THE SOCIETY OF REPRODUCTIVE SURGEONS

Spring 2023

NOTE FROM THE EDITOR

Dear SRS Members,

I am happy to bring you the 2023 Spring edition of the SRS newsletters.

The newsletter starts with our newly elected president's message, Dr. John Preston Parry.

This year, the ASRM annual meeting will be held in New Orleans, Louisiana between October 14-18, 2023. The theme is "The Past, The Present, and the Pipeline ". While the scientific program is not finalized yet, our society will have a Postgraduate course and few roundtables and interactive sessions.

In our Gynecologic section, the REI team at Duke University describe a case report of a rare Mullerian Anomaly (Robert's Uterus based on recent ASRM classification).

Our urology corner includes an exciting article from our colleagues in Brazil regarding Adolescent Varicocele management.

In collaboration with SREI, we had another extraordinarily successful surgical bootcamp. This was our 8th annual boot camp and 32 REI fellows attended from across the country. This year, and the for the first time, Dr. Jared Robins, CEO of the American Society for Reproductive Medicine, joined our dedicated and enthusiastic teaching faculty.

Finally, more programs continue to join the SRS Surgical Scholar Track… just four over the last year! I continue to encourage any interested programs to contact the fellowship chair, Dr. Steven Lindheim.

Sincerely,
Rony T. Elias, M.D.

Message from the SRS President, Dr. John Preston Parry

Dear Friends, Colleagues, and Surgeons,

It is a privilege and a pleasure to be writing you as the 2022-2023 President of the Society of Reproductive Surgeons. With exceptional mentors and leaders for SRS in the past, and with so many motivated and capable clinicians coming up, I'm excited for our future. There has been a lot to celebrate over the past year, particularly with the 2022 ASRM annual meeting and the 2023 SRS-SREI Fellow Bootcamp.

The 2022 ASRM meeting in Anaheim was an exceptional success, with multiple educational opportunities to advance in reproductive surgery. These include the postgraduate hands-on office surgery course, sessions on a multidisciplinary approach to endometriosis management, optimizing the uterus prior to conception, managing the septate uterus, multiple round tables and more. Also, the connections formed through SIG and affiliate society gathering, as well as through what felt to be a more open and inclusive SRS awards ceremony and reception, have helped in expanding our connections with the next generation of reproductive surgeons. Immediate past-SRS president Dr. Kat Hwang, Keith Ray, and Megan Miller were essential to all of these going well, as they were in preparing for the SRS-SREI bootcamp. We are enthusiastic for the 2023 Annual Meeting in New Orleans, including the postgraduate hysteroscopy workshop, as well as even more surgical sessions than usual for recent years thanks to the hard work of Dr. Mindy Christianson.

The January 2023 SRS-SREI surgical bootcamp also went resoundingly well. 32 REI and MIRS fellows attended to advance surgical skills, with hysteroscopic, laparoscopic, robotic, and microsurgical training, along with networking, business insight, and a bit of bowling to round out the experience. Dr. Ranjith Ramasamy and Dr. Rebecca Flyckt's efforts clearly paid off, and with so much enthusiasm for the experience, we hope to expand the training back to all fellows in the coming years.

Beyond specific events (as well as some great webinars spearheaded by Dr. Joseph Findley), the most important SRS momentum has been through the Surgical Scholars Track (SST) led capably by Dr. Steven Lindheim. In the past two years, the SST has expanded to 8 programs, has 3 more sites expressing interest, and has multiple associated accepted abstracts and book chapters. SST-associated research is accelerating to the point where SRS is forming an ad hoc research committee to systematically support SRS and SST associated projects.

