Note from the Editor

Dear SRS Members:

I am very excited to bring to you the Fall 2018 edition of the SRS newsletter. This is part of a new incentive to publish newsletters on a quarterly basis to be in touch more frequently with all of you. Stay tuned for new content formats such as expert interviews, journal reviews and website highlights.

This newsletter includes a “Surgical Innovations” interview with Dr. Steven Lindheim on navigating the difficult cervix and a “Urology Corner” article by Dr. Kathleen Hwang with an update on sperm retrieval in the azoospermic male. We also report on the successful SRS Surgical Bootcamp that was held earlier this year in Houston, TX. The feedback from the trainees and faculty was very positive. We are excited for another great boot camp January 25-26, 2019!

If you are looking for opportunities for SRS involvement, consider sharing your challenging or interesting cases through the SRS discussion forum on the SRS website. Please feel free to reach out to me if you are interested in contributing to the newsletter!

The SRS programs for the upcoming Congress in Denver are going to be amazing, and I look forward to seeing you all in October.

Best regards,
Mindy S. Christianson, M.D.

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Message from SRS President, Dr. Samantha M. Pfeifer

As President of SRS, I have enjoyed working with the board and members of our society over the past year. We have accomplished a lot due to the hard work of many individuals.

My mission over the past year as President has been to get more women involved in SRS, as well as reproductive surgery in general. Over the past few years we have successfully involved more women in positions within the SRS, including the Board, as faculty in Pre-Congress courses and sessions at the ASRM Scientific Congress, the Surgical Bootcamp, and on the new SRS Practice Committee. Following that trend, our SRS sponsored speaker at the Scientific Congress in Denver this year is Liselotte Mettler, a pioneer in Laparoscopic surgery, who will speak about Reproductive Surgery: Roots, Basics, and Future. When I discussed our achievement with her by phone recently, she was thrilled and told me that during the early years of her training she was told that women should not be surgeons because they did not have the hands for it. Times have changed.

The last year has seen a lot of activities from our society. We have a new, updated logo and have redesigned the website to reflect our new look. It is more in line with the updated logo of ASRM and the other affiliated societies.

We are continuing the SRS/SREI Surgical Bootcamp again in Houston for 40 fellows from REI programs around the country. The two-day course this year included lectures from REI faculty, hands-on experience guided by faculty in hysteroscopy, pelvic trainers, embryo transfer, and laparoscopic surgery on cadavers. I am proud to say that almost 40% of the faculty were women, a trend we plan to continue. The Bootcamp has been very well received, and this past year we raised a record $119,500 in industry support. We plan to hold the Bootcamp again January 25-26, 2019 at the MITIE Center in Houston. Applications are sent to REI program directors for their fellows and should be available in September. Enrollment is on a first-come, first served basis.
Message from Dr. Pfeifer continued...

The one-year, non-ACGME accredited fellowship in reproductive surgery has been approved and sites are accepting fellow applicants. There are three sites across the country, Atlanta, Palo Alto, and Chicago. The Society of Reproductive Surgeons Manual of Reproductive Surgery, Cambridge University Press is currently in press, and expected to be published soon. This will be available to fellows and will have accompanying videos that can be accessed through our website. It is an excellent reference for reproductive surgical procedures.

The ASRM Scientific Congress & Expo should be exciting. We have various topics being presented, including a debate on reproductive skills in graduating fellows, endometriosis in adolescents and long-term outcomes, a surgical tutorial on pearls to navigate distorted pelvic anatomy, and a series of roundtable lunch sessions on a variety of topics for the urologist and gynecologist interested in surgery. The Reproductive Surgery Track section of the Preliminary Program summarizes all sessions of interest to surgical enthusiasts. Our SRS Members’ Meeting will take place at the Congress on Monday following the meeting. All are welcome – including fellows and residents. You can mingle with a wonderful group of like-minded souls over excellent food, drink and surprise entertainment. It is also a great time to network and get involved in activities and projects in SRS. See you there!

At the end of the Congress, I will pass the torch to Dr. Bala Bhagavath, who has demonstrated enthusiasm and skills that will make him a wonderful leader of our Society. In addition, I am pleased to announce that Pres Parry, M.D. has been elected to the SRS Board and will start his term after the meeting.

Regards,
Samantha M. Pfeifer, M.D.
President, Society of Reproductive Surgeons 2018

Limited Spaces Still Available for SRS Pre-Congress Courses at ASRM 2018!

