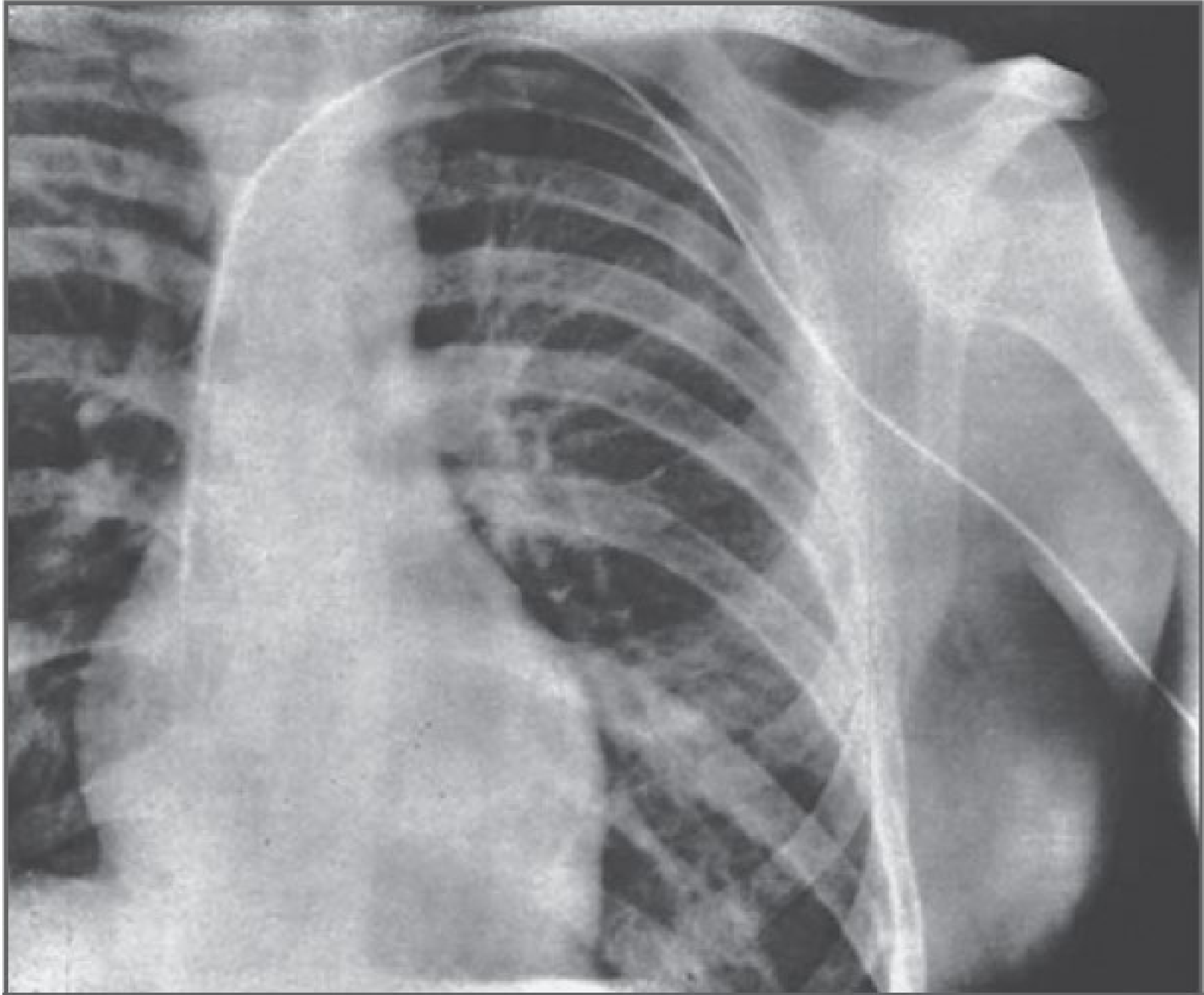


Transcatheter heart valve therapy

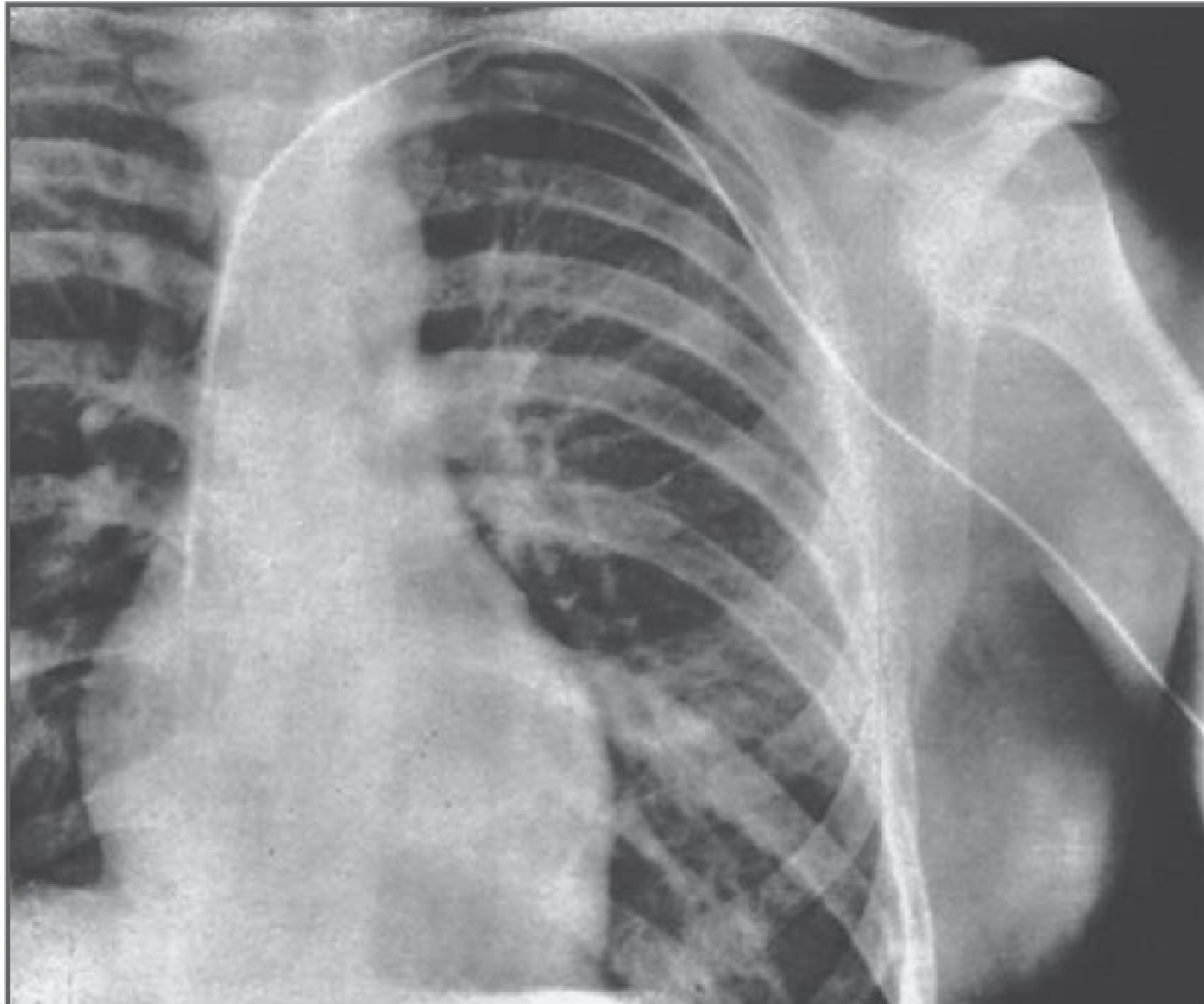
Lars Søndergaard
Professor, overlæge, dr. med.
Kardiologisk afdeling
Rigshospitalet

Vilhelm Röntgen 1895

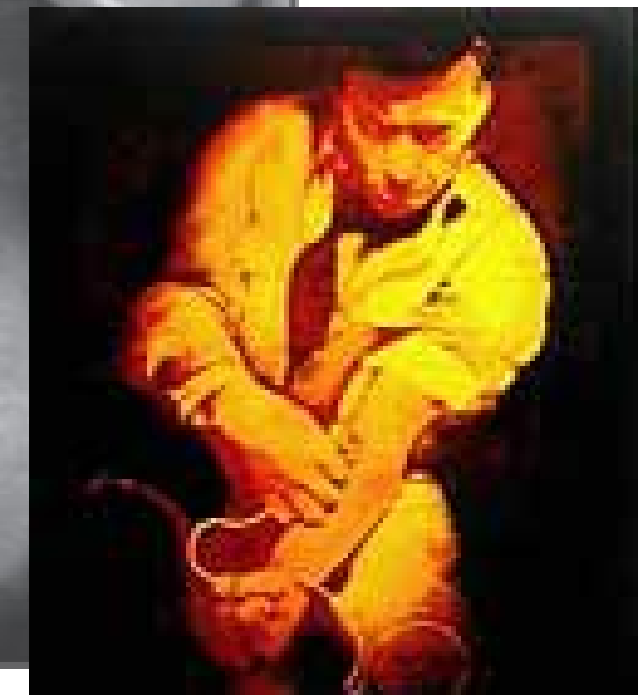
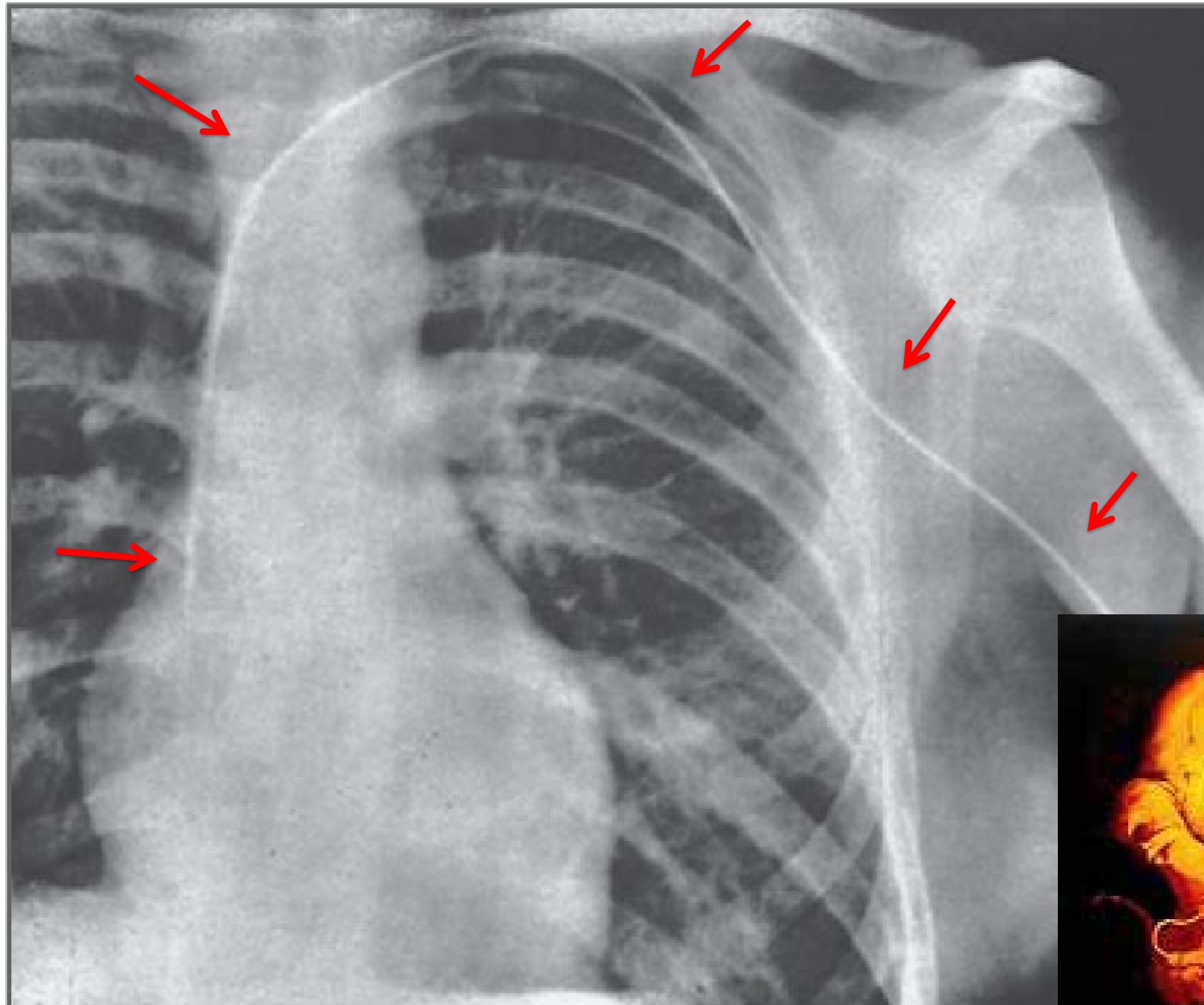




