

## **Prof. Dr. Med. ENRICO FERRARI**

Istituto Cardiocentro Ticino

Via Tesserete 48

6900 Lugano, Svizzera

+41 91 811 5144

Email: [enrico.ferrari@eoc.ch](mailto:enrico.ferrari@eoc.ch)

### **Posizione clinica e accademica attuale**

- Vice Primario di Cardiocirurgia presso l'Istituto Cardiocentro Ticino di Lugano, Svizzera
- Vicepresidente della Società Svizzera di Cardiocirurgia (SGHC)
- Professore Titolare - Università della Svizzera Italiana (USI) (dal 2020)
- Professore Titolare - Scuola di Medicina dell'Università di Zurigo, Svizzera (dal 2020)

### **Carriera accademica**

- Professore Titolare – Scuola di Medicina dell'Università di Zurigo, Svizzera (dal 2020)
- Professore Titolare - Università della Svizzera Italiana (USI) (dal 2020)
- Professore Assistente (PD) – Università della Svizzera Italiana (USI) (dal 2019-2020)
- Professore Assistente (PD) – Ospedale Universitario di Losanna, Svizzera (2011-2018)

### **Istruzione**

- European Board of Cardiovascular and Thoracic Surgery (FETCS) 2005
  - Swiss Board of Cardiovascular Surgery (FMH) 2003
- Qualifica conseguita: Specializzazione in chirurgia cardiaca e vasi toracici
- Università degli studi di Padova, Facoltà di Medicina. Padova, Italia 2002
- Qualifica conseguita: Specializzazione in cardiocirurgia – 70/70 e Lode
- Università degli studi di Torino, Facoltà di Medicina. Torino, Italia – (Dr. Med) 1997
- Qualifica conseguita: Laurea in Medicina e Chirurgia – 110/110

### **Esperienze lavorative**

- Cadiocentro Ticino di Lugano, Svizzera dal 2015
- Capo Servizio di Cardiocirurgia
- Coordinatore Heart-Team per valvole transcateretere chirurgiche (TAVI).
  - Nuove tecnologie valvolari aortiche e mitraliche.

- Ricerca cardiovascolare clinica e di base.
  - Supervisione formazione Medici Capoclinica e Assistenti in formazione.
- Ospedale Universitario di Zurigo (40%) 2020-2021  
 Cardiocirurgo (Leitender) e Direttore della Ricerca Cardiovascolare
    - Chirurgia mini-invasiva valvolare
    - Nuove tecnologie valvolari aortiche e mitraliche.
    - Ricerca cardiovascolare clinica e di base.
- Ospedale Universitario di Losanna, Svizzera 2003-2015  
 Cardiocirurgo Associato e Professore Assistente (PD).
    - Coordinatore Heart-Team per valvole transcateretere chirurgiche (TAVI)
    - Nuove tecnologie valvolari aortiche e mitraliche.
    - Chirurgia valvolare mini-invasiva e coronarica ibrida
    - Ricerca cardiovascolare clinica e di base.
    - Supervisione formazione Medici Capoclinica e Assistenti in formazione.
- Ospedale Cantonale di Sion, Svizzera 2011-2014  
 Responsabile di unità semplice di Cardiocirurgia.
    - Gestione e organizzazione reparto e sala operatoria.
    - Chirurgia mini-invasiva.
    - Formazione Medici Capoclinica e Assistenti in formazione.
- Ospedale Catharina di Eindhoven, Olanda 2001-2003  
 Assistente in Cardiocirurgia
- Ospedale Universitario di Padova, Italia 1998-2001  
 Specializzando in formazione in Cardiocirurgia

## Esperienza chirurgica

Più di 4000 interventi di chirurgia cardiaca valvolare, coronarica e vascolare eseguiti dal 2000 al 2022. Esperienza avanzata in chirurgia coronarica con condotti arteriosi, chirurgia valvolare aortica e mitralica mini-invasiva e sostituzione valvolare aortica con tecnica transcateretere (TAVI). Leader nello sviluppo e impegno di tecnologie valvolari innovative quali valvole ad impianto rapido e valvole sutureless. Esperienza avanzata in tecniche di impianto di endoprotesi aortiche toraciche (TEVAR).

## Ricerca cardiovascolare

- 2010-2011. New transcatheter stent-valve applications: the transapical approach for minimal invasive mitral procedure (FNS grant application).
- 2011-2013. Clinical and basic science investigations on transapical TAVR and new transcatheter mitral devices.

- 2013-2014. Long-term durability of biological heart valves with the Edwards Perimount valve (FU 1990 to 2013).
- 2013-2015. Mid-term results of rapid-deployment aortic bioprosthesis (INTUITY valve, Edwards Lifesciences) – grant from Industry
- 2013-2014. Apical closure device. Feasibility tests. Development of the device in partnership with industry – grant from industry.
- 2013-2015. TF vs TA TAVR procedures at University of Lausanne, Switzerland. Retrospective clinical study.
- 2014-2016. Use of 3D printers to assess transcatheter valve size during planned TAVR procedures.
- 2014-2016. Transcatheter aortic root procedure. Bench tests with 3D printed aortic root models.
- 2014-2016. Apical closure device. Stress tests in a minimally invasive animal setting. Partnership with industry – grant from industry.
- 2015-2017. Long-term durability of Edwards Perimount mitral bioprosthesis (FU 2000-2015).
- 2016-2017. New surgical technique: annulus stabilization technique for rapid-deployment aortic valve implantation (FU 2015-2019)
- 2017-2018. Apical closure device. Tests in animals in a full-percutaneous setting at University of Zurich, Switzerland. Partnership with industry.
- 2016-2017. Apical closure device for TA-TAVR. Long-term tests in animals (full-percutaneous). Partnership with industry.
- 2016-2019. DuraGraft solution for preserving vascular grafts in CABG. Multicentre clinical registry. PI for site.
- 2016-2019. Long-term follow-up of BIMA grafts for CABG (FU 2001-2016).
- 2017-2018. Long-term follow-up and valve performance of Perimount Magna vs Hancock-II aortic valve replacement (FU 2000-2016).
- 2017-2019. Development of a new concept for transcatheter aortic root replacement (TARR technique). Swiss Grant from SHF (90000 chf).
- 2019-2020. Research on exosomes expression in cardiac surgery patients developing postoperative vasoplegia.
- 2018-2019. Research on spontaneous apoptosis in vein samples for CABG protected with saline, autologous blood or Duragraft storage solution.
- 2019-2021. Computational model analysis of coronary blood flow through the TARR technology. Partnership with University of Pavia.
- 2019-2020. Self-expanding bidirectional flow cannula for percutaneous ECMO treatment in cardiogenic shock.
- 2020-2021. hemodynamic assessment of TARR technology in a pulsatile bench test model.

