chair of our Ethics Panel to present. He warned against performing unnecessary surgery and non-indicated surgery, and discussed for example, not performing turbinate reductions during a septoplasty when they were not needed.

Also, another one of my panelists, Stephanie Shintani-Smith, discussed abandoning outfracture, resection, and/or cautery of the turbinates and instead only performing submucous resections when indicated. David Poetker also presented a panel on nasal and turbinate surgery of which Jayakar Nayak was a panelist, and he discussed his experience with the cotton test, his surgical technique and results with Alloderm implants (which I do not like) and his growing population of ENS patients. I also participated in that discussion and discussed my experience with PRP/Acell.

Encouragingly, the panel 100% agreed that ENS was a real issue that warranted further study and was a dreaded complication to be avoided. Many panelists and audience members discussed their theories as to why a small percentage of patients develop ENS after turbinate surgery. Devyani Lal, a sinus cancer surgeon, discussed many valid reasons why sinus cancer patients might not develop ENS but patients selected for turbinate reductions might go on to develop ENS. Overall, there was a significant focus on ENS at this meeting that was not present at other meetings and absolutely no discussion was had that this is simply a psychiatric disease that is not related to the surgery. I met separately with Jayakar Nayak during the meeting and had a nice discussion and we will further collaborate on our ENS patients in the future. I do not like Alloderm as I have not seen good results in my several years of trying it; I believe it worsens ENS from the eventual scar formation that results and a recent meta-analysis in the Laryngoscope showed only 21% benefit), however, Jayakar has had some good results with it with some patients “progressing from an F to a B”. I recommend patients who want Alloderm to now consider seeing Jayakar instead of Stephen Houser (both are good friends who I respect tremendously) because Jayakar is working on a prospective trial examining the results of implants and will publish these data in the future. Jayakar and I will likely try to have dinner together in Dallas in September and increase our coordination of ENS efforts.

3. How did your meeting with Pradeep Mahajan go?

Over the summer, Dr. Pradeep Mahajan, an internationally respected stem-cell researcher presented as a keynote speaker to The Ohio States annual course on Tissue Regeneration. I took Dr. Mahajan out for dinner and spent four hours with him discussing stem-cell therapy for chronic sinus disease and ENS. He validated the Acell/PRP technique and stated that is was likely to be one of the most successful approaches for ENS because it contained both enriched platelets (greater than 2 million/mL of activated platelets are essential for initiating a wound regeneration response, and the Matristem contained ECM, which is also essential. ECM can be obtained from bladder, intestinal sources, and other areas which are likely to be effective. My technique likely requires circulating stem cells to become activated by the PRP/Acell, which is not as much of a problem in turbinates, because turbinates are engorged in blood and receive 20% of the circulating blood volume. However, it can be a problem in areas of dense scarring. Also, my technique is likely to have no risk of developing cancer, as it requires normal functioning stem cells to come from the blood, whereas enriching or transforming stem cells in a petri dish with growth factors or other therapies run a small risk of developing a cancer. We discussed methods to better activate platelets from my PRP. I explored the use of calcium chloride and thrombin but rejected both due to the risk of tissue necrosis and developing an autoimmune reaction to a critical circulating protein. Instead I am now mechanically agitating our platelets for an additional 5 minutes and injecting them through a bent needle which likely mechanically activates them. Also premixing platelets with the collagen found in Acell activates them, and is likely why PRP/Acell is working so much better than other therapies. Based on my discussion with Dr. Mahajan, I have now abandoned either delivering PRP alone or delivering Acell alone, as both by themselves are unlikely to work from a theoretical approach.

