

Image-based support of minimal-invasive mitral valve repair



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SUMMARY

About 7000 isolated mitral valve surgeries are performed in Germany every year. Mitral valve repair (MVR) is superior to valve replacement. Successful repair does not only lead to better survival but also better quality of life and avoidance of anticoagulants.

However MVR success rates strongly correlate with the experience of the surgeon as MVR is difficult to learn due to differences in pre-OP images of the moving heart and during the operation (or during surgery). This indicates the need for a better intraoperative decision support. The team works on the application of image-based surgery planning and image-based navigation with different modalities. This could help the surgeon to accurately consider anatomical and dynamic properties of the valve during surgery.

PROJECT ACHIEVEMENTS DURING & AFTER SPARK

- Started development of software modules for image fusion and integrated visualization and interaction
- Started setting up quality management and documentation system
- Initiated collaborations to specify user needs and interface questions
- Initiated industry collaborations for clinical integration
- Acquired BMBF funding together with industry partner