### **Attività editoriale scientifica**

- Editore associato European Journal of Cardio-thoracic Surgery (EJCTS) dal 2017
- Editore del Core Skills domain (Multimedia Manual of Cardio-Thoracic Surgery) since 2022
- Editore associato Interactive Cardiovascular and Thoracic Surgery (ICVTS) 2013-2017
- Editore assistente European Journal of Cardio-thoracic Surgery (EJCTS) 2007-2013
- Editore assistente Interactive Cardiovascular and Thoracic Surgery (ICVTS) 2010-2013

- Editorial Board Multimedia Manual of Cardio-Thoracic Surgery 2014-2017
- Editorial Board member Journal of Visualized Surgery since 2015
- Editorial Board member Journal of Clinical Cardiology and Cardiac Therapy since 2016
- Editorial Board member GSL Journal of Cardiovascular Diseases since 2017
- Editorial Board member Annals of Cardiovascular Surgery since 2017
- Editorial Board member Journal of Cardiology Research since 2018
- Editorial Board member Journal of Integrative Cardiology since 2016
- Editorial Board member Journal of Cardiology and Cardiovascular Medicine since 2021
- Editorial Board member Journal of Cardiovascular Development and Disease since 2022

## Conoscenze linguistiche

- **Italiano e Francese:** madrelingua
- **Inglese:** fluente
- **Tedesco e Spagnolo:** Basico

## 182 pubblicazioni scientifiche (2015-2023)

### 2015

87) **Ferrari E**, Locca D, Berdajs D, Marcucci C, Gronchi F, Lavanchy J, Prêtre R, Tozzi P  
Use of a VSD occluder for apical closure in transapical aortic valve replacement.  
Innovations. 2015;10:68-70  
**PMID: 25621876**

88) Li L, Abdel-Sayed S, Berdajs S, **Ferrari E**, von Segesser LK.  
Venous cannula performance assessment in a realistic caval tree model  
Eur J Cardiothorac Surg. 2015;20:194-199  
**PMID: 25368132**

89) **Ferrari E**, von Segesser LK, Berdajs D.  
Improving coronary artery bypass graft durability: use of the external saphenous vein graft support.  
Multimed Man Cardiothorac Surg. 2015. Pii: mmv005. Doi: 10.1093/mmcts/mmv005.  
**PMID: 25976117**

90) **Ferrari E**, Siniscalchi G, Tozzi P, von Segesser LK.  
Aortic annulus stabilization technique for rapid deployment aortic valve replacement.  
Innovations. 2015;10:360-362  
**PMID: 26575385**

91) **Ferrari E**, Berdajs D, Tozzi P, Siniscalchi G, von Segesser LK.  
Apical closure device for transapical valve procedures.  
Interact Cardiovasc Thorac Surg. 2015;21:561-564  
**PMID: 26265071**

92) Fournier S, Monney P, **Ferrari E**, Lglesias JF, Roguelov C, Zuffi A, Eeckhout E, Muller O.

Transcatheter aortic valve implantation: update on indications.

Rev Med Suisse. 2015;11:1197-1200

PMID: 26182639

94) Binder RK, Stortecky S, Heg D, Tueller D, Jeger R, Toggweiler S, Pedrazzini G, Amann FW, **Ferrari E**, Noble S, Nietlispach F, Maisano F, Räber L, Roffi M, Grünenfelder J, Jüni P, Huber C, Windecker S, Wenaweser P.

Procedural Results and Clinical Outcomes of Transcatheter Aortic Valve Implantation in Switzerland: An Observational Cohort Study of Sapien 3 Versus Sapien XT Transcatheter Heart Valves.

Circ Cardiovasc Interv. 2015 Oct;8(10). pii: e002653. doi:

10.1161/CIRCINTERVENTIONS.115.002653

PMID: 26453687

95) Samim D, Tozzi P, **Ferrari E**

Surgical outcome after isolated on-pump and off-pump anterior descending coronary revascularization.

Swiss Med Wkly. 2015;145:w14239. doi:10.4414/smw.2015.14239.

PMID: 26709551

## 2016

96) Berdajs D, Mosbahi S, Forro Z, Gerber C, **Ferrari E**, Charbonnier D, von Segesser LK.

Numerical analysis of the aortic root 3-dimensional aortic root morphology during the cardiac cycle.

Eur J Cardiothorac Surg. 2016;49:1213-1221

PMID: 26354961

97) **Ferrari E**

Apical access and closure devices for transapical transcatheter heart valve procedures.

Swiss Med Wkly 2016.22;146:w14237. doi: 10.4414/smw.2016.14237.

PMID: 26900765

98) Gallo M, Dvir D, Demertzis S, Pedrazzini G, Berdajs D, **Ferrari E**

Transcatheter valve-in-valve implantation for degenerated bioprosthetic aortic and mitral valves.

Expert Rev Med Devices. 2016;13:749-758

PMID: 27359372

99) **Ferrari E**, Muller O, Demertzis S, Moccetti M, Moccetti T, Pedrazzini G, Eeckhout E.

Transaortic transcatheter aortic valve replacement through a right mini-thoracotomy with balloon-expandable Sapien<sup>TM</sup> 3 valve.

Multimed Man Cardiothorac Surg. 2016 Jul 8;2016. pii: mmw011. doi: 10.1093/mmcts/mmw011

PMID: 27401072

100) **Ferrari E**, Dvir D, Guerrero M

Transatheter mitral valve replacement in degenerated calcified native mitral valves: is the currently available technology suitable?

