

Original Article

Report from The International Society for Nomenclature of Paediatric and Congenital Heart Disease: cardiovascular catheterisation for congenital and paediatric cardiac disease (Part 1 – Procedural nomenclature)

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Abstract Interventional cardiology for paediatric and congenital cardiac disease is a relatively young and rapidly evolving field. As the profession begins to establish multi-institutional databases, a universal system of nomenclature is necessary for the field of interventional cardiology for paediatric and congenital cardiac disease. The purpose of this paper is to present the results of the efforts of The International Society for Nomenclature of Paediatric and Congenital Heart Disease to establish a system of nomenclature for cardiovascular catheterisation for congenital and paediatric cardiac disease, focusing both on procedural nomenclature and on the nomenclature of complications associated with interventional cardiology. This system of nomenclature for cardiovascular catheterisation for congenital and paediatric cardiac disease is a component of The International Paediatric and Congenital Cardiac Code. This manuscript is the first part of a two-part series. Part 1 will cover the procedural nomenclature

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associated with interventional cardiology as treatment for paediatric and congenital cardiac disease. This procedural nomenclature of The International Paediatric and Congenital Cardiac Code will be used in the IMPACT Registry™ (IMproving Pediatric and Adult Congenital Treatment) of the National Cardiovascular Data Registry® of The American College of Cardiology. Part 2 will cover the nomenclature of complications associated with interventional cardiology as treatment for paediatric and congenital cardiac disease.

Keywords: Databases; cardiac nomenclature; congenital heart disease; interventional cardiology

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INTERVENTIONAL CARDIOLOGY FOR PAEDIATRIC AND congenital cardiac disease is a relatively young and rapidly evolving field. Despite some groups sharing similar systems of nomenclature, or lists for coding, through existing software, the field has not adopted a comprehensive and universally accepted system of nomenclature for transcatheter diagnostic and interventional procedures. Nevertheless, a common language, or system of nomenclature, is imperative, particularly as we go beyond evaluating our individual practice to establishing multi-institutional and multi-national databases, which will allow the comparison of outcomes across centres.^{1–5} The purpose of this two-part series of manuscripts is to present the version of nomenclature of The International Paediatric and Congenital Cardiac Code updated to include a new system of nomenclature for cardiovascular catheterisation for congenital and paediatric cardiac disease, focusing both on procedural nomenclature and the nomenclature of complications associated with interventional cardiology.

This manuscript is the first part of a two-part series. Part 1 will cover the procedural nomenclature associated with interventional cardiology as treatment for paediatric and congenital cardiac disease. This new procedural nomenclature for cardiac catheterisation will be used in the IMPACT Registry™ (IMproving Pediatric and Adult Congenital Treatment) of the National Cardiovascular Data Registry® of The American College of Cardiology. Transcatheter procedures involving arrhythmias, such as ablation and procedures involving pacemakers, are not included in these papers; these complications related to transcatheter procedures involving arrhythmias have already been discussed somewhat in prior publications from our group¹ and likely will be addressed further in additional publications from our group. Part 2 will cover the nomenclature of complications associated with interventional cardiology as treatment for paediatric and congenital cardiac disease.⁶ In order to place this manuscript in perspective, we begin with a brief summary of the history and current status of The International Paediatric and Congenital

Cardiac Code and the IMPACT Registry™ of the National Cardiovascular Data Registry®. Knowledge of these two projects is necessary in order to grasp the meaning of the initiative described in this paper.

The International Paediatric and Congenital Cardiac Code

The International Nomenclature Committee for Pediatric and Congenital Heart Disease was founded in Frankfurt, Germany, on Friday, 6 October, 2000. This committee evolved into The International Society for Nomenclature of Paediatric and Congenital Heart Disease,⁴ a multi-disciplinary, internationally representative society that was incorporated in Canada in January, 2005.