Research is one of many areas in which SRS is planning to expand and we're looking for volunteers. If passionate about research, mentorship (Rising Star Committee), or sustainability (PANDA- Philanthropy And Development Allies), please reach out to Megan Miller (mmiller@asrm.org) or me (jpreston@parryscope.com) as we want involvement from all of SRS's capable members. These are all essential to central goals, including more research demonstrating the importance of reproductive surgery, attendance of future reproductive surgeons at ASRM and the surgical bootcamp, and ultimately how women get effective and appropriate surgery when indicated as part of their reproductive care. As all of us look to legacy—how we leave this world better than we found it—it is essential to advance our field through accurate knowledge and capable clinicians. Your being a part of the Society of Reproductive Surgeons, both as a member and through direct activity, is critical to this end, so thank you!

Inside this Issue

SRS-SREI 2023 Surgical Boot Camp

Eighth Annual SRS-SREI Surgical Boot Camp

The Society of Reproductive Surgeons (SRS) and the Society of Reproductive Endocrinology and Infertility (SREI) hosted their 8th Annual Surgical Boot Camp on January 19-21, 2023. The event occurred at MITIE, in Houston Texas. The MITIE Center (Methodist Institute for Technology, Innovation & Education) is a state-of-the-art surgical simulation lab and hands-on clinical training facility. This in-person event was attended by approximately 30 REI fellows who traveled from across the country to participate. The course was directed by Dr. Ranjith Ramasamy, University of Miami, and Dr. Rebecca Flyckt, University Hospitals Cleveland, and was performed under the guidance of SRS President, Dr. Preston Parry. The SRS-SREI event also welcomed for the first time Dr. Jared Robbins, Executive Director of the American Society for Reproductive Medicine, to join the other dedicated and enthusiastic teaching faculty who make this yearly event a success.

The SRS-SREI boot camp provided a great opportunity for the fellows to learn about laparoscopy, robotic surgery, hysteroscopy, and microsurgery through hands-on sessions and practical lectures led by experienced reproductive surgeons. The event was designed to help the fellows improve their surgical skills and learn how to incorporate reproductive surgery into their career aspirations. Gynesim models were used to practice common REI procedures such as myomectomy and ovarian cystectomy and fellow also practiced their skills on the new embryo transfer station.

The boot camp also featured interactive social events such as bowling, which provided a fun and relaxed atmosphere for the fellows and faculty to get to know each other. Additionally, the event included a "tell your favorite joke" event, which was a great opportunity for everyone to let loose and share in a good laugh.

At the conclusion of the boot camp, awards were presented to the fellows who had demonstrated exceptional skills. This was a great way to recognize and celebrate the achievements of our hard-working fellows and also to motivate them to continue to improve their surgical skills after returning home.

Overall, the recently concluded SRS-SREI Surgical Boot Camp was a great success. It provided an opportunity for REI fellows from across the country to network and learn from experienced reproductive surgeons and improve their surgical skills. The interactive social events and awards ceremony added to the overall enjoyment of the event, and it was a great opportunity for the fellows and faculty to come together and learn from one another.

We once again thank our supporters from ASRM, including Susanna Scarbrough, Megan Miller, and Keith Ray, and we are grateful to the vendors for their support in another outstanding year!

Wedge Excision of Uterine Septum with Non-Communicating Cavity

Paige McKeithan Cisa, MD; Suheil Muasher, MD; Kelly Salter Acharya*, MD
Duke University Medical Center, Durham, North Carolina

A 19-year-old female presented to Reproductive Endocrinology clinic for severe dysmenorrhea since menarche, necessitating multiple visits to the emergency department. Exam showed no vaginal septum, second cervix, or hematocolpos. 3-D ultrasound revealed a single fundus with two endometrial canals. Magnetic resonance imaging was confirmatory: the left cavity appeared to communicate with the cervix, while the smaller right fluid-filled cavity appeared non-communicating. Renal ultrasound was normal. Continuous oral contraceptives did not improve symptoms. She underwent exploratory laparotomy which confirmed one uterine body and one cervix. When the fundus was incised, a uterine septum was seen obstructing the right side of the uterus. Two endometrial cavities were encountered: the left cavity was probed and found to be continuous with the cervix, while the right cavity was noncommunicating and filled with blood. Wedge resection of the septum and reunification of endometrial cavities (Jones metroplasty) was performed. Hysterosalpingogram 6 months post-operatively showed unification of the two cavities with patent left fallopian tube. The American Society for Reproductive Medicine (ASRM) developed a Mullerian anomaly classification system in 2021; based on this new classification system, this patient was diagnosed with having a Robert's uterus, or a variation of a complete septate uterus in which the septum divides the uterus asymmetrically into a communicating and a non-communicating horn (1). In this patient's case, reunification of the cavities relieved her obstructive symptoms, and she had no further emergency department visits for dysmenorrhea or pelvic pain.