Eur J Cardiothorac Surg. 2016;50:391-395

PMID: 27247377

101) Guerrero M, Dvir D, Himbert D, Urena M, Eleid M, Wang DD, Greenbaum A, Mahadevan VS, Holzhey D, O'Hair D, Dumonteil N, Rodes-Cabau J, Piazza N, Palma JH, DeLago A, **Ferrari E**, Witkowski A, Wendler O, Kornowski R, Martinez-Clark P, Ciaburri D, Shemin R, Alnasser S, McAllister D, Bena M, Kerendi F, Pavlides G, Sobrinho JJ, Attizzani GM, George I, Nickenig G, Fassa AA, Cribier A, Bapat V, Feldman T, Rihal C, Vahanian A, Webb J, O'Neill W.

Transcatheter mitral valve replacement in native mitral valve disease with severe mitral annular calcification: results from the first multicenter global registry.  
JACC Cardiovasc Interv. 2016;9:1361-1371

PMID: 27388824

102) von Segesser L, Marinakis S, Berdajs D, **Ferrari E**, Wilhelm M, Maisano F  
Prevention and therapy of leg ischaemia in extracorporeal life support and extracorporeal membrane oxygenation with peripheral cannulation.  
Swiss Med Wkly. 2016.146:w14304. doi: 10.4414/smw.2016.14304

PMID: 27153458

103) von Segesser LK, Berdajs D, Abdel-Sayed S, Tozzi P, **Ferrari E**, Maisano F  
New, Virtually Wall-less Cannulas Designed for Augmented Venous Drainage in Minimally Invasive Cardiac Surgery.  
Innovations. 2016;11:278-281

PMID: 27561178

105) Pilgrim T, Stortecky S, Nietlispach F, Heg D, Tueller D, Toggweiler S, **Ferrari E**, Noble S, Maisano F, Jeger R, Roffi M, Grünenfelder J, Huber C, Wenaweser P, Windecker S.  
Repositionable Versus Balloon-Expandable Devices for Transcatheter Aortic Valve Implantation in Patients With Aortic Stenosis.  
J Am Heart Assoc. 2016 Nov 17;5(11). pii: e004088

PMID: 27856487

106) Putzu A, Capelli B, Belletti A, Cassina T, **Ferrari E**, Gallo M, Casso G, Landoni G.  
Perioperative statin therapy in cardiac surgery: a meta-analysis of randomized controlled trials.  
Critical Care 2016;20:395

PMID: 27919293

## 2017

107) Franciosi G, Trunfio R, **Ferrari E**, Demertzis S.  
Yacoub procedure to treat giant pulmonary artery aneurysm.  
Eur Heart J. 2017;38:3393-3394

PMID: 27694192

108) **Ferrari E**, Franciosi G, Clivio S, Faletra F, Moccetti M, Moccetti T, Pedrazzini G, Demertzis S.  
Stent valve implantation in conventional redo aortic valve surgery to prevent patient-prosthesis mismatch.  
Interact Cardiovasc Thorac Surg. 2017;24:319-323

PMID: 28040758

109) Tozzi P, Hayoz D, Antona C, Fiore GB, Siniscalchi G, **Ferrari E**, Baeriswyl G, Vismara R.  
Mastering mitral leaflets coaptation after valve repair with adjustable annuloplasty ring: prove of concept in mock loop study.  
ASAIO J. 2017;63:168-173

PMID: 27861426

110) Noble S, Stortecky S, Heg D, Tuller D, Jeger R, Toggweiler S, **Ferrari E**, Nietlispach F, Taramasso M, Maisano F, Grünenfelder J, Jüni P, Huber C, Carrel T, Windecker S, Wenaweser P, Roffi M.  
Comparison of procedural and clinical outcomes with Evolut R versus Medtronic CoreValve: a Swiss

TAVI registry analysis.  
EuroIntervention. 2017;12:e2170-e2176  
PMID: 28067197

111) **Ferrari E**, Demertzis S, Angelella J, Berdajs D, Tozzi P, Moccetti T, Maisano F, von Segesser LK.  
Apical closure device for full-percutaneous transapical valve implantation: stress-test in an animal model.  
Interact Cardiovasc Thorac Surg. 2017;24:721-726  
PMID: 28329078

112) Gallo M, Demertzis S, Gerosa G, **Ferrari E**.  
Leaflet ipomobility after transcatheter aortic valve replacement: thrombosis or mechanical factors? A possible pathophysiologic pattern.  
J Heart Valve Dis. 2017;26:9-11  
PMID: 28544825

113) Berdajs D, Mosbahi S, **Ferrari E**, Charbonnier D, von Segesser LK.  
Aortic valve pathology as predictive factor for acute aortic dissection.  
Ann Thorac Surg. 2017;104:1340-1348  
PMID: 28587739

114) Caporali E, Pedrazzini G, Demertzis S, **Ferrari E**.  
Transcatheter aortic valve implantation for recurrent Valsalva sinus re-dissection and severe aortic regurgitation shortly after surgery for type-A aortic dissection.  
Interact Cardiovasc Thorac Surg. 2017;25:839-841  
PMID: 28535198

115) **Ferrari E**, Roduit C, Salamin P, Caporali E, Demertzis S, Tozzi P, Berdajs D, von Segesser LK.  
Rapid-deployment aortic valve replacement vs standard bioprosthesis implantation.  
J Card Surg. 2017;32:322-327  
PMID: 28493342

116) Putzu A, Gallo M, Martino EA, **Ferrari E**, Pedrazzini G, Moccetti T, Landoni G, Cassina T.  
Coronary artery bypass graft surgery versus percutaneous coronary intervention with drug-eluting stents for left main coronary artery disease: a meta-analysis of randomized trials.  
Int J Cardiol. 2017;241:142-148  
PMID: 28438354

117) **Ferrari E**, Eeckhout E, Keller S, Muller O, Tozzi P, Berdajs D, von Segesser LK.  
Transfemoral versus transapical approach for transcatheter aortic valve implantation: hospital outcome and risk factor analysis.  
J Cardiothorac Surg. 2017;12:78  
PMID: 28874169

