

## Use of the IPCCC framework for reports of complications to pediatric heart catheterizations

*Ravndal M., Christensen A.H., Døhlen G., Holmstrøm H.  
Pediatric Department, Oslo University Hospital (OUS), Oslo, Norway*

### Introduction

Studies describing complications after cardiac catheterization differ in the way adverse events are reported, resulting in strikingly different occurrence rate of complications. In 2011 The International Paediatric and Congenital Cardiac Code (IPCCC) published a nomenclature system for complications of heart catheterization in children with the potential of making results more comparable. We reclassified all complications after cardiac catheterization in children at Oslo University Hospital (Norway) between 2010 and 2015 according to the new system. To our knowledge, no previous publications are based on the IPCCC-nomenclature.

### Methods

All procedures and adverse events were prospectively registered during a five-year period. Medical records for cases with complications were reviewed to confirm the event and to re-classify the type, severity and attributability of the complication according to the IPCCC nomenclature. Preventability and timing were difficult to re-classify retrospectively and were not included.

### Results

A total of 1318 catheterizations performed on 941 patients were included in the study. The total complication rate was 5.5 %. As for severity level 1 to 5, level three was the modality (43.1 %). The low prevalence of severity levels 1 and 2 probably represents underreporting of minor complications. Trauma to vessels or myocardium, hemodynamic adverse events and arrhythmias were the most common types of complications. Some of the IPCCC-categories for complication types (renal, metabolic, infection, gastrointestinal) were not found in our material. We found complications in 12 of 13 categories of attributability. Complications related to catheter manipulation were clearly the most common (36.1 %).

### Conclusions

Diverse reporting systems remain an obstacle for precise cross-center comparisons. By using the IPCCC system we were able to reclassify most of our complications into predefined categories. In our opinion, the IPCCC classification system should be generally applied for both registration and reporting of complications after pediatric heart catheterizations.