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(1) Pfeifer et al. Mullerian anomalies classification tool. *Fertil Steril* 2021, 116 (5): 1238-1252.

Figure 1

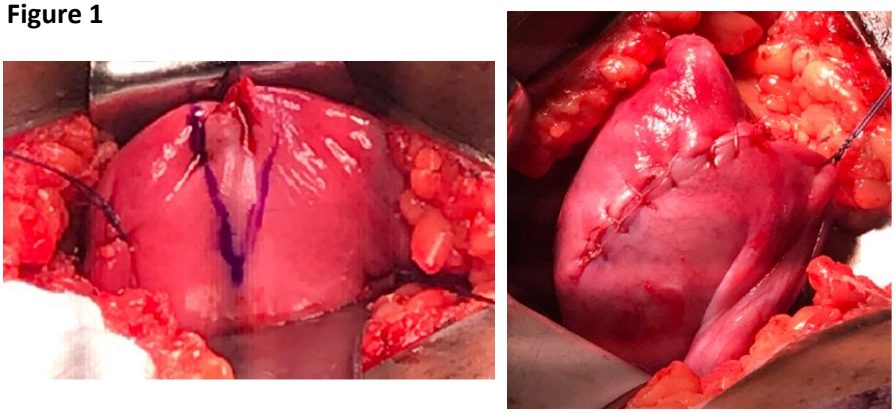
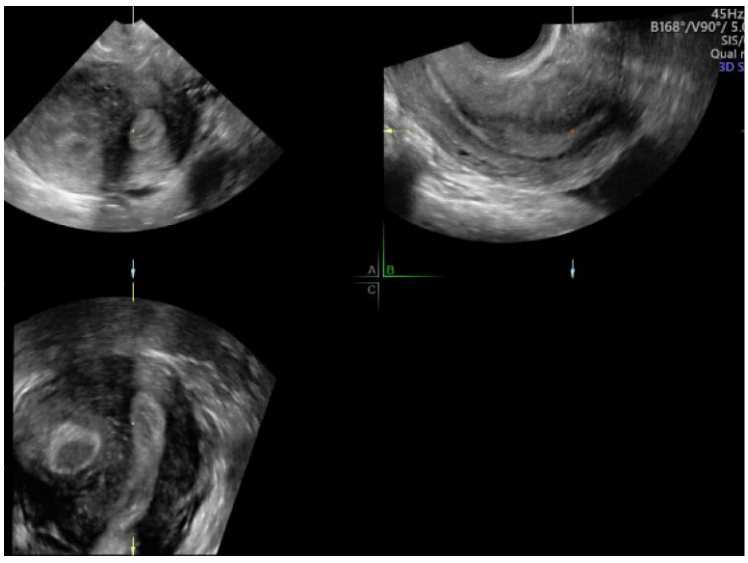


Figure 2

Figure 3



Adolescent Varicocele: How to Identify Candidates for Surgical Intervention

Thiago Fernandes Negris Lima MD; Luis Felipe Savio MD; Arthur Ramos Memorial Hospital, Maceio, Brazil; Beneficencia Portuguesa Hospital, Sao Paulo, Brazil

Varicocele is the most common cause of infertility among males. Varicocele is defined as an abnormal dilation of the pampiniform plexus in the scrotum. The estimated prevalence of varicocele in adolescents to be between 4.5% to 35%. A large Turkish study that included 4,052 boys aged 2 to 19 years detected varicocele in 0.92% of 1,232 children aged 2 to 10 years and 11% in 2,531 adolescents aged 11 to 19 years, suggesting that varicocele develops during this period.[1]

