

PICS: A Journey in Interventional Therapies for Congenital/Structural Heart Disease

We've come a long way!

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The Pediatric and Adult Interventional Cardiac Symposium (PICS-AICS) celebrates its 20th year of bringing together the world's best clinicians, educators and researchers in the fields of pediatric and adult congenital and structural interventional cardiology and cardiac surgery in Miami, Florida from January 16 – 19, 2017. On this momentous occasion it seems appropriate to take a moment to reflect on the impact this symposium has had on the work that we do to improve the lives of the patients we serve. The spirit of inquiry, collaboration and community fostered by PICS-AICS has created a unique environment for learning. It seems only right that we take a moment to recognize and celebrate the impact this meeting has in our field over the past two decades. The success of PICS-AICS to become the premier meeting in the world in our field was built slowly from humble beginnings in Boston in 1997. Over the years, the key ingredients of live case demonstrations, lively

dialogue and debate, wide ranging didactic sessions in bioengineering, imaging, cardiac surgery, nursing care and, of course, interventional cardiology has created the perfect environment to share and learn from our colleagues from around the globe.

The Beginning

The story begins in December 1994 when Dr. Hijazi was invited to speak at a coronary intervention course at the Thorax Center in Rotterdam directed by Patrick Serruys. The meeting included live case demonstrations of coronary stenting procedures. Dr. Hijazi was impressed; believing a similar course for patients with congenital heart disease would have an important impact in the care we provided our patients. He first approached Dr. John Hess who, at the time, was Chief of Cardiology at Sophia Children's Hospital in Rotterdam, suggesting he conduct such a course, emulat-





Figure 1. Drs. Hellenbrand and Hijazi welcoming attendees at the first PICS meeting, Boston 1997

ing the successful coronary interventional course he had just attended. At the time Dr. Hess was not enthusiastic about the idea. Dr. Hijazi next approached Dr. James Lock at Boston Children's Hospital. Dr. Lock raised concerns that such a course in the United States would be challenging to conduct, citing regulatory issues that prohibit the use of devices and procedures not approved in the United States during live case demonstrations. Dr. Lock encouraged Dr. Hijazi to approach Dr. Hess a second time. In the Spring of 1995 Dr. Hijazi wrote to Dr. Hess summarizing what he envisioned for a congenital cardiology meeting that would feature live case demonstrations including course topics, logistics and cost. In the end, Dr. Hess was not interested in such an untested idea.

Not to be deterred, Dr. Hijazi turned to his mentors at Yale University, Drs. William E. Hellenbrand and Charles S. Kleinman. Both were encouraging of his idea but made it clear that their participation in the course would assume no financial responsibility on their behalf. It was Dr. David Fulton, Dr Hijazi's division chief at Tufts University in Boston, who realized the value and potential impact of his idea and provided both financial help and an introduction to the conference management company still used to this day. With this support in place, Drs. Hijazi and Hellenbrand partnered to direct the first PICS meeting in Boston in September 1997. With only 87 attendees, including faculty, the first meeting was successful in every re-



Figure 2. Drs. Hijazi and Hellenbrand in Chicago, 17 years later

spect. The highlight of the meeting was the live cases performed from three sites; Floating Hospital for Children in Boston, Massachusetts, Yale-New Haven Children's Hospital in New Haven, Connecticut and Duke University Medical Center in Raleigh, North Carolina.

The next 20 years has shown this to be absolutely true. There is simply no substitute to live case demonstrations in mastering complex congenital and structural interventional procedures. Mixed in with the few live case demonstrations that first year were collegial and informed lectures and commentary, but it was the live cases that stirred the audience and created the unique chemistry that was to become the hallmark of PICS-AICS (Figures 1, 2).

Growth of an Idea

The success of the first PICS meeting in Boston, encouraged Drs. Hijazi and Hellenbrand to plan PICS as an annual event with a clear international focus. Over the first few years attendance grew exponentially. The meeting venue has changed over the years based on the director's goal to make the meeting location both desirable and easily accessible. On several occasions PICS was held outside the U.S. in concert with meetings of the World Congress of Pediatric Cardiology and Cardiac Surgery. As Table 1 shows, in recent years attendance has approached 1,000. For the 20th Anniversary meeting in Miami, we intend to finally

Table 1. PICS-AICS Attendance by Year and Location.

