International Society for Prenatal Diagnosis

14th International Conference on Prenatal Diagnosis and Therapy

1 - 4 June 2008
Hyatt Regency
Vancouver, Canada
# International Society for Prenatal Diagnosis

**14th International Conference on Prenatal Diagnosis and Therapy**

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## Final Report

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In June 2008, the International Society for Prenatal Diagnosis (ISPD) proudly hosted professionals representing the many disciplines working in prenatal diagnosis and therapy at its 14th International Conference on Prenatal Diagnosis. This multidisciplinary group — basic and clinical researchers, clinical geneticists, clinical lab specialists, genetic counselors, maternal fetal medicine specialists and nurses, among others — gathered in Vancouver, Canada from all over the world to learn about the latest research and best practices in the field. The conference offered an important forum for professional education and international collaboration.

**Background and Organization**

ISPD introduced a new organizing structure for the 14th International Conference; the international Scientific Program Committee, Board of Directors and ISPD Headquarters partnered to take ownership of the organizational and financial processes. Previous conferences were organized exclusively by the Scientific Program Committee under the auspices of ISPD. The new structure signifies ISPD’s growing strength and stature as the premier international, multidisciplinary society dedicated to advancing prenatal diagnosis and therapy. The ISPD Board of Directors called upon Sylvie Langlois MD and R. Douglas Wilson MD to organize the meeting; they formed an international program committee and invited researchers and clinicians with varied specialties. The committee convened for the first time on 17 April 2007 to determine conference topics and a basic schedule of events. Members of the committee included the following distinguished professionals:

- Diana W. Bianchi MD, Vice Chair for Research, Tufts Medical Center, Genetics/Pediatrics USA (ISPD President)
- David A. Chitayat MD, Head Prenatal Diagnosis Program, Mt Sinai Hospital, Obstetrics & Gynecology, Canada
- Howard Cuckle MD, Professor, University of Leeds, United Kingdom
- Jan Friedman MD, PhD, Professor, University of British Columbia, Children’s & Women’s Hospital, Department of Medical Genetics, Canada
- Enrique C. Gadow MD, PhD, Head Genetics Obstetrics and Gynecology, Centro de Educación Médica e Investigaciones Clínica (CEMIC), Argentina (ISPD Secretary)
- Alain Gagnon MD, Clinical Associate Professor, British Columbia Women’s Hospital and Health Centre, Maternal - Fetal Medicine, Canada
- Joyce C. Harper PhD, University College London, United Kingdom
- Jo-Ann M. Johnson MD, Professor, University of Calgary, Maternal Fetal Medicine, Canada (ISPD Director)
- Dennis Lo DM, DPhil, Professor of Chemical Pathology, Department of Chemical Pathology, Prince of Wales Hospital, China (ISPD Treasurer)
- Andre Mattman MD, Medical Biochemist, University of British Columbia, Dept of Pathology and Laboratory Medicine, Canada
- Barbara McGillivray MD, Children’s and Women’s Health Centre of BC, Department of Medical Genetics, Canada
- Aubrey Milunsky MD, DSc, Professor of Human Genetics, Pediatrics, Pathology, and Obstetrics & Gynecology, Boston University School of Medicine, Center for Human Genetics, USA (ISPD Director)
Learning Objectives

The Scientific Program Committee developed a program covering the broad range of issues and hot topics in the field. In preparation for conference planning, the committee developed a series of learning objectives covering the diverse issues in prenatal diagnosis and therapy. Conference sessions were organized to meet these objectives. At the conclusion of the conference, attendees rated how well the program addressed the 21 stated learning objectives (see below); using a rating scale of 1 – 5 (5 being the highest), the average rating for each objective ranged from 3.5 to 4.4 (average number of responses = 170).

ISPD 14th International Conference Learning Objectives

As a result of attending this conference, participants should be able to understand the following issues/topics:

- Role of fetal MRI in second trimester diagnosis of fetal anomalies
- Role of ultrasound in the first trimester diagnosis of fetal anomalies
- Role of first trimester ultrasound markers in detecting fetal aneuploidy
- Role of cell-free nucleic acids in maternal plasma for Down syndrome detection
- Role and limitations of high resolution microarray in clinical medicine
- Role of QF-PCR and targeted microarray analysis in prenatal diagnosis
- Role of preimplantation aneuploidy screening in IVF patients
- Role of preimplantation genetic diagnosis
- Pros and Cons of population screening for single gene disorders
- Approach to early screening and diagnosis of placental dysfunction
- Role of placental expression of imprinted genes in fetal growth
- Role of cell-free fetal nucleic acids as markers of fetal development and preeclampsia
- Role of ultrasound in refining the diagnosis of Twin to Twin transfusion syndrome (TTTS)
- Role of laser ablation of placental anastomoses in cases of twin to TTTS
- Role fetal surgery in the management of severe congenital diaphragmatic hernia
- Role and indications for in utero cardiac therapy
- Diversity of pathology in monochorionic diamniotic twin gestations
- Role of obesity in increasing the risk of birth defects
- Approach to the management of in utero parvovirus infection
- Ethics of legislating reproductive technologies
- Medicolegal pitfalls of prenatal diagnosis
Programming Innovation

The Scientific Program Committee added many new elements to conference program. The concurrent and plenary sessions were comprised of not only invited talks from well-established experts in the field, but also selected abstract presentations. This is the first ISPD International Conference where presentations were selected by peer review. A Call for Abstracts was distributed on 24 October 2007 with a deadline of 11 February 2008. The call garnered 178 abstract submissions. The committee completed their review in February 2008 accepting 32 abstracts as oral presentations and 141 posters; 10 abstracts were withdrawn. Conference sessions were finalized in March 2008.