4. How are your stem-cell therapies progressing?

I have tried PRL/PRP/Acell sheeting delivered via surgery for several patients including those with chronic sinus disease. I have had mixed results. These have been some of my toughest patients with the most severe forms of sinus disease or ENS, but I have not noticed the impressive regrowth of tissue compared to some that I am seeing from multiple PRP/Acell injections. I have several

theories on this. One is that many patients with ENS likely have a connective tissue disorder, or fragile nerves, etc, and surgery is intrinsically harmful to them and they do not recover well from surgery. So the act of surgery and cutting into their turbinate remnants might be harmful in itself for these patients. Two, the use of PRP/Acell might be acting like a tissue expander (a technique plastic surgeons use to grow more scalp after cancer, for example) and the hydrostatic pressure expands the turbinate remnant and new healthy tissue grows into the space. With surgery, I am unable to mechanically expand a space with hydrostatic pressure since I cut into it so much. In any case, PRP/Acell is exceeding my expectations more often than PRL/PRP/Acell has delivered via surgery. Dr. Mahajan stated that bone induction should be easier with PRP/Acell compared to blood vessel induction. As a result, I am intentionally scraping bone during my injections with PRP/Acell hoping to stimulate some BMP hormone release and bone growth.

5. What is in the future for your ENS efforts?

I will be going to spend a day with a leading orthopaedic stem cell doctor near St. Louis Missouri in October 2015 to learn their technique for bone marrow and fat aspirates. I will hopefully present next year our ENS efforts at the leading stem cell conference in the US and hopefully meet new researchers and contacts there. Hopefully, we will begin fundraising and slowly raise the \$100,000 to support a high quality trial of PRP/Acell and publish this. After that is completed, we will then present this paper to all of the leading insurance companies and try to get them to cover this therapy with medical insurance. Overall, I am pleased with the progress we are making. We still have much work to do.

Best wishes,
Subinoy Das
USIASCR

<http://guest.fr.yuku.com/topic/5875/July-2015-Update-PRPMatristem-Therapy-Advocacy-Efforts#.Vce0TLXM-So>



Follow up on PRP/Matristem therapy from US Inst for Adv Sinus Care & Research
Jan 28 2015

Dear ENS Community,

We are attaching an update on our efforts to prevent, treat, and cure empty nose syndrome. We hope you will find it useful.

1.How have your initial results been for injection therapies for ENS?

We have injected approximately 50 patients this year with primarily a combination of

platelet-rich-plasma and Matristem (soluble collagen and laminin fibers). We have experienced positive results for most of our patients. Approximately 80% of our patients have reported benefit from an injection. We have not received any followup from 12% of our patients. 6% of our patients have reported no improvement from an injection and 1 patient reported that his symptoms of dryness and obstruction were worse after the injection. We have not had any severe procedural complications during or after the procedure. We have had some patients who had difficult access for venipuncture, several patients who had some mild bleeding after the procedure, and 1 patient who felt like fainting just prior to the procedure. In terms of benefit, this has ranged from a mild-moderate initial benefit that has only lasted 1-2 weeks and then returns to the patient's pre-injection condition to patients who have had life-changing results with significant reduction in their nasal congestion, significantly improved sleep, and an ability to return to their normal lives. We have witnessed actual turbinate regrowth now in several of our patients who have received multiple injections. Approximately 1/3 of our patients have returned for multiple injections, with one patient currently on her 8th injection. All of our patients who have received multiple injections have reported added benefit from each repeat injection except for 1, who received 2 injections and reported that he received minor benefit from each injection that dissipated relatively quickly.

2. Are you now offering implant surgery?

We have had a few remarkable results for patients with sinus disease, for whom we have provided a platelet-rich lipoaspirate and fat graft, combined with platelet-rich plasma and Matristem sheeting. One of our patients regained her sense of smell after 28 years of loss of smell. We have seen significant benefit for nearly all of our initial patients with chronic sinusitis that we have tried this for. As a result, we will begin offering this surgery under general anesthesia for selected patients with ENS that we feel would benefit from a tissue implant. In addition, we have been able to get partial insurance coverage for the procedure. We will offer a combination of PRP, PRL, and Matristem sheeting for patients. This procedure will require general anesthesia, and fat is removed from a patient's abdomen for this procedure, so it is a bit more complicated than an injection under local anesthesia.