There are various pathogenic mechanisms that explain the effects of varicocele on testicular function. It is hypothesized that poor testicular perfusion, oxidative stress, heat stress, and endocrine abnormalities may contribute to testicular dysfunction and varicocele-associated infertility.[2] As a result, patients with varicocele have been observed to have decreased semen parameters and pregnancy rates. Gökçe, A. *et al* postulated that genetic factors may play a role in the pathogenesis of varicocele, as it has been observed to have a higher prevalence in first-degree relatives of men with a known varicocele.[3] The decreased expression of heat-shock-proteins in some patients may contribute to heat stress and, consequently, an elevation of oxidative stress markers.[4] Moreover, blood stasis caused by abnormal venous drainage leads to white cells trapping and activation, resulting into reactive oxygen species release and oxidative stress.[4] The increased oxidative stress can promote apoptosis, sperm DNA damage, decreased sperm motility, an increased abnormal forms, and reduced sperm count.[4]

The clinical assessment of adolescent varicocele is similar to that of adults and varicoceles can be graded according to Dubin and Amelar's classification (see Table 1).[5] Adolescent varicocele is typically asymptomatic, and 90% are left sided due to anatomical differences in venous drainage.[6] Evaluating and managing varicocele in the adolescent population can be challenging due to unclear effects on semen parameters and testicular function at this age. Testicular growth variation, difficulties in obtaining semen samples, and limited guidelines are significant issues in managing patients. Diagnosis is made by clinical examination of the genitals in a room with a suitable temperature, which can usually be identified during routine medical checkups.[7] Only 3% of varicoceles are clinically palpable bilaterally and the presence of an isolated right-sided or a prepubertal varicocele is rare and requires investigation. Although diagnosis is primarily based on physical examination, doppler ultrasonography is used to confirm the diagnosis and assess additional information such as testicular size and peak retrograde flow (PRF).

Doppler ultrasonography has gained much importance, not only as a diagnosis tool, but also as an instrument capable of determining the risks of varicocele progression. For many years, testicular hypotrophy has been used to indicate surgery. Diamond *et al* correlated testicular volume differential and semen parameters in adolescents and suggested that a testicular volume differential greater than 10% correlated with a significantly lower sperm concentration and reduced total motile sperm count.[8] When dividing testicular volume differential into categories, 59% of patients in the greater than 20% volume differential category had low total motile sperm counts (less than 10 million), whereas 11% had total motile counts less than 10 million in the 10% to 20% differential category and none in the less than 10% volume differential category.[8]

These findings challenge previous studies that used 20% of testicular volume differential as a cutoff, showing that patients with a volume differential greater than 10% may be at risk for subfertility. Due to the variation in testicular size during puberty, more recent studies have attempted to predict the failure of the catch-up growth process. Using peak retrograde flow (>38cm/s) in combination with testicular asymmetry (> 20%), researchers created the 20/38 harbinger, a predictor of persistent/worsening asymmetry. [9] According to this study, patients that meet these criteria should undergo varicocelectomy, since almost all patients were not able to improve testicular asymmetry after a mean follow-up of 15.5 months.[9]

Semen analysis is an examination of significant importance. It should be ordered taking into account that the first ejaculation usually occurs 1.5 years after the onset of puberty.[10] Besides accounting for the period of time to request it, physicians may encounter additional barriers that could preclude the test's execution. A survey of Society for Pediatric Urology members regarding their management of adolescent varicoceles concluded that most pediatric urologists (53%) never ask for semen analysis. A third of them will order semen analysis depending on patient/family interest, while only 13.1% of pediatric urologists routinely request semen analysis in patients meeting their criteria.[11] Additionally, there is a positive association between the number of varicoceles seen and the likelihood of ordering semen analysis ($p<0.01$).[11] Among the criteria utilized by these pediatric urologists to order semen analysis it is worth mentioning age >18 years (45%), >17 years (21%) or Tanner 5 (17%).[11]

