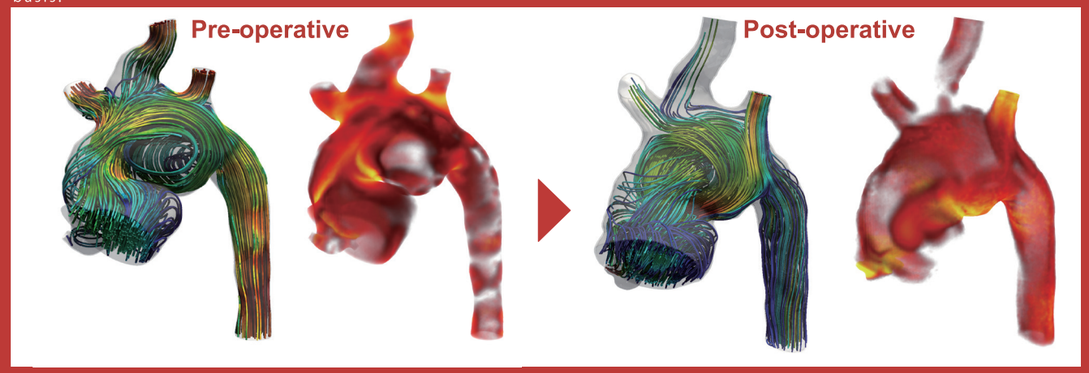
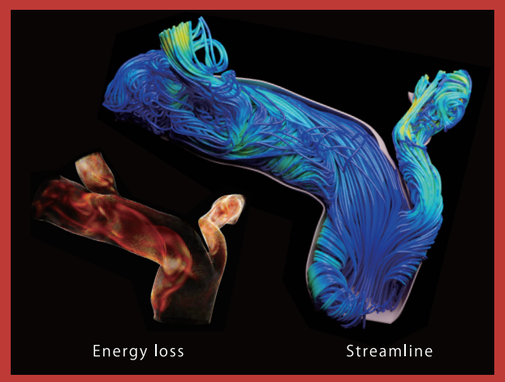
iTSimulation®

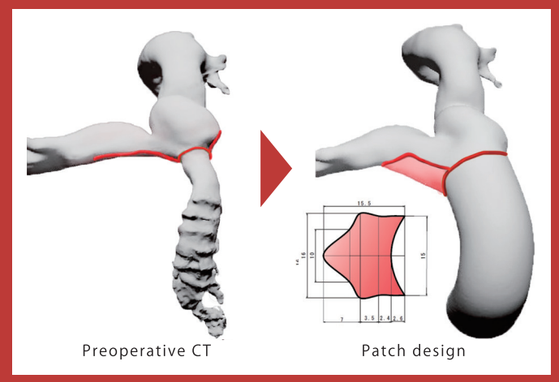
iTSimulation® is a contract service that analyzes blood flow from CT DICOM data. Data is uploaded to the cloud and blood flow analysis is carried out by our engineers using Computational Fluid Dynamics (CFD) and supercomputing technology. The analysis results are returned as a report, making it easy for anyone to start blood flow analysis studies. iTSimulation® is flexible and tailor-made to meet your needs, with analysis methodology designed on a case-by-case basis.



Comparison of before and after vascular kink correction post Norwood surgery.

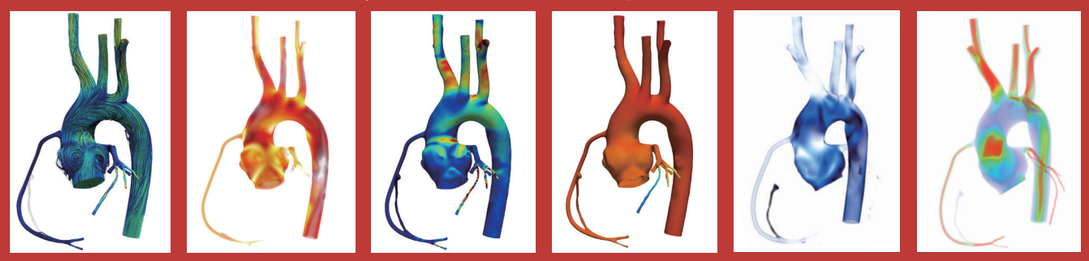


Visualization of blood flow in a stenosed left pulmonary artery



Patch creation for pediatric pulmonary arterioplasty (virtual surgery)
*Miyaji K et al. Interact Cardiovasc Thorac Surg 2019 May 1;28(5):775-82

Analyzable blood flow parameters



Streamline | Energy Loss | Wall Shear Stress | Pressure | Stagnation | Velocity

Order Flow

This service is for research purposes only and cannot be used for clinical purposes.

Please feel free to contact us.