The initial working group of The International Society for Nomenclature of Paediatric and Congenital Heart Disease was The International Working Group for Mapping and Coding of Nomenclatures for Paediatric and Congenital Heart Disease, also known as the Nomenclature Working Group, which was created at The First International Summit on Nomenclature for Congenital Heart Disease at The Third World Congress of Pediatric Cardiology and Cardiac Surgery, in Toronto, Canada, on Sunday, 27 May, 2001.

By 2005, the Nomenclature Working Group had cross-mapped most of the nomenclature of the International Congenital Heart Surgery Nomenclature and Database Project of The European Association for Cardio-Thoracic Surgery and The Society of Thoracic Surgeons⁷ with that of the European Paediatric Cardiac Code of The Association for European Paediatric Cardiology,⁸ utilising the six-digit numerical code of the latter as a unifying backbone to which each is linked, given the different structural hierarchies of the two systems.⁹

This cross-mapping created The International Paediatric and Congenital Cardiac Code, which is available free of charge via the Internet at <http://www.IPCCC.net>. At this website, one may download the Short Lists and Long Lists of The International Paediatric and Congenital Cardiac Code.

The International Paediatric and Congenital Cardiac Code is available in three main versions:

- The version of the International Paediatric and Congenital Cardiac Code derived from the nomenclature of the International Congenital Heart Surgery Nomenclature and Database Project of The European Association for Cardio-Thoracic Surgery and The Society of Thoracic Surgeons
- The version of the International Paediatric and Congenital Cardiac Code derived from the nomenclature of the European Paediatric Cardiac Code of The Association for European Paediatric Cardiology
- The version of the International Paediatric and Congenital Cardiac Code derived from the nomenclature of the Fyler Codes of Boston Children's Hospital and Harvard University.

The International Paediatric and Congenital Cardiac Code was proposed at The First International Summit on Nomenclature for Congenital Heart Disease at The Third World Congress of Pediatric Cardiology and Cardiac Surgery, in Toronto, Canada, on Sunday, 27 May, 2001. It was then presented and endorsed as a global standard at The Second International Summit on Nomenclature for Pediatric and Congenital Heart Disease at The Fourth World Congress of Pediatric Cardiology and Cardiac Surgery, in Buenos Aires, Argentina, on Monday, 19 September, 2005. A matured version of The International Paediatric and Congenital Cardiac Code was subsequently presented at The Third International Summit on Nomenclature for Pediatric and Congenital Heart Disease at The Fifth World Congress of Pediatric Cardiology and Cardiac Surgery, at the Convention Centre, in Cairns, Queensland, Australia, on Sunday, 21 June, 2009, from 2 pm to 6 pm.

The Nomenclature Working Group has also cross-mapped separate systems for coding, and provided unified nomenclature and definitions for several complex congenital cardiac malformations, including the functionally univentricular heart,¹⁰ hypoplastic left heart syndrome,¹¹ congenitally corrected transposition,¹² and heterotaxy.¹³

On Monday, 9 July, 2007, The International Society for Nomenclature of Paediatric and Congenital Heart Disease created two additional committees so that the Society now has the following three committees:

- The International Working Group for Mapping and Coding of Nomenclatures for Paediatric and Congenital Heart Disease, also known as the Nomenclature Working Group

- The International Working Group for Defining the Nomenclatures for Paediatric and Congenital Heart Disease, also known as the Definitions Working Group
- The International Working Group for Archiving and Cataloguing the Images and Videos of the Nomenclatures for Paediatric and Congenital Heart Disease, also known as the Archiving Working Group, and the Congenital Heart Archiving Research Team