Year	Place	Attendance
1997	Boston	87
1998	Boston	275
1999	Chicago	349
2000	Chicago	400
2001	Toronto	405
2002	Chicago	502
2003	Orlando	614
2004	Chicago	678
2005	Argentina	727
2006	Las Vegas	994
2007	Las Vegas	807
2008	Las Vegas	703
2009	Australia	400
2010	Chicago	783
2011	Boston	784
2012	Chicago	741
2013	Miami	773
2014	Chicago	829
2015	Las Vegas	852
2016	Dubai	500
2017	Miami	

reach that goal. In 2016, PICS collaborated with CSI to hold a joint meeting in Dubai with over 500 health-care professionals attending didactic sessions and viewing live cases transmitted from venues in the Middle East and Asia.

Live Case Presentations

Over the years the number and complexity of the live cases presented at PICS has steadily grown as has the international scope of the live case venues. Over the past 2 decades PICS has hosted over 250 live cases without a single serious adverse outcome. Operators in catheterization labs and surgical suites from North and South America, Europe, Australia, Asia and the Middle East have all contributed to make PICS the live case meeting of its kind. The ability to learn from



Figure 3. Dr. Chuck Mullins preparing a stent for Dr. Hijazi at the first PICS in Boston, 1997. Also present: Dr. Robert Geggel, Cath Lab Director at the Floating hospital and Dr. Wade Hamilton, interventional cardiologist at Maine Medical Center.



Figure 4. Dr. Hellenbrand along with Dr. John Fahey performing a live case from Yale during the first PICS in 1997.



Figure 5. Live case broadcast at PICS 2015.

our colleagues around the world has been invaluable. The ability to witness how master operators deal with the challenges we all face in real time is invaluable and the commentary from the assembled expert panel is priceless. The addition of digital moderators to the presentations has further increased the ability of the audience to interact with the operators and moderators in real time. New technology in our field often debuts during these procedures with clear and thoughtful description and discussion of these techniques and devices. PICS live case demonstrations include many firsts in our field. The first live cases of pulmonary artery stenting, Amplatzer and Gore Septal Occluders, VSD and PDA occlusion including young infants, RF wire-assisted BPV of pulmonary valve atresia, transcatheter Fontan completion, Hybrid Stage I palliation of HLHS, Melody and Sapien pulmonary valve implantation, coarctation stenting including the covered C-P stent, just to mention a few. All of these procedures and more were showcased for the first time at PICS (Figures 3-5).

One look at the line up of live case venues for the 20th Anniversary meeting taking place in Miami, Florida provides a glimpse of the size and scope of the live case presentations at PICS with 18 live cases from 9 national and international centers of excellence (Table 2).

In addition to the popular live case presentations, PICS has added taped case presentations to further the goal of sharing with our attendees best practices and innovative techniques better suited to an edited case presentation format. For 2017 taped case presentations from 9 centers will bring the total live and taped cases to 27 interventional procedures, a remarkable achievement.

Of course, such an ambitious broadcast schedule including sites from all over the globe requires a significant investment in technical support and expertise that has also grown steadily over the years. Producers, broadcast engineers and videographers at each center coordinate with a seasoned team at the PICS venue to ensure the highest quality high-definition broadcasts possible. All of this considerable effort occurs behind the scenes and may go unnoticed by most attendees. It goes without saying that none of this would have been possible without their dedi-

Table 2. Live case schedule for PICS 2017.

