1. Molecular Regulation of Key Events that Play a Role in Successful Mammalian Fertilization
   Heide Schatten, Qing-Yuan Sun
   Clinical Discussion

2. Spermatogenesis, Sperm Maturation and Sperm-Oocyte Interaction in Humans
   Iris Har-Vardi

3. Patient Selection and Management to Optimize Success in an Intrauterine Insemination Program
   Vishvanath C Karande
   Clinical Discussion

4. IUI: Indications, Results and Outcomes
   Sneha Sathe, Gautam N Allahbadia, Akanksha Allahbadia
   Clinical Discussion

5. Intrauterine Insemination as a Treatment Option in Resource-limited Medical Settings
   Rudolph Kantum Adageba
   Rationale
   Clinical Discussion

6. First-line Treatment for Unexplained Infertility in Women Over 40 Years of Age: Ovulation Induction and IUI or IVF?
   Avi Tsafrir, Neri Laufer
   Rationale
   Clinical Discussion
   Case Study

7. Ovulation Induction for IUI
   Rutvij Dalal
   Rationale
   Clinical Discussion
8. Predictors of Ovarian Response to Stimulation for Intrauterine Insemination 74
   Veronica Irene Yuel
   ▶ Clinical Discussion 75

9. Role of Recombinant Gonadotropins in an IUI Program—Current Protocols 81
   Volkan Noyan, Mehmet Bulent Tiras
   ▶ Clinical Discussion and Recent Advances 84

10. Recombinant FSH versus Clomiphene Citrate for Ovarian Stimulation in Couples with Unexplained Infertility and Male Subfertility Undergoing IUI 93
    Bułent Berker, Korhan Kahraman
    ▶ Rationale 93
    ▶ Clinical Discussion and Case Studies 96

11. The Use of GnRH Antagonists in Ovarian Stimulation for Intrauterine Insemination 103
    Mete Isikoglu
    ▶ Clinical Discussion 104

12. Clomiphene Citrate-stimulated or Natural Cycle IUI? 109
    Markus E Nitzschke, Sonny J Stetson, Luis A Ruvalcaba
    ▶ Clinical Discussion 110
    ▶ Patients with Polycystic Ovary Syndrome (PCOS) 111

13. Aromatase Inhibitors versus Clomiphene Citrate for Superovulation in Patients with Unexplained Infertility Undergoing IUI 116
    John Jude Kweku Annan, Anil Gudi, Amit Shah, Roy Homburg
    ▶ Clinical Discussion 120

14. Strategies in the Prevention of Ovarian Hyperstimulation Syndrome 125
    Markus E Nitzschke, Sonny J Stetson, Luis A Ruvalcaba
    ▶ Clinical Discussion 126

15. Efficacy of Unstimulated Intrauterine Insemination in Advanced-aged Women 134
    Jerome H Check
    ▶ Rationale 134
    ▶ Clinical Discussion 135
    ▶ Case Studies 136
16. How to Set up a Laboratory for an IUI Program 143
   Amjad Hossain
   ▶ Clinical Discussion 144

17. Novel Methods for Sperm Separation and Isolation 156
   Steven Denis Fleming
   ▶ Rationale 156
   ▶ Clinical Discussion 157

18. Intrauterine Insemination Techniques 166
   Gautam N Allahbadia, Akanksha Allahbadia, Soumya Ramesh, Goral Gandhi, Kulvinder Kaur, Rubina Merchant
   ▶ Clinical Discussion 167

19. The Influence of Timing and Number of Inseminations on the Pregnancy Outcome 183
   Natachandra Chimote, Meena Chimote
   ▶ Clinical Discussion 185

20. Single versus Double Intrauterine Insemination in Multifollicular Ovarian Hyperstimulation Cycles 200
    Sarit Avraham, Daniel S Seidman
    ▶ Rationale 200
    ▶ Clinical Discussion 202

21. Endometrial Thickness and Pregnancy Outcome after Intrauterine Insemination 207
    Joseph Hasson, Arnon Agmon, Igal Wolman
    ▶ Clinical Discussion 209

22. Ultrasound in the Investigation and Monitoring of Infertility 215
    Arnon Agmon, Joseph Hasson, Igal Wolman
    ▶ Clinical Discussion 216

23. The Role of Transvaginal Sonography in an IUI Program 249
    Gautam N Allahbadia, Akanksha Allahbadia, Goral Gandhi, Rubina Merchant
    ▶ New Directions in Ultrasonographic Imaging 281
Intrauterine Insemination

24. Can Periovulatory Follicular Volume and Vascularization Determined by 3D and Power Doppler Sonography Predict the IUI Outcome? 289
   Isabel Santillán Palencia, Victoria Verdu Merino, Jose Manuel Bajo Arenas
   - Rationale 289
   - Clinical Discussion 290
   - Case Studies 291

25. Evaluation of the Impact of Sperm Characteristics on the Outcome of Intrauterine Insemination 296
   Philippe Merviel
   - Clinical Discussion 296