3. What progress has been made on patient advocacy?

We have completed a one-page informational handout about Empty Nose Syndrome that will be made available on the American Rhinological Society website. This should enhance both patient and physician awareness about this disease. This should be available on the ARS website shortly. We will report on other advocacy and research items in progress shortly. Please visit our website at www.usasinus.org or email us at usasinus@gmail.com for more information.

Best wishes,
Subinoy Das, MD, FACS
US Institute for Advanced Sinus Care and Research

<http://guest.fr.yuku.com/topic/5756/January-2015-Update-Institute-Advanced-Sinus-Care-Resea>



[Update on PRP/Matristem Treatments](#)

Oct 16, 2014

Dear ENS Community,

We have gotten several requests for further information on our therapies. I will share some information with this website from time to time.

1. How did the American Rhinologic Society meeting in Orlando go?

The letter that the ENS community has been working on was presented by our previous President, Tim Smith, to the ARS Board of Directors meeting. There was a considerable spread of opinions in the room, with many wondering if ENS really exists, and a group considering whether the ENS community would be able to donate money to sponsor further research into ENS. At the conclusion of the discussion, I was tasked to enhance the ARS website with questions and answers specifically meant for ENS. I informed the Board that I would seek the assistance of Steven Houser to help me create the website for the ARS.

2. How are your treatments with PRP/Acell progressing?

We now have experience with about 20 patients, many of whom have returned for repeated injections. The results have been positive. The vast majority of patients report some improvement with the injection, with improved sleep, improved moisture, less suffocation, and increased sense of normalcy as the common reported benefits. SNOT-22 scores have improved on average by 1.5 points per category. Initial side effects/problems have been: some difficulties obtaining blood with occasional blood draws from the neck being required; some sneezing and mild bleeding after the procedure. We have given one patient antibiotics within a week of the procedure, but it is unclear if it was to treat a sinus infection or due to a reaction from our injection. One patient has reported to us that he feels like his sense of suffocation has gotten worse after the injection and that he feels like the injection did not help him. One patient who received PRP alone also reports that he did not receive any benefit from the injection. Several patients have reported that this has been a life-changing improvement with major significant improvements in their quality of life. As with any therapy, it is very unlikely that PRP/Acell will be 100% successful for all patients.

3. What are the differences between a soluble implant and sheets of implant tissue placed?

In my research, I believe that soluble Matristem plus PRP represents the best therapeutic option for most patients. Sheets of acellular tissue add bulk to the nasal cavity, and may improve airflow by changing turbulent airflow to laminar airflow. We are working to provide a surgical option to provide these implants for less than \$10,000. However, for most patients, a soluble injection of Matristem combined with PRP can be provided with topical anesthesia only and this therapy acts similar to a crystal or a seed, and I believe stimulates the ingrowth of fibroblasts, respiratory stem cells, and other tissue regenerative processes that actually lead to tissue regrowth, nerve regrowth, goblet cell regrowth, and improved functioning of the turbinate. Soluble Matristem is likely more beneficial for patients with nerve damage to the turbinates causing the majority of their symptoms. I am becoming less convinced that PRP alone is a valuable therapy for most patients with ENS, as our findings seem to indicate that Matristem plus PRP is proving to be far more effective.

4. Why are people not publishing rapidly on ENS treatments? When will you be

publishing your results?

The problem is ENS is very poorly accepted as even an entity in the ENT community. To publish quality results, a well-designed, placebo controlled trial will likely be necessary, with extended followup, probably at least a year. We are gaining enough confidence with our initial experience with PRP/Matristem to invest in designing a long-term, placebo controlled trial for this. We now need to find a grant of approximately \$200,000 to execute such a study and be able to provide free therapy for 60 patients.