Saturday, October 6, 2018  8:15 a.m. – 5:00 p.m.
Master Class on Male Reproductive Surgeries: Update on the Latest Technical Advances, Tips, Pearls and Salvage Maneuvers (PC11)
Faculty: Drs. Peter Chan (Chair), Sheldon Marks, Mark Sigman and Marc Goldstein
This hands-on course reviews the current standards and practice of a wide spectrum of commonly performed male reproductive surgeries. Designed for a broad range of health care professionals in male reproductive medicine, urology residents and fellows as well as practicing urologists will find this course valuable. Reproductive endocrinologists and infertility specialists, andrologists, and embryologists also will benefit.

Sunday, October 7, 2018  8:15 a.m. – 5:00 p.m.
Hands-on Hysteroscopy and Laparoscopy Course (PC24)
Faculty: Drs. Camran H. Nezhat, Bala Bhagavath, Samantha M. Pfeifer, Steven R. Lindheim, John C. Petrozza, J. Preston Parry, Divya K. Shah, Stephanie J. Estes, and Linnea R. Goodman
This course provides a variety of skill-development opportunities through hands-on training in laparoscopic, endoscopic, robotic, and microsurgical surgical techniques. Both recent graduates from residency and fellowship, as well as practitioners who wish to update knowledge and skills in laparoscopic and hysteroscopic surgery, will find this hands-on course invaluable.
The Third Annual SRS-SREI Surgical Boot Camp for REI fellows took place on January 26th and 27th, 2018 at the Houston Methodist Institute for Technology, Innovation & Education (MITIE) in Houston, Texas. The course was directed by Drs. Bala Bhagavath, University of Rochester, NY and Steven R. Lindheim, Wright State University, Boonshoft School of Medicine under the guidance of Drs. Samantha Pfeiffer, Weill Cornell Medicine, Richard Reindollar, ASRM CEO, and Christos Coutifaris, ASRM President, who were present to lend their support to the successful program. Many other faculty committed their time and energy to make this the most successful program yet. The response from attendees was tremendous, and the event was very well-attended.

The agenda of the boot camp was built upon a comprehensive mix of lectures and hands-on activities. The hands-on activities included cadaveric dissection, laparoscopic suturing in the box trainer, multiple hysteroscopic training activities, embryo transfer simulation for each attendee in the hands-on stations, and adherence to the scheduled lectures and activities. This resulted in an enhanced learning experience for trainees and faculty.

This year, additional cadavers allowed for a better learning and teaching experience. Ten cadaver stations allowed for laparoscopic dissection and exercises, and two cadavers for robotic surgery exercises. At the laparoscopic cadaver station, trainees practiced dissection in the retroperitoneal space and performed suturing tasks mimicking myometrial closure and cystotomy repairs. At the robotic surgery cadaver station, attendees practiced repair of the myometrium and tubal anastomosis. The fellows also enthusiastically participated in suturing tasks in the dry lab. An element of competition was introduced by timing participants, which allowed for self-evaluation and feedback.

A computerized robotic simulation station allowed fellows to hone their skills. At the many hysteroscopic stations, trainees practiced hysteroscope assembly with application of scissors and graspers to remove bell pepper “polyps”, used resectoscopes to shave potato “fibroids” and the hysteroscopic morcellator to remove model fibroids and polyps.

The embryo transfer station was very popular, with trainees requesting that time allotted be increased in the future.

In addition, a networking dinner allowed faculty and trainees to socialize and interact, allowing each to learn about the other and the trainees to share their goals and aspirations.
Overcoming the Challenging Cervix
An Interview with Steven R. Lindheim, M.D., M.M.M.
Wright State University, Boonshoft School of Medicine

Introduction
Safely entering the uterine cavity is key for many reproductive surgeries we perform, including hysteroscopy and dilation and curettage, as well as procedures such as intrauterine insemination and embryo transfer. A stenotic, tortuous cervix can not only make things difficult, but lead to complications, including uterine perforation, false passage formation, bleeding and case cancellation, delaying diagnosis and treatment (1).

We interviewed Dr. Steven Lindheim, who has published on approaches to a difficult cervix, to glean his insight on overcoming the difficult cervix.

What exactly is cervical stenosis and how common is it?
Technically, cervical stenosis is defined as narrowing of the endocervical canal preventing passage of a 2.5mm Hegar or Pratt dilator (1). While its true incidence is unknown, one series of over 30,000 office hysteroscopies identified cervical stenosis in 32.7% of cases, occurring most commonly in postmenopausal women (2). Cervical stenosis may be congenital or due to cervical trauma, infection, cancer, radiation, or postmenopausal atrophy. Also, large nabothian cysts and leiomyomata near the cervix may contribute. Risk factors include nulliparity, menopause status and history of cervical conization or cryotherapy (1).

