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Thomas Sangild Sørensen

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Virtual cardiotomy on congenitally malformed hearts

Thomas Sangild Sørensen

University of Aarhus, Aarhus, Denmark

Surgery on infants and children with complex congenital heart disease is difficult and has a low error tolerance. Careful preoperative planning is necessary to decide which surgical strategy to apply. In this talk we give an overview of a recently developed system for preoperative virtual cardiotomy based on three-dimensional MRI. Based on accurate patient-specific reconstructions, the surgeon can make any desired incision in the virtual hearts to evaluate the feasibility of different surgical strategies. We summarize the results of a recent evaluation study.