118) Fournier S, Monney P, Roguelov C, **Ferrari E**, Eeckhout E, Muller O, Durko A, Van Mieghem NM, Kappetein AP, Margey R.  
How should I treat an Edwards SAPIEN 3 aortic valve embolisation during a transaortic transcatheter aortic valve implantation?  
EuroIntervention. 2017;13:495-498  
PMID: 28735254

119) Pedrazzini GB, **Ferrari E**, Zellweger M, Genoni M.  
Heart-Team: joint position of the Swiss society of cardiology and the Swiss society of cardiac surgery.  
Thorac Cardiovasc Surg. 2017; 65:519-523

PMID: 28922674

120) Yoon SH, Schmidt T, Bleiziffer S, Schofer N, Fiorina C, Munoz-Garcia AJ, Yzeiraj E, Amat-Santos IJ, Tchetché D, Jung C, Fujita B, Mangieri A, Deutsch MA, Ubben T, Deuschl F, Kuwata S, De Biase C, Williams T, Dhoble A, Kim WK, **Ferrari E**, Barbanti M, Vollema EM, Miceli A, Giannini C, Attizzani GF, Kong WKF, Gutierrez-Ibanes E, Jimenez Diaz VA, Wijeyesundera HC, Kaneko H, Chakravarty T, Makar M, Sievert H, Hengstenberg C, Prendergast BD, Vincent F, Abdel-Wahab M, Nombela-Franco L, Silaschi M, Tarantini G, Butter C, Ensminger SM, Hildick-Smith D, Petronio AS, Yin WH, De Marco F, Testa L, Van Mieghem NM, Whisenant BK, Kuck KH, Colombo A, Kar S, Moris C, Delgado V, Maisano F, Nietlispach F, Mack MJ, Schofer J, Schaefer U, Bax JJ, Freker C, Latib A, Makkar RR.

Transcatheter aortic valve replacement in pure native aortic valve regurgitation.

J Am Coll Cardiol. 2017;70:2752-2763.

PMID: 29191323

121) Pilgrim T, Franzone A, Stortecky S, Nietlispach F, Haynes AG, Tueller D, Toggweiler S, Müller O, **Ferrari E**, Noble S, Maisano F, Jeger R, Roffi M, Grünenfelder J, Huber C, Wenaweser P, Windecker S.

Predicting mortality after transcatheter aortic valve replacement: external validation of the transcatheter valve therapy registry model.

Circ Cardiovasc Interv. 2017 Nov;10(11). pii: e005481. doi: 10.1161/CIRCINTERVENTIONS.117.005481.

PMID: 29127116

## 2018

122) Wang C, Regar E, Lachat M, von Segesser LK, Maisano F, **Ferrari E**.

Endovascular treatment of non-dissected ascending aorta disease: a systematic review.

Eur J Cardiothorac Surg. 2018;53:317-324

PMID: 28958041

123) Gallo M, Putzu A, Conti M, Pedrazzini G, Demertzis S, **Ferrari E**.

Embolic protection devices for transcatheter aortic valve replacement.

Eur J Cardiothorac Surg. 2018;53:1118-1126

PMID: 29253108

124) Wang C, Lachat M, Regar E, von Segesser LK, Maisano F, **Ferrari E**.

Suitability of the porcine aortic model for transcatheter aortic root repair.

Interact Cardiovasc Thorac Surg. 2018;26:1002-1008

PMID: 29415164

125) **Ferrari E**, Biasco L, Faletra F, Banai S, Cheung A, Moccetti M, Pedrazzini G, Demertzis S, Moccetti T.

Tiara valve implantation in a patient with previously implanted mono-disk mechanical aortic prosthesis.  
Semin Thorac Cardiovasc Surg. 2018;30:160-163

PMID: 29518534

126) **Ferrari E**, Caporali E, Pedrazzini G, Demertzis S.

Trans-carotid access for TAVR allows safe and rapid exchange for bailout valve-in-valve procedures.

J Card Surg. 2018;33:4-6

PMID: 29377318

127) Tozzi P, Siniscalchi G, **Ferrari E**, Kirsch M, Hayoz D.  
Percutaneous increase of mitral leaflet coaptation length after mitral valve repair: results from a preclinical study.

Interact Cardiovasc Thorac Surg. 2018;26:681-686

PMID: 29244156

128) Bleiziffer S, Erlebach M, Simonato M, Pibarot P, Webb J, Capek L, Windecker S, George I, Sinning JM, Horlick E, Napodano M, Holzhey DM, Petursson P, Cerillo A, Bonaros N, **Ferrari E**, Cohen MG, Baquero G, Jones TL, Kalra A, Reardon MJ, Chhatriwalla A, Gama-Ribeiro V, Alnasser S, Van Mieghem NM, Rustenbach CJ, Schofer J, Garcia S, Zeus T, Champagnac D, Bekerredjian R, Kornowski R, Lange R, Dvir D.

Incidence, Predictors and Clinical Outcomes of Residual Stenosis after Aortic Valve-in-Valve.  
Heart. 2018;104:828-834

PMID: 29352008

129) Berdajs D, Mosbahi S, Charbonnier D, **Ferrari E**, von Segesser LK.  
Impact of the bicuspid aortic valve on aortic root hemodynamics: three-dimensional computed fluid dynamics simulation.

Interact Cardiovasc Thorac Surg. 2018;27:446-454

PMID: 29579303

130) Putzu A, **Ferrari E**, Gallo M, Cassina T, Landoni G.  
Randomized Evidence on Perioperative Statin Therapy in Cardiac Surgery.

Ann Thorac Surg. 2018;105:665-666

PMID: 29362180

131) **Ferrari E**, von Segesser LK, Berdajs D, Muller L, Halbe M, Maisano F.  
Clinical experience in minimally invasive cardiac surgery with virtually wall-less venous cannulas.  
Innovations. 2018;13:104-107

PMID: 29677020

132) Berdajs D, Mosbahi S, Eckstein F, Reuthebuch O, Grapow M, **Ferrari E**, von Segesser LK.  
Impact of aortic root annuloplasty on 3D aortic root geometry.

