ECHSA
CONGENITAL DATABASE

No. 4 – May 2021

One can not evaluate what is not measured

"The good news is
outcomes in congenital heart surgery have improved over the last decades."

To make this statement a valid measurement of procedures performed in congenital heart surgery is necessary. But measurement of quality requires comparison of results. For that, three tools are needed together: first, a common nomenclature, second, a simplified electronic registry and third, a reliable method of comparison.

This Newsletter sets the focus on methods of comparison.

Read about all scores in congenital heart surgery, their current usage, and take a look at the hints how to use them.

ECHSA is going Virtual!
Join us at our Virtual Event!

Thoughts on Data Collection

by Martin Elliott

...one of the fathers and pioneers of congenital heart defect databases

Martin Elliott was involved in the establishment of the European Congenital Heart Defects Database (ECHDD) in

1994, the precursor of today's ECHSA CHSD, and supervised it based at the Great Ormond Street Hospital for Sick Children, London, UK from 1994-1999.

All we surgeons wake up want to save the lives of our patients and/or improve their quality of life. We are also highly competitive and driven people, using data to carry out our work. It is not easy to become a paediatric cardiac surgeon.
Read more>>

STAT Score

by Jeff Jacobs

The STAT Mortality Categories were introduced into STS CHSD and the ECHSA CHSD in 2010. They were developed based on analysis of 77,294 operations entered in the STS CHSD and ECHSA CHSD. Hence, this is an empirically derived methodology of risk stratification from an analysis of objective data. Procedure-specific mortality rate estimates were calculated using a Bayesian model that adjusted for small denominators. Operations were sorted by increasing risk and grouped into 5 categories that were designed to minimize within-category variation and maximize between-category variation.
Read more>>

Morbidity Score

by Marshall Jacobs

The armamentarium of congenital heart surgeons includes well over a hundred types of operative interventions, which ultimately are performed in a multitude of combinations. Accounting not only for survival, but for other end points as well, is essential to measuring and understanding outcomes, and ultimately to measuring the effectiveness or "quality" of therapeutic approaches and of patient care. The development of the STAT Morbidity Score and Categories compliments the principles of the widely used STAT Mortality metrics, and groups procedures with similar estimated morbidity risk into

five relatively homogeneous categories. The STAT Morbidity Scores and Categories have been widely used in outcomes research as a measure of case mix and/or a means of adjustment for procedural risk in investigations where the primary focus is on outcomes other than mortality.

Read more>>

Recently published:
Updating an Empirically Based Tool for Analyzing Congenital Heart Surgery Mortality First Published March 8, 2021
https://doi.org/10.1177/2150135121991528

RACHS-1

by Kathy Jenkins

Building off prior efforts to create a useful analytical framework for the diverse caseload operated on by pediatric cardiac surgeons, the Risk-Adjustment for Congenital Heart Surgery method (RACHS-1) was developed in 2002 using US federal funding to adjust for risk for in-hospital mortality after congenital heart surgery. Under the guidance of an expert panel and using a modified Delphi process, procedures for repair of congenital heart defects were grouped into six risk categories.
Read more>>

Aristotle Score

by Francis Lacour-Gayet

In the early 2000, the Aristotle Score was created. It is based on expert opinion and on two concepts. First, the idea that the complexity is a constant for any patient in any geographical area, and second, performance is a relation between complexity and outcomes.
Read more>>

PRAiS

by Sonia Crowe

The motivation for developing PRAiS was to create a model that could adjust for case-mix during routine monitoring of 30-day survival after paediatric cardiac surgery in the UK. From the outset, the focus in developing the model was on practical implementation rather than technical statistical performance alone.

Read more>>

How to Code

by Claudia Herbst

To apply scores appropriately on database reports, several rules on coding during the database entry need to be followed.

Read more>>

Database Studies

Recently published ECHSA CHSD studies

Pediatric Cardiac Surgical Patterns of Practice and Outcomes in Europe and China: An Analysis of the European Congenital Heart Surgeons Association Congenital Heart Surgery Database

Claudia Herbst, Haibo Zhang, Renjie Hu, Jürgen Hörer, Masamichi Ono, Vladimiro Vida, Tjark Ebels, Andrzej Kansy, Jeffrey P. Jacobs, Zdzislaw Tobota and Bohdan Maruszewski. Congenital Heart Disease. CHD, 2021, vol.16, no.1. DOI: 10.32604/CHD.2021.012982.

Pediatric Cardiac Surgical Patterns of Practice and Outcomes in Japan and Europe: An Analysis of the European Congenital Heart Surgeons Association (ECHSA) Congenital Heart Surgery Database and the Japan Cardiovascular Surgery Database

Jürgen Hörer, MD, Yasutaka Hirata, MD, PhD, Hisateru Tachimori, PhD, Masamichi Ono, MD, Vladimiro Vida, MD,

Claudia Herbst, MD, Andrzej Kansy, MD, PhD, Jeffrey P. Jacobs, MD, Zdzislaw Tobota, MD, Kisaburo Sakamoto, MD, Tjark Ebels, MD, PhD and Bohdan Maruszewski, MD, PhD.
World J Pediatr Congenit Heart Surg. 2021 May;12(3):312-319. doi: 10.1177/2150135120988634. PMID: 33942682.

Outcomes from the European Congenital Heart Surgeons Association Database

Triglia LT, Guariento A, Zanotto L, Zanotto L, Cattapan C, Hu R, Zhang H, Herbst C, Hörer J, Sarris G, Ebels T, Maruszewski B, Tobota Z, Blitzer D, Lorenzoni G, Bottigliengo D, Gregori D, Padalino M, Di Salvo G, Vida VL. Anomalous left coronary artery from pulmonary artery repair. J Card Surg. 2021 Mar 2. doi: 10.1111/jocs.15448. Epub ahead of print. PMID: 33651393.

Data Verificiation

Zdzislaw Tobota, MD, and Bohdan Maruszewski, MD, PhD

The purpose of the **source data verification** (SDV) is to ensure that reported data are accurate, complete, and verifiable from source documents and the conduct of the data collection (eg, the coding of diagnoses, procedures and complication) is in compliance with the recommendations.
Learn more about:

- How to apply for data verification
- The verification process
- The verification form
- The verification reports
- The verification certificate

Read more>>

General Information

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Questions or Requests regarding the newsletter or the ECHSA-CHSD itself?
Want to enroll your center to the ECHSA-CHSD?
Contact us: dbnewsletter@echsa.org

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