The Nomenclature Working Group will continue to maintain, preserve, and update the International Paediatric and Congenital Cardiac Code, as well as provide ready access to it for the international paediatric and congenital cardiology and cardiac surgery communities, related disciplines, the healthcare industry, and governmental agencies, both electronically and in published form. The Definitions Working Group will write definitions for the terms in The International Paediatric and Congenital Cardiac Code, building on the previously published definitions from the Nomenclature Working Group.^{10–13} The Archiving Working Group will enable the linkage of images and videos to the International Paediatric and Congenital Cardiac Code. The images and videos will be acquired from cardiac morphologic specimens and imaging modalities, such as echocardiography, angiography, computerised axial tomography, and magnetic resonance imaging, as well as intraoperative images and videos. The Archiving Working Group has created an image and video archive, based on the International Paediatric and Congenital Cardiac Code. This archive, linked to the codes and associated definitions of The International Paediatric and Congenital Cardiac Code, can be viewed at the Web Portal of the Archiving Working Group at <http://ipccc-awg.net>.

The International Paediatric and Congenital Cardiac Code has expanded to include areas such as electrophysiology, foetal cardiology, and interventional cardiology. In this paper, we will present The International Paediatric and Congenital Cardiac Code for cardiovascular catheterisation for congenital and paediatric cardiac disease. We will present both of the following versions as they relate to cardiovascular catheterisation for congenital and paediatric cardiac disease:

- The version of the International Paediatric and Congenital Cardiac Code derived from the nomenclature of the International Congenital Heart Surgery Nomenclature and Database Project of The European Association for Cardio-Thoracic Surgery and The Society of Thoracic Surgeons

- The version of the International Paediatric and Congenital Cardiac Code derived from the nomenclature of the European Paediatric Cardiac Code of The Association for European Paediatric Cardiology

The hierarchical format for the nomenclature of Interventional Cardiology that will be used in the IMPACT Registry™ of the National Cardiovascular Data Registry® of The American College of Cardiology is the version of the International Paediatric and Congenital Cardiac Code derived from the nomenclature of the International Congenital Heart Surgery Nomenclature and Database Project of The European Association for Cardio-Thoracic Surgery and The Society of Thoracic Surgeons.

The IMPACT Registry™ of the National Cardiovascular Data Registry®

The American College of Cardiology Foundation® has developed a national registry to capture diagnostic cardiac catheterisation and catheterisation-based interventions in paediatric and adult patients with congenital cardiac disease. The registry is run by the National Cardiovascular Data Registry® of the American College of Cardiology, a confidential programme designed to measure quality at cardiac and vascular facilities. The American College of Cardiology® and The Society for Cardiovascular Angiography and Interventions collaborated to develop this new national, clinical data registry called the IMPACT Registry™^{5,14}. Under the auspices of the National Cardiovascular Data Registry®, the IMPACT Registry™ will assess the prevalence, demographics, management, and outcomes of patients with paediatric and congenital cardiac disease who undergo diagnostic catheterisation and catheter-based interventions. The collection and analysis of these data will facilitate the measurement of performance, benchmarking, and initiatives to improve quality. This initiative will provide significant contributions to the level of knowledge and assessment of outcomes associated with congenital cardiac disease.^{5,14}

The IMPACT Registry™ is being developed under the leadership of a Steering Committee (Table 1) and a Workgroup Committee (Table 2). For this initiative, The American College of Cardiology has partnered with The Society for Cardiovascular Angiography and Interventions and The American Academy of Pediatrics. Similarly, for this initiative, The American College of Cardiology has formed alliances with The Society of Thoracic Surgeons and the Food and Drug Administration of the United States of America.

Table 1. IMPACT Registry™ (IMproving Pediatric and Adult Congenital Treatment) Steering Committee members.

1	Dr Gerard Martin-Chair
2	Dr Frank Ing*
3	Dr Robert H. Beekman III
4	Dr Kathy Jenkins
5	Dr John Moore
6	Dr Richard Ringel
7	Dr Jonathan Rome
8	Dr Carlos Ruiz*
9	Dr Robert Vincent*
10	Dr Charles McKay (ex officio)

*Appointee from The Society for Cardiovascular Angiography and Interventions

Table 2. IMPACT Registry™ (IMproving Pediatric and Adult Congenital Treatment) Workgroup Committee members.