J Surg Res. 2018;225:45-53

PMID: 29605034

133) Von Segesser LK, Berdajs D, Abdel-Sayed S, **Ferrari E**, Halbe M, Wilhelm M, Maisano F.  
New, optimized, dual lumen cannula for veno-venous ECMO

Perfusion. 2018;33:18-23

PMID: 29788840

134) Guerrero M, Urena M, Himbert D, Wang DD, Eleid M, Kodali S, George I, Chakravarty T, Mathur M, Holzhey D, Pershad A, Fang HK, O'Hair D, Jones N, Mahadevan VS, Dumonteil N, Rodés-Cabau J, Piazza N, **Ferrari E**, Ciaburri D, Nejjari M, DeLago A, Sorajja P, Zahr F, Rajagopal V, Whisenant B, Shah PB, Sinning JM, Witkowski A, Eltchaninoff H, Dvir D, Martin B, Attizzani GF, Gaia D, Nunes NSV, Fassa AA, Kerendi F, Pavlides G, Iyer V, Kaddissi G, Witzke C, Wudel J, Mishkel G, Raybuck B, Wang C, Waksman R, Palacios I, Cribier A, Webb J, Bapat V, Reisman M, Makkar R, Leon M, Rihal C, Vahanian A, O'Neill W, Feldman T.

1-Year Outcomes of Transcatheter Mitral Valve Replacement in Patients with Severe Mitral Annular Calcification.

J Am Coll Cardiol. 2018;71:1841-1853

PMID: 29699609

135) Wahlers TCW, Andreas M, Rahmanian P, Candolfi P, Zemanova B, Giot C, **Ferrari E**, Laufer G. Outcomes of a rapid deployment aortic valve versus its conventional counterpart: a propensity-matched analysis.

Innovations 2018;13:177-183

PMID: 29912142

136) Putzu A, Gallo M, **Ferrari E**, Cassina T, Landoni G.

Statin Therapy before Cardiac Surgery: Neutral or Detrimental Effects?

Anesthesiology. 2018;128:685-686

PMID: 29438254

137) Caporali E, Van Den Berg JC, **Ferrari E**.

Endovascular treatment of complex aortic injuries 40 years after surgery for aortic coarctation.

J Vasc Surg Cases Innov Tech. 2018;4:181

PMID: 29942917

138) Cheung A, Webb J, Schaefer U, Moss R, Deuschl F, Conradi L, Denti P, Latib A, Kiaii B, Bagur R, **Ferrari E**, Moccetti M, Biasco L, Blanke P, Ben-Gal Y, Banai S.

Transcatheter mitral valve replacement in patients with previous aortic valve replacement.

Circ Cardiovasc Interv. 2018; 11(10):e006412. doi: 10.1161/CIRCINTERVENTIONS.118.006412

PMID: 30354628

139) Biasco L, Pedrazzini G, De Backer O, Klersy C, Bellesi L, Presilla S, Badini M, Faletra F, Pasotti E, **Ferrari E**, Demertzis S, Moccetti T, Aviano D, Moccetti M.

Radiological exposure of patients undergoing transcatheter aortic valve implantation in contemporary practice.

J Cardiovasc Med. 2018;19:579-585

PMID: 30045085

140) Biasco L, **Ferrari E**, Pedrazzini G, Faletra F, Moccetti T, Petracca F, Moccetti M.

Access sites for TAVI: patient selection criteria, technical aspects, and outcomes.

Front. Cardiovasc Med. 2018;5:88

PMID: 30065928

141) Torre T, Leo LA, Demertzis S, **Ferrari E**.

Giant Left Coronary Artery Aneurysms and Concomitant Coronary Disease.

Ann Cardiovasc Surg. 2018;1:1005

142) Gallo M, Demertzis S, Torre T, **Ferrari E**.

Direct surgical transcatheter heart valve implantation in a calcified mitral valve.

Multimed Man Cardiothorac Surg. 2018;2018. doi: 10.1510/mmcts.2018.053.

PMID: 30285323

## 2019

143) **Ferrari E**, Piazza G, Scoglio M, Berdajs D, Tozzi P, Maisano F, von Segesser LK.

Suitability of 3D-printed root models for the development of transcatheter aortic root repair

technologies.

ASAIO J. 2019;65:874-881

PMID: 30325848

144) Conti M, Vandenberghe S, Marconi S, **Ferrari E**, Romarowski RM, Morganti S, Auricchio F, Demertzis S.

Reversed auxiliary flow to reduce embolism risk during TAVI: a computational simulation and experimental study.

Cardiovasc Eng Technol. 2019;10:124-135

PMID: 30341729

145) Mosbahi S, Stak D, Gravestock I, Burgstaller JM, Steurer J, Eckstein F, **Ferrari E**, Berdajs DA.

A systemic review and meta-analysis: Bentall versus David procedure in acute type A aortic dissection.

Eur J Cardiothorac Surg. 2019;55:201-209

PMID: 30084969

146) Stortecky S, Franzone A, Heg D, Tueller D, Noble S, Jeger R, Toggweiler S, **Ferrari E**, Nietlispach F, Taramasso M, Maisano F, Grünenfelder J, Muller O, Huber C, Roffi M, Carrel T, Wenaweser P, Windecker S.

Temporal trends in adoption and outcomes of transcatheter aortic valve implantation: a SwissTAVI Registry analysis.

Eur Heart J Qual Care Clin Outcomes. 2019;5:242-251

PMID: 30304513

147) **Ferrari E**, Stortecky S, Heg D, Muller O, Nietlispach F, Tueller D, Toggweiler S, Noble S, Maisano F, Roffi M, Jeger R, Grünenfelder J, Huber C, Windecker S, Wenaweser P.

The hospital results and 1-year outcomes of transcatheter aortic valve-in-valve procedures and transcatheter aortic valve implantations in native valves: results from the Swiss-TAVI Registry.

Eur J Cardiothorac Surg. 2019;56:55-63

PMID: 30689870

148) Hong N, Lu Y, Hu H, Sun J, Sun K, von Segesser LK, Berdajs D, Chen S, **Ferrari E**.

Self-expanding apical closure device for full-percutaneous closed-chest transapical valve procedures with large-sized introducer sheaths: first study in an animal model.

Interact Cardiovasc Thorac Surg. 2019;29:793-799

PMID: 31369123

149) Caporali E, Bonato R, Klersy C, **Ferrari E**.

