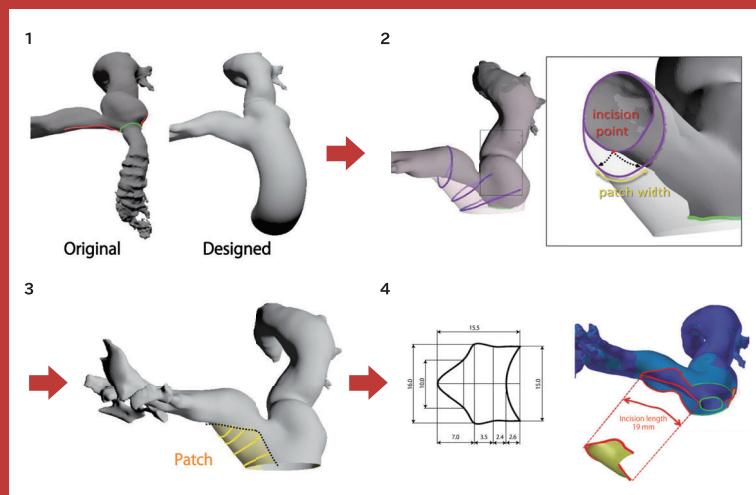


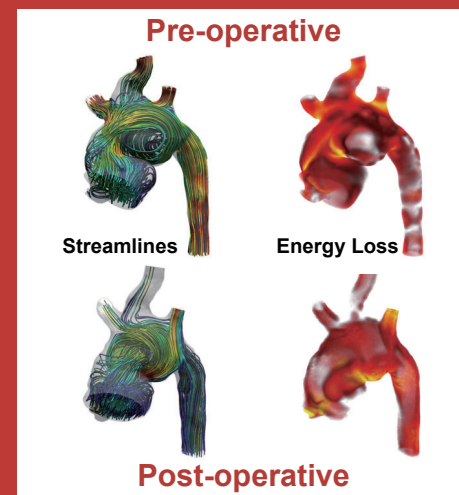
# iTSimulation

iTSimulation is a contract service that offers simulation and visualization of blood flow based on CT images, which you can upload on our cloud storage. It is based on high-end computer technology and computational fluid dynamics (CFD). This service enables you to research computational medical problems easily with reports that we provide you. When combined with computer graphics (CG), "virtualized surgery" is also possible.

## Order Flow

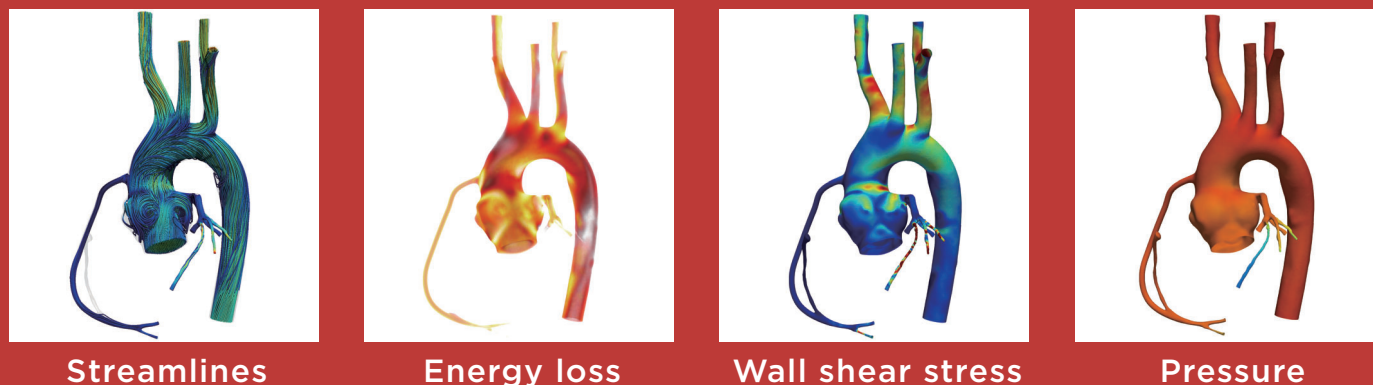


Geometrical design procedure of virtualized pulmonary artery reconstruction\*  
\*Miyaji K et al. Interact Cardiovasc Thorac Surg 2019 May 1;28(5):775-82



Blood flow field of pre/post Norwood procedure

## Visualized Parameters



For Research Use Only. Not for use in diagnostic procedures.