Werner Forssmann 1929



Werner Forssmann 1929



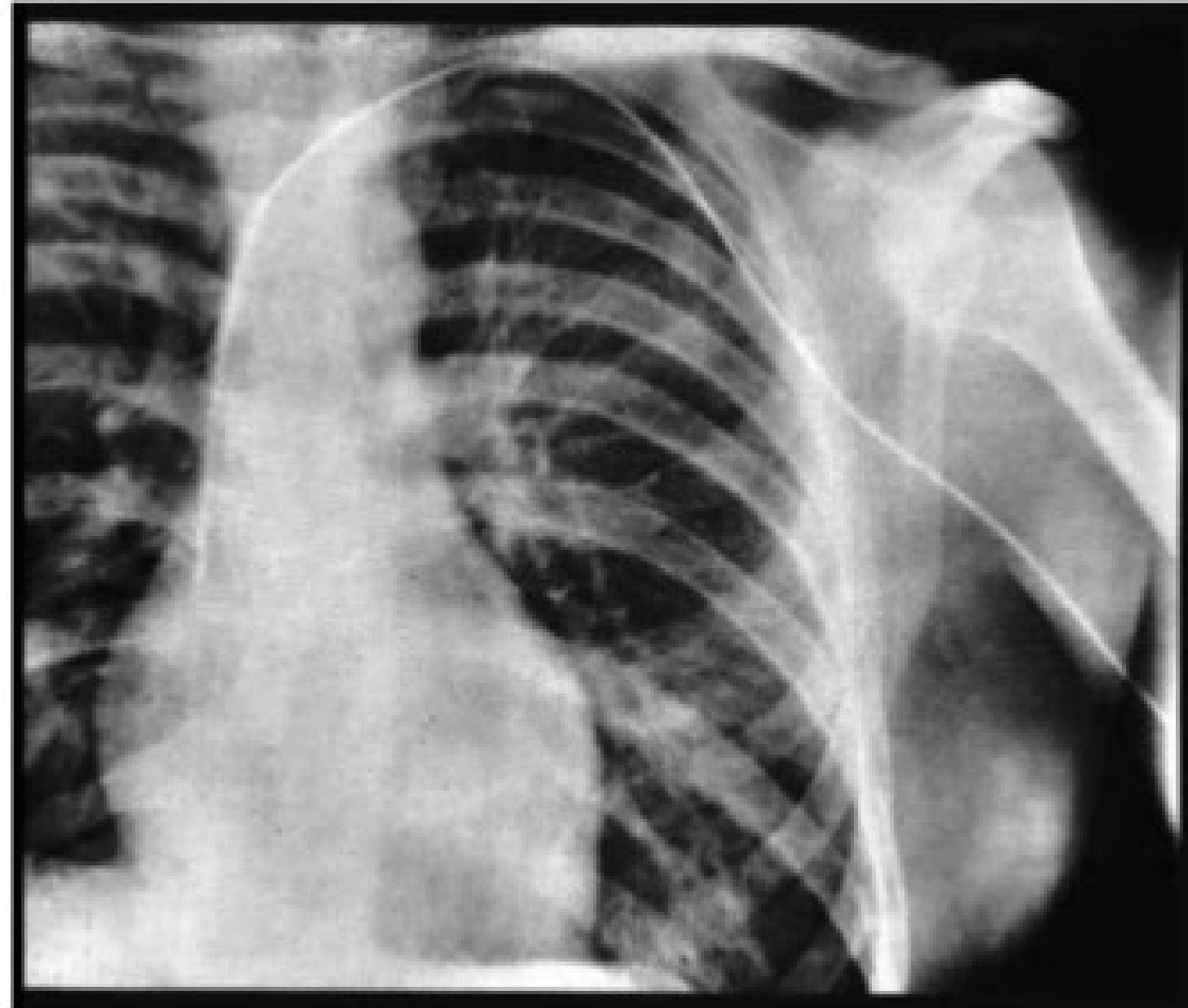


Ferdinand Sauerbruch

Werner Forssmann, *Nobel price 1956*



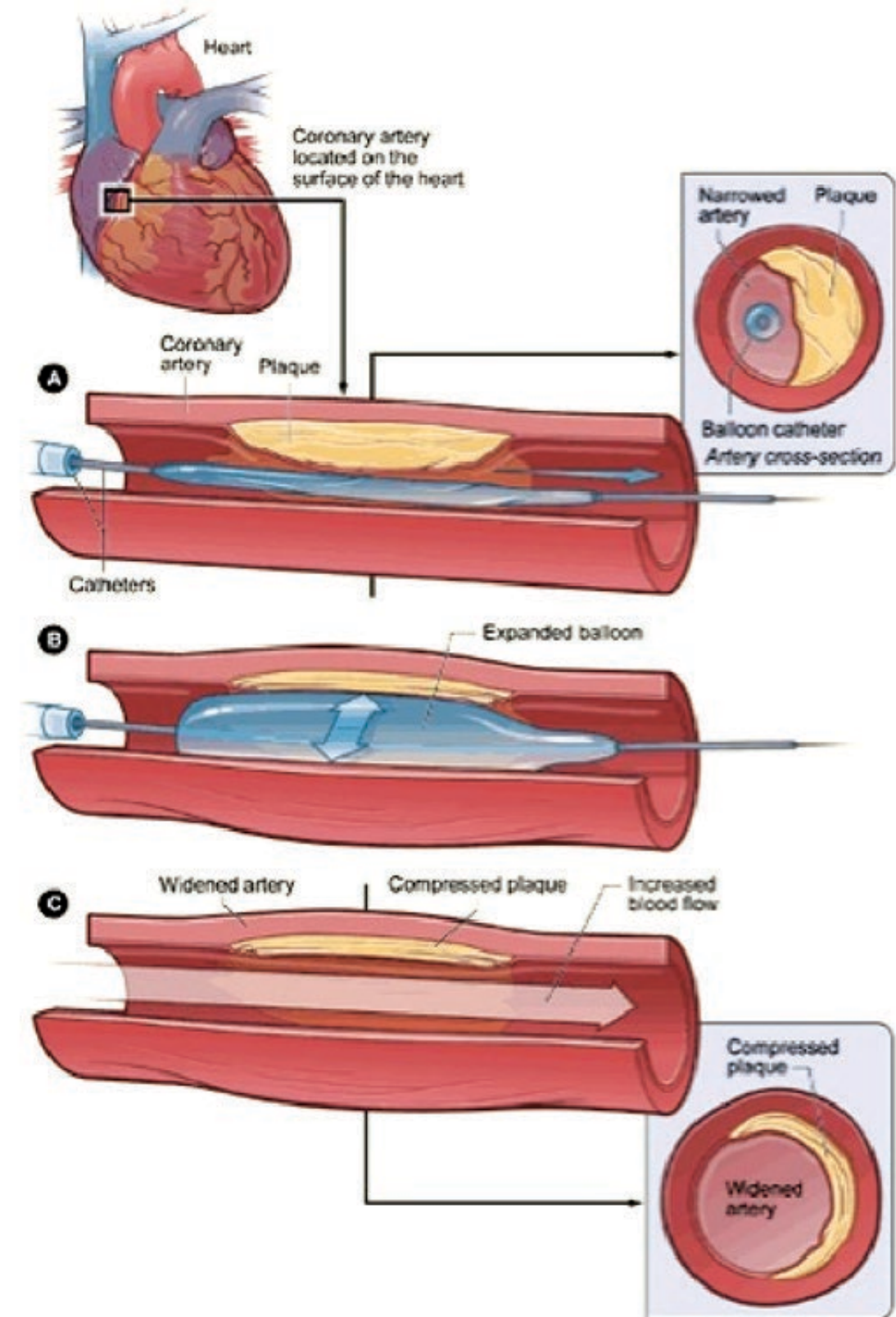
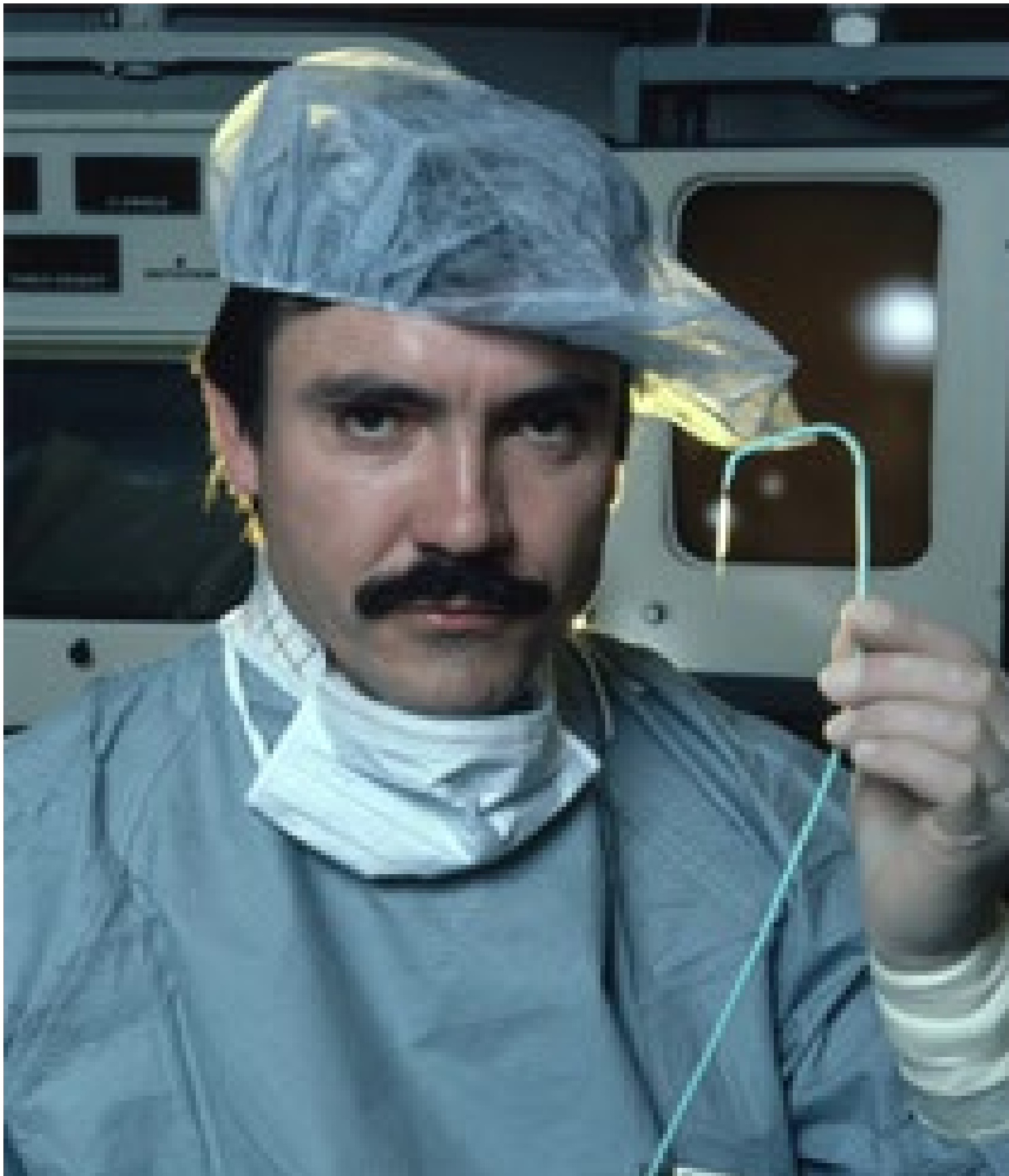
Werner Forssmann



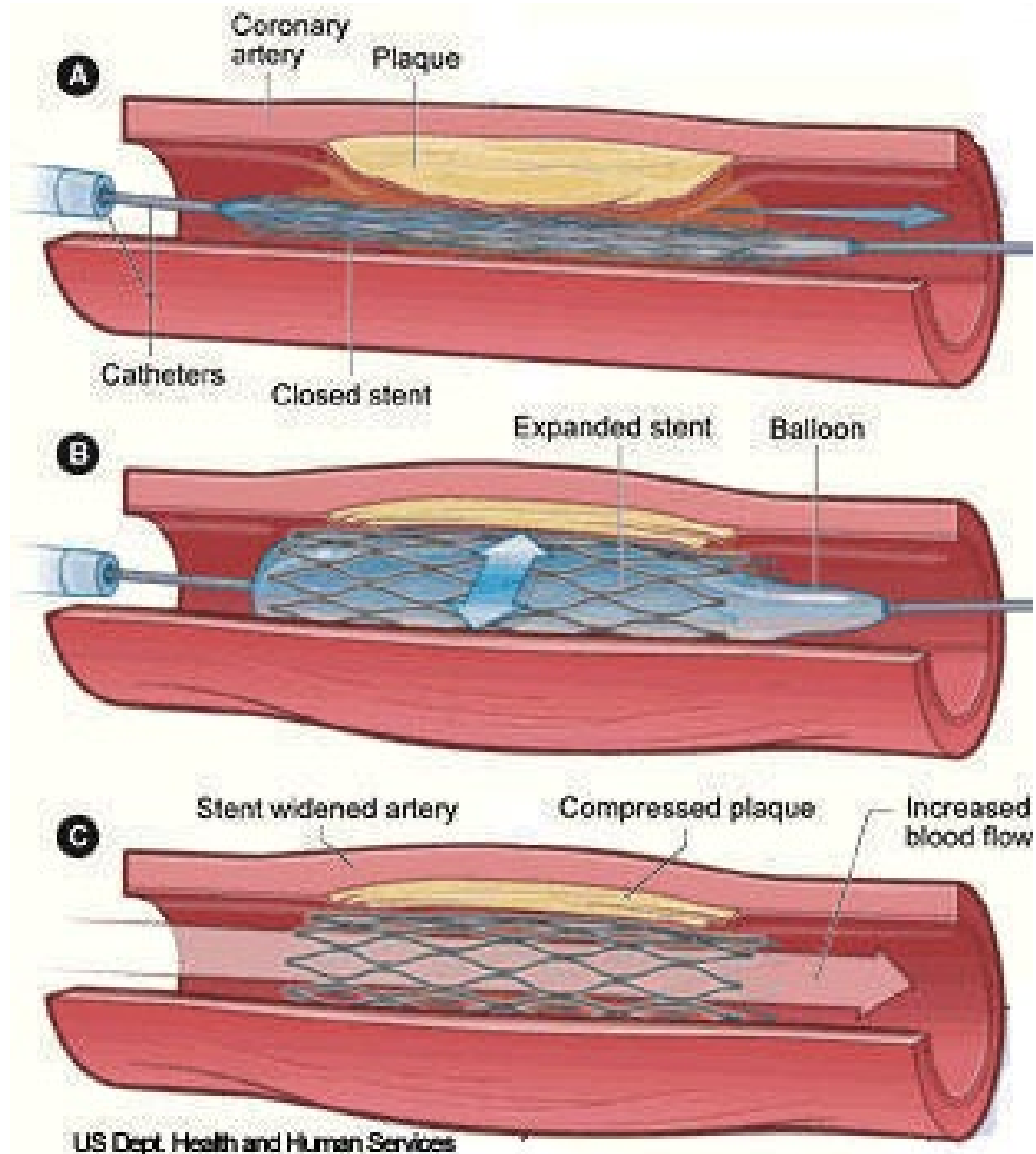
Forssmann *Klinische Wochenschrift* 1929;8(45)2085-7.