Hemodynamic performance and clinical outcome of pericardial Perimount Magna and porcine Hancock II valves in aortic position.

J Card Surg. 2019;34:1055-1061

PMID: 31389647

150) **Ferrari E**, Gallo M, Wang C, Zhang L, Taramasso M, Maisano F, Pirelli L, Berdajs D, von Segesser LK.

Three-dimensional printing in adult cardiovascular medicine for surgical and transcatheter procedural planning, teaching and technological innovation.

Interact Cardiovasc Thorac Surg. 2019;30:203-214

PMID: 31633170

151) Abdel-Sayed S, Abdel-Sayed P, Berdajs D, **Ferrari E**, Halbe M, von Segesser LK, Maisano F. Effect of blood viscosity on the performance of virtually wall-less venous cannulas.

Perfusion. 2020;35:393-396

PMID: 31696777

152) Cioffi, Paiocchi VL, Leo LA, **Ferrari E**, Faletra FF.

Capillary Hemangioma of the left ventricle.

J Cardiovasc Echogr. 2019;29:126-128

PMID: 31728304

153) Abdel-Sayed S, **Ferrari E**, Abdel-Sayed P, Wilhelm M, Halbe M, von Segesser LK, Maisano F, Berdajs D.

New bidirectional arterial perfusion device.

Int J Artif Organs. 2020;43:433-436

PMID: 32031047

## 2020

154) **Ferrari E**, Scoglio M, Piazza G, Maisano F, von Segesser LK, Berdajs D.

Transcatheter aortic root replacement with chimney grafts for coronary perfusion: a preliminary test in a three-dimensional-printed root model.

Interact Cardiovasc Thorac Surg. 2020;31:121-128

PMID: 32303058

155) Biasco L, Cerrato E, Tersalvi G, Pedrazzini G, Wilkins B, Faletra F, **Ferrari E**, Demertzis S, Senatore G, Di Leo A, Varbella F, De Backer O, Nombela Franco L.

Worldwide survey on clinical and anatomical factors driving the choice of transcatheter aortic valve prostheses.

Frontiers in Cardiovascular Medicine. 2020;7:38

PMID: 32266292

156) Berdajs D, von Segesser, Maisano F, Milano G, **Ferrari E**.

Performance characteristics of the new Eurosets magnetically suspended centrifugal pump.

Perfusion. 2021;36:183-189

PMID: 32567504

157) **Ferrari E**, Wang C, Berdajs D, von Segesser LK.

Chimney grafts in renal arteries: a clinical model for coronary perfusion in future transcatheter aortic root repair technique.

J Cardiothorac Surg. 2020;15:132

PMID: 32517779

158) Stortecky S, Heg D, Tueller D, Pilgrim T, Muller O, Noble S, Jeger R, Toggweiler S, **Ferrari E**, Taramasso M, Maisano F, Hoeller R, Wenaweser P, Nietlispach F, Widmer A, Huber C, Roffi M, Carrel T, Windecker S, Conen A.

Infective endocarditis after transcatheter aortic valve replacement: a nationwide cohort-study.

JACC. 2020;75:3020-3030

PMID: 32553254

159) Wang C, von Segesser LK, Maisano F, **Ferrari E**.

Catheter-based treatment of the dissected ascending aorta: a systematic review.

Eur J Cardiothorac Surg. 2020;59:80-91

PMID: 32893292

160) Lu H, Fournier S, Namasivayam J, Roguelov C, **Ferrari E**, Eechkout E, Monney P, Tozzi P, Marcucci P, Muller O, Kirsch M.

Transapical approach versus transcervical approach for transcatheter aortic valve replacement: a retrospective monocentric study.

Interact Cardiovasc Thorac Surg. 2020;31:781-788

PMID: 33051655

161) Schmiady MO, Hofmann M, Halbe M, Tilburg K, Aser R, Mestres CA, Maisano F, **Ferrari E**.  
Initiation of an inter-hospital ECMO transfer program for critically ill patients with coronavirus disease 2019: bringing ECMO support to peripheral hospitals.

Interact Cardiovasc Thorac Surg. 2021;32:812-816

PMID: 33647975

162) Kawashima H, Pompilio G, Andreini D, Bartorelli AL, Mushtaq S, **Ferrari E**, Maisano F, Buechel RR, Tanaka K, La Meir M, de Mey J, Schneider U, Doenst T, Teichgräber U, Stone GW, Sharif F, de Winter RJ, Thomsen B, Taylor C, Rogers C, Leipsic J, Wijns W, Onuma Y, Serruys PW.

Safety and Feasibility Evaluation of Planning and Execution of Surgical Revascularization Solely Based on Coronary CTA and FFRCT in Patients with Complex Coronary Artery Disease: Study Protocol of the FASTTRACK CABG Study.

BMJ. 2020;10:e038152. doi: 10.1136/bmjopen-2020-038152

PMID: 33303435

163) Tagliari AP, Saadi RP, **Ferrari E**, Taramasso M, Saadi EK.

The role of the axillary artery as a second access choice in TAVI procedures.

Braz J Cardiovasc Surg. 2021;36:237-243

PMID: 33355810

164) Conti M, Romarowski RM, Ferrarini A, Stochino M, Auricchio F, Morganti S, von Segesser LK, **Ferrari E**.

Patient-specific computational fluid dynamics analysis of transcatheter aortic root replacement with chimney coronary grafts.

Interact Cardiovasc Thorac Surg. 2021;32:408-416

PMID: 33351896

## 2021

165) Tagliari AP, **Ferrari E**, Haager PK, Schmiady MO, Vicentini L, Gavazzoni M, Gennari M, Jörg L, Khattab AA, Blöchlinger S, Maisano F, Taramasso M.

Feasibility and safety of cerebral embolic protection device insertion in bovine aortic arch anatomy.

J Clin Med. 2020;9:4118

PMID: 33419286

166) Franciosi G, **Ferrari E**, Torre T, Turchetto L, Demertzis S

The new cardiovascular tissue bank of Switzerland.

SMW. 2021;

167) Tagliari AP, Vicentini L, Zimmermann JM, Miura M, **Ferrari E**, Perez D, Haager PK, Jorg L, Maisano F, Taramasso M.