5. What about PRL? Why do you not use it?

I have used PRL for many years when treating patients with severe frontal sinus disease. PRL consists basically of taking abdominal fat from patients and implanting them into the turbinate. Fat contains growth factors, and other tissues that support epithelial growth and maybe very valuable, however, it also contains a significant amount of cells, which if not given an adequate blood supply, can necrose, and become infected. I believe Matristem, which is sterile and acellular, and therefore at no risk for necrosis, is a safer alternative and it is proving to be more effective, particularly in results from other parts of the body where it is used.

6. What about multiple injections? How many and how frequently do you need them?

We are finding that patients have additional benefits with repeated injections. Most patients are reporting an additive benefit from the additional injections, and a few patients report that the benefits of the initial injection tend to decrease over time, and a repeat injection restores the benefit. Due to expense of the procedure and the difficulty to find sites that are offering this procedure, most of our patients are coming to see us monthly for repeat procedures. We have had two patients who repeated that they felt like that have achieved a permanent benefit that has nearly returned them to normalcy after 4 injections.

7. What is your overall plan for curing ENS?

We are developing a strategic roadmap to increase awareness, prevent the creation of this disease, and develop therapies for patients who suffer from this disease.

Awareness: We need to develop an objective measure and explain why most people who have extensive turbinate resections do not develop ENS, but some who have resections or even submucosal reductions with cautery, cryotherapy, etc, do develop ENS. My impression is that altered airflow is a subset of this disease, but the greater component of harm is the neural damage done to the turbinate. Without some objective proof, this theory will not be taken seriously within the entire rhinology community. We are trying to use computational fluid dynamic analysis to objectively analyze airflow. We will need to develop a test that objectively measures neural performance/activity of the inferior turbinate.

Prevention: A more acceptable argument will be to do minimal surgery required to obtain benefit. I think a good strategy is to recommend that submucosal resections of the inferior turbinate be preferentially performed with a microdebrider blade and cryotherapy, cautery, or full thickness resections be avoided.

Develop therapies: Our next goal will be to fund a clinical trial for the members of our clinical registry to run a blinded, placebo controlled trial of PRP/Acell for ENS. There are several

intriguing stem cell studies being performed, however most are in the lab or in animals. We will continue to vet these trials and try to personally vet them when they seem legitimate and safe. Currently, I am comfortable using FDA approved therapies with off-label indications (therapies that have been FDA approved for different areas of the body). I am not comfortable using non-FDA approved therapies on any of my patients. However, I am hopeful that within 10 to 15 years, scientists will develop therapies that either regrow turbinates in a dish that can be reattached to turbinate stumps or that stem cell therapies will cause regrowth of turbinate tissue. It will be helpful if Congress earmarks specific funding for ENS research and therapies.

That's all for now.
Best wishes, Shu Das

<http://guest.fr.yuku.com/topic/5653/Follow-PRPMatristem-therapy-Inst-Adv-Sinus-Care-amp>



**More Information about our Institute Responses to Inquiries to U.S. Institute for
Advanced Sinus Care and Research**
July 21, 2014

Dear EmptyNoseSyndrome.Org Community,

We have received several inquiries from members of this site and so I hope to reply to many of these common questions in an effort to be helpful and efficient.

1. Who are we and why did we form?

Several forces coalesced to drive the development of our Institute. I received the Edmund Prince Fowler Award for the Top Basic Science Research thesis submitted to the Triological Society, the most prestigious academic society in Otolaryngology, in 2013. My NIH-funded research for the last six years has been trying to ascertain why bacteria cause chronic sinusitis. Through the use of proteomics-based testing and advanced bacterial biofilm analysis, we were able to create a rapid, point-of-care test for chinchillas that could identify whether the cause of a common-cold was due to a virus or bacterial source. As a result, I was encouraged by the State of Ohio to give up my position as the Director of Rhinology at The Ohio State University and develop a startup company (www.entvantagedx.com) to develop this test for humans. My intellectual property was patented, licensed, and so far we have received over 3 million in funding commitments to develop this test. In the course of developing this startup, I met several venture-capitalists, physicians, and patients who were frustrated with the high-cost, low value American healthcare product, a situation that frankly may become worse with the Affordable Care Act, particularly for patients with non life-threatening, rare, or advanced specialty disorders, as opposed to care that may improve for patients with common, life-threatening, preventable diseases, such as diabetes, heart disease, etc. My patients have suffered from the former, which are at risk of being overlooked as insurance companies and the federal government increasingly decide which diseases will be paid for and prioritized in American society. As a result, a group of over 20 physicians, business-leaders, entrepreneurs, industry leaders, patients, and patient advocates have banded together to develop another startup, a private institute devoted to finding cures for advanced and rare sinus disorders.