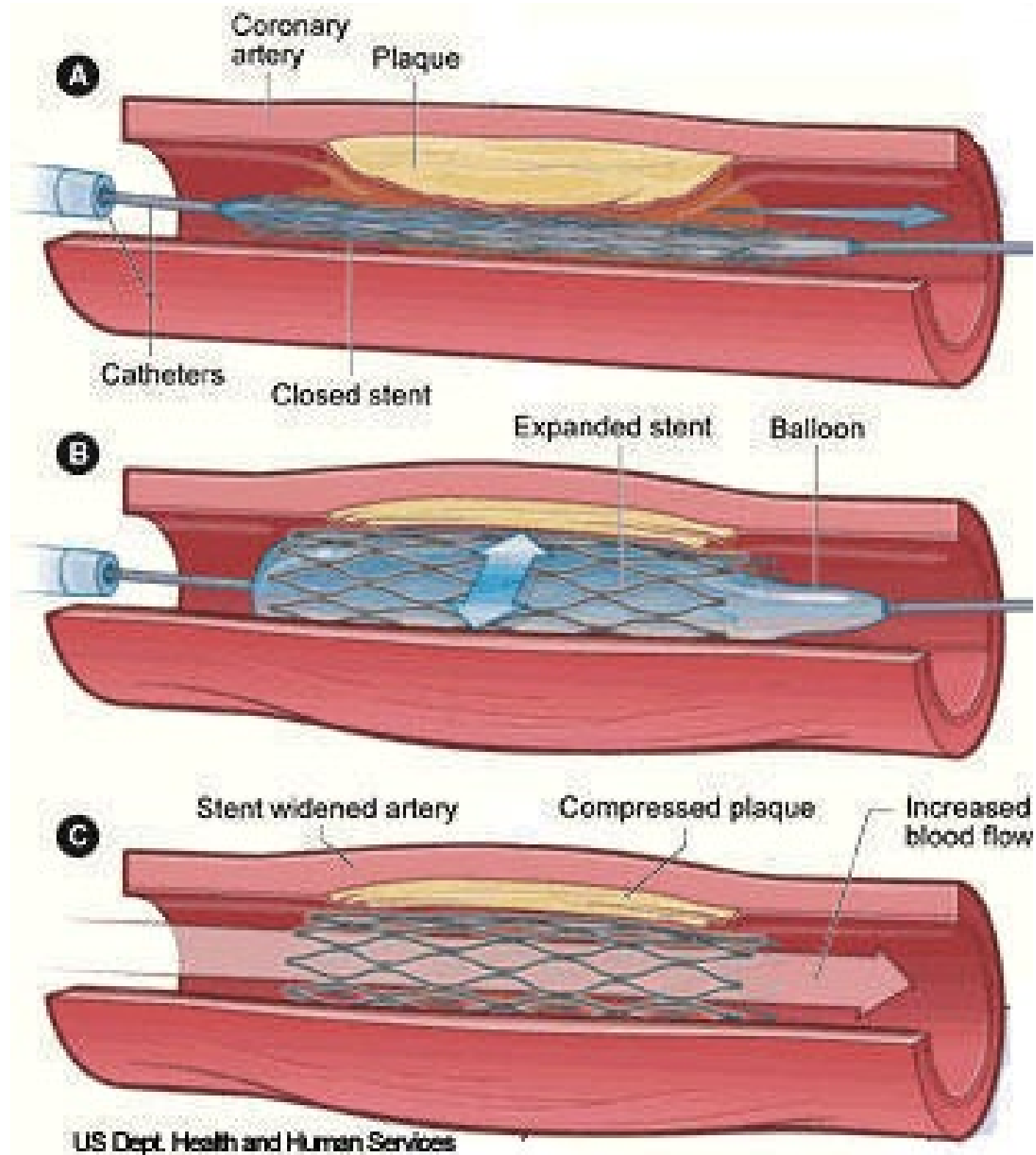
Andreas Gruentzig 1977



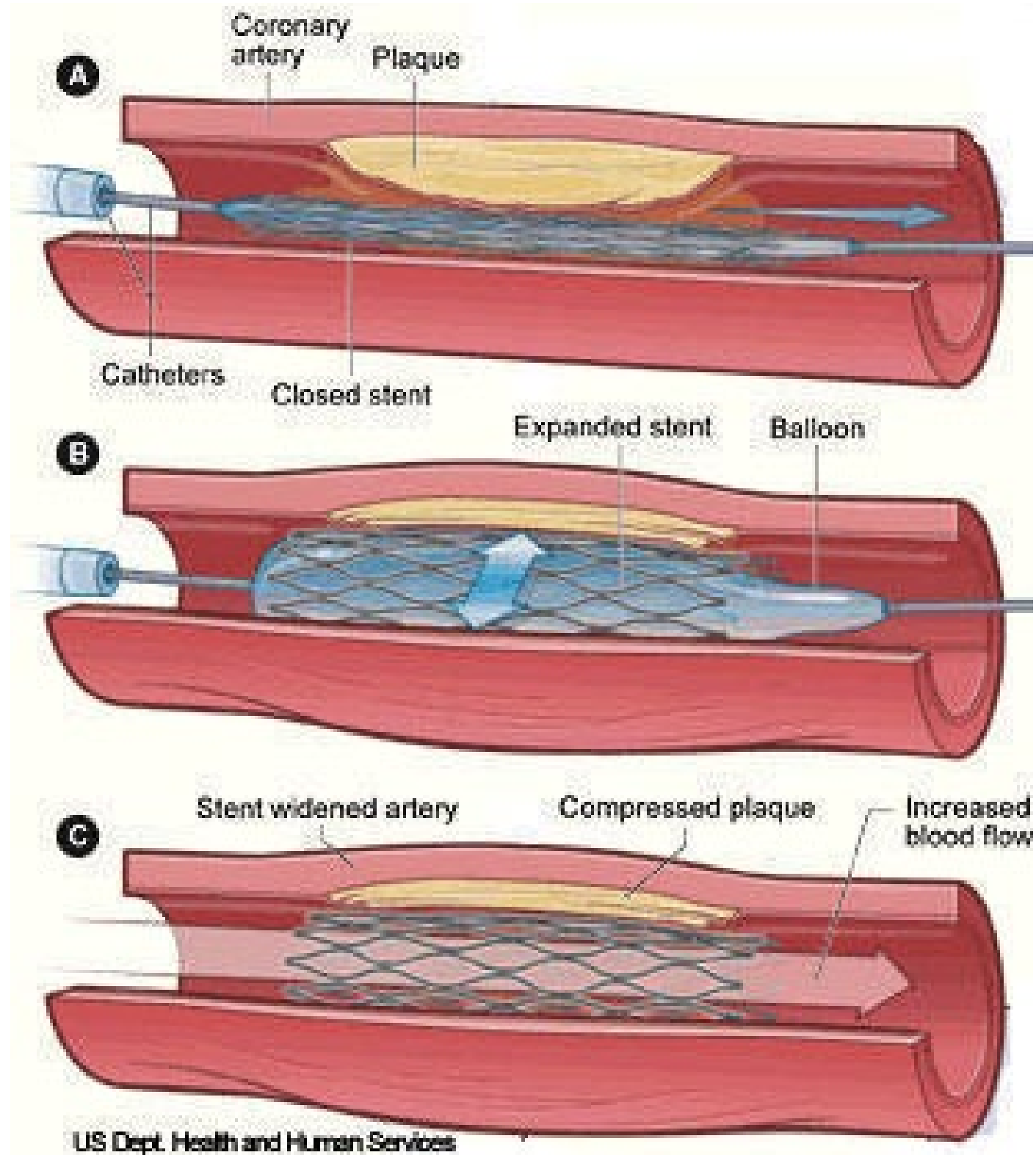
Introduction of coronary stents in 1986



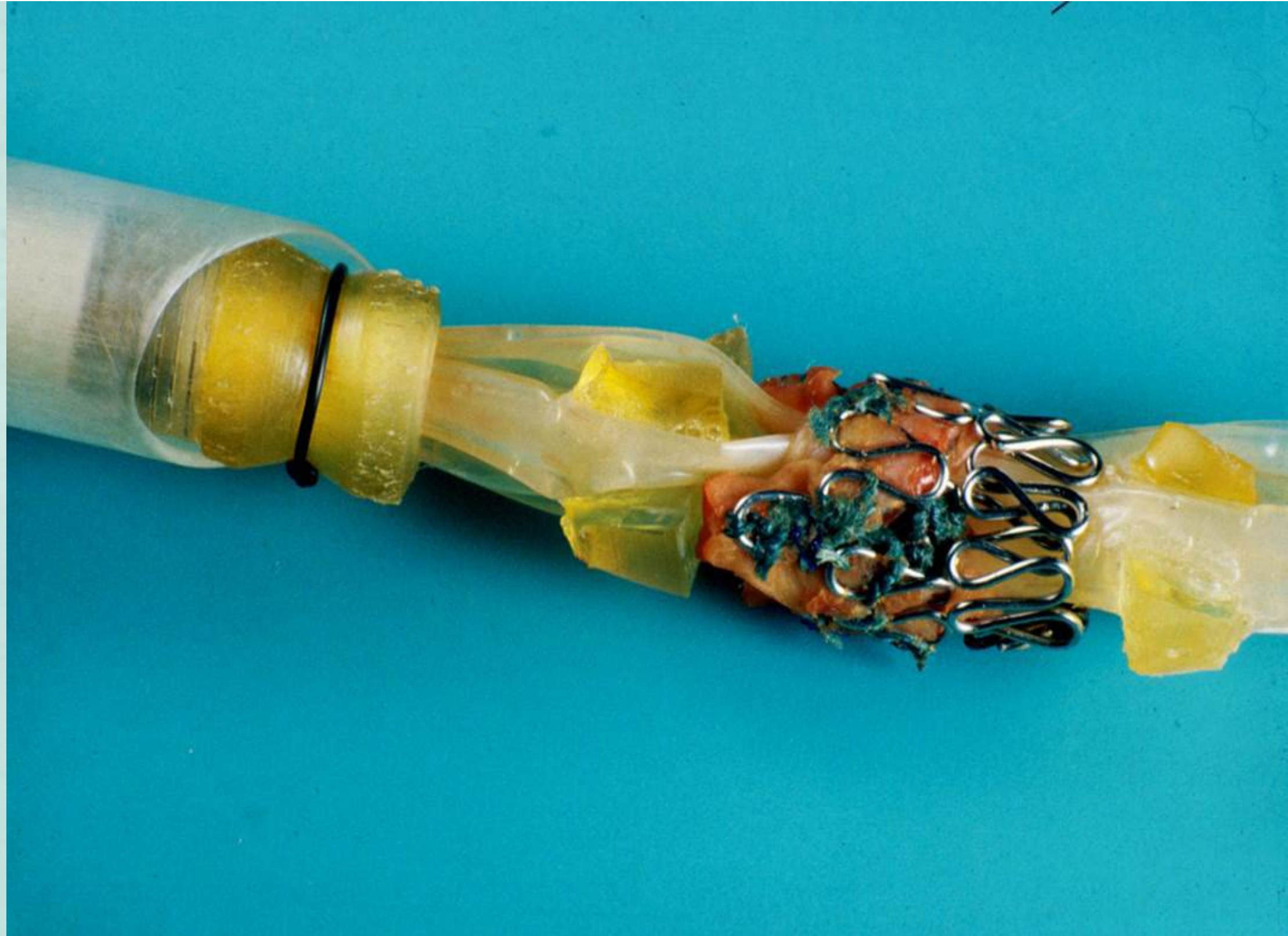
Henning Rud Andersen



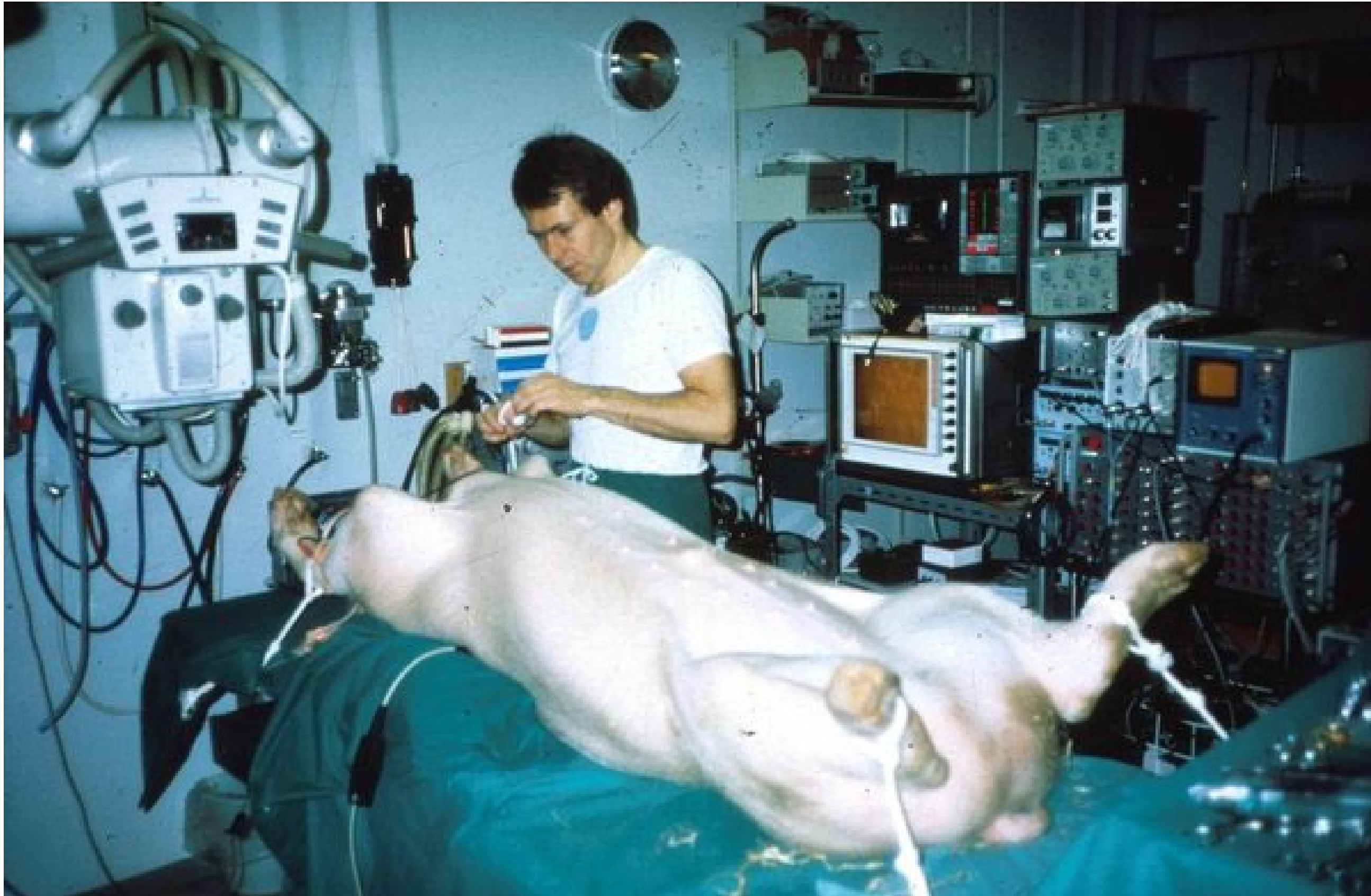
Henning Rud Andersen



Henning's transcatheter heart valve



First animal work in 1989



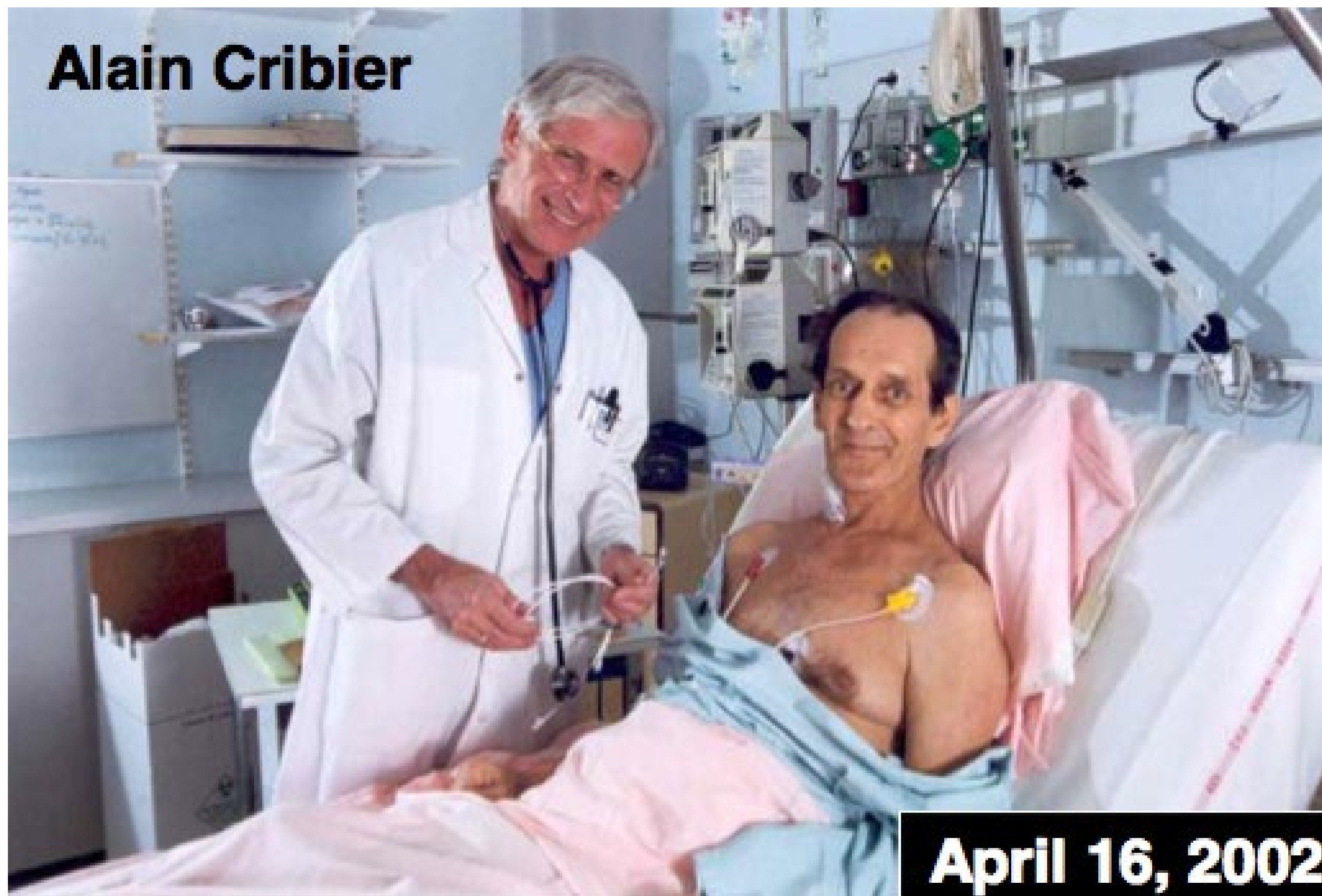
Eur Heart J 1992;13:704

