

2017 Gap Analysis and Educational Needs

Developed by the ASRM Continuing Medical Education Committee

TOPIC	GAP(S) IDENTIFIED	EDUCATIONAL NEED(S)
Access to care	Increase insurance coverage	Strategies to increase coverage by self-insureds and insurance companies. Alternatives to insurance coverage including philanthropy
Andrology / Male Infertility	Replacement of testosterone directly is harmful to spermatogenesis, yet this is a common clinical occurrence. Many male patients may present with low testosterone levels and symptoms.	Hypogonadism and testosterone supplementation. Implementation of strategies that do not compromise spermatogenesis.
	Young men undergoing cytotoxic chemotherapy are clearly at risk for long-term compromised or ablation.	Oncofertility education: Consultation regarding long-term fertility preservation strategies is a message that needs to be conveyed early, prior to onset of chemotherapeutic treatments.
	Post-vasectomy fertility options: Men facing the choice of fertility restoration after vasectomy have choices yet there exists a clinical perception that after ten years, reconstructive surgery is not feasible.	Education about the true success rates with microsurgical reconstruction should be more broadly distributed and understood.
	Sexual dysfunction occurs in the majority of couples going through a fertility struggle.	Identification, evaluation, and treatment of sexual dysfunction may not affect the couple's infertility acutely but is an important long-term quality of life issue for the couple.
	Treatment of an infertile couple to help them achieve a pregnancy is our overall goal, but incorporating male factor evaluation is critical so as not to overlook broader health issues in men (testis tumors, genetic or endocrine problems, correctable fertility issues).	Strategies for integration of male factor evaluation.
	Newer epigenetic tests are being marketed towards infertile couples, particularly for the evaluation of male factor.	The scientific data, clinical utility, and cost-efficiency of newer epigenetic tests and DNA fragmentation in male fertility practice need to be elucidated.
	Sperm harvest procedures	Sperm harvest procedures
	Interactions between urologists and REIs	Male fertility from viewpoints of REI and Urologists
ART	FDA donor/recipient testing; OSHA requirements, CLIA requirements	Education on compliance for donor/recipient testing; OSHA requirements, CLIA requirements
	Poor responders	Management of poor responders
	Rationale for freeze-all cycles in clinical contexts including PGS, elevated	Risks and benefits of fresh versus frozen embryo transfers

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	progesterone levels, ovarian hyperstimulation	
	Extended culture of the embryo to days 6 and 7 and reducing impact on implantation by transferring these embryos in FET	Endometrium – embryo synchronization
	Failed implantation	Management of failed implantation, including consideration of endometrial receptivity analysis
	Embryo transfer location in uterus	Embryo transfer techniques
	Techniques for approaching difficult transfers	Simulator time for embryo transfer
	Thorough understanding of the role of PGS in successful implantation rates	Laboratory techniques and best practice for handling of embryos, discussion of available PGS tests
	Is embryo banking for family building purposes prior to advancing maternal age (not for fertility preservation per se) helpful to patients, and how do laboratories handle these cases?	Best practices for laboratories regarding data collection and reporting of embryo banking; how to decide when you have enough embryos (is there a limit to the number patients should bank?)
ART Laboratory	Troubleshooting in the IVF Lab	Review of factors in the IVF lab that will affect embryo development and pregnancy rates.
	Impact of air quality on IVF lab outcomes	Fact versus fiction/myth of general environmental factors that impact the lab (e.g. temperature, humidity, light)
	Culture media improvement	Methods to improve culture medium to produce more/better quality blastocysts
	Culture incubators and culture dishes	Best practices for embryo development and viability from robust, unbiased studies
	Non-invasive embryo selection	Evidence-based findings
	Pitfalls in the IVF lab: ‘knowns’ about things that can undermine system effectiveness.	Practical discussion of what to watch out for in the embryology lab: examples might be material toxicity/testing, incubator QC, patient analysis
	Trophectoderm biopsy and mosaicism from the embryologist’s perspective	Clinical impact of mosaicism—of both the biopsy and the embryo as a whole. Practical discussion of transfer of embryos with mosaicism in the biopsy--and transfer of embryos that are called aneuploid following PGS
	Status of endometrial receptivity assay	Evidence-basis; proven, reliable? What do the studies tell us about endometrial receptivity?
	Bias in comparison of the various CCS platforms	Does the platform affect results or interpretation? What are the bioinformatics involved?

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	Next Gen Sequencing status	Next Gen Sequencing updates
	Effectiveness of using calcium ionophore for fertilization	Which populations might benefit from use of calcium ionophore for fertilization?
	Role of re-expansion after warming and prior to FET in predicting success	Frozen embryo transfer laboratory procedures
	Inadequate DNA fragmentation studies	Does sperm DNA fragmentation affect embryo development, viability and implantation? What does the science tell us? Is this a useful clinical metric for IVF?
	Lack of consensus from the scientific and clinical studies regarding the utility of embryo mitochondrial DNA testing to predict outcome	Scientific and clinical studies regarding the utility of embryo mitochondrial DNA testing to predict outcome
	Lack of training of embryologists	Hands-on opportunities for standard (ICSI) and newer (trophectoderm biopsy, oocyte vitrification) techniques
	Embryo selection	Different methods of embryo selection including cost effectiveness
	Vitrification	Vitrification techniques
	Laboratory training for the clinician	Basics of the IVF Lab for clinicians
Biology of Reproduction	Non-ART reproductive topics	General endocrinology for the gynecologist
Coding	ICD-10 coding procedures, modifiers	ICD-10 coding procedures, modifiers
Complementary/ Alternative Medicine	Lifestyle assessment and skill training	Course on complementary medicine, nutrition for reproductive problems
Contraception	Contraception in medically complex patients	Contraception in medically complex patients
Counseling	Mental health professionals and genetic counseling	Collaboration between mental health professionals and genetic counselors
	Counseling to support couples with infertility	Counseling resources and approaches for patients with infertility
	Stress management	Counseling techniques (CBT/other) for stress management
	Lack of understanding of supportive care strategies for fertility patients	Counseling resources for fertility patients
Cost effectiveness	Cost effectiveness	Session on cost-effective approach to infertility treatment including PGS. Differences in insured vs. non-insured states
Endometriosis	Medical management of endometriosis, including off-label usage of medications	Medical management approaches for endometriosis for pain and for fertility
Ethics/ Legal	Inadequate awareness of legal issues and how to manage risk	Review/change/update consent and consenting process