Controversies in Prenatal Diagnosis

The committee also added a truly innovative feature to the program with debate sessions on “Controversies in Prenatal Diagnosis.” These debates called upon leading specialists to present their views on the most controversial issues facing the prenatal diagnosis community. Attendee ratings of the controversy sessions ranged from 4.3 and 4.5 (average number of responses = 165). The controversies were for many attendees a highpoint of the conference. One attendee commented, “[The] for/against technique [was] effective for generating a full view of the evidence and literature base.” Another remarked that “the ‘controversies’ presentations on all days have been the highlight of the meeting.” The four controversy sessions were as follows:

- **Is aneuploidy testing by PGD indicated for all infertile patients undergoing IVF?**
  FOR: David Hill, ART Reproductive Center, USA; AGAINST: Sjoerd Repping, Center for Reproductive Medicine, Academic Medical Center, Netherlands

- **Should laser ablation of placental anastomoses be used in all cases of twin to twin transfusion syndrome?**
  FOR all cases: Greg Ryan, University of Toronto, Mt Sinai Hospital, Canada; FOR higher stages only: Anthony Johnson, Baylor College of Medicine, USA

- **For prenatal diagnosis, should we offer less or more than metaphase karyotyping?**
  FOR QF-PCR: Caroline Ogilvie, Guy's & St Thomas' Hospital Trust, UK; FOR Array CGH: Art Beaudet, Baylor College of Medicine, USA

- **Should fetal surgery be done in all cases of severe congenital diaphragmatic hernia?**
  FOR: Jan Deprest, Katholieke Universiteit Leuven, Belgium; AGAINST: Allen Flake, Children’s Hospital of Philadelphia, USA
Preconference Training Courses
This year marked the first time ISPD offered training courses. The courses, held immediately prior to the conference on 1 June 2008, attracted 189 participants.

New Molecular Techniques for the Prenatal Diagnosis of Chromosomal Aneuploidy, which was chaired by Joyce Harper PhD, University College London, UK and featured Drs. Vincenzo Cirigliano General Lab, Spain; Lisa Shaffer, Signature Genomic Laboratories, USA; and Diane Van Opstal, Erasmus Medical Centre, Netherlands.

Participants in the New Molecular Techniques course discussed the use and limitations of the following molecular techniques in prenatal diagnosis of chromosomal aneuploidy: qPCR, MLPA, targeted microarray and high resolution microarray.

Fetal Anomalies: Gastroschisis and Fetal Chest Masses, which was chaired by Alain Gagnon MD, British Columbia Women’s Hospital and Health Centre, Canada and featured Drs. Alan Flake, Children’s Hospital of Philadelphia, USA; Millan Patel British Columbia Women’s Hospital and Health Centre; Tracy Pressey, University of British Columbia, Canada; Denise Pugash, British Columbia Women’s Hospital and Health Centre; Erik Skarsgard, University of British Columbia; and R. Douglas Wilson Children’s Hospital of Philadelphia.

The Fetal Anomalies course addressed and accomplished the following objectives:

- Review prenatal and postnatal management, diagnosis and treatment of fetal abdominal wall defects and pulmonary lesions
- Discuss strategies for arriving at a differential diagnosis for fetuses with multiple anomalies and normal karyotype using internet and web-based search tools.

The Fetal Medicine Foundation (FMF) offered The 11 – 13+6 Week Scan Theoretical Course, in partnership with ISPD, as part of the preconference course schedule. The FMF course was chaired by Jo-Ann Johnson MD, University of Calgary, Canada. Cathy Downing, Fetal Medicine Foundation, USA; Jon Hyett, Royal Brisbane Women’s Hospital, Australia; John Lai, Fetal Medicine Foundation Canada, and Jiri Sonek, Miami Valley Hospital, USA presented information on the current status of noninvasive genetic screening for chromosome abnormalities. The session aimed to ensure that all professionals who perform the 11 - 14 week scan for nuchal translucency screening have received the appropriate training and that high standards of performance are maintained.
Oral Presentations

Educational sessions began with the opening plenary on 2 June 2008. ISPD President Diana Bianchi MD and Dean Gavin Stuart MD, University of British Columbia, Vancouver, Canada, welcomed attendees to Vancouver and to the conference. Enrique Gadow MD, PhD, CEMIC, Buenos Aires, Argentina, presented information on “The impact of prenatal diagnosis on the rate of congenital anomalies at birth.” Magnus Westgren MD, Karolinska Institutet, Sweden, followed with his talk on “Mesenchymal stem cells as in utero therapy for osteogenesis imperfecta.” Dr. Westgren was a speaker of the Royal College of Physicians and Surgeons of Canada.