What are some ways to pretreat patients when cervical stenosis is anticipated?
Misoprostol (prostaglandin E1) can help with cervical entry. While we don’t fully understand its mechanism, estrogen is thought to mediate its cervical softening effects (1).

Misoprostol is available in oral, sublingual, or vaginal routes. Ngai et al. reported 400 mcg of oral misoprostol given 12 hours prior to hysteroscopy significantly reduced dilating force with a larger degree of baseline cervical dilatation (3), while others found baseline cervical dilatation to be greater when 200 mcg of misoprostol was administered vaginally 9 to 10 hours prior to hysteroscopy (4, 5). However, misoprostol treatment starting too close before a procedure may not be as effective (6). In a randomized controlled trial of 52 hysteroscopy patients receiving either 200 mcg misoprostol two hours prior versus placebo, there were no statistical differences in the number of patients requiring cervical dilation or the ease of dilation (7). Two other randomized controlled trials reported similar findings when misoprostol was given three to four hours prior to procedure (8, 9).

On the other hand, in postmenopausal women, or those treated with GnRH analogues, misoprostol may be ineffective as a cervical ripening agent due to the hypoestrogenic status of these patients (1, 6, 10, 11). Systemic estrogen therapy for two weeks prior to the procedure in postmenopausal patients appears to result in similar benefits seen in pre-menopausal patients undergoing preprocedural cervical ripening (12).

Vaginal prostaglandin E2 (dinoprostone) also has been used for preprocedural cervical ripening. While there is conflicting data, in a double-blind randomized controlled trial involving 49 patients undergoing hysteroscopy, 10 mg of vaginal dinoprostone was more effective at cervical ripening than either vaginal misoprostol or placebo (13). In contrast, in another randomized prospective study of 310 nulliparous patients, vaginal misoprostol appeared to be more effective (16).

Are there alternatives to misoprostol or dinoprostone for pretreating patients?
If difficult entry is anticipated, an alternative is to insert a laminaria tent to facilitate cervical dilation. Laminaria tents are osmotic dilators composed of dried seaweed that extract fluid from cervical tissue, expanding in diameter as they do so (1). In a prospective randomized study, Ostrzenski et al. (14) reported that patients treated with laminaria prior to resectoscopic hysteroscopy required less time to achieve adequate dilation and with fewer complications. A potential drawback is that laminaria placement requires at least some degree of internal cervical os dilation. Also, laminaria tents may harbor potential genital pathogens, increasing risk for infection (1).

A study comparing the efficacy of intravaginal misoprostol compared to laminaria tents prior to hysteroscopy reported that both were effective in dilating the cervix to comparable measurements. However, laminaria were significantly more difficult to insert compared to misoprostol (18).

Is there one pretreatment that may be better prior to procedures?
A 2015 Cochrane review (15) analyzed 19 randomized controlled trials involving 1,870 patients undergoing hysteroscopy and compared misoprostol to placebo/no treatment, dinoprostone, or osmotic agents. Results showed that there was moderate quality evidence that misoprostol is safer and more effective than placebo, and that it was associated with fewer complications.
Overcoming the Challenging Cervix (continued)

Do you have any surgical tips for when a patient has a difficult cervix?
You should always perform a bimanual examination prior to cervical and uterine entry. Knowledge of the uterine axis can ease entry by providing you with the required trajectory needed while inserting cervical dilators or a hysteroscope (6). For extreme anteflexion, the patient should be positioned with the buttocks slightly off the table. This allows adequate orientation of the hysteroscope (20). The traditional approach to cervical stenosis has been dilatation with successively larger rigid dilators (1). However, this method creates risk of creating false passages or perforating the uterus (1). A safer alternative is gradual dilatation under ultrasound guidance (20). Using transabdominal ultrasound with a full bladder, the surgeon can see the endocervical canal as instruments are advanced into the uterine cavity. (1, 6, 16).

What are some other techniques to traverse a difficult cervix?
A no-touch hysteroscopy technique can be useful (47). Using a vaginoscopic approach without a speculum or tenaculum, the hysteroscope is inserted directly into the external cervical os. The distension media can then hydrodilate the endocervical canal under direct visualization.