Tuesday, January 17

Prince Sultan Cardiac Center, Riyadh, Saudi Arabia (2 cases)
Khalid Al Najashi, MD

Private Hospital of Córdoba, Córdoba, Argentina (2 cases)
Alejandro Peirone, MD

Pontificia Universidad Católica de Chile, Santiago, Chile (2 cases)
Francisco Garay, MD & Carlos Pedra, MD

Wednesday, January 18

Children's Medical Center of Dallas, Southwestern Medical Center, Dallas, TX (2 cases)
Alan Nugent, MD

New York-Presbyterian Morgan Stanley Children's Hospital, New York, NY (2 cases)
Julie Vincent, MD, Matthew Crystal, MD, & Alejandro Torres, MD

Texas Children's Hospital, Houston, TX (2 Cases)
Henri Justino, MD & Athar Qureshi, MD

Thursday, January 19

Nationwide Children's Hospital, Columbus, OH (2 cases)
Darren Berman, MD & Aimee Armstrong, MD

Children's Hospital of Pittsburgh, Pittsburgh, PA (2 cases)
Jaqueline Kreutzer, MD & Sara Trucco, MD

LA Children's Hospital, Los Angeles, CA (2 cases)
Frank Ing, MD

cation to the goal of bringing to the audience the best quality medical procedure broadcasts possible (Figures 6, 7).

Finally and most importantly, live case presentations are only possible because of the dedication of the expert operators and moderators to place patient safety first. This commitment is paramount to the continued access and success of this time-honored approach to medical teaching. The PICS leadership remains fully committed to this principle in accordance with regulatory agency requirements and the highest principles of ethical conduct in patient care.

Didactic Learning

In addition to the live cases that are the backbone



Figure 6. Live broadcast production: behind the scenes at PICS.



Figure 7. Live broadcast production: behind the scenes at PICS.

of PICS, lectures, round table discussions and debates bring the latest knowledge and understanding to meeting attendees. The topics presented over the years have included basic science and engineering, pathology and pharmacology to interventional outcomes and comparative studies all in an effort to bring the highest level of scientific scrutiny and rigor to our understanding of the care of our patients. Our cardiac surgical colleagues have remained an integral component of the faculty of PICS. After all, we depend greatly on one another to achieve success in the treatment of our most complex patients. The field of congenital cardiac care from its very beginning has always depended on a close and collegial relationship with our surgical partners. As the lines have blurred between transcatheter and surgical care and with the explosion of interest and capability in hybrid techniques, this partnership has never been more important to foster and support.

Workshops and symposia have always been a key ingredient of PICS, with thematic programs that take a deep dive into topics of concern and interest to our field. This year's 20th Anniversary Symposium is built on the theme "Harnessing Technology for Congenital and Structural Interventions". Our goal is to both look back at our successes and failures to gain insight, but more importantly to look forward at what the future holds in store. Bioabsorbable technology, tissue engineering and new and innovative imaging platforms are included in this year's program. The annual Doug Villnave Memorial Innovation Session, introduced at

the PICS meeting in 2015 will bring focus to the key role innovation plays in the work we do every day.

Dedicated sessions designed for nursing and technologist personnel, indispensable members of the cath lab team, have been an important component of PICS for many years. A dedicated Spanish language session has also been a popular event at PICS bringing together our colleagues from Latin America for their own opportunity to learn and interact with one another.

PICS has also sponsored Town Hall Meetings on a regular basis bringing together clinicians and industry leaders with the FDA and other regulatory bodies in an effort to understand and improve the ways we can work together to bring innovations in cardiac care from the bench to the bedside in a more timely and efficient way. Oral and poster abstract presentations have also grown steadily in numbers and quality over the years.

This year PICS received 150 abstract submissions for consideration. The best oral abstracts presented each year are entered in to final competition and presented at the main session with an award presented to the winning presentation. The opportunity for early career investigators and clinicians to present their work in a critical but supportive environment among their peers and mentors is without equal. Again this year, abstracts accepted for presentation will appear in the *Journal of Structural Heart Disease* in advance of the meeting.

Table 3. PICS Achievement Award Winners.

Year	Award Winner
1997	Charles Mullins
1998	Michael Tynan
1999	Kurt Amplatz
2000	Lee Benson
2001	James Lock
2002	William Hellenbrand
2003	Allen Tower
2004	Shakeel Qureshi
2005	Valmir Fontes
2006	Philipp Bonhoeffer
2007	John Cheatham
2008	Carlos Ruiz
2009	Mario Carminati
2010	Larry Latson
2011	Horst Sievert
2012	Horacio Faella
2013	Savitri Srivastava
2014	John Bass
2015	JV Degiovanni