CARDIO FLOW DESIGN

Change Cardiology with Blood Flow Analysis

Cardio Flow Design's mission is to "Change Cardiology with Blood Flow Analysis" and aims to create a world where blood flow can be easily diagnosed. In recent years, developments in IT, CT and MRI have made it possible to acquire information from Blood Flow Analysis which will be the basis for future medical treatment. We believe that we can bring about major innovations in the diagnosis and treatment of cardiovascular disease and in cardiovascular surgery by using the information from blood flow analysis to predict future diseases and plan surgery. In order to push Blood Flow Analysis as the diagnostic technology of the new era, our team of active doctors and engineers are steadily advancing blood flow analysis technology. We feel that the day is near when it will be possible to use blood flow analysis for diagnosis.

iTFlow®
4D Flow MRI Post Processor
Onsite Software

iTEcho® (Echo VFM & IVPG)
Echocardiography Hemodynamics Examination
Onsite Software

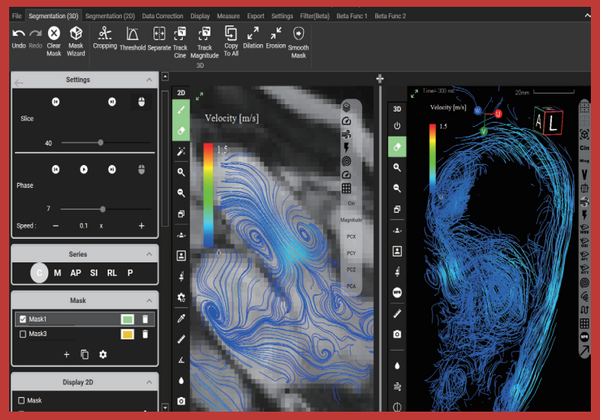
iTSimulation®
Calculation in Supercomputers
Cloud Service

https://cfd.life/en

FDA Cleared

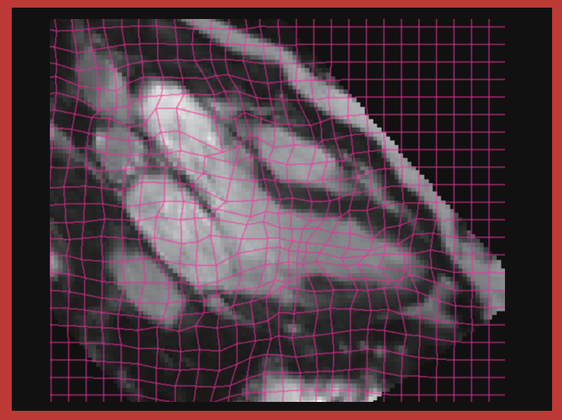
iTFlow®

iTFlow® is a 4D Flow MRI post-processing software with a solid foundation in fluid dynamics and image processing technology. It provides analysis capabilities to meet a wide range of medical requirements.



High usability with a proven track record

- Used in more than 50 medical institutions and facilities
- Automatic recognition of 4D Flow data from GE, Siemens and Philips
- Automatic reporting and anonymization functions

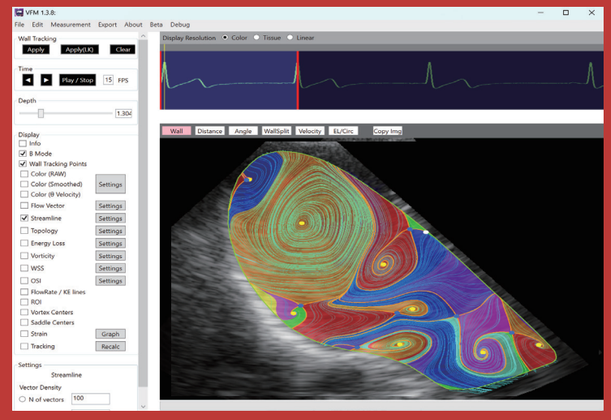


Accurate validation-based analysis

- Numerical validation based on CFD
- Easily adjustable region of interest
- Non-contrast and heartbeat tracking
- Aliasing correction, background phase error correction

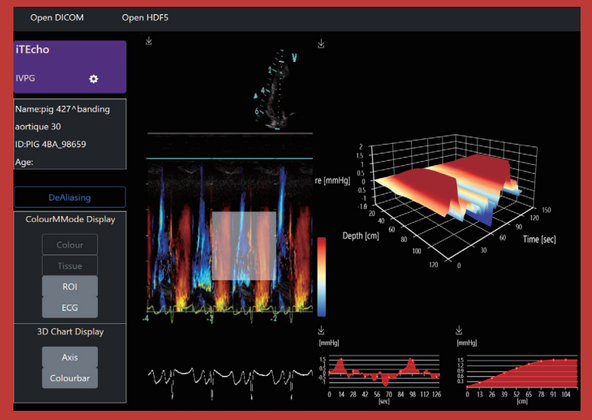
iTEcho®

iTEcho® is software for analyzing blood flow from echocardiographic images. It is vendor-free and allows vector analysis (VFM analysis) and intracardiac pressure gradient analysis (IVPD analysis).