Others have (17) described use of a coaxial catheter with an outer 5.7F echogenic sheath and inner 0.018-inch diameter guidewire with coude tip. The catheter is first inserted transcervically into the uterine cavity and placement is confirmed via ultrasound. The operative hysteroscope is advanced using the catheter as a guide to minimize morbidity. After the uterine cavity is identified, the cervical canal is resected using either an electrosurgical device or microscissors through the operative channel of the hysteroscope. Others have described the cervix with an ultrasound-guided trocar-containing needle (18 gauge). Further access can be gained by passing a floppy-tip wire through the needle and coiling it into the endometrial cavity. After ultrasound confirmation of uterine placement, progressive dilators are passed over the wire to create a channel to pass instrumentation (16). Also, injection of dilute vasopressin (0.05 U/mL) at the 4 and 8 o’clock position on the cervix can reduce the force required for entry (6, 18). Vasopressin causes contractions in the smooth muscle of the uterus and surrounding vascular bed. It is thought that contraction of cervical musculature along with reduced cervical blood flow leads to a decrease in tissue turgor, and resistance to stretch (18). The clinician must be careful when using vasopressin, as systemic injection can result in cardiorespiratory complications. Vasopressin should only be used in the operating room where appropriate monitoring and resuscitation can occur if needed.

Are there any techniques that include resection?
There are various resection techniques described to enter a difficult cavity. Baggish et al. (19) described vaporizing scar tissue with a carbon dioxide laser. Suen et al. (20) reported using a cutting loop electrode and sharp dissection with microscissors and micrograspers to progressively increase the cross-sectional area of the cervical canal. Also, Salari et al. (21) described using a hysteroscopic morcellator to access the uterine cavity. With this technique, the reciprocating blade on the morcellator cores the endocervical canal and advances the hysteroscope into the uterine cavity.

Conclusion
A summary of key points from the interview is below:

- Entering the uterine cavity can become very challenging when a stenotic cervix, extremes of uterine flexion or version, congenital anomalies or scarring of the cervix is encountered.
- Misoprostol doses of 400 μg orally or 200 μg vaginally for 9 to 12 hours may help ease hysteroscopic entry into the uterine cavity. Alternatively, 10 mg of vaginal dinoprostone can be used.
- Post-menopausal and pre-menopausal women using GnRH analogues such as leuprolide acetate may require longer pretreatment for up to 24 hours using misoprostol. Systemic estrogen therapy for two weeks in addition to misoprostol prior to the procedure can also help these patients.
- When cervical stenosis is encountered intraoperatively, ultrasound guidance (transabdominal and transrectal), no-touch vaginoscopy, manual dilation and various resection techniques are options that can help facilitate safe entry into the uterine cavity.

Thank you to Dr. Lindheim for sharing his insight on approaching the challenging cervix. These suggestions may certainly be helpful to reproductive surgeons since so many of our procedures require transcervical entry into the uterine cavity. SRS members with additional tips on how to navigate a difficult cervix are encouraged to post them on the SRS members forum on the SRS website.

Mindy S. Christianson, M.D.
Overcoming the Challenging Cervix (continued)

References:


ASRM
The American Society for Reproductive Medicine

SRS
The Society of Reproductive Surgeons

SRS Minimally Invasive Reproductive Surgery Fellowship

The Society of Reproductive Surgeons (SRS) is offering an exclusive one-year, post-graduate fellowship for reproductive endocrinologists and gynecologists interested in infertility medicine, who desire further advanced minimally invasive and robotic surgical training.

- Enhance your surgical experience for managing reproductive organ disorders
- Receive intensive, hands-on experience with laparoscopy and robotic-assisted laparoscopy, hysteroscopy, proctoscopy, cystoscopy and placement of ureteral stent
- Participate in laboratory simulation

Applicants must have completed an obstetrics and gynecology residency or a reproductive endocrinology fellowship in the United States and be able to obtain a medical license and hospital privileges to practice medicine in the accepted post-graduate program.

For more information, visit the SRS website at www.reprodsurgery.org or contact the SRS Administrator, Dan Mosley, at dmosley@asrm.org.
Azoospermia is defined as no sperm evident on two separate semen samples. This affects about 1% of all men, 5% of infertile couples and 15% of infertile men. (Proctor et al., 2010) (Wosnitzer, Goldstein, & Hardy, 2014) Azoospermia is subdivided into two types, obstructive and non-obstructive. Each accounts for about 40% and 60% respectively. (Wosnitzer et al., 2014)

Obstructive azoospermia (OA) is secondary to blockage anywhere along the male reproductive tract that prevents sperm from entering the ejaculate. These men usually have normal spermatogenesis. Obstruction can be congenital as in congenital bilateral absence of the vas deferens (CBAVD) or acquired secondary to injury, vasectomy, or scars from prior infections or surgeries such as inguinal hernia repair. A genetic evaluation should be included in cases of CBAVD to assess for mutations in the cystic fibrosis gene.