We are in our infancy, and are developing relationships with many top doctors across the country in the field of rhinology and related specialties. Along with our sister company, ENTVantage, DX, Inc., we have invited/are in the process of negotiating contracts with Dr. Harold Pillsbury (past President of the American Board of Otolaryngology and President of the Academy of Otolaryngology-Head and Neck Surgery), Dr. Brent A. Senior (past-president of the American Rhinological Society), Dr. Steven Houser, (upcoming president of the American Academy of Otolaryngic Allergy), Dr. Don Gonzales (founder of ENTrigue and inventor of the septal stapler, serpentine sinus instruments, and holder of over 60 patents), Dr. Amber Luong, (a leading sinus researcher at UT Houston), Dr. Jayakar Nayak (a leading stem-cell sinus researcher at Stanford University), and other world-leaders to serve as the Board of Directors for our Institute.

2. Why have we developed an interest in Empty Nose Syndrome?

Our original interest was to develop stem cell therapies to repair the damaged sinus lining for patients suffering from advanced forms of chronic sinusitis. Currently, stem cell therapy is likely not safe enough for these patients, as there are significant immunology challenges and a risk for cancer or out of control growth created by induced pluripotent stem cells. As a potential bridge to this therapy, we have been studying the value of platelet-rich plasma for our patients. In the development of this technology and in discussions with Dr. Houser, we have realized that the Empty Nose Syndrome community, particularly overseas, is much larger than members of the American Rhinologic Society has realized. We have had several patients independently approach us over the last year and ask for a combination of platelet-rich plasma and Acell Matristem implants. Our initial patients have all had very promising results, and as a result, we cautiously decided to inform this forum about our offering of combined PRP/Matristem implants for treatment of Empty Nose Syndrome.

3. What do you think combined PRP-Matristem implantation is effective? What does the procedure entail? Why so expensive?

Platelet-rich plasma contains many types of growth factors, when concentrated in an area, might induce wound-healing, neovascularization, and new nerve growth. When combined with Matristem, which is a form of collagen created by researchers at Harvard University, we believe that the collagen provides a scaffold of several types of collagen, and the PRP acts as an activator to hopefully induce tissue regeneration in a locally affected area. The procedure entails drawing 60 mL of blood, and using an expensive and patented double-syringe/centrifuge system to enrich platelets. The centrifuge takes 5 minutes to spin blood at several programmed cycles and enriches platelets. These are then mixed with the soluble collagen implant and injected into turbinate remnants or nasal floor/septum in an effort to induce wound-healing. The injections have been repeated several times for a few patients. We frankly do not know the optimal injection frequency or other critical parameters for Empty Nose Syndrome, and experiences in orthopaedics are driving our initial parameters. Arthrex, which is the top vendor in this area charges us \$15,000 for the centrifuge and \$400 for each syringe kit; Acell charges between \$100-400 for the implant. In addition, this therapy is considered experimental and unfortunately not covered by insurance companies. To recoup our cost, our prices were set at \$1845 and \$1500 for repeat injections. These were set by our financial administrators solely in an effort to recoup costs. Zero percent of the cost is used to supplement or defray any administrative or physician salaries for the procedure.

4. What about patients who have not had a turbinate reduction, have had implants already, but still have symptoms of Empty Nose Syndrome? Can they be helped? Why did you

diagnose a member with Body Dysmorphic Disorder?

