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William F. Rayburn

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Denisse S.Holcomb and F. Gary Cunningham

Simulation in Obstetrics and Gynecology: A Review of the Past, Present, and Future 689

Shena Dillon

Simulation in obstetrics and gynecology has advanced significantly since its beginnings in the seventeenth century with wooden birthing and pelvic models. In recent years, more and more evidence has emerged showing improvements in participant confidence, skills, behaviors, and, finally, patient outcomes following simulation program implementation. Several regulatory bodies and national organizations have begun to require simulation of obstetrician-gynecologists, and the newer generation of physicians has experienced simulation throughout their training. Simulation is embedded in the medical culture and hopefully is making obstetrician-gynecologists better for it.

The Current and Future States of Screening in Gynecologic Cancers 705

Jessica Lee and Navya Nair

Gynecologic cancers contribute to a significant portion of cancer morbidity and mortality among women in the United States and across the globe. This article provides a comprehensive review of current screening guidelines and novel techniques that have promise in the prevention and early detection of gynecologic cancers in the future. The authors anticipate a move toward less invasive testing modalities, use of cancer biomarkers, and the prevention and treatment of high-risk factors such as human papilloma virus infection and obesity.

Contraceptive Technology: Present and Future 723

Allison L. Gilbert and Barbara L. Hoffman

Many sexually active, reproductive-aged persons capable of becoming pregnant use some method of contraception. To expand options for those desiring birth control, new choices include a vaginal ring, transdermal patch, progestin-only pill, and spermicide. Compared with currently available methods, additional technologies that are highly effective, easy to use, cost efficient, and well-tolerated lay on the horizon. During contraceptive counseling, patient choice, and reproductive autonomy should remain paramount.

Subspecialization in Obstetrics and Gynecology: Is It Affecting the Future Availability of Women's Health Specialists? **737**

William F. Rayburn and Imam M. Xierali

The growth in the number of obstetrics and gynecology resident graduates pursuing fellowships has exceeded growth in the number of resident graduates, because more fellowship programs are being developed in more subspecialties rather than additional residency programs. Approximately 1 in 4 residents pursues subspecialty training, compared with 1 in 12 in 2001. The number of fellowships remains competitive, because nearly all programs fill their match and the number of applicants exceeds the number of positions. Graduating residents who serve as frontline women's health specialists need to serve as leaders of interprofessional teams to better serve their patients, especially in underserved areas.

The Future of Fetal Surgery **745**

Eric Bergh, Cara Buskmiller, and Anthony Johnson

The field of fetal medicine has evolved significantly over the past several decades. Our ability to identify and treat the unborn patient has been shaped by advancements in imaging technology, genetic diagnosis, an improved understanding of fetal physiology, and the development and optimization of in utero surgical techniques. The future of the field will be shaped by medical innovators pushing for the continued refinement of minimally invasive surgical technique, the application of pioneering technologies such as robotic surgery and in utero stem cell and gene therapies, and the development of innovative ex utero fetal support systems.

Robotic Surgery: Advancements and Inflection Points in the Field of Gynecology **759**

Esther S. Han and Arnold P. Advincula

Robotics has become an essential part of the surgical armamentarium for a growing number of surgeons around the world. New companies seek to compete with established robotic systems that have dominated the market to date. Evolving robotic surgery platforms have introduced technologic and design advancements to optimize ergonomics, improve visualization, provide haptic feedback, and make systems smaller and cheaper. With the introduction of any new technology in the operating room, it is imperative that safeguards be in place to ensure its appropriate use. Current processes for granting of hospital robotic surgery privileges are inadequate and must be strengthened and standardized.

Professionally Responsible Counseling About Fetal Analysis **777**

Frank A. Chervenak and Laurence B. McCullough

Fetal analysis uses noninvasive and invasive methods to obtain images and tissues for interpretation that supports risk assessment and/or diagnosis of the fetus's condition. This article provides ethically justified, clinically applicable guidance for supporting the pregnant patient's decision making about fetal analysis. Topics include ethical reasoning using key ethical concepts, confidentiality, clarity about the pregnant woman as ultimate decision maker, offering fetal analysis, counseling about results, counseling about accepted maternal-fetal intervention, and counseling

about innovation and research on maternal-fetal intervention. Professional ethics is an essential component of counseling pregnant patients about fetal analysis and referral for investigative maternal-fetal intervention.

Social Media Superpowers in Obstetrics and Gynecology

787

Meadow Maze Good and Staci Tanouye

This article encourages the obstetrician-gynecologists to use social media platforms to share their wealth of clinical expertise and experience with the public in an engaging and empowering way. Social media is a powerful tool that increases communication, education, and support that can be leveraged to increase comprehension of women's health topics and advocate for our patients, both inside and outside the examination room. Included are tips for physicians on how to harness their social media superpower to connect with patients on social media, build a brand, and network in a meaningful and authentic way.

Infertility Treatment Now and in the Future

801

Kevin J. Doody

Treatment of infertility has evolved as understanding of reproduction has improved. Fertility promoting surgery still is performed and recent advances have broken new ground. Hormonal treatments to correct gonadal dysfunction have been developed, but multiple gestation continues to be a significant complication. Assisted reproductive technologies have improved such that in vitro fertilization and its variants increasingly are used to treat nearly all causes of infertility. Advances in assisted reproduction are of 2 types: (1) incremental optimization of existing techniques and (2) development of new, disruptive technologies. Artificial intelligence and stem cell technologies are poised to have impact in the near future.

Postscript: Women's Health and the Era After COVID-19

813

Denisse S. Holcomb and William F. Rayburn

As the world clamored to respond to the rapidly evolving coronavirus 2019 (COVID-19) pandemic, health care systems reacted swiftly to provide uninterrupted care for patients. Within obstetrics and gynecology, nearly every facet of care was influenced. Rescheduling of office visits, safety of labor and delivery and in the operating room, and implementation of telemedicine are examples. Social distancing has impacted academic centers in the education of trainees. COVID-19 vaccine trials have increased awareness of including pregnant and lactating women. Last, the pandemic has reminded us of issues related to ethics, diversity and inclusiveness, marginalized communities, and the women's health workforce.