**Transluminal implantation of artificial heart valves.
Description of a new expandable aortic valve and initial results
with implantation by catheter technique in closed chest pigs**

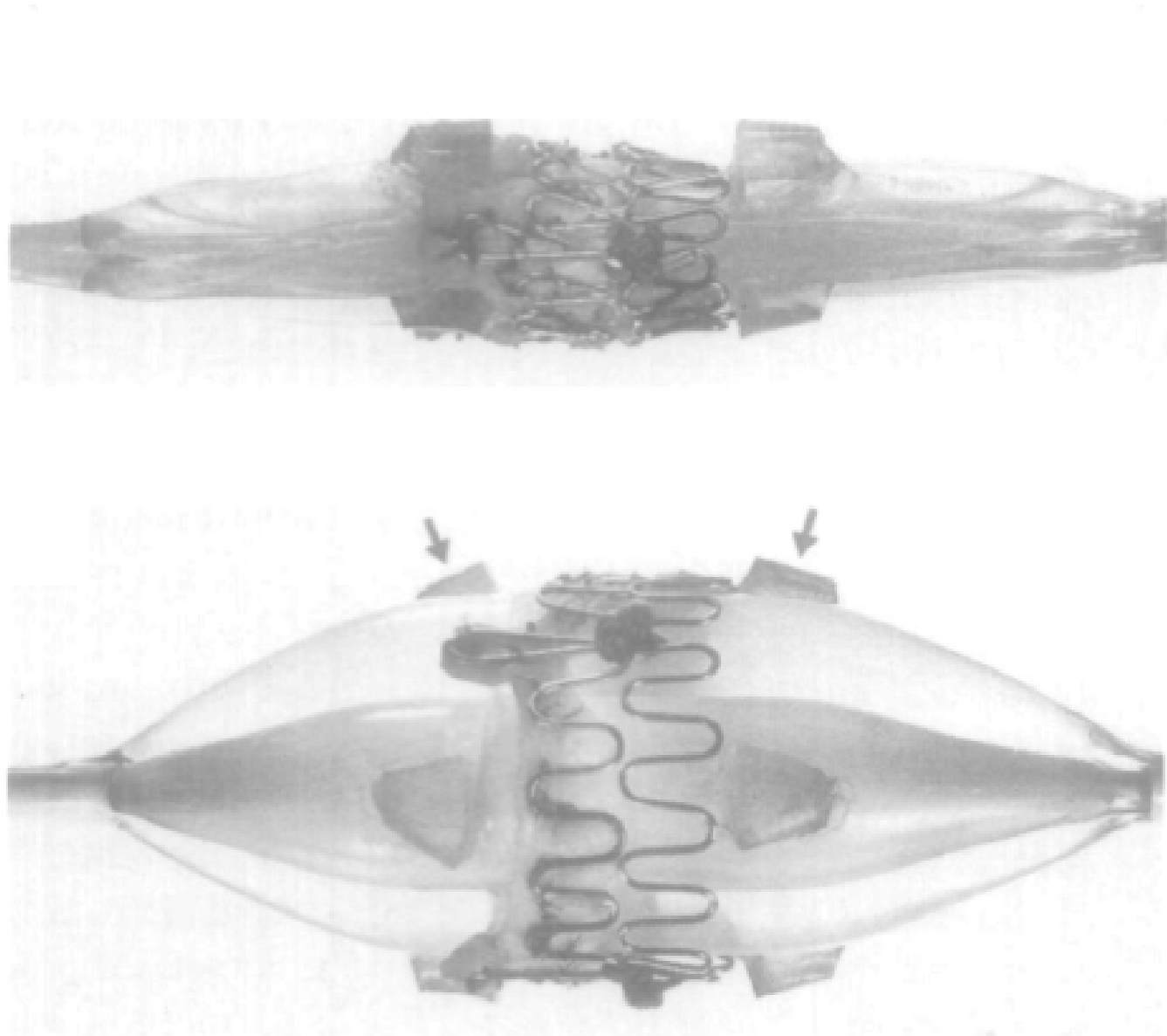
H. R. ANDERSEN*, L. L. KNUDSEN* AND J. M. HASENKAM†

*Departments of *Cardiology, †Thoracic and Cardiovascular Surgery, and the Institute of Experimental Clinical
Research, Skejby University Hospital, Aarhus, Denmark*