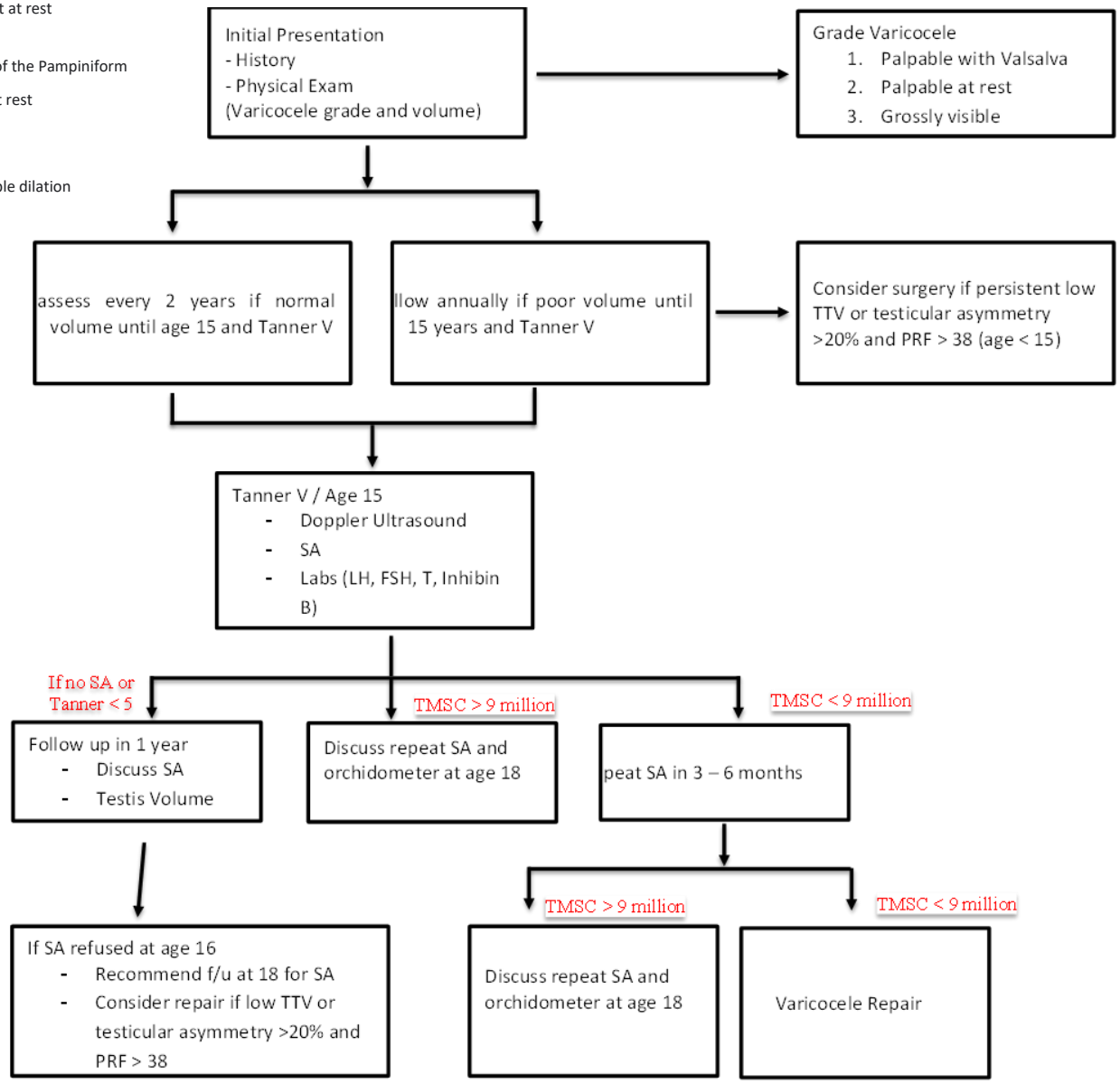
More recently, Van Batavia *et al* correlated total testicular volume and serum hormones with total motile sperm count in Tanner V adolescents with left varicocele.[12] When correlating hormones and semen parameters, FSH was weakly negatively correlated with both total sperm count and TMSC. Inhibin B levels had the strongest positive correlation with total sperm count and TMSC. In addition, total testicular volume (TTV) was significantly positively correlated with TMSC. The authors generated an ROC curve and determined that FSH > 2.9, Inhibin B of 204 and TTV 34.4mL could be used as cutoff to predict TMSC < 9. These parameters could be used as surrogates for TMSC in adolescents who defer semen analysis. [12]

