

Surfing the waves of change in reproductive medicine: past, present and future. A presentation of the 2014 ASRM Strategic Plan

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A presentation at the Opening Ceremony of the ASRM Seventieth Annual Meeting reviews advances in reproductive medicine and presents an overview of the 2014 Strategic Plan: "Global Impact Through Dynamic Engagement." (*Fertil Steril*® 2015;103:35–8. ©2015 by American Society for Reproductive Medicine.)

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Surfing the Waves of Change in *Reproductive Medicine*—this has been our tag line for this meeting and was the tag line I adopted for the year when taking over the presidency last October. When elected, I never dreamed that my presidency would be all of 2 months or that it would be interrupted by becoming Executive Director for the Society. What a privilege it has been to begin as president and now to serve as your Executive Director.

These truly are exciting times in reproductive medicine, with enormous changes: changes in our science, changes in our clinical care, and, as you will find, changes in the direction of our organization. The changes in routine infertility care have been unimaginable during my career, having started my fellowship shortly after Louise Brown was born, but some of

the most dramatic changes have involved disorders of reproduction in patients whom we previously thought were not just infertile but in fact sterile. Let's think about the care (or absence of care) and the reproductive options not available for some of those patients at the time they were first described.

Let's consider: the care of women with vaginal agenesis before the first description in newborns by Meyer in 1829; the lack of knowledge about congenital adrenal hyperplasia before 1865, when the Italian pathologist DeChriccio discovered at autopsy the unexpected finding of a vagina, uterus, fallopian tubes, and ovaries in a phenotypic male who also had enormous adrenal glands; the care of patients subsequently labeled with polycystic ovary syndrome in 1935, when Stein and Leventhal described the combina-

tion of amenorrhea, hirsutism, and obesity and the establishment of menses after ovarian biopsy, no earlier treatments having been successful; the phenotypic female patients with amenorrhea found in 1937 to have testes and androgen insensitivity, as first described by Petterson; or the patients described in 1938 by Henry Turner as having a syndrome of sexual infantilism, congenital webbed neck, and cubitus valgus; the phenotypic male patients first labeled in 1942 with a syndrome named after the physician at Massachusetts General Hospital who made the earliest reports, Harry Klinefelter; the patients reported in 1943 by Hurxthall, with hypogonadotropic hypogonadism, and a year later a subset with anosmia called Kallmann syndrome; and those women who, in 1969, were identified by Georgiana Jones, the mother of our subspecialty and one of our most noted past presidents, with a new syndrome of elevated FSH levels associated with normal ovarian architecture and gonadotropin resistance.

At the time of these earliest reports, we knew the physical findings only,

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and later the hormonal profiles, but we did not know the causes at the cellular level. We knew that most of these individuals had no chance for pregnancy. We have now gone on to the molecular age and know the specific mutations or chromosome abnormalities causing many of these disorders, and we have reproductive technologies available for most to assist in family building.

The times have continued to change, perhaps even more dramatically in recent years, as some amazing waves have been surfed and hurdles overcome. To list a couple important discoveries in recent times by ASRM members:

1. Human embryonic stem cells have been successfully developed from taking the nuclei of skin cells and placing them into oocytes that can develop into any number of tissues for the potential treatment of diseases such as diabetes and perhaps Lou Gehrig syndrome.
2. The ovaries from women with premature menopause, essentially devoid of oocytes and the few remaining eggs unresponsive to gonadotropins, have been removed, minced into small pieces, and treated with solutions involved in what is called the Hippo cellular pathway. Once placed back into the pelvis, follicular growth has been activated for egg retrieval and successful IVF.

In the clinical practice of assisted reproductive technology (ART) our care is also rolling forward. Here are some striking examples:

1. We've seen the perfection and utilization of molecular technology for preimplantation genetic screening (PGS) and improved pregnancy rates.
2. There has been an emerging sense that the highest success rates may come from freeze-all IVF cycles and that the pregnancies produced may have lower rates of complications involving abnormal placentation.
3. The idea that we can use IVF to cure mitochondrial disease is incredible.
4. We will hear this week about the use of vaginal incubation for fertilization and development of embryos to blastocyst stage and successful pregnancies.
5. We will also hear an abstract of the rebirth of an old technique: ovarian stimulation, insemination, and then lavage from the uterus of blastocysts for preimplantation genetic diagnosis (PGD)/PGS and later thaw cycles. Is it IVF without retrieval, or perhaps PGD/PGS without IVF?
6. Who would have dreamed that we would be hearing a lecture on successful uterine transplantation with a live birth, a procedure that is especially important in those countries where gestational carriers are banned? My guess is that Meyer never imagined this possibility in 1829 when he first described the syndrome of vaginal agenesis.