First-In-Human TAVI



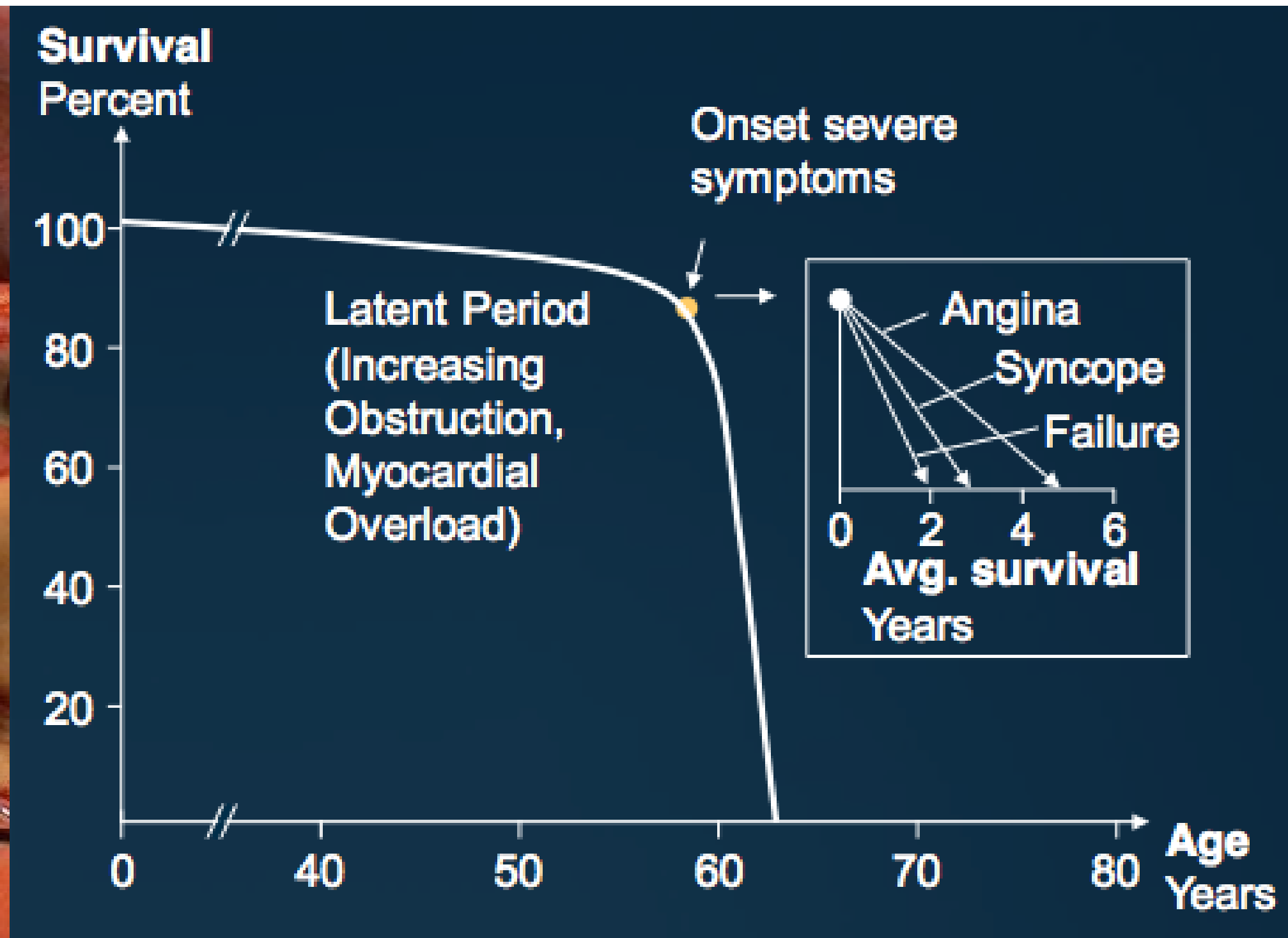
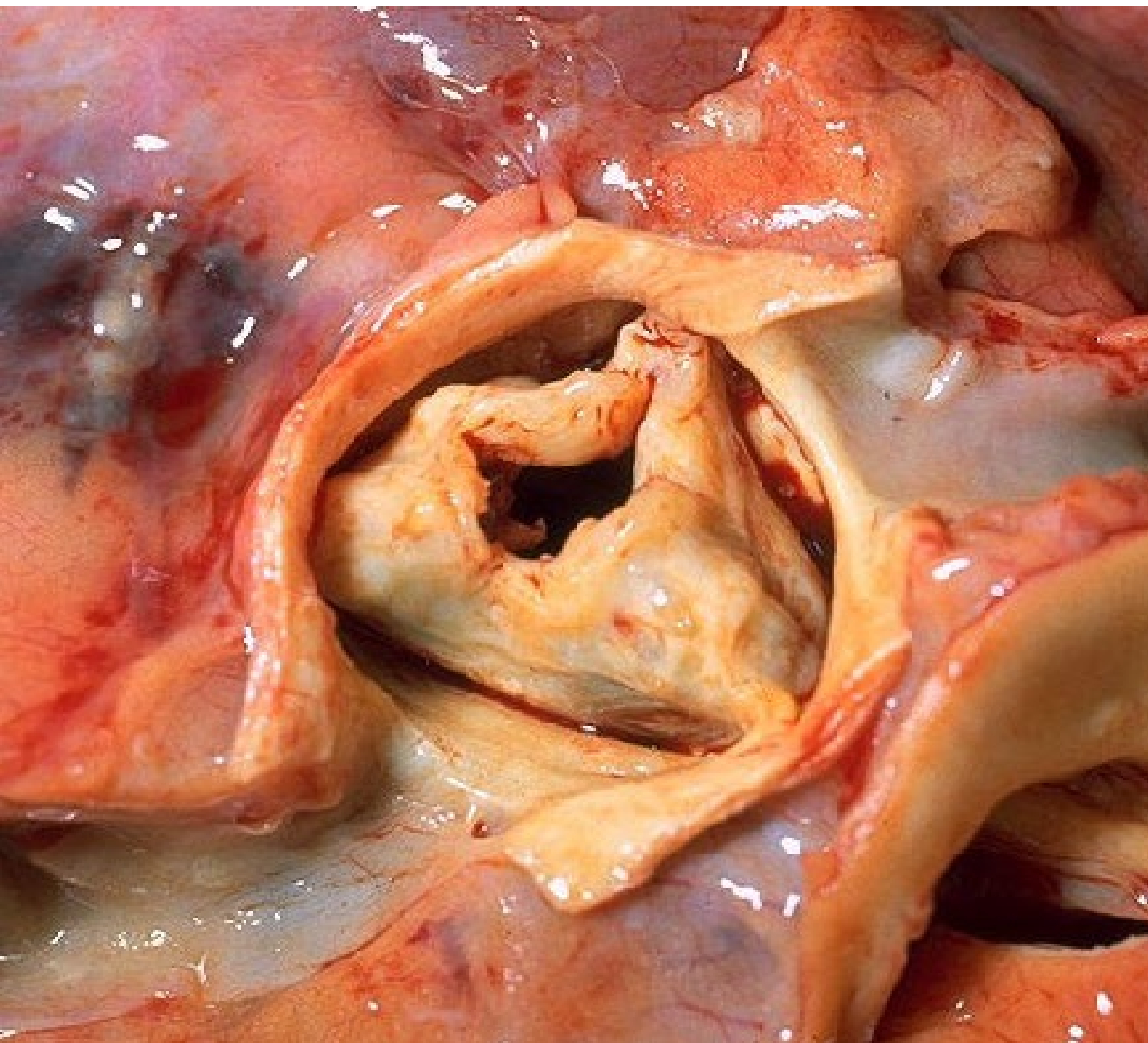
Andersen 1989