Until recently, much of the teaching and understanding of Empty Nose Syndrome was thought to be related to the creation of turbulent nasal airflow from the over-resection of nasal tissue and disruption of the normal laminar airflow physiology. Evidence of atrophic mucosa and/or crusting were objective symptoms that we would look for on nasal endoscopy to confirm this diagnosis. Recently, research has been performed that suggests that abnormal pressure and/or temperature sensation and disruption of the normal nasal cycle maybe a cause of more of the debilitating symptoms. Dr. Steven Houser, a rhinologist practicing at Case Western Reserve University and likely the top subject matter expert on ENS, and well-known to many in this group, has recently published a paper that underwent rigorous peer-review and was accepted in the Laryngoscope, our top journal in our field, that theorizes on the importance of neural damage in this disease. As a result, we are realizing that many patients who have had septoplasties, open rhinoplasties, mild turbinate reductions in terms of volume, but possibly with over aggressive cautery or radiofrequency etc, may be suffering from symptoms of this disease. While HIPAA laws prevent me from commenting on any personal medical care or confirming or denying any individual medical diagnoses, I have been likely wrong in dismissing the diagnosis of ENS in certain patients with normal-appearing nasal mucosa on nasal endoscopy.

5. Why does the ARS, the NIH, and ENT Community not devote more resources to prevent this disease and/or cure this disease?

ENS, as many on this forum are aware of, is particularly devastating because it is often caused by a medical expert in the field of nasal care, and then adamantly denied with the dismissal/double victimization of the patient by the medical community. It is difficult for the ENT community to deal with because the same procedure performed on so many other patients leads to a positive outcome. As a result, the true incidence and prevalence of this disease is likely severely-underestimated by our academic community. I, along with other academic rhinologists, have been selected to select which research grants are funded by the American College of Surgeons, the Triological Society, and other granting organizations, and I myself have been wrong on the prevalence of ENS and likely have dismissed patients with disease in my career. The same holds true for patients who suffer from other rare diseases such as Idiopathic Intracranial Hypertension, Cystic-fibrosis related variants of chronic sinusitis, Wegener's Disease, and others. Our Institute is trying to improve the quality of field of rhinology in directing patients with rare and advanced diseases to the correct subject matter experts in their field in our best attempt to alleviate the suffering from these difficult problems. All patients who receive PRP/Matristem will be prospectively enrolled in a study. We will then submit the results of this study for an oral presentation to the American Rhinological Society tentatively planned for COSM in April 2016, which should have a strong educational impact for this disease.

We hope this helps. We will continue to provide responses from time to time and inform this forum on any new developments in the treatment of ENS when we become aware of them. Sincerely, Shu Das, MD on behalf of the US Institute for Advanced Sinus Care and Research <http://guest.fr.yuku.com/sreply/32467/PRP-ACell-Implants-available-Institute-Advanced-Sinus>



PRP & ACell Implants now available at US Institute for Advanced Sinus Care & Research

July 7, 2014

The newly created US Institute for Advanced Sinus Care & Research is now offering platelet-rich plasma injections combined with acellular dermis implants for patients with Empty Nose Syndrome. We have had positive experiences with our initial patients. Please visit our website at usasinus.org for further information.

The Institute is physically located in Columbus Ohio. Dr. Subinoy Das, former Director of Sinus Surgery at The Ohio State University, Audit Chair and Fellow of the American Rhinologic Society, and winner of the 2013 Fowler Award for the Top Basic Science Research Project in Otolaryngology is the new Medical Director. The Institute collaborates with leading otolaryngologists throughout the world in an effort to provide patients with advanced and rare sinus diseases with cutting edge therapies. For more information, please visit www.usasinus.org or contact Ms. Melanie Clark at usasinus@gmail.com.

<http://guest.fr.yuku.com/topic/5533/PRP-ACell-Implants-available-Institute-Advanced-Sinus>