The concurrent and plenary sessions that followed covered topics such as fetal anomalies; preimplantation genetic diagnosis; placental function and fetal growth; multiple gestation and fetal therapy; molecular cytogenetics; teratology, ethics and legal issues; screening for aneuploidy; prenatal screening and diagnosis for single gene disorders; and fetal cells, mRNA and DNA in maternal circulation. A total of 32 invited speakers and 35 abstract authors presented their work.

Poster Presentations

ISPD held two attended poster sessions during lunch on 2 and 3 June 2008. The Scientific Program Committee scheduled the poster sessions during the two-hour lunch breaks to encourage maximum participation. ISPD presented a total of 132 posters over both sessions on topics mirroring the oral presentations. All poster presentations were selected by peer review from among the abstracts submitted. The Scientific Program Committee arranged posters for an even distribution of topics at each session.
Special Interest Group Meetings
Among the many firsts, this conference marked the inaugural meetings of ISPD’s special interest groups (SIGs). ISPD created SIGs in 2007 to facilitate targeted communications between members interested in key topics and issues in the field. SIGs are organized into five groups: Laboratory Techniques, Prenatal Maternal Screening, Fetal Ultrasound, Fetal Therapy and Invasive Procedures. The face-to-face SIG meetings were held on Wednesday, 4 June 2008, in the morning before educational sessions. All were well-attended by enthusiastic participants — some meetings were standing room only. The SIG meetings will propel ISPD SIG activities forward by creating agendas for action and identifying leaders to move those agendas forward.

Conference Podcast
On the morning of Thursday, 5 June 2008, Malcolm Ferguson-Smith MD, Cambridge University School of Veterinary Medicine, and Judith Hall MD, University of British Columbia, joined Dr. Bianchi to discuss the highlights of the conference. Their conversation is freely available for download (mp3 format) from the ISPD website (www.ispdhome.org). The podcast is also available on the Prenatal Diagnosis website on Wiley InterScience (www3.interscience.wiley.com).

Special Conference Issue of Prenatal Diagnosis
Wiley-Blackwell, publisher of Prenatal Diagnosis, plans to publish the best presentations from the conference in a special conference issue of the journal. Editor-in-chief, Dr. Bianchi, is in the process of reviewing the manuscripts for print in the January 2009 issue.
Awards

ISPD was pleased to recognize the work of Elisabeth Boormans MD, Onze Lieve Vrouwe Gasthuis, Netherlands, with the 2008 Young Scientist Award. Dr. Boormans received the award for her excellent oral presentation, “MLPA or karyotyping? Comparison of accuracy in prenatal diagnosis: Preliminary results.” The ISPD Young Scientist award honors the achievement of an author 40 years of age or younger for an outstanding poster or oral presentation at the ISPD International Conference.

Wiley-Blackwell, publisher of the journal Prenatal Diagnosis, presented Nicholas Cowans MSc, King George Hospital, UK, with the Malcolm Ferguson-Smith Young Investigator Award. The award, named in honor of the Founding Editor of Prenatal Diagnosis, recognizes journal papers selected for scientific or medical merit, potential to impact the field of prenatal diagnosis and overall quality. Dr. Ferguson-Smith personally presented the award to Mr. Cowans. Mr. Cowans received the award for his article, “First trimester ADAM 12 and PAPP-A as markers for intrauterine fetal growth restriction through their roles in the insulin-like growth factor system.”

General Business Meeting

Both awards were presented during the General Business Meeting in which Dr. Bianchi presented a President’s report of ISPD activities throughout the year and the Board of Directors’ plans for the future. Dr. Lo, ISPD Treasurer, followed with an update on ISPD finances and Elliott Graham, ISPD Executive Director, with the Headquarters report. Amid news about ISPD activities and future plans, attendees observed a moment of silence in remembrance of the talented researcher and perinatologist Umberto Nicolini MD. Dr. Nicolini was an active ISPD member and served on the Board of Directors until his passing.
Attendance
The ISPD 14th International Conference attracted a diverse audience. ISPD met its attendance goal with a total of 497 individuals participating in the preconference training courses and conference sessions. ISPD attendees represented diverse professions and activities in prenatal diagnosis and therapy (see Figure 1) and at different stages of their careers (see Figure 2). Professionals came together in Vancouver from all over the world; participants represented almost 40 countries: Albania, Argentina, Australia, Austria, Bahrain, Belarus, Belgium, Canada, China, Czech Republic, Denmark, Dominica, Estonia, Finland, France, Germany, Hungary, India, Israel, Italy, Jamaica, Japan, Jordan, Lithuania, Mexico, Netherlands, New Zealand, Portugal, Republic of Korea, Russia, Singapore, Slovenia, Spain, Sweden, Switzerland, Taiwan, United Kingdom, United States and Uruguay.