Transcatheter aortic valve neo-commissure alignment with the Portico system.

EuroIntervention. 2021;17:e152-e155

PMID: 33342763

- 168) Torre T, Toto F, Klersy C, Theologou T, Casso G, Gallo M, Surace G, Franciosi G, Cassina T, Demertzis S, **Ferrari E**  
Early predictors of mortality in refractory cardiogenic shock following acute coronary syndrome treated with extracorporeal membrane oxygenator.  
J Artif Organs. 2021;24:327-335  
**PMID: 33677800**
- 169) Tozzi P, Solida A, Siniscalchi G, **Ferrari E**  
A Heart Surgery Simulator with an Integrated Supervision System for Self-Learning the Key Steps and Pitfalls of the Mitral Valve Repair: Initial Investigation.  
Simul Healthc. 2021; Jul 2. doi: 10.1097/SIH.0000000000000590.  
**PMID: 34225333**
- 170) Attinger-Toller A\*, **Ferrari E\***, Tueller D, Templin C, Muller O, Nietlispach F, Toggweiler S, Noble S, Roffi M, Jeger R, Huber C, Carrel T, Pilgrim T, Wenaweser P, Togni M, Cook S, Heg D, Windecker S, Goy JJ, Stortecky S.  
Age-related outcomes after transcatheter aortic valve replacement: insights from the SwissTAVI Registry.  
JACC Cardiovasc Interv. 2021;14:952-960  
\*= **equal contribution as first author**  
**PMID: 33865734**
- 171) Pozzoli A, Taramasso M, Vicentini L, Gavazzoni M, Miuri M, Russo G, Gulmez G, **Ferrari E**, Sromicki J, Balkiva J, Riva M, Zuber M, Maisano F.  
Transcatheter Tricuspid Valve Replacement.  
Operative Techniques in Thoracic and Cardiovascular Surgery. 2021;https://doi.org/10.1053/j.optechstcvs.2021.06.003
- 172) Tagliari AP, Perez-Camargo D, **Ferrari E**, Haager PK, Jörg L, Gennari M, Chen M, Gavazzoni M, Khattab AA, Blöchlinger S, Maisano F, Taramasso M.  
Pre-operative Continued Oral Anticoagulation impact on early outcomes after Transcatheter Aortic Valve Implantation  
Am J Cardiol. 2021;149:67-71  
**PMID: 33757781**
- 173) Wang C, von Segesser LK, Berdajs D, **Ferrari E**.  
Endovascular treatment of the dissected proximal aortic arch: a systematic review.  
Interact Cardiovasc Thorac Surg. 2021;33:746-754  
**PMID: 34056647**
- 174) Paiocchi VL, Faletta FF, **Ferrari E**, Schlossbauer S, Leo AL, Maisano F.  
Multimodality imaging of the Anatomy of the aortic root. Physiological, pathological, surgical and interventional implications  
J Cardiovasc Dev Dis. 2021;8:51  
**PMID: 34064421**
- 175) Gallo M, Sá MPBO, Doulamis IP, Hussein N, Laforgia PL, Kampaktsis PN, Tagliari AP, **Ferrari E**.  
Transcatheter valve-in-valve implantation for degenerated bioprosthetic aortic and mitral valves – an update on indications, techniques and clinical results.  
Expert Rev Med Devices. 2021;18:597-608.  
**PMID: 34080501**

176) Abdel-Sayed S, **Ferrari E**, Abdel-Sayed P, Wilhelm M, von Segesser LK, Berdajs D.  
Design optimization of bidirectional arterial perfusion cannula.  
J Cardiothorac Surg. 2021;16:114

PMID: 33902666

177) Tozzi P, **Ferrari E**, Reuthebuch O, Matt P, Huber C, Eckstein F, Kirsch M, Mestres CA  
Humanoids for teaching and training coronary artery bypass surgery to the next generation cardiac  
surgeons.

Interact Cardiovasc Thorac Surg. 2021 Oct 12:ivab260. doi: 10.1093/icvts/ivab260.

PMID: 34647125

178) Gallo M, Nai Fovino L, Blitzer D, Doulamis IP, Guariento A, Salvador L, Tagliari AP, **Ferrari E**.  
Transcatheter aortic valve replacement for structural degeneration of previously implanted transcatheter  
heart valves (TAVR-in-TAVR): a systematic review.

Eur J Cardiothorac Surg. 2021 Oct 18:ezab443. doi: 10.1093/ejcts/ezab443.

PMID: accepted

179) Schlossbauer S, Faletta F, Paiocchi V, Leo LA, Franciosi G, Bonanni M, Angelini G, Pavon A,  
**Ferrari E**, Ho S, Hahn R.

Multimodality imaging of the anatomy of tricuspid valve.

J Cardiovasc Dev Dis. 2021;8:107

PMID: 34564125

180) Caporali E, Lorusso R, Torre T, Toto F, Pozzoli A, Pedrazzini G, Demertzis S, **Ferrari E**.

The aortic annulus stabilization technique prevents paravalvular leaks after rapid deployment aortic  
valve implantation.

J Clin Med.2022;10:5775

PMID: 34945072

## 2022

181) Toto F, Torre T, Turchetto L, Lo Cicero V, Soncin S, Klersy C, Demertzis S, **Ferrari E**.

Efficacy of Intraoperative Vein Graft Storage Solutions in Preserving Endothelial Cell Integrity during  
Coronary Artery Bypass Surgery.

J Clin Med.2022;11:1093. doi: 10.3390/jcm11041093

PMID: 35207364

182) **Ferrari E**, Pozzoli A, Maisano F, von Segesser LK.

Apical Closure Device for Full-Percutaneous Closed-Chest Transapical Valve Procedures with Large-  
Sized Introducer Sheaths: A Pre-Clinical Study.

J Card Surg. 2022;37:1877-1884

PMID: 35249236

183) Theologou T, Clivio S, Younes A, Demertzis S, **Ferrari E**.

The use of balloon expandable Sapien-3 valve in redo aortic valve replacement and the potential risk of  
left main stem occlusion.

J Card Surg. 2022;37:1740-1742

PMID: 35362212

184) Pozzoli A, Torre T, Toto F, Theologou T, **Ferrari E**, Demertzis S.