Non-obstructive azoospermia (NOA) is due to severely impaired testicular spermatogenesis or testicular failure to produce any sperm. Testicular function may be altered in genetic disorders, such as chromosomal abnormalities, hypothalamic-pituitary-gonadal hormonal axis disturbances, cryptorchid testes, systemic diseases, and exposure to gonadotoxic therapies such as medications, chemotherapy, and radiation. (Proctor et al., 2010)

Sperm retrieval principles

Although azoospermia is a severe form of infertility, it is not always hopeless but can be costly. Obstructive azoospermia may be managed by surgical reconstruction, such as vasovasostomy or vasoepididymostomy. However, if the obstruction is not surgically correctable or desired, sperm can be retrieved directly from the epididymis or testis. If sperm production is impaired in cases such as nonobstructive azoospermia, sperm may still be retrievable from the testicles. Sperm recovered by these methods require in vitro fertilization with intracytoplasmic injection (IVF/ICSI). There is not a high enough sperm count collected by these methods to be optimized for intrauterine insemination, and often sperm retrieved from the testis do not display progressive motility.

Sperm retrieval can be performed in the office or the operating room. Office-based procedures that can be performed under local anesthesia include testicular biopsy, percutaneous fine needle testicular sperm aspiration (TESA), percutaneous epididymal sperm aspiration (PESA) or conventional testicular sperm extraction (TESE). Procedures performed with an operating microscope under at least monitored anesthesia include microscopic testicular sperm extraction (microTESE), or microscopic epididymal sperm aspiration (MESA). While the percutaneous methods are less invasive and all the office-based procedures are less expensive and do not require anesthesia, microsurgical skills, or equipment, they are imprecise. Although use of the microscope can be more time consuming and more expensive, it allows better identification of the isolated areas of spermatogenesis in order to minimize damage and the amount of testicular tissue removed. Providers should be aware of all techniques, as one technique may be more advantageous than the other, depending on the patient. Specialists who perform sperm retrieval must be familiar with the scrotal anatomy and possess the experience, expertise, and skill required to effectively manage any related complications.

Sperm retrieval in obstructive azoospermia

If spermatogenesis is normal, as in OA, sperm should be present in the epididymis, and thus, can be targeted for retrieval. Still, there are subtle points for certain sub-populations of OA to clarify if sperm should be retrieved from the testis or epididymis.

MESA was described initially for CBAVD patients in 1994, and is often used in patients with blockage of the seminal vesicles, ejaculatory ducts and/or the epididymis itself. Of 14 patients, there was a 100% sperm retrieval rate (SRR) and a 58% fertilization rate with a fresh cycle with ICSI. Sperm was also cryopreserved when the specimen permitted. (Tournaye et al., 1994) Although MESA is considered the gold standard for patients with CBAVD, a large retrospective review of patients with OA who underwent sperm retrieval by various techniques from both testis and epididymis combined with ICSI did not find a statistically significant difference in outcomes for ICSI, based on sperm source or cause of OA. (Kamal et al., 2010)

As spermatogenesis continues in OA, testicular retrieval success rates are high regardless of the method. Starting with PESA and progressing to TESA if PESA found no sperm, one group reported 100% retrieval rates for CBAVD, 96.6% for post-vasectomy and 96.3% for history of infection. Percutaneous methods resulted in low cryopreservation outcomes of about 27%. The live-birth rate with ICSI ranged from 32-36%, depending on the cause of obstruction. (Esteves et al., 2013)
Sperm retrieval in non-obstructive azoospermia

One major challenge for treating men with NOA is identifying predictors for sperm recovery. Generally, testicular sperm can be found in about 50% of individuals with NOA. There is conflicting data regarding FSH levels and testicular volume. A recent meta-analysis found that neither pre-operative FSH levels or testicular volume could dependably predict sperm retrieval rates (SRR). These authors found that certain histopathologic findings may be helpful, but cautioned that a biopsy is not representative of the whole testicle. (Li et al., 2018)

Histopathology, if known from a prior biopsy, may be indicative of sperm retrieval success. For example, SRR may be 27-86% in patients with late maturation arrest, 27-40% if early maturation arrest and 22-41% if Sertoli Cell Only syndrome is present. Certain genetic tests can explain azoospermia and be indicative of sperm retrieval as well. Historically, men with complete AZFa and complete AZFb deletions have not had successful sperm retrieval via TESE. However, azoospermic men with AZFc deletions may have sperm retrieved 50-60% of the time. (Flannigan, Bach, & Schlegel, 2017)