## Learn more flow, save more lives

"Learn more flow, save more lives" is the corporate mission of Cardio Flow Design, and we aim for a world where medical doctors can diagnose using blood flow easily. Along with the development of IT technology, MRI, and CT, we are now able to know much more deeply about blood flow. Based on this data, we can predict possible future diseases and schedule planned surgeries in advance, which will bring significant innovation to the diagnosis and treatment of cardiovascular medicine and surgery. To make blood flow analysis become a diagnostic technology for the new generation, our team of doctors and engineers are steadily developing their blood flow analysis technology, and we believe the day it can be used for actual diagnosis is close. However, as this field can use much more research, if there is any idea regarding blood flow that can contribute to medical, please do not hesitate to contact us.

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>

# iTFlow

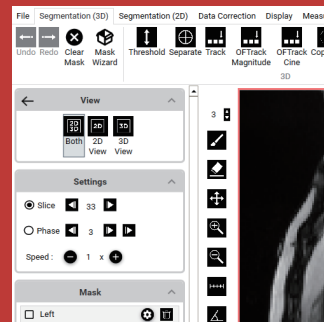
iTFlow is a software designed to analyze and visualize blood flow by using 4D Flow MRI images on your own. It is based on fluid dynamics theorem and advanced computer technology. This software reads images taken by phase-contrast cine MRI without contrast agency and offers you to visualize the data in 2D or 3D, in addition to its hemodynamics parameters.

## Features of iTFlow



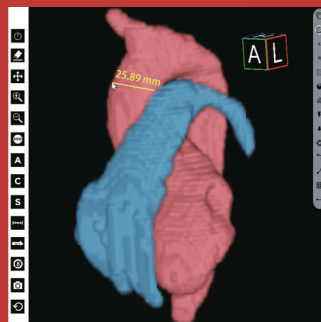
### Heart motion tracking

iTFlow embed various tools to help you segment several zones and work on it very precisely with heart motion tracking.



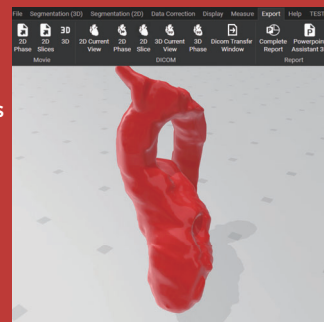
### User friendly interface

Unlike most of medical software, iTFlow has a comprehensive user interface with a ribbon like Microsoft Office. This will help you to speed up your workflow.



### 3D View

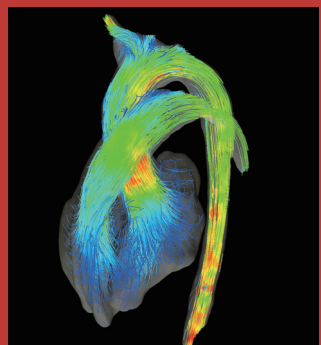
In addition to the 2D view, iTFlow has a 3D view that allows you to work on tricky parts. The 3D view allows you to see an animation of the blood flow and come with additional tools.



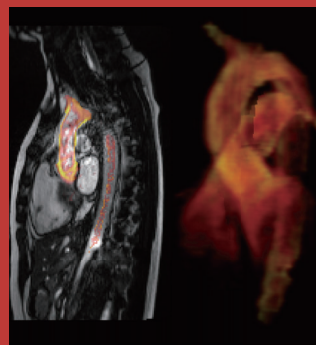
### Export your work

iTFlow embed various tools to help you segment several zones and work on it very precisely with heart motion tracking.