Figure 1. Professional activities

<table>
<thead>
<tr>
<th>Professional Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Research</td>
<td>5.4%</td>
</tr>
<tr>
<td>Clinical Research</td>
<td>3.5%</td>
</tr>
<tr>
<td>Clinical Geneticist</td>
<td>13.6%</td>
</tr>
<tr>
<td>Clinical Laboratory Specialist</td>
<td>14.5%</td>
</tr>
<tr>
<td>Ethicist</td>
<td>0%</td>
</tr>
<tr>
<td>Genetic Counselor</td>
<td>29.8%</td>
</tr>
<tr>
<td>Maternal Fetal Medicine Specialist</td>
<td>21.3%</td>
</tr>
<tr>
<td>Nurse</td>
<td>4.5%</td>
</tr>
<tr>
<td>Other</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

Figure 2. Level of professional experience of conference attendees

<table>
<thead>
<tr>
<th>Experience Period</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 1 year</td>
<td>6.3%</td>
</tr>
<tr>
<td>1 to 3 years</td>
<td>21%</td>
</tr>
<tr>
<td>4 to 6 years</td>
<td>12.0%</td>
</tr>
<tr>
<td>7 to 15 years</td>
<td>31.3%</td>
</tr>
<tr>
<td>16 or more years</td>
<td>29%</td>
</tr>
</tbody>
</table>

Continuing Education Credits
Continuing education was granted for the preconference training courses and conference sessions through a number of educational sponsors. The University of British Columbia approved the event for up to 25.5 hours for Royal College of Physicians and Surgeons of Canada Section 1 Credits and American Medical Association Category 1 Credits toward the Physician’s Recognition Award. The Canadian Association of Genetic Counsellors approved the event for 25.15 hours of continuing education. In addition, the American Counseling Association (ACA), approved by the National Board of Certified Counselors, offered 21.2 contact clock hours of continuing education credit for the conference and training courses. ACA offers 10 contact clock hours for every one continuing education credit offered by the American Board of Genetic Counseling. The preconference course, 11 – 13+6 \textit{Week Scan Theoretical Course}, presented by
the FMF, was approved by Society of Diagnostic Medical Sonography for a total of four continuing medical education credits for sonographers.

**Marketing**

As soon as conference planning began, ISPD Headquarters developed a website to provide information about conference events, such as the Call for Abstracts, program, preconference training courses, continuing education credits, exhibit and support opportunities and hotel and transportation information. After the conference, all presentations (for which ISPD received written permission from the authors to share) were posted online in PDF format; ISPD Headquarters e-mailed the website URL to all conference registrants and posted a link to the presentation website on the ISPD Members-only website.

In addition to the conference website, Headquarters distributed regular e-mail updates about the conference to the ISPD distribution list (an international list of over 1,400 individuals) and those of the Canadian College of Medical Geneticists, Canadian Association of Genetic Counsellors and National Society of Genetic Counselors. These updates provided information on abstract submission, invited speakers, conference and training course registration and content, accommodations, and more. Information was posted on numerous listservers, e-newsletters and online calendars, and at meetings of allied organizations, such as the following:

- 3rd International Conference on Birth Defects and Disabilities in the Developing World
- 8th World Congress of Perinatal Medicine
- American Association for Clinical Chemistry
- American Society of Human Genetics
- American Society for Reproductive Medicine
- British Congress of Obstetrics and Gynaecology
- British Maternal Fetal Medicine Society
- Canadian Society of Diagnostic Medical Sonographers
- European Cytogenetics Association
- European Society of Human Genetics
- European Society of Human Reproduction and Embryology
- Fetal Medicine Foundation of Canada
- Perinatal Society of Australia and New Zealand
- The Special Non-Invasive Advances in Fetal and Neonatal Evaluation Network
- International Downs Syndrome Screening Group
- Preimplantation Genetics Diagnosis International Society
- Society of Obstetricians and Gynaecologists of Canada

ISPD advertised the conference in its official journal *Prenatal Diagnosis* (Wiley-Blackwell), and in the journals *Neonatalogy* and *Fetal Diagnosis and Therapy* (Karger). ISPD distributed brochures via postal mail, which advertised conference sessions, preconference training courses, continuing education credits and abstract submission. Brochures were mailed to members of the American College of Medical Genetics, The American College of Obstetricians and Gynecologists, Canadian Association of Genetic Counsellors, National Society of Genetic Counselors, and the Society for Maternal-Fetal Medicine.
Exhibits

ISPD was gratified by the interest and participation of its exhibitors, providing informational materials and networking opportunities to the attendees. Exhibitors were included in all networking events. Conference attendees appreciated the extended opportunities to interact with the wide variety of organizations:

- AmniSure International
- Astraia-Imago
- Baylor College of Medicine, Medical Genetics Laboratories
- Beckman Coulter Inc.
- Brahms AG
- Dornier Medtech
- Fetal Care Center of Cincinnati
- Fetal Medicine Foundation USA
- Fluidigm
- GeneDx
- Genzyme Genetics
- International Vasa Previa Foundation, Inc.
- Karl Storz Endoscopy Canada, Ltd.
- Lenetix Medical Screening Laboratory
- MRC-Holland/MLPA
- PerkinElmer LAS
- Philips Healthcare
- SAFE
- Sequenom Inc.
- Signature Genomic Laboratories, LLC
- Tepnel Molecular Diagnostics

Supporters

ISPD greatly appreciates the unrestricted education grants from the following supporters of the ISPD 14th International Conference. Grant funding is critical to the success of the conference. The Scientific Program Committee and Board strive to keep registration rates as low as possible to attract a multidisciplinary constituency from all over the world and with varying degrees of financial support.

Noncommercial Support

- The Canadian Institutes of Health Research Institute of Genetics supported this conference with a financial contribution.
- This conference was supported in part by March of Dimes Birth Defects Foundation Grant number 4-FY07-629.
Funding for this conference was made possible in part by a grant from the U.S. National Institutes of Health National Institute of Child Health and Human Development and Office of Rare Diseases. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the U.S. Department of Health and Human Services; nor does mention by trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Commercial Support

Diamond
- Lenetix Medical Screening Laboratory

Platinum
- Fluidigm
- Sequenom Inc.

Gold
- Ikonysis

Silver
- Genzyme
- Karl Storz Endoscopy Canada, Ltd.
- Philips Healthcare
- Signature Genomic Laboratories
- Tepnel Molecular Diagnostics

Evaluation of the Conference

Participants were asked to complete an overall conference evaluation (see the Appendix for results) and to evaluate each training course individually (see Figures 3 and 4). Attendees evaluated the effectiveness of each session and learning objective. Attendees also were given the opportunity to comment on their experience and the effectiveness of individual speakers, indicate how they may change their professional activities in response to the knowledge gained at the conference, and report any perceived commercial bias. In addition, attendees supplied overall feedback to assist ISPD in planning future conferences, such as suggestions for future topics, their reason for attending and demographic information. Overall conference evaluations were distributed with conference materials upon registration. To increase participation, ISPD provided certificates of attendance in exchange for completed conference evaluations. Approximately 54% of conference attendees completed the overall evaluation. Training course chairs distributed and collected the individual evaluations. For the Fetal Anomalies course, 49% returned evaluations (see Figure 3); 53% of New Molecular Techniques attendees evaluated the course (see Figure 4). Evaluation results were tabulated using Scantron’s Class Climate evaluation software at ISPD Headquarters after the conference.
Future ISPD Conference

ISPD has begun to plan for its 15th International Conference in 2010. In keeping with its policy of rotating conference sites between North America, Europe, South America and Asia, the next conference will take place in Europe. The Board identified Karen Sermon MD, PhD and Jan Van Lith MD, PhD as Conference Chairs. Drs. Sermon and Van Lith are selecting members of the Scientific Program Committee, as well as assisting ISPD Headquarters in determining a conference venue and dates.

The 2010 Scientific Program Committee will consider the experiences and evaluations of 14th International Conference attendees. Suggestions for future topics shall be incorporated as the 15th International Conference program develops (see Figures 5 and 6).
Drs. Sermon and Van Lith are well positioned to build on Drs. Langlois and Wilson’s success as conference organizers. In addition to the suggestions for future topics and organization, ISPD received an enormous amount of praise for the conference. Following are just a few of the comments offered by 2008 conference attendees. We look forward to another excellent conference in 2010.

“Great job putting all of the program together! Thank you! Interesting topics. It is wonderful hearing what is being done globally.”

“A good conference with very interesting topics, smoothly organized. Thank you!”

“Excellent abstract presentations – good format for overall talks.”

“[The conference] was thoroughly enjoyable. Great presentations by experts internationally allow us in North America to learn from the rest of the world.”

“Overall, I was very pleased with this conference. This was my first ISPD conference…. The presenters were excellent…and the topics were extremely pertinent. I hope to attend again and would recommend the conference to others.”
## Survey Results

### Legend

<table>
<thead>
<tr>
<th>Pole</th>
<th>Relative Frequencies of answers</th>
<th>Std. Dev.</th>
<th>Mean</th>
<th>Median / Quantile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left pole</td>
<td>1 2 3 4 5</td>
<td>n=Amount</td>
<td>av.=Mean</td>
<td>md=Median</td>
</tr>
<tr>
<td>Right pole</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Session Evaluations

1. **1.1) Monday, 2 June 2008: Opening Plenary** (Featuring welcome addresses and talks from Enrique Gadov and Magnus Westgren)
   - Poor 0% 2% 13% 56% 29% Excellent 1 2 3 4 5
     - n=201
     - av.=4.1
     - md=4
     - dev.=0.7
     - ab.=39