Although standard TESE is twice as effective as TESA at sperm retrieval, microTESE is 1.5 times as effective as standard TESE in men with NOA. MicroTESE has since became the gold standard for NOA after its introduction in 1998. (Bernie, Mata, Ramasamy, & Schlegel, 2015) Now confirmed in other studies, microTESE found a greater number of sperm and led to an overall higher SRR compared to standard TESE. Additionally, based on follow-up ultrasound, microTESE results in fewer hematomas, less testicular volume. (Schlegel, 1999) (Deruyver, Vanderschueren, & Van der Aa, 2014)

Another sub-population to note are patients with Klinefelter disease, a form of NOA. Several publications indicate that micro-TESE results in approximately 50% SRR. It does not appear that testicular size, patient’s age, hormone levels, or the use of fresh versus frozen sperm altered the outcome. (Corona et al., 2017) While some studies have documented SRR up to 65%, there are variable outcomes reported. For example, a recent single institution study of 111 individuals with non-mosaic Klinefelter disease (karyotype of 47, XXY) reported a 34% retrieval rate by TESE with no significant associated predictive parameters such as testicular volume. The same study also found a 35% biochemical pregnancy rate and 25% live-birth rate. (Garolla et al., 2018)

Fresh or frozen-thawed sperm

Sperm can be used fresh or frozen-thawed. There are conflicting data regarding the preferred technique. The timing for a fresh cycle must be carefully scheduled with ovarian stimulation and with close communication between the urologic and REI teams. Further, the couple should consider the possibility of using donor sperm for a fresh cycle if no sperm is retrieved. Although there are no time constraints for frozen samples, there are no standardized methods for freezing and thawing sperm, and there is a significant attrition rate of viable sperm. Schlegel et al. reported that of 95 cycles using frozen-thawed sperm from men with NOA, only 33% had viable sperm after thawing and resulted in a 40% pregnancy rate. In contrast, they found a 49% pregnancy rate for fresh sperm. Therefore, this group believes fresh sperm from men with NOA has more favorable outcomes and is preferable to frozen-thawed sperm in combination with IVF-ICSI. (Schlegel, Liotta, Hariprashad, & Veeck, 2004)

Another group retrospectively looked at outcomes with ICSI of fresh versus frozen-thawed testicular sperm from patients with NOA and cryptozoospermia, defined as <100,000 sperm in ejaculate. They did not find any statistically significant difference between motile sperm, fertilization rate, pregnancy rate or live birth rate. (Schachter-safrai et al., 2017) Of course, while they did not find a difference, this does not necessarily infer that they are equivalent.

Sperm optimization

Sperm retrieval is not the only difficult step when caring for these patients. Embryologists receive the tissue and are tasked with optimizing the sperm to use for ICSI. There are many methods to harvest the tissue to identify the potentially rare sperm for use. There is no clear guide for what is the best process and processes vary by IVF laboratory. (Verheyen, Popovic-Todorovic, & Tournaye, 2017) Further research and discoveries are needed to optimize this process.

The future of sperm retrieval methods?

The greatest revolution in advancing the treatment of male infertility has been from the application of the operating microscope and assisted reproductive techniques. Still, there are attempts to progress the field even further with robot assistance. There are numerous studies published on robot-assisted microsurgical vasovasostomy and vasovasopididymostomy, and some have attempted robot-assisted microsurgical TESE. There are no clear prospective studies showing comparable outcomes to microsurgical approach. However, robot-assisted TESE (ROTESE) may
Sperm Retrieval Techniques for Men with Azoospermia (Continued)

provide an opportunity to apply new adjunctive imaging technology to assist the surgeon and an embryologist simultaneously to evaluate the testicular tissue and detect sperm. (Gudeloglu, Brahmbhatt, & Parekattil, 2014) Although there has not yet been a follow-up report, preliminary results from 12 ROTESE surgeries suggest it is safe and effective. (Parekattil & Gudeloglu, 2013)

Conclusion

Assisted reproductive technologies are used to conceive almost 2% of all infants born in the United States each year. Sperm retrieval efforts should be safe and reliable to obtain the best quality and quantity of sperm for immediate use and or cryopreservation for future use. Sperm can be found in the testicle or epididymis in most cases of OA. Efforts to find sperm in patients with NOA should focus on the testicle. It is clear that patients with NOA are heterogeneous with different chances for sperm retrieval, and further clarification is needed for predictive indicators. Another consideration is maternal age. Older maternal age, especially over 40 years old, has a significantly unfavorable effect on pregnancy rates and live birth rates from surgically retrieved sperm with ICSI. (Mahesan et al., 2018)