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Environmental	Environmental factors affecting fertility	Update on current knowledge regarding environmental factors that affect both male and female fertility
Fertility Preservation	Options for fertility preservation	Strategies for fertility preservation: social and for medical indications
	Options for fertility preservation	Advances in emerging/experimental technologies for fertility preservation for males and females
	Optimal reproductive care of female and male cancer survivors	Fertility assessment and preservation in the survivorship phase
Fibroids	Fibroids	Fibroids and fertility
	Surgical management of fibroids in infertile patients	When is surgical management indicated for infertility care?
Genetics/PGD	Molecular techniques especially applicable to PGD and PGS	Molecular techniques especially applicable to PGD and PGS
	Genetic counseling	Genetic counseling
	Interpretation of PGS/PGD results	Session on interpretation of PGS/PGD results including cost effectiveness
	Hereditary cancer genetic risks in young women with cancer	Cancer genetic counseling as part of fertility preservation care
	Disposition of mosaic embryos	Counseling and clinical management of mosaic embryos
	Preconception genetic screening – how large of a panel to screen	Education on the range of preconception genetic screening tests
	Improved understanding of genetic testing and platforms	Evaluation of reference lab choice; improvement of genetic protocols
Imaging	CNS imaging in hypothalamic amenorrhea	Workup of hypothalamic amenorrhea
	Diagnosis of early pregnancy of unknown location	Diagnosis and management of early pregnancy of unknown location
	Imaging for müllerian anomalies	Imaging for müllerian anomalies
Infertility	Lifestyle and fertility	Lifestyle and fertility
	Endometrium and implantation	Endometrium and implantation
	Natural supplements and fertility/infertility	Natural supplements and fertility/infertility
	Ovulation induction	Ovulation induction
Lesbian, Gay, Bisexual, and Transgender	Lesbian, gay, bisexual and transgender fertility	Lesbian, gay, bisexual and transgender fertility treatment
	Fertility preservation in the lesbian, gay, bisexual and transgender populations	Fertility preservation in the lesbian, gay, bisexual and transgender populations

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	Hormonal management of the transgender patient	Hormonal management of the transgender patient
Menopause/ Ovarian Insufficiency	Primary ovarian insufficiency	Primary ovarian insufficiency
	Menopause hormone therapy/Primary ovarian insufficiency	Menopause hormone therapy/Primary ovarian insufficiency
	Management of fertility with primary ovarian insufficiency	Management of fertility with primary ovarian insufficiency
PCOS/ Androgen Excess	PCOS	PCOS
	Delays in diagnosis of PCOS. Limited patient education and support provided at time of diagnosis.	Diagnosis of PCOS and early warning signs. Review cases with a non-classic and classic clinical picture. Discuss resources available to patient that provide support and how to discuss the initial diagnosis. Develop a strategy to provide ongoing education at follow up visits as well.
	Use of metformin in thin versus obese women with PCOS	Evidence for metformin use in PCOS
	Obesity and ovulation induction in PCOS	Weight management in PCOS
	Using letrozole for ovulation induction in PCOS	Ovulation induction in PCOS
Practice/ Risk Management/ Team-based Care	Interactions between urologists and REIs	Male fertility from viewpoints of REI and Urologist
Pregnancy/ Pregnancy Loss	Recurrent pregnancy loss	Recurrent pregnancy loss
	Which tests are evidence-based in recurrent pregnancy loss	Evidence-based evaluation and treatment of couples with recurrent pregnancy loss
Reproductive Surgery	Safe opportunities for gaining facility with laparoscopic, endoscopic, robotic, and microsurgical skill	Hands-on training for laparoscopic, endoscopic, robotic, and microsurgical skills
	Lack of awareness in advances in surgical technique	15 year perspective in advances in reproductive surgery (robotics, uterine transplantation) as well as focus on future technology
Stem Cells	Changing technology for gametes from stem cells	State of the art technology for gametes from stem cells
	Asherman syndrome	Use of stem cells in management of Asherman syndrome
Technology	Maturation arrest	Techniques for advancing spermatogenesis beyond maturation arrest

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Transition Care	Transition care of medically complex patients from pediatric providers to adult providers	Protective factors that are likely to make transition successful. Risk factors that make transition care more difficult. Health behaviors that motivate patients with chronic health conditions. Difference between complex chronic health conditions and non-complex chronic health conditions and how these affect transition to adult care.
Zika Virus	Screening and counseling on Zika	Education on Zika virus prevention, testing and fertility care