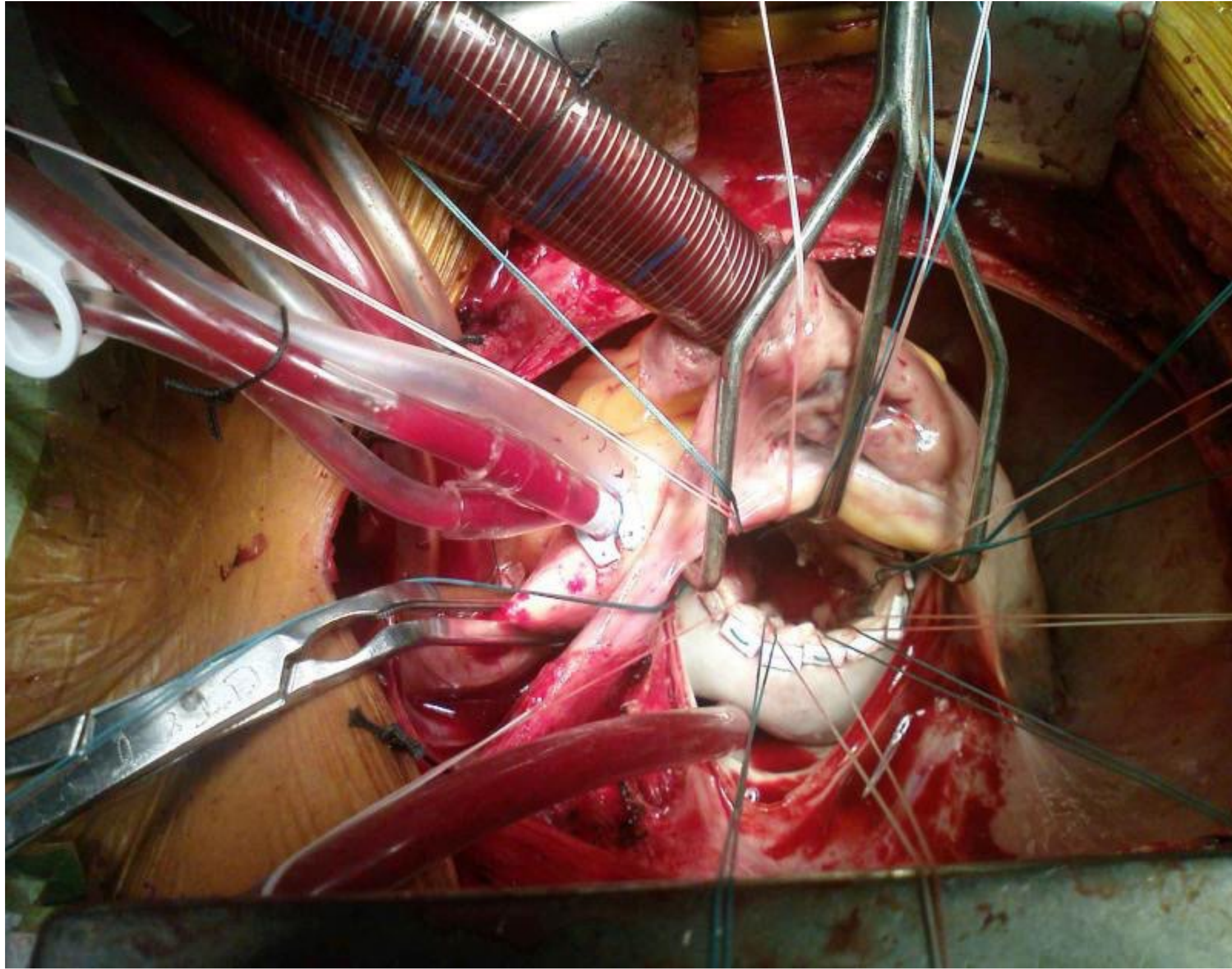
Cribier 2002



Aortic stenosis



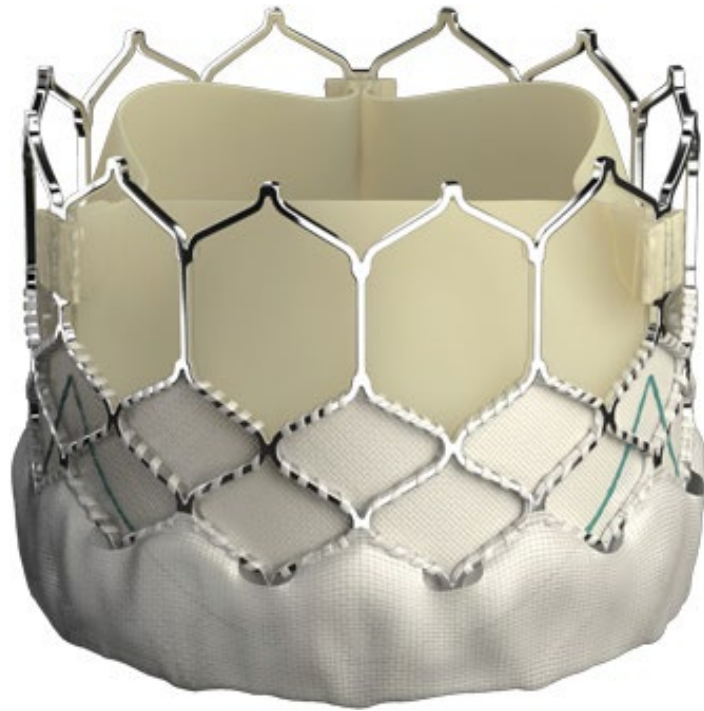
Surgical aortic valve replacement



One out of three patients denied surgery



Transcatheter aortic valves



Balloon expandable THV

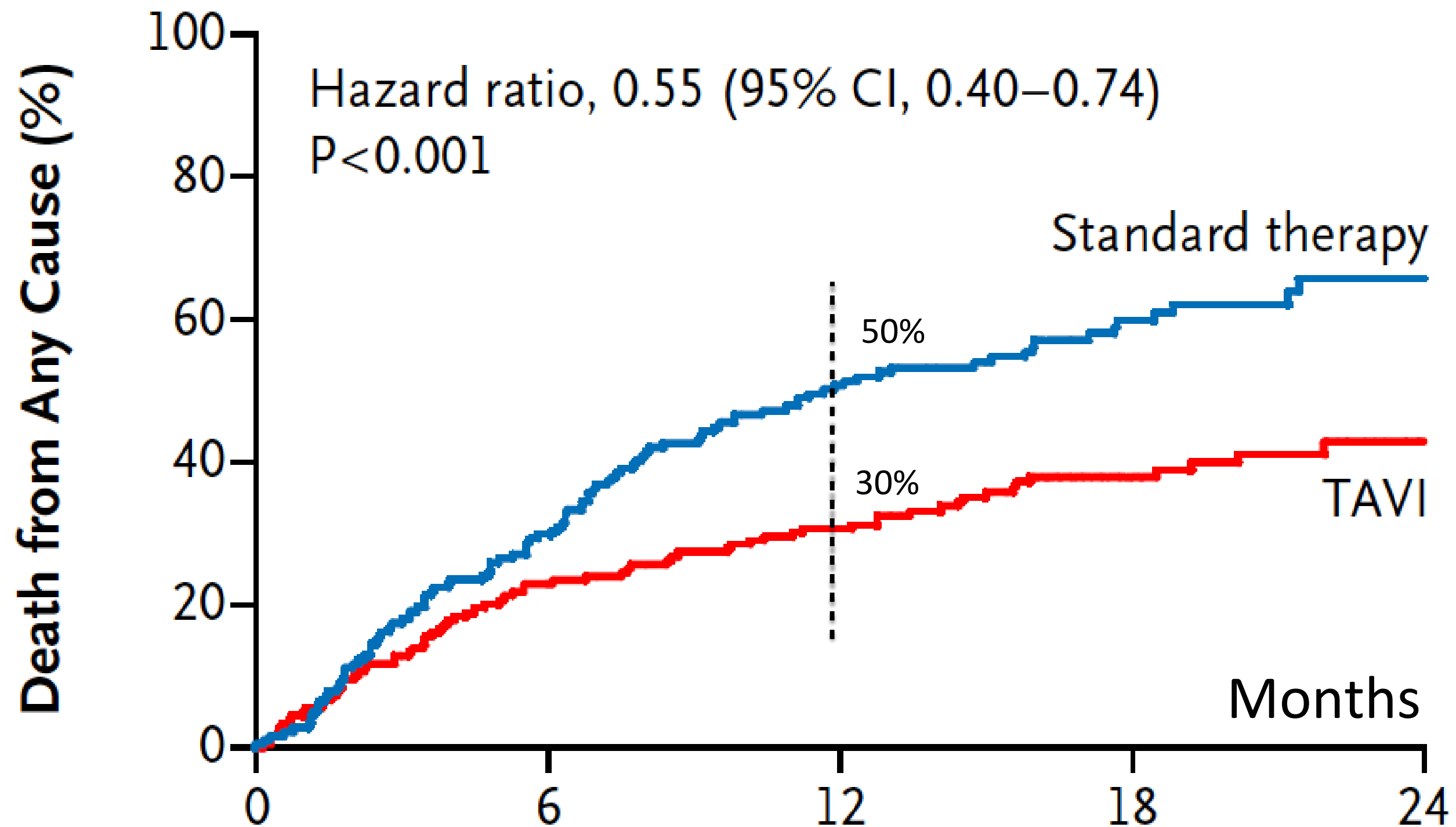


Self-expandable THV

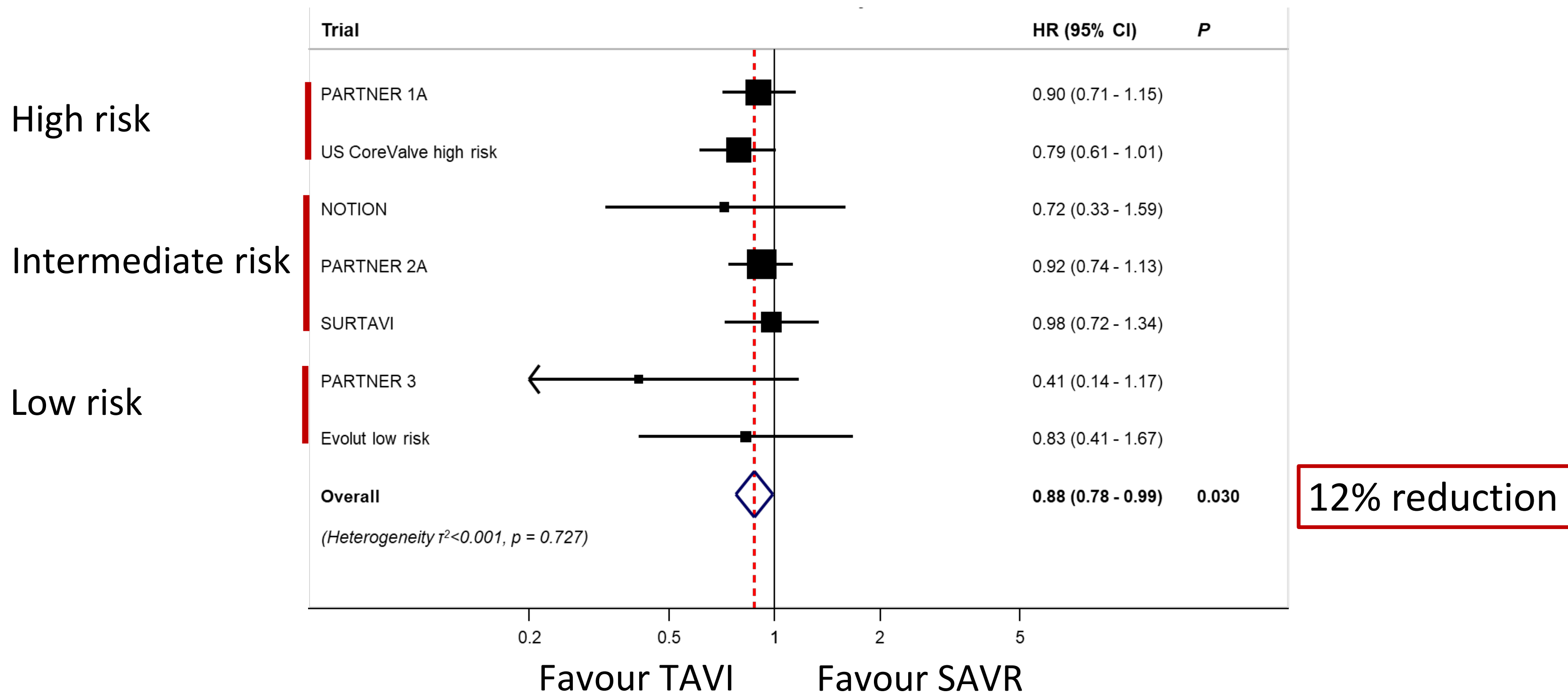
Self-expanding transcatheter heart valve



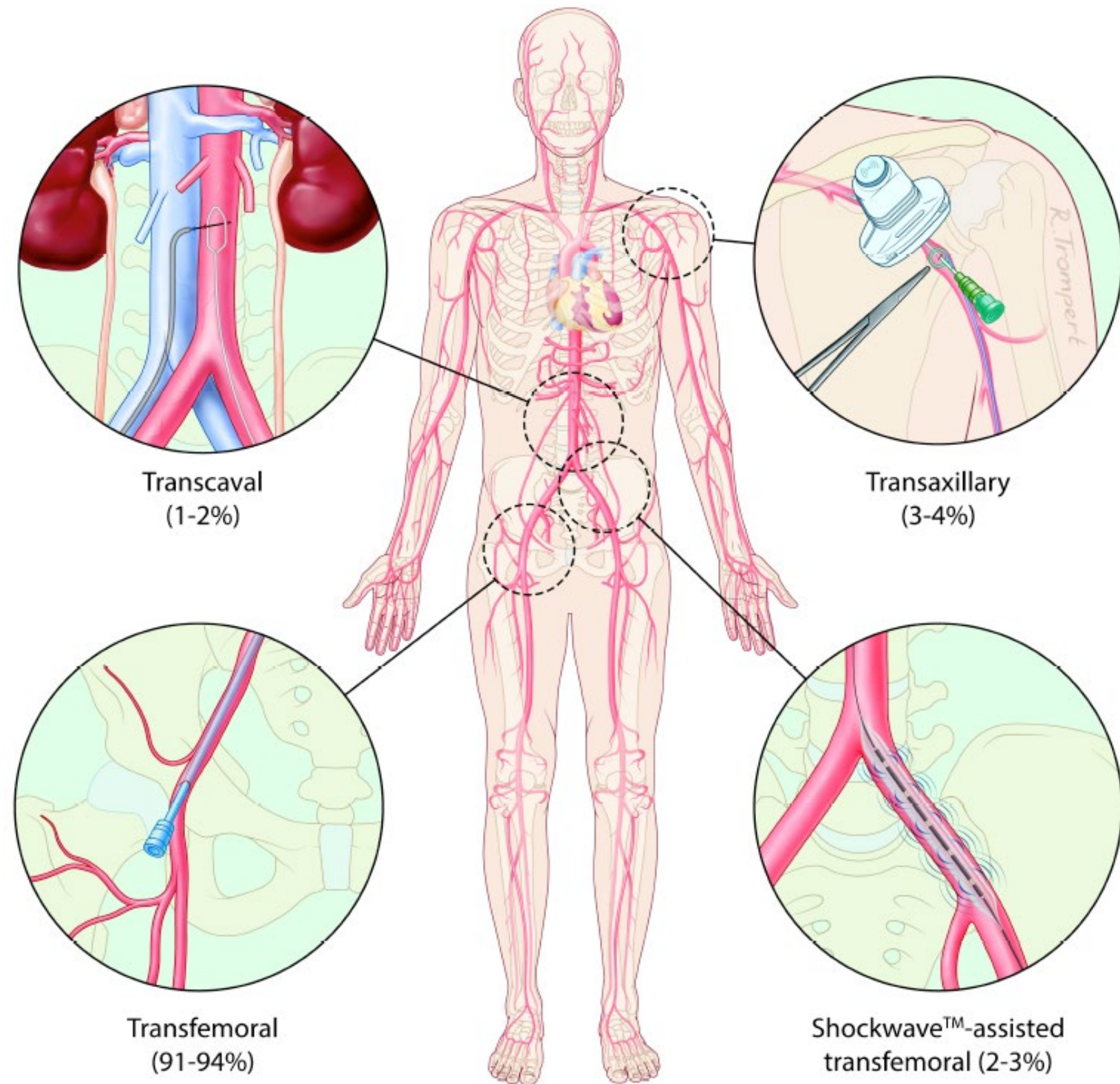
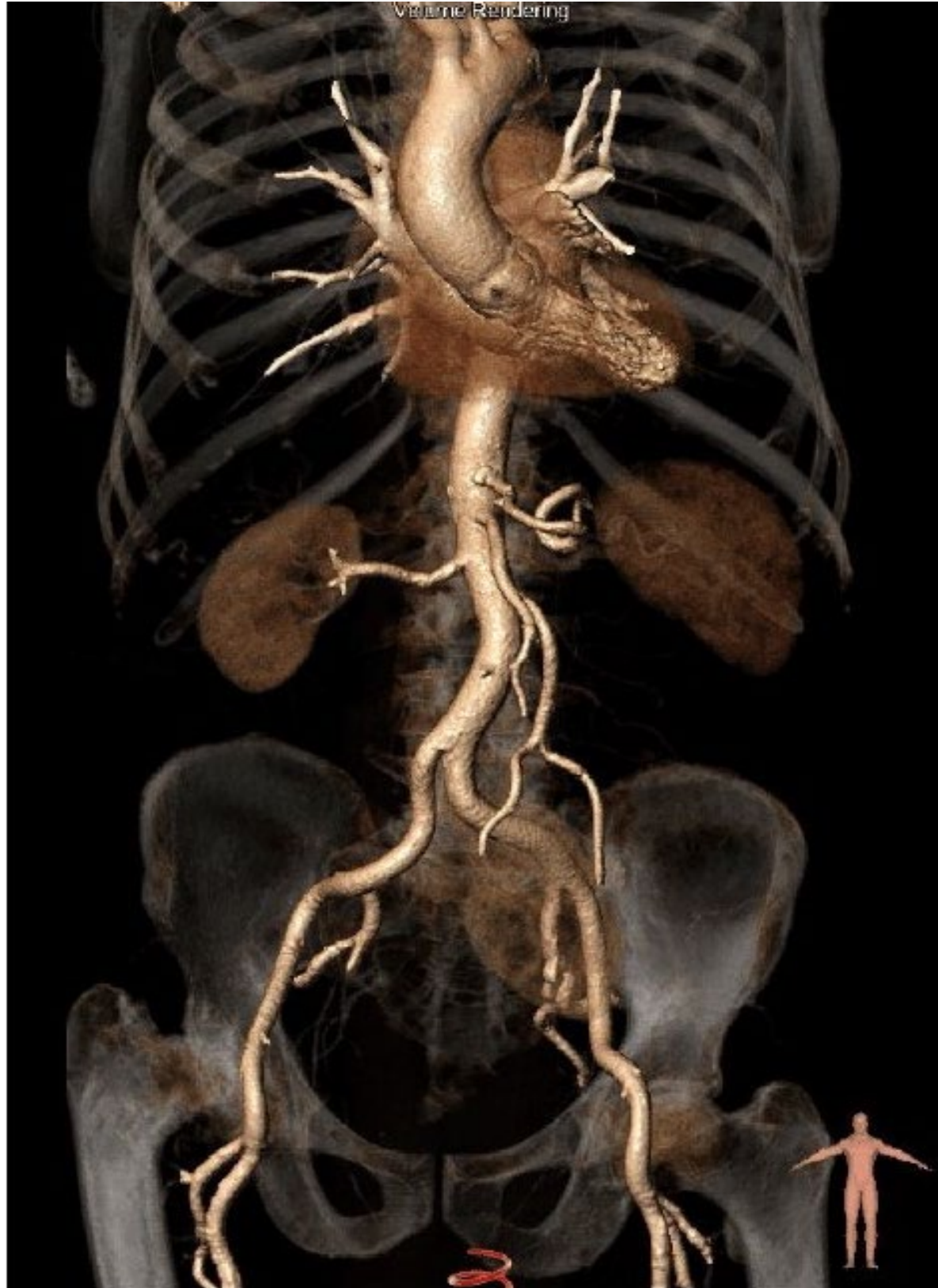
Patients at extreme surgical risk