In 2010, Proctor et al. attempted to review all the trials on sperm retrieval from patients with azoospermia used for ICSI. They felt there was insufficient evidence to endorse a specific method of sperm retrieval for patients from either OA or NOA. (Proctor et al., 2010)

To date, there has been a dearth of prospective studies to randomize NOA patients into sperm retrieval methods. ClinicalTrials.gov lists such a study to compare TESA to microTESE with expected completion date of 2020 (https://clinicaltrials.gov/ct2/show/NCT03550716) Hopefully this and other trials will help clarify and establish treatment standards.

References:


The primary 2017 update was the major go-live from complete revamping of the website, with new layout, style, topics, announcements about the SRS fellowships, and migrating previous content so archives could be accessed. Rather than 2018 being a year of seeing much come to fruition as in 2017, this year has been more one of sowing seeds. One of the greatest opportunities for forthcoming growth is through video content. The SRS textbook will have video content through the reprodurgery.org website, and we will be developing streaming expert opinion sections for both central and favorite topics. We shortly also will be integrating F&S and other video articles into our literature review section.

Beyond continuing standard literature reviews (with particular appreciation to Stephanie Estes for spearheading a recent series on case volume and outcomes) and increasing activity on the bulletin board (led by Bala Bhagavath and with gratitude to Anthony Imudia as one of the more frequent posters), we’re also reflecting on growth and engaging the next generation of reproductive surgeons. One of the greatest opportunities for this is through the website. When reviewing for a journal, the work often performed is seen by exceptionally few people, which limits direct influence of others, as well as anonymizing the hard work these reviews often require. Participating in SRS literature reviews not only allows your colleagues to grow directly from your insights, but also builds connections and gives credit to contributors. If you are interested in participating in these reviews, please let me know (including if you have favorite topics)—we have plenty of articles that deserve greater awareness and expert perspective from SRS members!

J. Preston Parry, M.D., M.P.H.

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
- The opportunity to review research abstracts with a focus on reproductive surgery
- Participation in roundtable discussions at ASRM Scientific Congresses
- The discussion of novel surgical techniques through video sessions
- Participation in surgical hands-on courses at ASRM Scientific Congresses
- Access to participate in Pre-Congress courses on a variety of topics related to the field of reproductive surgery
- Participation in collaborative research projects addressing surgical outcomes
Minimally-Invasive Reproductive Surgery Fellowship Update
Dr. Jeffrey M. Goldberg, M.D.

Last year, the Society of Reproductive Surgeons (SRS) established a one-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 additional surgical training after REI fellowship were the impetus to develop this program. It is essentially a one-year preceptorship with a high-volume, master reproductive surgeon. Our first fellow in the program is Dr. Pavan Ananth, M.D. MPH, who is currently in training with Dr. Ceana Nezhat.

The following are current programs currently accepting applications for 2019-2020:

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

SRS, with the support of ASRM leadership, has created this fellowship to provide interested REIs with the needed surgical skills. It is our intention that graduates of the program will deliver excellent surgical care to their patients, teach these skills to the next generation of trainees, and hopefully, become actively involved with SRS, assuring the future of reproductive surgery.

Good evidence-based data is available showing reproductive surgery as more cost-effective than IVF in many cases and often preferred by patients as it is more “natural”. Reproductive surgery can also be performed complimentary to IVF, and surgical management of pelvic pathology has been shown to improve IVF results. Many REIs have abandoned reproductive surgery or relegated it to general or minimally-invasive gynecologic surgeons. However, reproductive surgeons have a different skill set and approach to surgery, which can provide patients with improved outcomes. REIs who can operate are more “complete” physicians as they can offer their patients all 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.