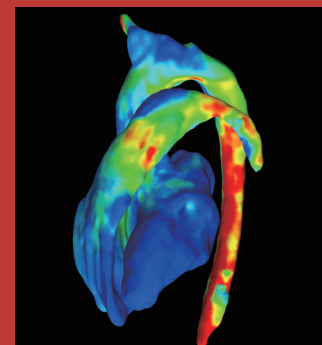
## Visualized Parameters



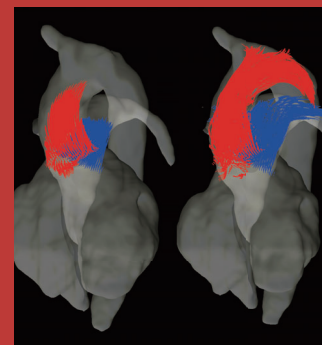
Streamlines



Energy loss



Wall shear stress

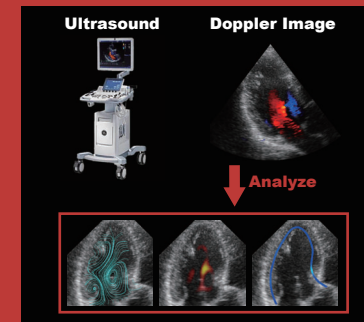


Pathlines

# iTEcho

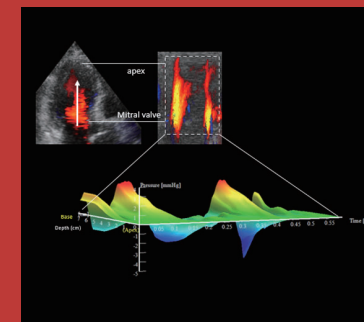
iTEcho is a software bundle designed to analyze and visualize blood flow by using echocardiographic images on your own. It comprises two functions: VFM (vector flow mapping) and IVPD (intraventricular pressure difference). This software bundle enables you to evaluate velocity and pressure distributions in ventricles.

## Features of iTEcho



### Visualize blood flow from a single image of echocardiography

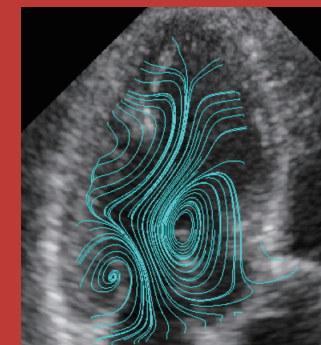
iTEcho (VFM: vector flow mapping) is a tool to visualize and quantify blood flow. It shows velocity vectors from the apical long-axis view with a color Doppler image.



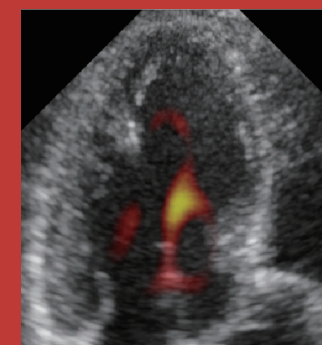
### Visualize and quantify intraventricular pressure differences

iTEcho can evaluate sucking force of the left ventricle with IVPD. The IVPD is calculated from color M-mode images of the left ventricle.

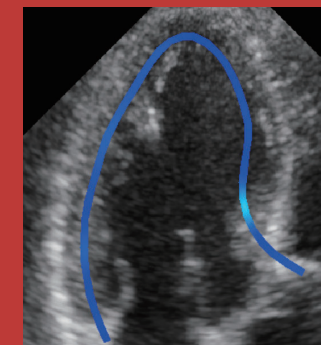
## Visualized Parameters



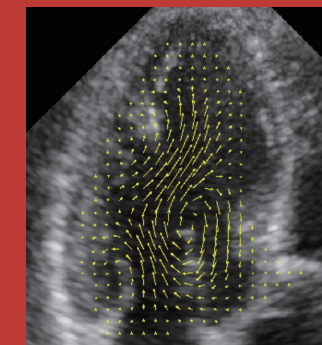
Streamlines



Energy loss



Wall shear stress



Velocity vectors