All-cause mortality @ 2 years (N=8,020)



Pre-procedural computer tomography

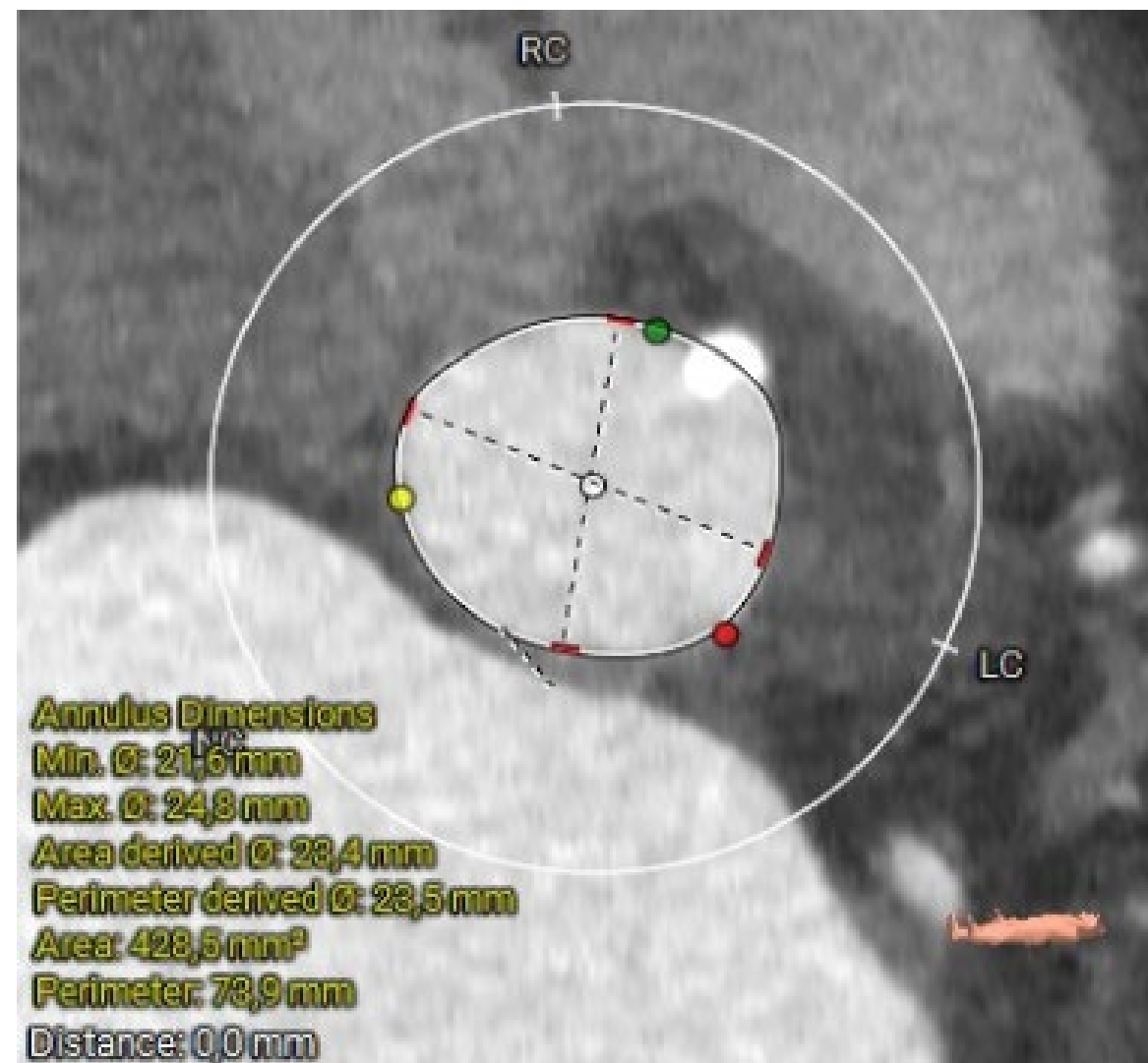


Pre-procedural computer tomography

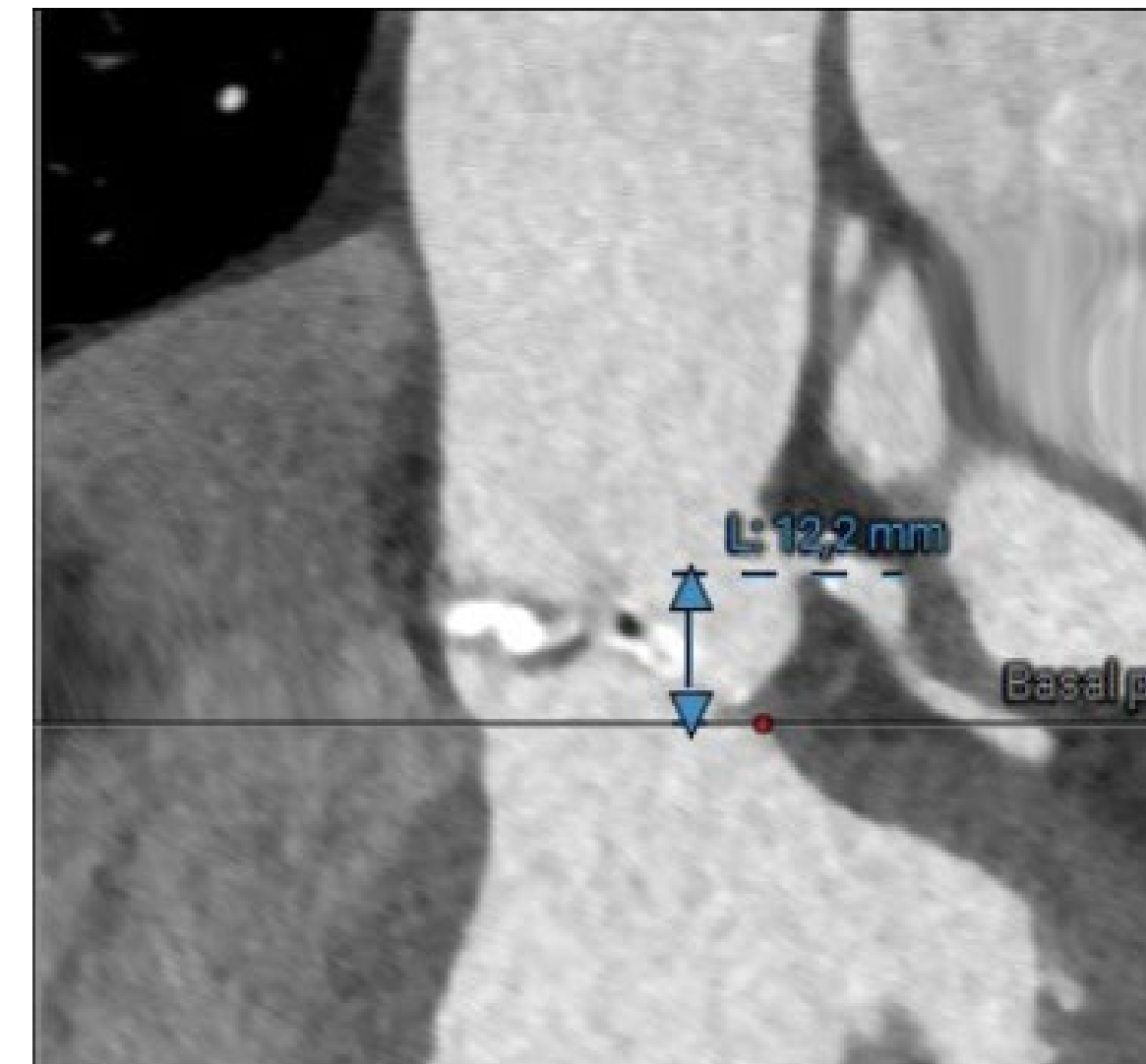
Valve morphology



Annulus sizing



Coronary arteries



Development

Used to be

General anaesthesia

2 procedures per day

Complications not uncommon

ICU first night

7-10 days hospital stay

Today

Local anaesthesia

3-4 procedures per day

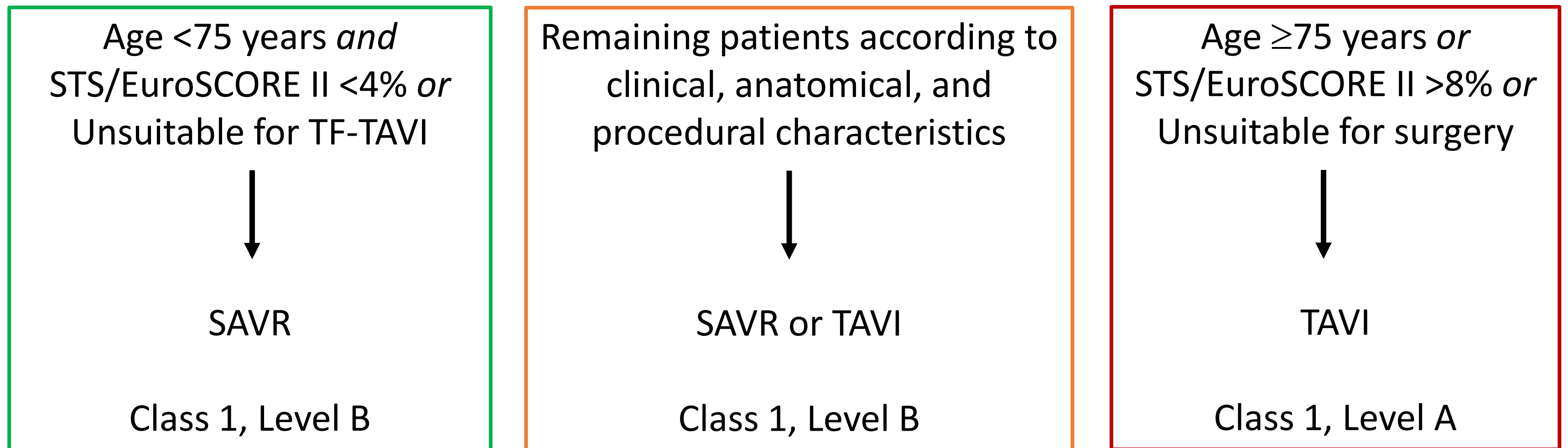
30-days mortality <0.5 %

Straight back to the ward

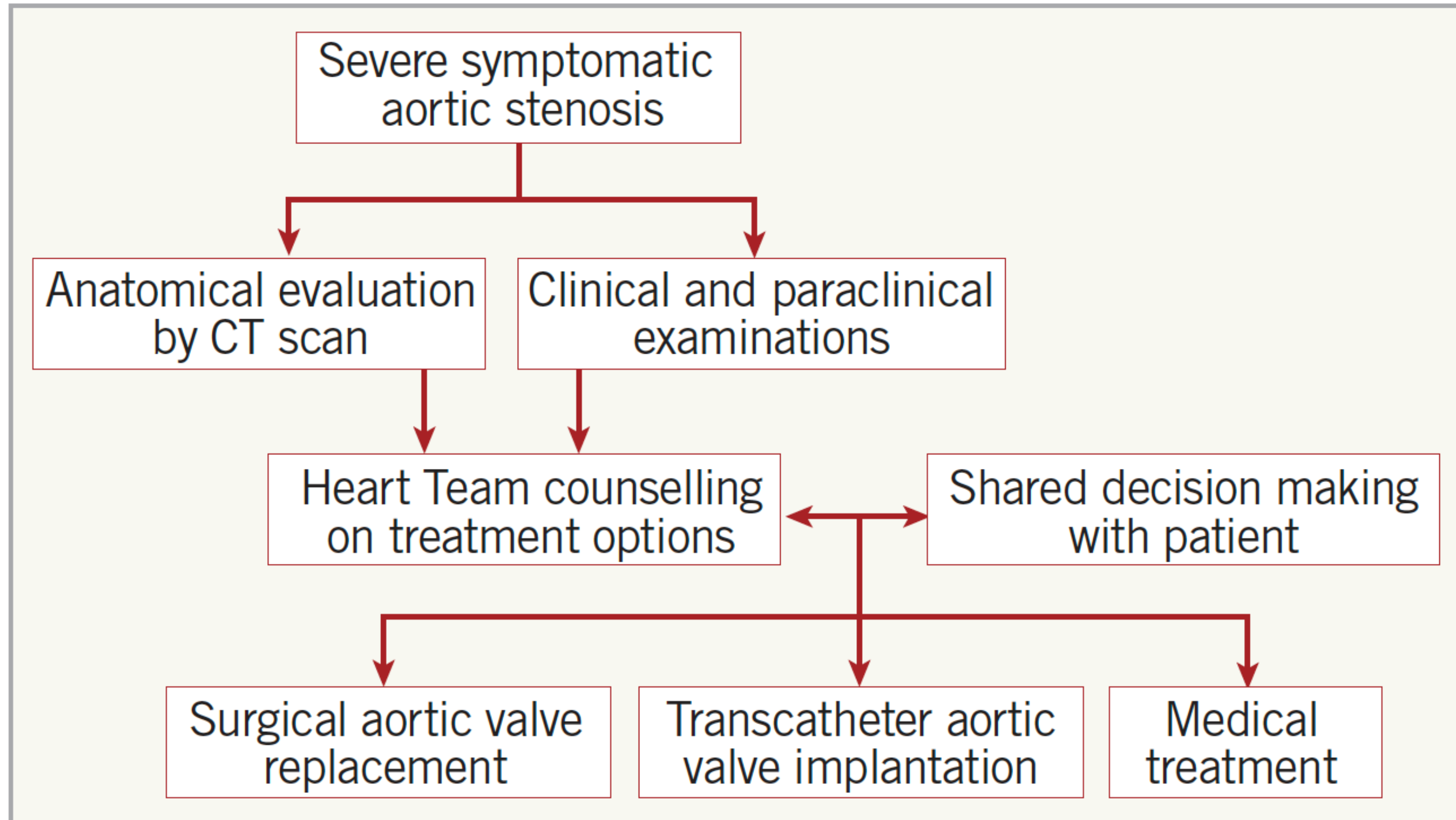
Discharged next day