2. **1.2) Session 1: Fetal Anomalies**
   - Poor 0% 1% 13% 55% 31% Excellent 1 2 3 4 5
     - n=229
     - av.=4.2
     - md=4
     - dev.=0.7
     - ab.=16

3. **1.3) Poster Session 1**
   - Poor 0% 3% 31% 51% 15% Excellent 1 2 3 4 5
     - n=195
     - av.=3.8
     - md=4
     - dev.=0.7
     - ab.=41

4. **1.4) Session 2: Preimplantation Genetic Diagnosis**
   - Poor 0% 2% 16% 49% 33% Excellent 1 2 3 4 5
     - n=175
     - av.=4.1
     - md=4
     - dev.=0.8
     - ab.=65

5. **1.5) Session 3: Placental Function and Fetal Growth**
   - Poor 0% 2% 26% 45% 26% Excellent 1 2 3 4 5
     - n=126
     - av.=4
     - md=4
     - dev.=0.7
     - ab.=111

6. **1.6) Controversies in Prenatal Diagnosis 1 - Is aneuploidy testing by PGD indicated for all infertile patients undergoing IVF?** (Featuring David Hill and Sjoerd Repping)
   - Poor 0% 4% 16% 29% 51% Excellent 1 2 3 4 5
     - n=186
     - av.=4.3
     - md=4
     - dev.=0.9
     - ab.=53

7. **1.8) Tuesday, 3 June 2008 Controversies in Prenatal Diagnosis 2 - Should laser ablation of placental anastomoses be used in all cases of twin to twin transfusion?** (Featuring Yves Ville and Anthony Johnson)
   - Poor 0% 3% 10% 33% 54% Excellent 1 2 3 4 5
     - n=142
     - av.=4.4
     - md=4
     - dev.=0.8
     - ab.=98

8. **1.9) Session 4: Multiple Gestation and Fetal Therapy**
   - Poor 0% 1% 9% 47% 43% Excellent 1 2 3 4 5
     - n=100
     - av.=4.3
     - md=4
     - dev.=0.7
     - ab.=124
1.10) Session 5: Molecular Cytogenetics

1.11) Poster Session 2

1.12) Session 6: Teratology, Ethics and Legal Issues

1.13) Session 7: Screening for Aneuploidy

1.14) Controversies in Prenatal Diagnosis 3 - For prenatal diagnosis, should we offer less or more than metaphase karyotyping? (Featuring Caroline Ogilvie and Art Beaudet)

1.16) Wednesday, 4 June 2008 Controversies in Prenatal Diagnosis 4 - Should fetal surgery be done in all cases of severe congenital diaphragmatic hernia? (Featuring Jan Deprest and Alan Flake)

1.18) Session 9: Fetal Cells, mRNA and DNA in Maternal Circulation

Overall Conference

2.1) Role of Fetal MRI in second trimester diagnosis of fetal anomalies.

2.2) Role of ultrasound in the first trimester diagnosis of fetal anomalies.

2.3) Role of first trimester ultrasound markers in detecting fetal aneuploidy.
2.4) Role of cell-free nucleic acids in maternal plasma for Down syndrome detection.

2.5) Role and limitations of high resolution microarray in clinical medicine.

2.6) Role of QF-PCR and targeted microarray analysis in prenatal diagnosis.

2.7) Role of preimplantation aneuploidy screening in IVF patients.

2.8) Role of preimplantation genetic diagnosis.

2.9) Pros and cons of population screening for single gene disorders.

2.10) Approach to early screening and diagnosis of placental dysfunction.

2.11) Role of placental expression of imprinted genes in fetal growth.

2.12) Role of cell-free fetal nucleic acids as markers of fetal development and preeclampsia.

2.13) Role of ultrasound in refining the diagnosis of twin to twin transfusion syndrome.

2.14) Role of laser ablation of placental anastomoses in cases of TTTS.

2.15) Role of fetal surgery in the management of severe congenital diaphragmatic hernia.
2.16) Role and indications for in utero cardiac therapy.

2.17) Diversity of pathology in monochorionic diamniotic twin gestations.

2.18) Role of obesity in increasing the risk of birth defects.

2.19) Approach to the management of in utero parvovirus infection.

2.20) The ethics of legislating reproductive technologies.

2.21) The medicolegal pitfalls of prenatal diagnosis.

2.22) Did you perceive any commercial bias during this conference?

Yes [ ] 10.7%
No [ ] 89.3%

2.24) Please evaluate the number of networking opportunities at the conference. (Select one.)

Too many [ ] 3.8%
Adequate [ ] 92%
Not enough [ ] 4.2%

2.25) What was the deciding factor for you to attend the this conference? (Select all that apply.)

Location [ ] 44.7%
Professional networking [ ] 26%
Specific program topic(s) [ ] 62.2%
Your own presentation [ ] 15.4%
Cost [ ] 9.8%
Continuing Education credit [ ] 26.4%
Specific presenter/speaker(s) [ ] 12.2%
Which sessions would you like to see at future conferences? (Select all that apply.)