Analysis of blood flow vectors (VFM)

- Calculation of blood flow velocity vectors from color Doppler images
- Visualization of intracardiac vortical flow, streamlines, energy loss

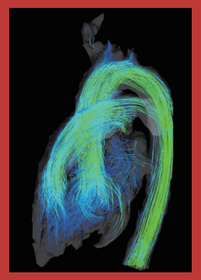


Analysis of intracardiac pressure ranges (IVPD)

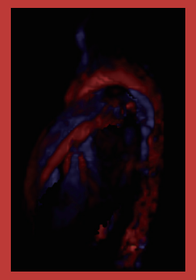
- Analyzed from color M-mode images
- Assessment of the left ventricle's ability to actively dilate and draw blood

Advanced Parameters

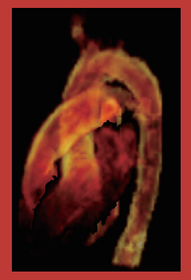
Streamline



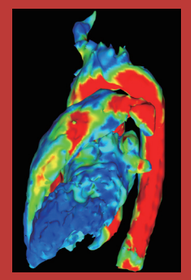
Helicity



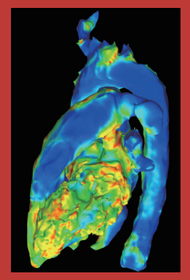
Energy Loss



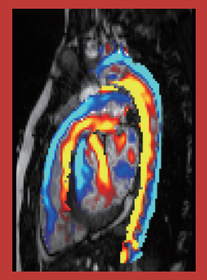
WSS



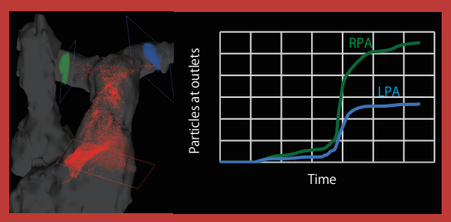
OSI



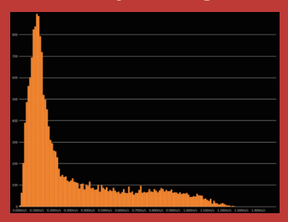
Vorticity



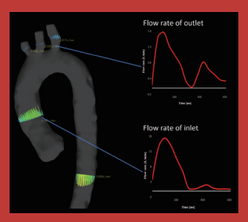
Pathline Distribution



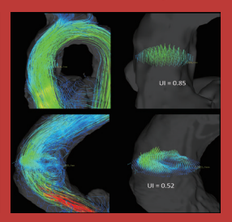
Velocity Histogram



Flow Rate

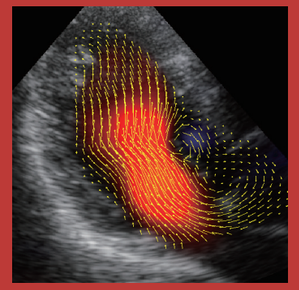


Uniformity



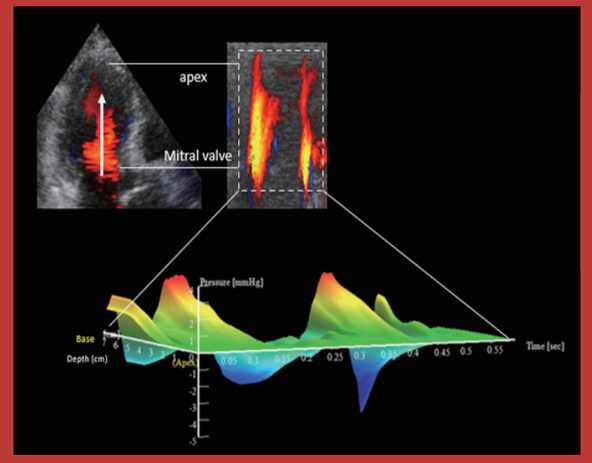
Features

Velocity Vectors

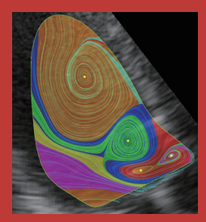


Energy Loss

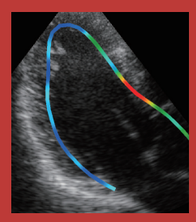
IVPD



Topology



OSI



WSS

Required environment: Windows 10/11 64bit, Monitor: Full HD or higher, Memory: 16 GB or higher, CPU: Core i5-9400 or higher, Video card: OpenGL4.0 compatible
Recommended environment: CPU: Intel Core i7-9700K or higher; memory: 32 GB or higher.
※Demo licenses are available. For more information, please contact us.

The analysis functions of Helicity, Energy Loss, WSS, OSI and Vorticity are not cleared by the FDA

Apply for a free software demo

Required environment: Windows 10/11 64bit, Monitor: Full HD or higher, Interface: mouse with wheel
Recommended environment: CPU: Intel Core i7-9700K or higher; memory: 8 GB or higher.
※Demo licenses are available. For more information, please contact us.

This product is for research purposes only and is not intented for clinical use

Apply for a free software demo