Currently, there is no indication for routine screening for varicocele among adolescents. Once an adolescent presents with varicocele to the clinic, urologists should perform a full assessment to determine candidates for intervention (see algorithm if Figure 1). Patients with normal TTV and semen analysis should be followed up every two years. If abnormal TTV is observed, follow up should be conducted annually. Adolescents with varicocele and persistent abnormal semen analysis or persistent low TTV should be counseled for intervention.

In conclusion, adolescents with clinically palpable varicocele should undergo surgery when there is evidence of progressive failure of testicular development: 1) if patients reach Tanner V maturity and persist with low TTV or > 20% testicular asymmetry and PRF > 38cm/s; 2) When SA is available, if TMSC < 9. The use of FSH and Inhibin B as surrogates for TMSC in males unable to do semen analysis needs to be replicated in larger populations.

Table 1 - Clinical grading of the varicoceles (Dubin & Amelar, 1978)

Grade I	Dilation of the pampiniform plexus palpable only during the Valsalva maneuver and not at rest
Grade II	Invisible dilation of the Pampiniform plexus palpable at rest
Grade III	Visible and palpable dilation



Adolescent Varicocele: How to Identify Candidates for Surgical Intervention (Continued)

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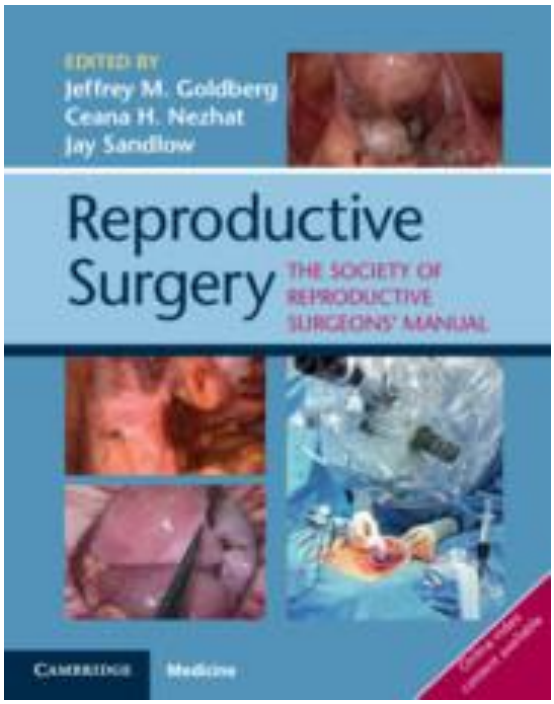
Reproductive Surgery: The Society of Reproductive Surgeons' Manual

Available Now! Order Your Copy of *Reproductive Surgery: The Society of Reproductive Surgeons' Manual*

The Society of Reproductive Surgeons (SRS) is excited to announce the publication of a handbook on which the Society collaborated, *Reproductive Surgery: The Society of Reproductive Surgeons' Manual*. Authored by experts in operative gynecology and urology, the handbook serves as a key guide to understanding modern surgical procedures for female and male infertility.

Edited by SRS members, Drs. Jeffrey M. Goldberg, Ceana H. Nezhat and Jay Sandlow, the manual features step-by-step instructions illustrated with intra-operative photographs and surgical videos designed to increase physician confidence while providing readers with a comprehensive understanding of the indications, techniques, and outcomes of modern reproductive surgery in order to offer patients surgical options and avoid, or improve, IVF.