- Debate sessions: 55.7%
- Fetal Anomalies: 63.4%
- Preimplantation Genetic Diagnosis: 43.5%
- Placental Function and Growth: 25.2%
- Multiple Gestation and Fetal Therapy: 22.8%
- Molecular Cytogenetics: 58.9%
- Teratology, Ethics and Legal Issues: 32.5%
- Screening for Aneuploidy: 61.4%
- Prenatal Screening and Diagnosis for Single Gene Disorders: 61.8%
- Fetal Cells, mRNA and DNA in Maternal Circulation: 54.9%

Future Conferences

3.1) Do you plan to submit an abstract for the ISPD 15th International Conference to be held in June 2010? (n=213)

- Yes: 56.8%
- No: 43.2%

3.2) Do you plan to participate in the 15th International Conference even if you do not submit an abstract? (n=205)

- Yes: 68.3%
- No: 31.7%

3.3) Do you prefer the ISPD International Conference to be held every year or every two years? (n=208)

- Every year: 20.2%
- Every two years: 79.8%

3.4) What is the highest acceptable price range for accommodations at future conferences (before adding taxes and fees)? Note: prices are stated in US Dollars. (n=217)

- Lower than $200: 47.5%
- $200 - 300: 49.8%
- $300 - 400: 2.8%
3.5) To which of the following cities are you most likely to travel to attend a future ISPD conference?  
- Miami, USA: 23.9% 
- Rome, Italy: 23.4% 
- Dubrovnik, Croatia: 6.1% 
- Amsterdam, The Netherlands: 46.7%

### About You

4.1) Please select the category that most closely describes your activity/profession in the field of prenatal diagnosis and therapy.  
- Basic Research: 5.4% 
- Clinical Research: 5.9% 
- Clinical Geneticist: 13.6% 
- Clinical Laboratory Specialist: 14.5% 
- Ethicist: 0% 
- Genetic Counselor: 28.5% 
- Maternal Fetal Medicine Specialist: 21.3% 
- Nurse: 4.5% 
- Other: 6.3%

4.2) How long have you been a prenatal diagnosis professional?  
- less than 1 year: 6.3% 
- 1 to 3 years: 21% 
- 4 to 6 years: 12.5% 
- 7 to 15 years: 31.3% 
- 16 or more years: 29%

4.3) Are you a member of ISPD?  
- Yes: 38.3% 
- No: 61.7%
Histogram for scaled questions

Session 1: Fetal Anomalies
- Poor: 13%
- Excellent: 56%
- av. = 4.1
- dev. = 0.7
- n = 201

Session 2: Preimplantation Genetic Diagnosis
- Poor: 16%
- Excellent: 45%
- av. = 4.1
- dev. = 0.8
- n = 175

Session 3: Placental Function and Fetal Growth
- Poor: 10%
- Excellent: 54%
- av. = 4.4
- dev. = 0.8
- n = 142

Session 4: Multiple Gestation and Fetal Therapy
- Poor: 10%
- Excellent: 47%
- av. = 4
- dev. = 0.8
- n = 126

Session 5: Molecular Cytogenetics
- Poor: 8%
- Excellent: 55%
- av. = 4.4
- dev. = 0.7
- n = 142

Session 6: Teratology, Ethics and Legal Issues
- Poor: 21%
- Excellent: 51%
- av. = 3.9
- dev. = 0.7
- n = 189

Session 7: Screening for Aneuploidy
- Poor: 13%
- Excellent: 56%
- av. = 4.2
- dev. = 0.7
- n = 229

Monday, 2 June 2008 Opening Plenary
(Featuring welcome addresses and talks from)

Tuesday, 3 June 2008 Controversies in Prenatal Diagnosis 2 - Should laser ablation of placental
Controversies in Prenatal Diagnosis 3 - For prenatal diagnosis, should we offer less or more

Wednesday, 4 June 2008 Controversies in Prenatal Diagnosis 4 - Should fetal surgery be

Session 8: Prenatal Screening and Diagnosis for Single Gene Disorders

Session 9: Fetal Cells, mRNA and DNA in Maternal Circulation

Role of Fetal MRI in second trimester diagnosis of fetal anomalies.

Role of ultrasound in the first trimester diagnosis of fetal anomalies.

Role of first trimester ultrasound markers in detecting fetal aneuploidy.

Role of cell-free nucleic acids in maternal plasma for Down syndrome detection.

Role and limitations of high resolution microarray in clinical medicine.

Role of QF-PCR and targeted microarray analysis in prenatal diagnosis.

Role of preimplantation aneuploidy screening in IVF patients.