26. Modulation of Sperm Motility 301
   Bhushan K Gangrade

27. The Physiology of the Spermatozoon and the Use of Digitally-enhanced Sperm Analysis in Predicting Pregnancy after Intrauterine Insemination 313
   Martin Wilding, Gianfranco Coppola, Giuseppe Coppola, Giusy Esposito, Loredana Di Matteo, Enrico Fusco, Brian Dale
   - Clinical Discussion 316
   - WHO Criteria 317
   - Acknowledgments 324

28. Effect of Swim-up and Gradient as Semen Preparation Techniques on the Outcome of Intrauterine Insemination 327
   Einat Shalom-Paz, Jordana H Hyman, Amir Wiser
   - Clinical Discussion 328

29. Effect of Male Factor on Pregnancy Outcome in Patients Undergoing Intrauterine Insemination 331
   Eleonora B Pasqualotto, Fabio Firmbach Pasqualotto, Ashok Agarwal
   - Clinical Discussion 334

30. Sperm Surface Antibodies: IUI or IVF 345
   Neelam Ohri
   - Direct ASA Testing 350
   - The Immunobead Binding Test (IBT) 351
   - Treatment 353
31. **Luteal Phase Support in Intrauterine Insemination Cycles—Does it Influence the Outcome?** 362  
*Abha Bhat, Akanksha Allahbadia, Gautam N Allahbadia*  
- Rationale 362  
- Clinical Discussion 363  
- Other Considerations 368

32. **Luteal Phase Support in Stimulated Intrauterine Insemination Cycles: Is there a Need for it?** 373  
*Peter Kovacs*  
- Clinical Discussion 376

33. **Efficacy and Safety of IUI in HIV Serodiscordant Couples where the Man is Positive** 383  
*Soumya Ramesh, Akanksha Allahbadia, Gautam N Allahbadia*  
- Clinical Discussion 384

34. **Complications of Intrauterine Insemination** 390  
*Gil Peer, Ron Auslender, Martha Dirnfeld*  
- Clinical Discussion 392

35. **Stimulated IVF with Elective Single Embryo Transfer versus IUI for Unexplained Subfertility** 406  
*Deepak Goenka*  
- Clinical Discussion 407

36. **Goals and Significance of Semen Cryopreservation for IUI** 412  
*Ruslan V Sobolev, Irina Valakh*  
- Clinical Discussion 413

37. **Human Sperm Banking—Where are We Today?** 421  
*Gautam N Allahbadia, Goral Gandhi, Kalyani Patel, Anjali Joshi, Akanksha Allahbadia, Rubina Merchant*  
- History 422  
- Clinical Discussion 422  
- Legislation 431  
- Facilities 434  
- Security 441  
- The Future 442

38. **The Value of Semen Cryopreservation Combined with IUI for Infertile Men with Oligozoospermia and Asthenozoospermia** 448  
*Goral Gandhi, Sakina Kagalwala, Varsha Chipkar, Shradhha Shetye, Monali Madne, Ramya Ramani*  
- Clinical Discussion 449
39. Assessment of Sperm Cryodamage and Strategies to Improve Outcome 454
Goral Gandhi, Sakina Kagalwala, Varsha Chipkar, Monali Madne, Ramya Ramani, Shraddha Shetye
▷ Clinical Discussion 457

40. The Significance of Excess Oocyte Aspiration and Vitrification in Patients Undergoing Stimulated IUI 467
Mausumi Das, Hananel EG Holzer
▷ Rationale 467
▷ Clinical Discussion 468

41. IVF Conversion to IUI in Poor Responders to Gonadotropin Stimulation: Is it Advantageous? 472
Ritu Hinduja Singh, Gautam N Allahbadia, Akanksha Allahbadia
▷ Clinical Discussion 473

42. Intrauterine Insemination versus Fallopian Tube Sperm Perfusion for Non-tubal Subfertility 477
Asha Reddy
▷ Clinical Discussion 477

43. The Role of the Andrologist in an Intrauterine Insemination Program 483
Jorge Hallak, Juliana Risso Pariz
▷ Clinical Discussion 485

44. Role of the Nurse Co-ordinator in an IUI Program 501
Sharon Amir, Hilarie Goren, Daniel S Seidman
▷ Clinical Discussion 501

45. Data Management for an IUI Clinic 508
Ritu Hinduja, Gautam N Allahbadia, Akanksha Allahbadia
▷ Clinical Discussion 509

46. Is there a Role for Intrauterine Insemination in the 2000s? 517
Sarit Avraham, Daniel S Seidman
▷ Rationale 517
▷ Clinical Discussion 519

47. Computerization of an Andrology and IUI Program 524
Ethiraj Balaji Prasath
▷ Clinical Discussion 525
### 48. Sex Preselection: A Never Ending Story

*Monika Malhotra Chawla, Jayaprakash Divakaran*

- Future Prospects 534

### 49. Regulation of Assisted Reproductive Technologies Including IUI Programs

*Gautam N Allahbadia, Kalyani Patel, Goral Gandhi, Akanksha Allahbadia, Rubina Merchant, Anjali Joshi*

- Consent for Artificial Insemination with Husband’s Semen 543
- Endorsement by the ART Clinic 544
- Consent for Artificial Insemination with Donor Semen 544
- Endorsement by the ART Clinic 544
- ICMR Guidelines on Surrogacy: General Considerations 546

*Index* 549