Recognizing Excellence and Leadership

From its very beginning PICS has strived to recognize and promote scholarship and leadership in our field. In recent years PICS established the PICS Young Leadership Award. This award was developed to recognize excellence in early career interventionalists. The Charles S. Kleinman Scientific Scholarship Award, founded by the PICS Foundation, provides a \$5,000 scholarship recognizing original scientific work in the field of interventional cardiology. The top abstract finalists present their original work and the winner of the competition is announced at the PICS dinner each year. For his important life-long contributions to the field of interventional cardiology as an echocardiographer who understood the importance of a careful and complete understanding of cardiac anatomy and the value of collaboration with the interventionalist, Dr. Kleinman was the first and only recipient to date of the PICS Foundation Award in 2011.



Figure 8. Dr. Charles Mullins receiving the first PICS Achievement Award in 1997 from Drs. Hellenbrand and Hijazi.

The Pioneer Award, recognizing foundational contributions to how we treat our patients was awarded in 2010 to Bill Cook, founder of Cook Medical Corporation, for his pioneering work in catheter design and production. In 2007, the first Pioneer Award was granted to Dr. Terry D. King, co-inventor of the King-Mills septal occluder, the first transcatheter closure device for ASD treatment that opened our minds to the possibility of minimally invasive techniques that lead to an explosion of biomedical advances we use today in the everyday care of our patients.

The Distinguished Service Award recognizes individuals who have provided support to PICS. In 2013 the first recipient was Dr. Sharon Cheatham for her tireless support of the mission of PICS, especially her efforts in developing the Nursing and Associated Professionals Symposium. The second Distinguished Service Award was given to Dr. Qi-Ling Cao for his unwavering efforts to photographically document every PICS meeting since 1997. All the photos we have in our archives have been taken by Dr. Cao who is an established interventional echocardiographer and avid photographer. Finally, the PICS Achievement Award is given annually to an individual whose career has embodied the best in patient care and advocacy, innovation and discovery, teaching and mentorship and leadership in our field. The list of prior award winners includes individuals from around the world who have dedicated their lives to the pursuit of these goals. This distinguished list is lead by Dr. Charles Mullins shown

appropriately receiving the first PICS Achievement Award in 1997 at the inaugural meeting in Boston (Figure 8, Table 3).

In 2017, we will introduce the first Terry D. King travel award. This award will be given to help support a cardiologist traveling from an underdeveloped country. Based on this award, starting in 2018, a new travel award will also be established and will be funded by Edwards Lifesciences. Eligible recipients from underserved countries will be chosen each year by a committee of PICS faculty.

We also wish to acknowledge the efforts of everyone involved in the preparation of the meeting on yearly basis. At top of that list is Ms. Kim Ray, coordinator of the meeting since its move to Chicago in 1999. Kim has done a phenomenal job communicating with faculty and industry supporters to make sure that every faculty understands his/her role during the meeting and that our industry partners are well represented at the meetings. In addition to Kim, Ms. Michaleen Wallig has been the treasurer of the PICS Foundation ensuring that our books are balanced so we can keep bringing the best of the best in congenital and structural interventional cardiology to our attendees year after year. During the live cases, communications between the operators and moderators is essential. Over the years, Mr. Ray Romero acted as an anchor and kept the communication alive. More recently, Mr. Russell D'Sa joined Ray and is helping yearly. In the last few years, we introduced a newsletter during the meeting. Many people collaborate and work to produce this newsletter daily during the meeting. Our editor Dr. Karim Diab works closely with Dr. Tony Carlson and Mr. Richard Koulnanis to produce this newsletter. Finally, we would like to acknowledge the efforts of Ms. Colene Diodati and Ms.

Sally Cook from Corporate Solutions, the meeting management company who take care of the meeting logistics and Mr. Mike Fitzgerald and his team from AVSS who make sure that all audiovisual needs of the meeting, including the live cases are top of the line.

We hope that you can join us to celebrate 20 years of innovation and progress in congenital and structural interventional cardiology at our meeting in Miami, Florida next month. We also hope that the friendship, collaboration and pursuit of the best care possible for our patients will help carry us forward to the next 20 years. After all, we are just getting started!

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Conflict of Interest

The authors have no conflicts of interest relevant to this publication.

Comment on this Article or Ask a Question

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