Role of preimplantation genetic diagnosis.
**Pros and cons of population screening for single gene disorders.**

1. Average = 4
2. Standard deviation = 0.8
3. n = 184

---

**Role of cell-free fetal nucleic acids as markers of fetal development and preeclampsia.**

1. Average = 3.9
2. Standard deviation = 0.8
3. n = 135

---

**Role of fetal surgery in the management of severe congenital diaphragmatic hernia.**

1. Average = 3.9
2. Standard deviation = 0.9
3. n = 155

---

**Role of obesity in increasing the risk of birth defects.**

1. Average = 3.8
2. Standard deviation = 1
3. n = 143

---

**Approach to early screening and diagnosis of placental dysfunction.**

1. Average = 3.8
2. Standard deviation = 0.9
3. n = 149

---

**Role of ultrasound in refining the diagnosis of twin to twin transfusion syndrome.**

1. Average = 3.9
2. Standard deviation = 0.9
3. n = 145

---

**Role and indications for in utero cardiac therapy.**

1. Average = 3.7
2. Standard deviation = 1
3. n = 133

---

**Diversity of pathology in monochorionic diamniotic twin gestations.**

1. Average = 3.8
2. Standard deviation = 1
3. n = 138

---

**Approach to the management of in utero parvovirus infection.**

1. Average = 3.8
2. Standard deviation = 1
3. n = 133

---

**The ethics of legislating reproductive technologies.**

1. Average = 3.5
2. Standard deviation = 1
3. n = 138
The medicolegal pitfalls of prenatal diagnosis.

<table>
<thead>
<tr>
<th>Poor</th>
<th>Excellent</th>
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<tbody>
<tr>
<td>11%</td>
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av. = 3.6
dev. = 1
n = 139
Profile

Subunit: International Society for Prenatal Diagnosis
Name of the instructor: International Conference
Name of the course: ISPD 14th International Conference, Overall Evaluation

1.1) Monday, 2 June 2008 Opening Plenary (Featuring welcome addresses and talks from Enrique Gadow and Magnus Westgren)
1.2) Session 1: Fetal Anomalies Poor Excellent av.=4.1
1.3) Poster Session 1 Poor Excellent av.=3.8
1.4) Session 2: Preimplantation Genetic Diagnosis Poor Excellent av.=4.1
1.5) Session 3: Placental Function and Fetal Growth Poor Excellent av.=4.0
1.6) Controversies in Prenatal Diagnosis 1 - Is aneuploidy testing by PGD indicated for all infertile patients undergoing IVF? (Featuring David Hill and Sjoerd Repping)
1.7) Tuesday, 3 June 2008 Controversies in Prenatal Diagnosis 2 - Should laser ablation of placental anastomoses be used in all cases of twin to twin transfusion? (Featuring Yves Ville and 1.8) Session 4: Multiple Gestation and Fetal Therapy Poor Excellent av.=4.3
1.9) Session 5: Molecular Cytogenetics Poor Excellent av.=4.4
1.10) Poster Session 2 Poor Excellent av.=3.9
1.11) Session 6: Teratology, Ethics and Legal Issues Poor Excellent av.=3.9
1.12) Session 7: Screening for Aneuploidy Poor Excellent av.=4.3
1.13) Controversies in Prenatal Diagnosis 3 - For prenatal diagnosis, should we offer less or more than metaphase karyotyping? (Featuring Caroline Ogilvie and Art Beaudet)
1.14) Wednesday, 4 June 2008 Controversies in Prenatal Diagnosis 4 - Should fetal surgery be done in all cases of severe congenital diaphragmatic hernia? (Featuring Jan Deprest and Alan Flake)
1.15) Session 8: Prenatal Screening and Diagnosis for Single Gene Disorders Poor Excellent av.=4.2
1.16) Session 9: Fetal Cells, mRNA and DNA in Maternal Circulation Poor Excellent av.=4.1
2.1) Role of Fetal MRI in second trimester diagnosis of fetal anomalies.
2.2) Role of ultrasound in the first trimester diagnosis of fetal anomalies.
2.3) Role of first trimester ultrasound markers in detecting fetal aneuploidy.
2.4) Role of cell-free nucleic acids in maternal plasma for Down syndrome detection.
2.5) Role and limitations of high resolution microarray in clinical medicine.
2.6) Role of QF-PCR and targeted microarray analysis in prenatal diagnosis.
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<tr>
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<td>2.7</td>
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<td>2.9</td>
<td>Pros and cons of population screening for single gene disorders.</td>
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<td>2.10</td>
<td>Approach to early screening and diagnosis of placental dysfunction.</td>
<td>Poor</td>
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<tr>
<td>2.11</td>
<td>Role of placental expression of imprinted genes in fetal growth.</td>
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<tr>
<td>2.21</td>
<td>The medicolegal pitfalls of prenatal diagnosis.</td>
<td>Poor</td>
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The International Society for Prenatal Diagnosis is a community of individuals committed to improving the health of fetuses, newborns and pregnant women through clinical care, research and education in prenatal diagnosis.

ISPD members receive exclusive access to the members-only website with a searchable online membership directory. Membership includes online access to *Prenatal Diagnosis* as well as a reduced rate hard-copy subscription. In addition, members can join special interest groups to discuss current issues and research. ISPD also offers a member listserv for professional networking.