1	Dr Frank Ing-Chair*
2	Dr Zahid Amin*
3	Dr Robert Beekman
4	Dr Thomas Doyle
5	Dr Allen Everett
6	Dr Thomas Forbes
7	Dr Ralf Holzer*
8	Dr Jeffrey Phillip Jacobs**
9	Dr Kathy Jenkins
10	Dr Joshua Kanter
11	Dr Gerard Martin
12	Dr Charles McKay (ex officio)

*Appointee from The Society for Cardiovascular Angiography and Interventions

**Appointee from The Society of Thoracic Surgeons

Methodology of the development of the procedural lists of The International Paediatric and Congenital Cardiac Code

In July, 2007, three paediatric cardiologists (Bergersen, Everett, and Giroud) with experience with databases and cardiac catheterisation were invited to the ninth meeting of the Nomenclature Working Group of The International Society for Nomenclature of Paediatric and Congenital Heart Disease:

The Ninth Meeting of The International Working Group for Mapping and Coding of Nomenclatures for Paediatric and Congenital Heart Disease (Nomenclature Working Group), Keio Plaza Hotel (<http://www.keioplaza.com/index.html>), Tokyo, Japan, Saturday, 7 July, 2007 to Thursday, 12 July, 2007

The goals were to discuss existing nomenclature for diagnostic cardiovascular catheterisation and interventional procedures for the treatment of paediatric and congenital cardiac disease, and to develop a comprehensive list of diagnostic and therapeutic procedures. The Nomenclature Working

Table 3. IPCCC Cardiovascular Catheterization Procedure Third Level of Order

Diagnostic

Cardiovascular catheterization procedure, Diagnostic, Hemodynamic data obtained
 Cardiovascular catheterization procedure, Diagnostic, Angiographic data obtained
 Cardiovascular catheterization procedure, Diagnostic, Biopsy
 Cardiovascular catheterization procedure, Diagnostic, Transluminal test occlusion
 Cardiovascular catheterization procedure, Diagnostic, Hemodynamic alteration (challenge)
 Cardiovascular catheterization procedure, Diagnostic, Electrophysiology alteration (challenge)

Therapeutic

Cardiovascular catheterization procedure, Therapeutic, Balloon dilation
 Cardiovascular catheterization procedure, Therapeutic, Septostomy
 Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty)
 Cardiovascular catheterization procedure, Therapeutic, Coil implantation
 Cardiovascular catheterization procedure, Therapeutic, Device implantation
 Cardiovascular catheterization procedure, Therapeutic, Stent insertion
 Cardiovascular catheterization procedure, Therapeutic, Stent re-dilation
 Cardiovascular catheterization procedure, Therapeutic, Perforation (establishing interchamber and/or intervessel communication)
 Cardiovascular catheterization procedure, Therapeutic, Transcatheter Fontan completion
 Cardiovascular catheterization procedure, Therapeutic, Transcatheter implantation of valve
 Cardiovascular catheterization procedure, Therapeutic, Adjunctive therapy
 Cardiovascular catheterization procedure, Therapeutic, Other invasive/interventional techniques

Group and the invited panellists used as an initial working framework the existing interventional procedural list from the nomenclature of the International Congenital Heart Surgery Nomenclature and Database Project of The European Association for Cardio-Thoracic Surgery and The Society of Thoracic Surgeons, published by Al Rocchini in the *Annals of Thoracic Surgery* in April, 2000.¹⁵ This list was expanded and refined using three additional interventional and procedural lists, so that the final product is based on the following four lists:

- The existing interventional procedural list from the nomenclature of The International Congenital Heart Surgery Nomenclature and Database Project of The European Association for Cardio-Thoracic Surgery and The Society of Thoracic Surgeons, published by Al Rocchini in the *Annals of Thoracic Surgery* in April, 2000
- The interventional list in the software named “PedCath[©]”
- A procedural list developed at Children’s Hospital Boston and subsequently adopted for the Congenital Catheterization Outcomes Project¹⁶
- The existing interventional procedural list from the nomenclature of The European Paediatric Cardiac Code of The Association for European Paediatric Cardiology

For consistency and compatibility, we adopted a hierarchical framework similar to the one developed by the International Congenital Heart Surgery Nomenclature and Database Project of The European Association for Cardio-Thoracic Surgery and The Society of Thoracic Surgeons. Level 1 of the hierarchy is “*Cardiovascular catheterization procedure*”. Level 2 of

the hierarchy divided procedures into the following two major categories: “*Diagnostic*” and “*Therapeutic*”. Level 3 of the hierarchy divides these major categories of Diagnostic and Therapeutic procedures into basic types of procedures (Table 3).

Levels 4–6 in the hierarchy define the site of intervention with an increasing level of detail. For example, “Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty)” includes the aortic, mitral, pulmonary, and tricuspid as fourth-level choices but does not have a fifth level of detail (Table 4). Meanwhile, “Cardiovascular catheterization procedure, Therapeutic, Stent insertion, systemic vein” (fourth level) can be coded in greater detail with a fifth-level selection of “Caval vein” versus “Non-Caval vein” and sixth-level selection including but not limited to the “Inferior vena cava” and “Superior vena cava” (Table 5). All the lists that compose levels 4–6 are available for free download at <http://www.IPCCC.net>. These lists are also available as electronic tables from the Cardiology in the Young Website at <http://journals.cambridge.org/action/displayJournal?jid=CTY>.

In addition to the diagnostic and interventional lists, lists of “Modifier codes” and “Qualifier codes” are provided for more detailed coding. Modifier codes are designed to modify a specific term in the list, whereas Qualifier codes may be applied to any term in the list. The code for a procedure can be modified by approach, location, vascular access, type of lesion, type of valve, relationship to cardiac surgery, and perforation technique (Table 6). Qualifier codes add details regarding types and sizes of devices, as well as interventional techniques (Table 7).

Table 4. Example of 4th Order Hierarchy for Valvotomy Procedures

Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty)
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Aortic valve
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Mitral valve
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Pulmonic valve
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Tricuspid valve
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve – Left-sided atrioventricular valve
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve – Right-sided atrioventricular valve
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve in atrioventricular septal defect (AVSD)
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve in atrioventricular septal defect (AVSD) – Common atrioventricular valve in atrioventricular septal defect (AVSD)
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve in atrioventricular septal defect (AVSD) – Right atrioventricular valve in atrioventricular septal defect (AVSD)
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve in atrioventricular septal defect (AVSD) – Left atrioventricular valve in atrioventricular septal defect (AVSD)
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve in double inlet ventricle
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve in double inlet ventricle – Left-sided atrioventricular valve in double inlet ventricle
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Atrioventricular valve in double inlet ventricle – Right-sided atrioventricular valve in double inlet ventricle
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Bioprosthetic valve
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Bioprosthetic valve within conduits
Cardiovascular catheterization procedure, Therapeutic, Balloon valvar dilation (Balloon valvotomy) (Balloon valvuloplasty), Truncal valve

Table 5. Example of 5th and 6th Order of detail for Stent insertion in Caval Vein