Truly we are surfing the waves of change!

Now, I'd like us all to think for a few moments about the future in reproductive medicine and the role that ASRM could have in leading big change. I'd like us to imagine what that future might look like.

Let's imagine:

A future where the ASRM puts into place the most sophisticated cutting-edge information technologies to pass

on information seamlessly to you or groups of learners live or on your own time.

A future where you can tune into an ASRM Grand Rounds on a regular basis and hear the experts in a given area share the latest information and then can ask questions during the live online presentation.

A future where we have new ways to learn during our busy schedules. We have an ASRM smartphone app that is loaded with a library of short videos—5–10 minutes each, with one to four take-home points—that will allow us to learn while waiting for our next case in the operating room, while sitting at the gate for our next flight, or while waiting for our significant other or child at the mall.

A future where our patient's frustrations are reduced by having similar ASRM apps with short videos that answer their burning questions with ease.

A future that allows any of you to easily volunteer and become active in the organization in any of our missions—education, research, advocacy, development.

A future where we identify gaps in knowledge, when the care we provide in a given area is not supported sufficiently by outcome data and we enlist you in your practices to participate in studies to answer the important questions raised.

A future that provides treatments for the 75% of our infertile couples who currently can not afford all of the care available to them.

A future where we have taken what we have learned to a much bigger scale well beyond our borders to have a global impact.

A future where our message has been so loud and so clear for so long that the reproductive rights of couples are never questioned again.

In April, during the last days of the snow season, the ASRM completed nearly 15 months of preparation with a day-and-a-half-long Strategic Planning Session in Woodstock, Vermont. The purpose of strategic planning is not only to assess the strengths and weaknesses of an organization, but also to imagine a future bigger than us all and to plan a strategy that will get us there.

At the start of our strategic planning day, we were all asked to imagine where we would like the ASRM to go in the future and what care would look like if we were able to stretch our goals to the maximum. You have just heard some of the ideas that were generated by those imaginary thoughts. At the conclusion of the Strategic Planning process we focused the new plan on seven areas: communications, continuous professional development, impacting reproductive care, research, engaging the profession, global outreach, and organizational stability.

We entitled this plan: "Global Impact Through Dynamic Engagement," because the overriding themes throughout our plan are: to bring value to our ASRM members; to have measurable impact on the reproductive care of our patients that can spread worldwide, and to have a fully engaged

membership, a membership that takes maximum advantage of our education, research, and advocacy activities and engages as volunteers.

Let me share with you for the remaining few minutes some of the exciting areas we plan to explore.

First, to enhance communications, we have had an outside consultation and total review of our information technology (IT) program and we have hired a Chief Information Officer (CIO). The CIO will organize our IT staff under one department and develop a very service-oriented group. We will be upgrading all of our Association Management Systems and Learning Management Systems software, and will refresh our website, all of which will make it far easier for us to interact together online. Our new CIO will help us to use the most cutting edge technology for our educational offerings, and we have plans to make far more visible to yourselves and our patients the learning materials that we have and provide in the future.

Next, for continuous professional development, we will begin with refreshing the annual meeting. We plan to continue to make our sessions more interactive, to stream live and record some of the sessions for those unable to come to the meeting or who had conflicting sessions while at the meeting. We also plan to try out concurrent translations of parts of our program.

When considering our future with eLearn, we began with making all of our eLearn modules free to our members. We thought that this was so important that we began it in advance of approval of our strategic plan. This has resulted within several months in 1,500 new ASRM eLearn users and more than 300 new ASRM members. Within the plan is the directive to move to more technologic media and newer educational pedagogies. We have recently initiated our first webinar lecture series with an eight-lecture course on genetic applications in reproductive medicine that had more than 100 registrants for the first presentation. We plan to move on to a live ASRM Grand Rounds every 1–2 weeks or so with experts in the field and including live question and answer periods. We will shortly begin by enlisting some of you in the development of libraries of short videos for our members and patients, 5–10 minutes in length with one to four take-home messages. Some of these will be Khan-like microvideos, a technique that simulates a chalk talk. As the speaker tells about the topic, the learner will see the concepts drawn out on the screen in place of a series of slides, which can become quite monotonous.