Percutaneous Venous Cannulation For Minimally Invasive Cardiac Surgery: The Safest And Effective

Technique Described Step-By-Step.

Front Surg. 2022;9:828772

PMID: 35392055

185) Burrello J, Caporali E, Grazioli L, Pianezzi E, Balbi C, Rigamonti E, Bolis S, Lazzarini E, Biemmi V, Burrello A, Frigerio R, Martinetti G, Fusi-Schmidhauser T, Vassalli G, **Ferrari E**, Moccetti T, Gori A, Cretich M, Melli G, Monticone S, Barile L.

Risk stratification of patients with SARS-CoV-2 by tissue factor expression in circulating extracellular vesicles.

Vascul Pharmacol. 2022 Aug;145:106999. doi: 10.1016/j.vph.2022.106999

PMID: 35597450

186) Bottio T, Piperata A, Guariento A, Lorenzoni G, Cavicchiolo AG, Gemelli M, Pesce R, Evangelista G, Michelotti S, Gastino E, Gregori D, **Ferrari E**, Gerosa G,.

Standard Versus Rapid-Deployment Aortic Valve Replacement and Concomitant Myocardial Revascularization: 5-year Bi-Center Clinical Outcomes.

Eur J Cardiothorac Surg. 2022 Oct 4;62(5):ezac476. doi: 10.1093/ejcts/ezac476.

PMID: 36190347

187) Caliskan E, Misfeld M, Sandner S, Böning A, Aramendi J, Salzberg SP, Choi Y, Perrault LP, Tekin I, Cuerpo GP, Lopez-Menendez J, Weltert LP, Böhm J, Krane M, González-Santos JM, Tellez JC, Holubec T, **Ferrari E**, Emmert MY.

Clinical Event Rate in Patients with and Without Left Main Disease Undergoing Isolated CABG: Results from the Prospective European DuraGraft Registry.

Eur J Cardiothorac Surg. 2022 Sep 2;62(4):ezac403. doi: 10.1093/ejcts/ezac403

PMID: 35929787

188) Gavazzoni M, Zuber M, Taramasso M, Cascella A, Voci D, Pozzoli A, **Ferrari E**, Maisano F. Transesophageal Echocardiography for the Assessment of Left Atrial Pressure after Trans-Septal Mitral Valve Interventions.

Am J Cardiol. 2022;177:100-107

PMID: 35738912

189) Wang C, Pozzoli A, von Segesser LK, Berdajs D, Tozzi P, **Ferrari E**.

Management of Left Subclavian Artery in Type-B Aortic Dissection Treated With Thoracic Endovascular Aorta Repair.

J Vasc Surg. 2022 Oct 19:S0741-5214(22)02362-X. doi: 10.1016/j.jvs.2022.10.013.

PMID: 36272506

190) Carrozzini, M, Bottio T, Caraffa R, Bejko J, Bifulco O, Lombardi C, Metra M, Azzolina D, Gregori D, Fedrigo M, Castellani C, Tarzia V, Toscano G, Gambino A, Jorgji V, **Ferrari E**, Angelina A, Gerosa G.

Impact of Continuous Flow Left Ventricular Assist Device on Heart Transplant Candidates: A Multi-State Survival Analysis.

J Clin Med. 2022;11:3425

PMID: 35743495

191) Pozzoli A, Demertzis S, **Ferrari E**.

Transcatheter Mitral Valve Replacement in Native Mitral Valve with Severe Mitral Annular Calcification: Skirting the Sapien 3 to Reduce the Risk of Paravalvular Leaks.

Front Cardiovasc Med. 2022 Oct 20;9:967473. doi: 10.3389/fcvm.2022.967473. eCollection 2022

PMID: 36337909

192) Pozzoli A, Toto F, Torre T, Zurfluh C, **Ferrari E**, Demertzis S.  
Cardiac Surgery Simulation - Part 1: Step-by-Step David Operation in a Preclinical Model  
MMCTS; 2022;  
**PMID: accepted**

193) Pozzoli A, Demertzis S, **Ferrari E**.  
Rapid-Deployment and Sutureless Aortic Valve Replacement International Registry: A Step Forward In  
Defining the Ideal Target Patient Population.  
Eur J Cardiothorac Surg. 2022 Sep 2;62(2):ezac466. doi: 10.1093/ejcts/ezac466.  
**PMID: 36135810**

194) Torre T, Toto F, Klersy C, Theologou T, Pozzoli A, **Ferrari E**, Demertzis S.  
Twenty-Year Experience with Skeletonized Bilateral Internal Thoracic Arteries For Surgical Myocardial  
Revascularization. A Single Center Experience.  
J Card Surg. 2022;37:4928-4936  
**PMID: 36378881**

195) **Ferrari E**, Pozzoli A, Klersy C, Toto F, Torre T, Cassina T, Pedrazzini G, Demertzis S.  
Ten-Year Experience with Transapical and Direct Transaortic Transcatheter Aortic Valve Replacement  
to Address Patients with Aortic Stenosis and Peripheral Vascular Disease.  
J Cardiovasc Dev Dis. 2022;9(12):422. doi: 10.3390/jcdd9120422  
**PMID: 36547419**

## 2023

196) Gallo M, van den Berg JC, Torre T, Riggi M, Demertzis S, **Ferrari E**  
Long-Term Outcomes and Risk Factors Analysis for Patients Undergoing Thoracic Endovascular Aorta  
Repair (Tevar), According To the Aortic Pathologies.  
Ann Vasc Surg. 2023;  
**PMID: accepted**

197) **Ferrari E**, Wang C, Tozzi P, von Segesser LK.  
Long-Term Patency of Small Diameter Viabahn Stent-Grafts In Peripheral Endo-Vascular Procedures:  
A Systematic Review.  
J Endovasc Ther. 2022;  
**PMID: accepted**

198) Toto, Leo L, Klersy C, Torre T, Theologou T, Pozzoli A, Caporali E, Demertzis S, **Ferrari E**.  
Mid-term Clinical Outcomes and Hemodynamic Performances of Trifecta and Perimount Bioprostheses  
Following Aortic Valve Replacement.  
SMW. 2023;  
**PMID: accepted**