2021 ESC/EACTS Guideline for The Management of Valvular Heart Disease

Patients with symptomatic severe aortic stenosis



The Heart Team

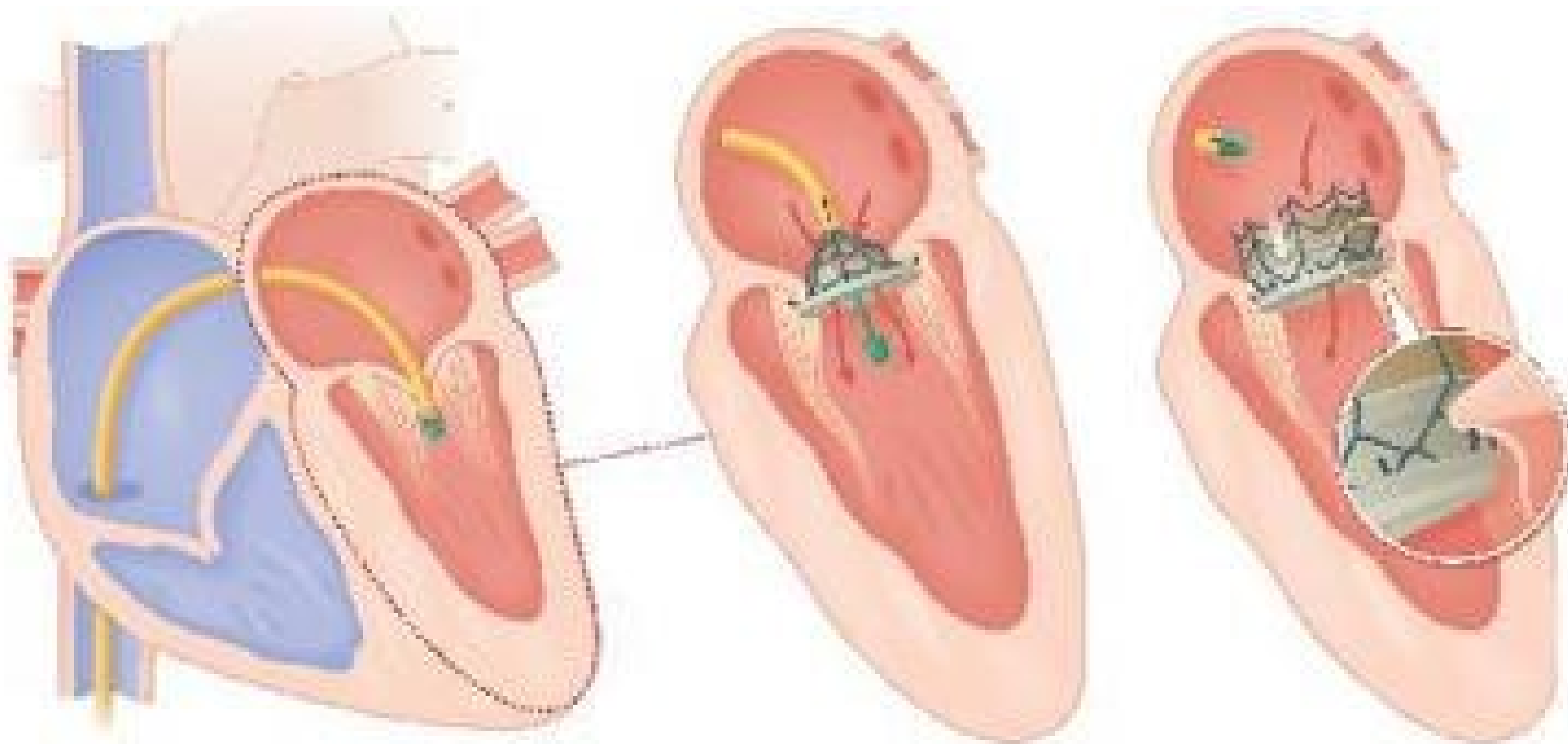


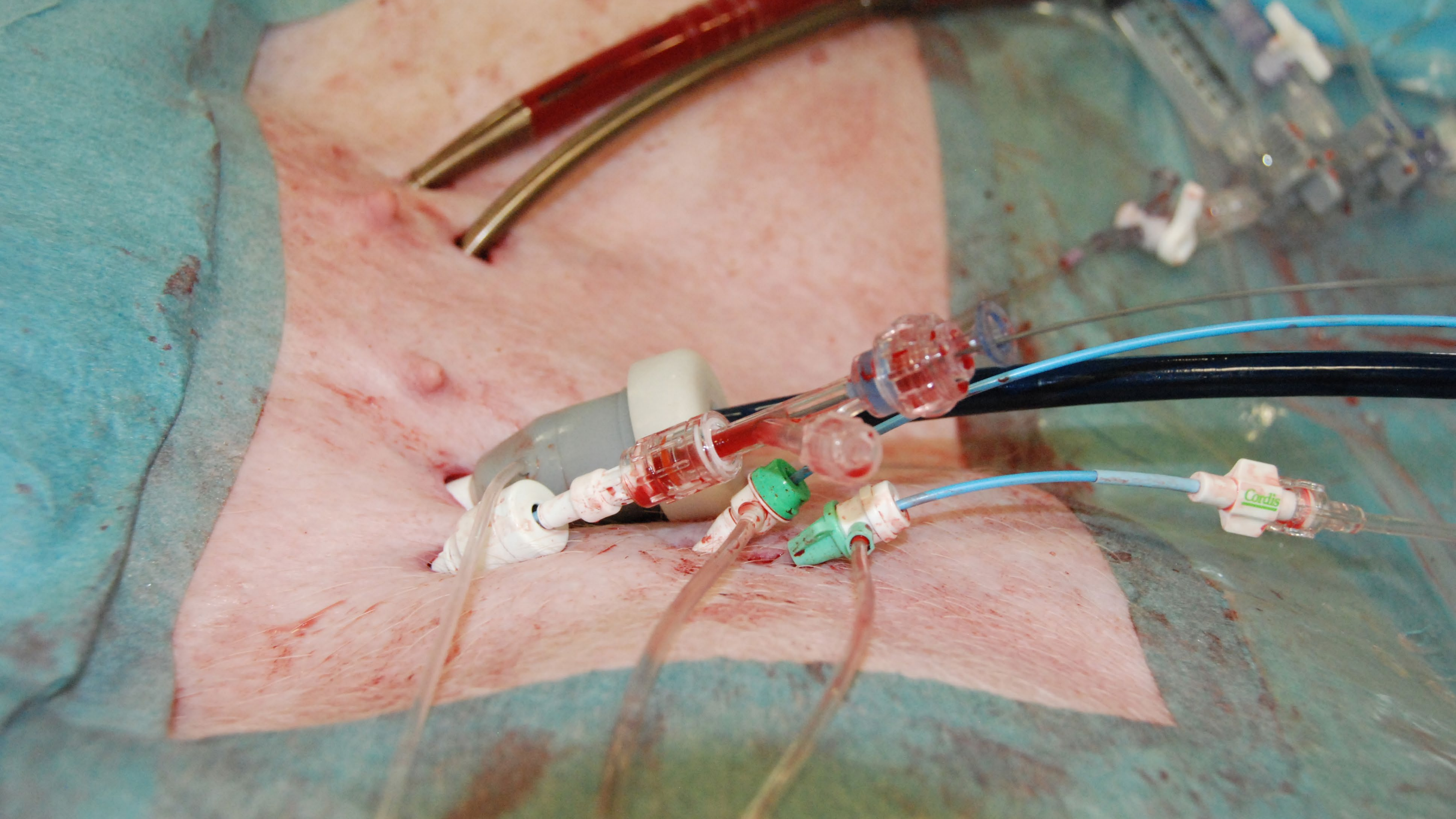
Henning and father



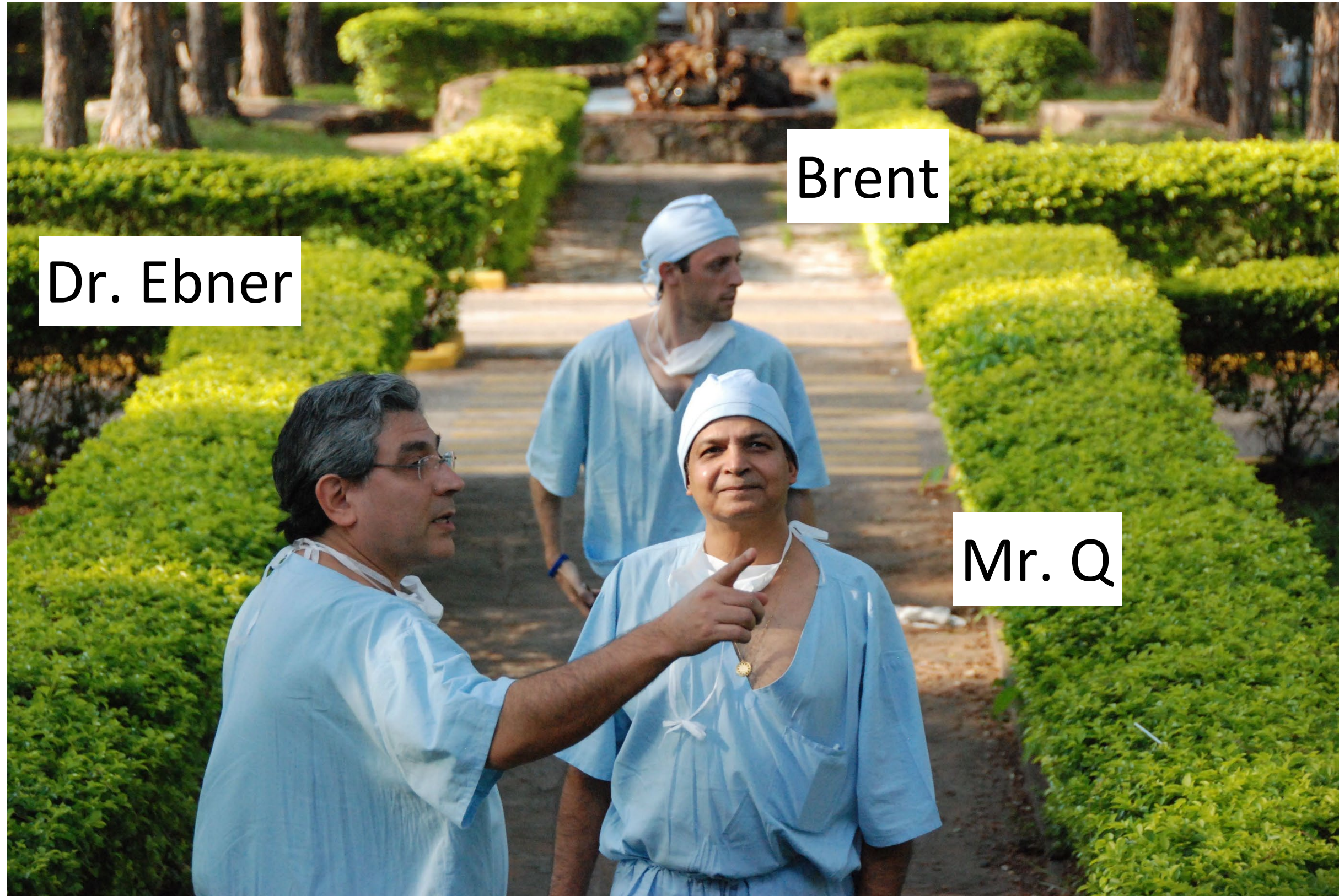
Transcatheter mitral valve replacement

Paris, May 2010





Asunción in Paraguay, October 2011



Dr. Ebner

Brent

Mr. Q

First-in-Human TMVR June 12th 2012

Rigshospitalet



Transcatheter mitral valve prothesis



Mr. Q, Astrid & Brent



First-In-Human TMVR Team, June 12th 2012

Rigshospitalet