Jeffrey M. Goldberg, M.D.
## SRS Scientific Congress Sessions

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<tr>
<th>Day</th>
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<tr>
<td>Monday, October 8, 2018</td>
<td>1:30 p.m. - 2:30 p.m.</td>
<td>Interactive Session</td>
<td>Reproductive Surgery Skills of Graduating Fellows are Declining and They Matter</td>
</tr>
<tr>
<td>Monday, October 8, 2018</td>
<td>2:45 p.m. - 3:30 p.m.</td>
<td>Plenary</td>
<td>SRS Lecture: Reproductive Surgery: Roots, Basics, and Future Liselotte Mettler, M.D., Ph.D.</td>
</tr>
<tr>
<td>Monday, October 8, 2018</td>
<td>4:15 p.m. - 5:30 p.m.</td>
<td>Symposium</td>
<td>Early Detection of Endometriosis is Key for Better Long-term Outcomes in Adolescent Endometriosis</td>
</tr>
<tr>
<td>Tuesday, October 9, 2018</td>
<td>10:45 a.m. - 12:15 p.m.</td>
<td>Telesurgery</td>
<td>Positive Steps Fertility, Parryoscope Fertility J. Preston Parry, M.D., M.P.H.</td>
</tr>
<tr>
<td>Wednesday, October 10, 2018</td>
<td>12:15 p.m. - 1:15 p.m.</td>
<td>Expert Encounter</td>
<td>Surgical Experience with Endometriosis in the Infertile: Has the Paradigm Shifted?</td>
</tr>
<tr>
<td>Wednesday, October 10, 2018</td>
<td>1:30 p.m. - 2:30 p.m.</td>
<td>Surgical Tutorial</td>
<td>Pearls to Navigate Distorted Pelvic Anatomy During Surgery</td>
</tr>
</tbody>
</table>

## SRS Roundtables

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Name</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, October 8, 2018</td>
<td>12:30-1:30 p.m.</td>
<td>Cesarean Scar Isthmocele: Indications for Repair and Surgical Options (RTM35)</td>
<td>Steven R. Lindheim, M.D.</td>
</tr>
<tr>
<td>Monday, October 8, 2018</td>
<td>12:30-1:30 p.m.</td>
<td>Management of Endometriosis and Effect on Ovarian Reserve (RTM36)</td>
<td>Elizabeth A. Pritts, M.D.</td>
</tr>
<tr>
<td>Monday, October 8, 2018</td>
<td>12:30-1:30 p.m.</td>
<td>Pearls on Office Sperm Retrieval (RTM37)</td>
<td>Ajay K. Nangia, M.B.B.S.</td>
</tr>
<tr>
<td>Tuesday, October 9, 2018</td>
<td>12:30-1:30 p.m.</td>
<td>Management of Cesarean Scar Defects (RTT36)</td>
<td>Samantha M. Pfeifer, M.D.</td>
</tr>
<tr>
<td>Tuesday, October 9, 2018</td>
<td>12:30-1:30 p.m.</td>
<td>Varicocele Repair in the Azoospermic Male (RTT37)</td>
<td>Cigdem Tanrikut, M.D.</td>
</tr>
<tr>
<td>Wednesday, October 10, 2018</td>
<td>12:30-1:30 p.m.</td>
<td>Uterine Preservation Surgery for Infertile Patients with Adenomyosis (RTW35)</td>
<td>Mohamed Bedaiwy, M.D., Ph.D.</td>
</tr>
<tr>
<td>Wednesday, October 10, 2018</td>
<td>12:30-1:30 p.m.</td>
<td>Unusual Uterine and Vaginal Anomalies (RTW36)</td>
<td>Joseph E. Findley, M.D.</td>
</tr>
<tr>
<td>Wednesday, October 10, 2018</td>
<td>12:30-1:30 p.m.</td>
<td>Master Tips on Vasoepididymostomy (RTW37)</td>
<td>Sheldon Marks, M.D.</td>
</tr>
</tbody>
</table>

## SRS Pre-Congress Program

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Number</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday, October 6, 2018</td>
<td>8:15 a.m. - 5:00 p.m.</td>
<td>PC11</td>
<td>Master Class on Male Reproductive Surgeries</td>
</tr>
<tr>
<td>Sunday, October 7, 2018</td>
<td>8:15 a.m. - 5:00 p.m.</td>
<td>PC24</td>
<td>Hands-on Hysteroscopy and Laparoscopy Course</td>
</tr>
</tbody>
</table>

## SRS Events

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, October 8, 2018</td>
<td>6:15 p.m. - 8:00 p.m.</td>
<td>SRS Members’ Meeting and Reception</td>
</tr>
</tbody>
</table>
The SRS website, www.reprodsurgery.org, now hosts a variety of informative features and sections ONLY available to active SRS members!

The new update includes a password protected log-in section that includes the following information:

- SRS Email Discussion List
- SRS Literature Reviews
- SRS Newsletters
- Surgical Tutorials Uploaded by SRS members

Please be sure to keep checking the SRS website frequently to see the upcoming and ongoing changes. We value your input and suggestions.

Feel free to contact the Website Chair, Dr. J. Preston Parry (drprestonparry@gmail.com), or Dani Mosley at ASRM (dmosley@asrm.org) with any comments or suggestions you may have regarding the SRS website.