Computational simulations for structural heart devices

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SCOPE OF THE METHOD

The Method relates to	Human health
The Method is situated in	Regulatory use - Routine production, Translational - Applied Research
Type of method	Other: Virtual
This method makes use of	Animal derived cells / tissues / organs

DESCRIPTION

Method keywords

Streamlining and accelerating R&D

Scientific area keywords

Structural heart interventions

Method description

In the early phases of the design cycle of structural heart devices, choosing which prototype to develop can be complicated. There are a lot of unknowns to contend with. FEops' simulation technology helps fill in these blanks. It gives product developers computational simulations that let them evaluate the performance of multiple prototypes in terms of radial strength, crimpability, fatigue safety, deployment behavior in validated virtual human and animal patients, provided by the customer or selected from the large FEops proprietary database including both pathological and healthy patients. FEops has developed unique, proprietary simulation technology that uses multi-phase, preoperative CT data to predict and investigate realistic loading conditions of any cardiac device. This enables experimental chambers to be designed for fatigue and durability tests able to clone the *in vivo* cyclic load experienced by the device implanted in the actual patients.

Lab equipment

Computer computational infrastructure

Method status

Published in peer reviewed journal

PROS, CONS & FUTURE POTENTIAL

Advantages

This is method is faster, cheaper and reduces the number of animal testing.

REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

Associated documents

Links

Optimization of a Transcatheter Heart Valve Frame Using Patient-Specific Comput...

PARTNERS AND COLLABORATIONS

Organisation

Name of the organisation FEops

Department R&D

Country Belgium

Geographical Area Flemish Region

Coordinated by

Financed by