Along with these new libraries of short videos will be corresponding ASRM apps for providers (clinicians, nurses, mental health providers, laboratory personnel) and patients. You will be able to pull up a topic while waiting at your son or daughter's sports event, at the airport, in a long line, or while waiting for turnover of your room in the operating room.

When we consider the strategic goal of impacting reproductive care, we think that all of the tactics for all of the strategic goals will have an effect. If we pass on more information to more members it can only help to update care. Our research agenda will also move care based on real outcomes. Additionally, our D.C. office is developing advocacy training programs

for members who want to work at the state and national levels to help guide the best legislature and stop restrictive legislature. We plan to rejuvenate our earlier Prevention of Infertility Campaign and initiate a new campaign that highlights accessible care.

It is estimated that only 24% of infertile couples in the United States can access all of the care they would need to become pregnant, i.e., can afford moving on to IVF if needed. For the couples who already receive traditional IVF (almost 200,000 treatment cycles in the United States each year), their success rates are as good as any in the world and will only get better and safer as we perfect current technologies. We think that we should not only continue this traditional IVF care for those who can afford it but also advocate loudly for insurance coverage for all. Until this ideal and traditional form of IVF is accessible for all, we need to also advocate for treatments for the majority of infertile couples who can not afford it. This is a major goal of the 2014 Strategic Plan. We need to identify cost-effective treatments, even if the success is lower, that the couples shut out by finances can afford. This may well involve identifying minimal-stimulation protocols that are cost-effective, laboratory techniques that use less resources, perhaps the vaginal incubator, perhaps in vitro maturation (if it could be cost-effective). This goal will be to move forward advocacy and study disparity. We plan to have a day-long program where we bring in the thought leaders in these fields, hear about the state of the art for each area, discuss barriers and research needed, and then put into place programs that will move this area forward and overcome barriers. We plan to have a half-day or more at the annual meeting devoted to access to care. We want the legislators, the press, and our patients to know that we care and that we will affect care in a new meaningful way.

Another of our strategic goals is research: to spearhead the agenda for research in reproduction and the development of both the current and future generations of clinical investigators in the reproductive sciences. The ASRM currently funds research in many effective ways: We provide \$200,000 to investigator-initiated research for new start-up research and bridge funding, we fund a phase 2 Reproductive Scientist Development Program fellow, we cofund the Clinical Research/Reproductive Scientist Training program with the National Institutes of Health, which has been instrumental in getting practitioners into clinical trials, and we fund training programs such as the Gordon Conference and Frontiers in Reproduction. Because many of our research awardees have gone on to become independently funded, the 2014 Strategic Plan calls for currently continuing all of these activities.

In addition, the 2014 Plan calls for assembling a task force to develop an ASRM research roadmap. We will define and prioritize research questions, identify gaps in randomized controlled trial-based clinical knowledge, and propose areas of research for the ASRM to move forward. Oocyte freezing seemingly was in the pipeline for more than 20 years before no longer being deemed to be experimental. We think that there are other areas with similar great promise but that have not taken off and, with the development of a research process by the ASRM, could be moved forward much more quickly. We also think that ASRM could develop a research

network similar to the Reproductive Medicine Network but perhaps using some of your busy clinical practices.

Realizing that the lifeblood of the ASRM is you, our membership, the 2014 Strategic Plan places great emphasis on engaging the profession. This emphasis is on both engaging our members in the educational, research, and advocacy activities of the organization and engagement by volunteerism. One of our tactics is to engage members at all career levels, to get members early and keep them involved throughout their careers. This will include webinars to welcome new members, developing a Council of Practitioners to better guide us in providing new and more effective ways to present our educational offerings to busy practitioners, and engaging more members in the work of the Society. We plan to develop a more effective volunteer program and are committed to using more short-term task forces that will allow more individuals to participate. We will collaborate closely with our affiliated societies in this work and truly want to engage all of you.

We think that everything we do will provide benefit to our international members and their patients, but our global mission is sufficiently important to be a stand-alone strategic goal. Here we will focus on involving our international members more in the society and further strengthening our wonderful relations with our sister organization, the European Society for Human Reproduction and Embryology, and all of our valued partner societies around the world. We will continue to provide translations of our eLearn modules and keep an eye on how each of our strategic goals will fit into our global mission and our nongovernmental organization status with the World Health Organization.

Finally, we must continue our vigilance in being fiscally responsible and in expanding our fund development program so that we can move to that future bigger than us all.

These are truly exciting times to be an ASRM member. We invite all of you to visit our website and review in detail the 2014 Strategic Plan—and to surf with us these waves of change!