Reproductive Surgery: The Society of Reproductive Surgeons' Manual is available for pre-order from the publisher, Cambridge University Press. SRS members will receive a 35% discount on the purchase price of the manual by entering the code "SRS19" at checkout.



Fellowship Committee Updates

By Dr. Steven Lindheim

Minimally Invasive Reproductive Surgery Fellowship

SRS established a 1-year fellowship program in minimally invasive reproductive surgery. The enthusiasm of REI fellows at the annual SRS Surgical Boot Camp and the favorable results of an online survey of REI fellows demonstrating their desire to obtain surgical training after REI fellowship were the impetus to develop this program. It is essentially a 1-year preceptorship with a high volume, master reproductive surgeon.

The following are the programs currently accepting applications for 2023-2024:

- Nezhat Medical Center, Atlanta, GA, Program Director: Ceana Nezhat, MD
- Camran Nezhat Institute, Palo Alto, CA, Program Director: Camran Nezhat, MD
- The Advanced Gynecologic Surgery Institute, Park Ridge, IL, Program Director: Charles Miller, MD

Since most REI fellows are not receiving adequate training in reproductive surgery, SRS has created this fellowship to provide them with the needed skills. It is our intention that graduates of the program will deliver excellent surgical care to their patients and will then teach these skills to their trainees to benefit the next generation of patients. Hopefully, they also will become actively involved with SRS to assure the future of reproductive surgery. There is good evidence-based data showing that reproductive surgery is more cost-effective than IVF in many cases, and is often preferred by patients, as it is more "natural" than IVF. Reproductive surgery also is complimentary to IVF, as the surgical management of pelvic pathology can improve IVF results. It is unfortunate that many REIs have abandoned reproductive surgery or relegated it to general or minimally invasive gynecologic surgeons. Reproductive surgeons have a different skill set and approach to surgery, which could lead to improved outcomes. REIs who can operate are more "complete" physicians who can offer their patients all the available treatment options.
Interested applicants for the Minimally Invasive Reproductive Surgery Fellowship can find information on the SRS website at https://www. reprodsurgery.org/about/fellowship-1. Interested preceptors also can find information on the website.

Surgical Scholars Fellowship

The SRS Surgical Scholars Track provides structured surgical training, core surgical education, and requires completion of a fellowship thesis related to reproductive surgery within the REI fellowship. This specialized pathway is embedded within the traditional 3-year REI fellowship at approved sites with high surgical volume.

"The SRS fellowship is an incredible addition to our current REI fellowship program. It allows our fellows with a special interest in reproductive surgery to receive additional in-depth experiences in complex laparoscopy, robotics, and hysteroscopy. Further, our SRS scholars benefit from structured didactics featuring world leaders in reproductive surgery and collaborative research projects that will address important questions in our field". Dr Rebecca Flyckt

"The SRS surgical scholar program is truly an exciting opportunity for all interested REI fellows who have special interest in reproductive surgery. The didactic curriculum with talks given by well-known surgical experts, research opportunities and lively journal clubs augmented with minimum surgical numbers in various techniques of reproductive surgery makes this a competitive and comprehensive fellowship. This fellowship will serve to train the reproductive surgeons of tomorrow at various approved sites nationwide. The future of reproductive surgery is indeed bright!" Dr Zaraq Kahn.

For more information about fellowship programs, please contact ASRM Member Group Administrator, Megan Miller, mmiller@asrm.org.

2022-2023 SRS Board of Directors

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Benefits of SRS membership include:

- **NEW! Secured access to SRS newsletters, literature reviews, surgical videos from SRS members, and the SRS Discussion forum! These benefits are only available to active SRS members.**
- Involvement in the only society that specifically addresses the issues of pelvic reconstructive surgery in women of reproductive age
- Interaction with a national and international group of surgeons who share an interest in reproductive surgery
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