Cardiovascular catheterization procedure, Therapeutic, Stent insertion, Systemic vein
Cardiovascular catheterization procedure, Therapeutic, Stent insertion, Systemic vein, Caval vein
Cardiovascular catheterization procedure, Therapeutic, Stent insertion, Systemic vein, Caval vein, Inferior vena cava
Cardiovascular catheterization procedure, Therapeutic, Stent insertion, Systemic vein, Caval vein, Inferior vena cava, Left
Cardiovascular catheterization procedure, Therapeutic, Stent insertion, Systemic vein, Caval vein, Inferior vena cava, Right
Cardiovascular catheterization procedure, Therapeutic, Stent insertion, Systemic vein, Caval vein, Superior vena cava
Cardiovascular catheterization procedure, Therapeutic, Stent insertion, Systemic vein, Caval vein, Superior vena cava, Left
Cardiovascular catheterization procedure, Therapeutic, Stent insertion, Systemic vein, Caval vein, Superior vena cava, Right

Table 6. First Order Modifiers

Cardiovascular catheterization procedure-modifier for approach
Cardiovascular catheterization procedure-modifier for procedure location
Cardiovascular catheterization procedure-modifier for vascular access
Cardiovascular catheterization procedure-modifier for type of lesion
Cardiovascular catheterization procedure-modifier for type of valve
Cardiovascular catheterization procedure-modifier for relationship to cardiac surgery
Cardiovascular catheterization procedure-modifier for perforation technique

Table 7. First Order Qualifiers

Qualifier for type of stent
Qualifier for removal of embolus and/or thrombus
Qualifier for device
Qualifier for coil
Qualifier for types and techniques of transluminal balloon dilation procedures
Qualifier for size or diameter of shunt/conduit/balloon/device/coil/valve used in procedure
Qualifier for size of closure device or vascular plug
Qualifier for size of closure device or Amplatzer ductal plug
Qualifier for procedure involving pulmonary vein
Qualifier for procedure involving conduit
Qualifier for procedure involving systemic artery
Qualifier for procedure involving systemic vein
Qualifier for procedure involving pulmonary artery

The first-order lists of nomenclature for Modifiers and Qualifiers are shown in Tables 6 and 7 (more detailed second-order codes are available for free download at <http://www.IPCCC.net>).

During and following the meeting in Tokyo, the version of The International Paediatric and Congenital Cardiac Code derived from the nomenclature of the European Paediatric Cardiac Code of the Association for European Paediatric Cardiology was updated and expanded to incorporate the changes agreed on during this meeting. Its hierarchical structure was also modified to allow twin approaches to the coding of transcatheter procedures:

- Morphological approach, consisting of hierarchical tables of procedures linked to sequentially ordered, segmental cardiovascular structures: systemic and pulmonary veins, atrial structures, atrioventricular valves, ventricular outflow tracts and septum, arterial valves, pulmonary and systemic great arteries, coronary arteries, conduits, shunts, etc.

Each table lists the various procedures pertinent to the specific cardiovascular site.

- Procedure-based approach, consisting of tables of procedures linked to the type of procedure: balloon dilation procedures, procedures involving stents, occlusion or closure device implantation, valve placement or repair procedures, and valve or septal perforation procedures. The specific site of the procedure is delineated at the next level, in a similar manner to that detailed above.

Both approaches are subsequently linked to additional levels of detail, including lists of qualifiers identical in content to the Modifiers and Qualifiers that are shown in Tables 6 and 7.

Where additional items have been added to The International Paediatric and Congenital Cardiac Code, new six-digit numerical codes and alphanumeric qualifier codes were also created. Both these versions of the International Paediatric and Congenital Cardiac Code, and that derived from the nomenclature of the

Fyler Codes of Boston Children's Hospital and Harvard University, map to each other using these codes. This system enables users of databases and registries employing any version of The International Paediatric and Congenital Cardiac Code to pool patient data for multi-institutional and multi-national analysis of outcome, benchmarking, and quality control.

The complete lists of procedural codes for Cardiovascular Catheterization for Congenital and Paediatric Cardiac Disease, as laid out in the two versions of The International Paediatric and Congenital Cardiac Code described above, are available for free download at <http://www.IPCCC.net>. These lists are also available as electronic tables from the Cardiology in the Young Website at <http://journals.cambridge.org/action/displayJournal?jid=CTY>.

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