

Transatlantic registry of type A aortic dissection

Submission date 22/10/2025	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
Registration date 29/12/2025	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 29/12/2025	Condition category Circulatory System	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Acute Stanford type A aortic dissection (TAAD) is a life-threatening condition. Surgery is usually performed as an emergency or salvage procedure and is associated with increased postoperative early mortality and morbidity. Although early mortality has declined over the last years, it remains significant in Western countries. The Nordic Consortium for Acute Type A Aortic Dissection registry, including 1189 patients operated on from 2005 to 2015 in 8 centers showed that 30-day mortality after surgery for acute TAAD was 18%. The multicenter, prospective German Registry for Acute Aortic Dissection Type A, including 2137 TAAD patients operated from 2006 and 2010, documented a 30-day mortality of 16.9%. A more recent analysis of the Society of Thoracic Surgeons database, including 7353 patients operated on from 2014 and 2017 for acute TAAD, reported a 30-day mortality of 17%. Furthermore, surgery for TAAD is often complicated by major adverse events such as stroke and acute kidney failure, which may have a significant impact on late survival. In this scenario of significant postoperative mortality and morbidity, surgeons face the controversial issue of the extent of surgical repair for acute TAAD by avoiding a major surgical repair with its possible increased risk of early adverse events. However, limited aortic repair may expose the patient to the risk of late complications at the level of the aortic root, the aortic arch and/or the downstream aorta. We planned the multicenter Transatlantic Registry of Type A Aortic Dissection (TARTAAD) for a thorough evaluation of the early and late outcomes of acute TAAD after different surgical and perfusion strategies in patients operated at several European and North American cardiac surgery centers.

Who can participate?

Adult patients aged >18 years with TAAD or intramural hematoma involving the aortic root /ascending aorta; symptoms started within 7 days before surgery; primary surgical repair of acute TAAD; any other major cardiac surgical procedure concomitant with surgery for TAAD.

What does the study involve?

Patients who underwent surgical repair for acute TAAD.

What are the possible benefits and risks of participating?

There are no known benefits or risks to participants.

Where is the study run from?

This is a multicenter study. The sponsor center is the Helsinki University Hospital, Helsinki, Finland.

When is the study starting and how long is it expected to run for?

March 2025 to February 2026

Who is funding the study?

Helsinki University Central Hospital, Finland

Who is the main contact?

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Contact information

Type(s)

Public, Scientific

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Principal investigator

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Additional identifiers

Integrated Research Application System (IRAS)
363388

Study information

Scientific Title

Transatlantic registry of Type A aortic dissection

Acronym

TARTAAD

Study objectives

Primary objective: to identify the predictors influencing early and late mortality in TAAD patients undergoing open heart surgery

Secondary objectives: to elucidate and identify predictors of:

- 1) Re-exploration for bleeding
- 2) Cerebrovascular accident
- 3) Surgical site infection
- 4) Blood transfusion
- 5) Acute kidney injury
- 6) Length of intensive care unit (ICU) stay
- 7) Length of hospital stay
- 8) Reoperation after hospital discharge
- 9) Late survival
- 10) Rate of late re-intervention

Ethics approval required

Ethics approval required

Ethics approval(s)

approved 16/05/2025, Helsinki University Hospital (Marjaniementie 74, Iiris-keskus, Helsinki, PL 200, 00029 HUS, Finland; +358504287837; kirjaamo@hus.fi), ref: HUS/95/2025

Study design

Retrospective observational multicenter cohort study registry

Primary study design

Observational

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Type A aortic dissection

Interventions

Patients included in this registry are those who underwent surgery for type A aortic dissection. Surgical repair of this severe condition is the only treatment available to prevent aortic rupture. Surgery consists of resection and replacement with a vascular prosthesis of the ascending aorta as well as the aortic root and/or the aortic arch. Surgical treatment was performed in university and non-university cardiac surgery units. Since the delay from the onset of symptoms to surgical treatment may increase the risk of further extension of the dissection to the aortic branches or may lead to aortic rupture, emergency surgery is usually performed in these patients. The extension of aortic repair may depend on the site and extent of the aortic tear and may vary according to institutional and individual surgeon's policy. The type of aortic repair might have varied during the study period, and we expect that a policy of more extensive aortic repair has been pursued during the last years. The duration of observation of this study is 14 years (from January 2010 to December 2024) and the duration of follow-up is 16 years (from May 2010 to February 2026).

Intervention Type

Procedure/Surgery

Primary outcome(s)

1. Mortality measured using hospital records, national database and/or contacting patients, their relatives or general practitioners, until the last follow-up control
2. Reoperation on any segment of the aorta for aortic dissection or its related complications, measured using hospital records, national database and/or contacting patients, their relatives or general practitioners, until the last follow-up control

Key secondary outcome(s)

1. Stroke or global brain ischemia measured using hospital records during the index hospital stay
2. Acute kidney injury measured using hospital records during the index hospital stay
3. Surgical site infection measured using hospital records during the index hospital stay
4. Reoperation for bleeding measured using hospital records during the index hospital stay
5. Blood transfusion measured using hospital records during the index hospital stay
6. Paraplegia/paraparesis measured using hospital records during the index hospital stay

Completion date

28/02/2026

Eligibility

Key inclusion criteria

1. Type A aortic dissection or intramural hematoma involving the aortic root/ascending aorta
2. Patients aged >18 years
3. Symptoms started within 7 days before surgery
4. Primary surgical repair of acute TAAD
5. Any other major cardiac surgical procedure concomitant with surgery for TAAD

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Mixed

Lower age limit

18 years

Upper age limit

100 years

Sex

All

Total final enrolment

10000

Key exclusion criteria

1. Patients aged < 18 years
2. Onset of symptoms > 7 days from surgery
3. Prior procedure for TAAD
4. Type non-A non-B aortic dissection
5. Retrograde TAAD (with primary tear located in descending aorta)
- 6 Concomitant endocarditis
7. TAAD secondary to blunt or penetrating chest trauma

Date of first enrolment

16/05/2025

Date of final enrolment

28/02/2026

Locations**Countries of recruitment**

United Kingdom

England

Belgium

Czech Republic

Finland

France

Germany

Hungary

Italy

Netherlands

Spain

United States of America

Study participating centre

Oxford University Hospitals NHS Foundation Trust

John Radcliffe Hospital

Headley Way

Headington

Oxford

England

OX3 9DU

Study participating centre

The Glenfield Surgery

111 Station Road

Glenfield

Leicester

England

LE3 8GS

Study participating centre

Liverpool Heart and Chest Hospital NHS Foundation Trust

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L14 3PE

Study participating centre

University Hospital Southampton NHS Foundation Trust

Southampton General Hospital

Tremona Road

Southampton

England

SO16 6YD

Study participating centre

University Hospitals Plymouth NHS Trust

Derriford Hospital

Derriford Road
Derriford
Plymouth
England
PL6 8DH

Study participating centre
Royal Papworth Hospital NHS Foundation Trust
Papworth Road
Cambridge Biomedical Campus
Cambridge
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CB2 0AY

Study participating centre
Guys and St Thomas' NHS Foundation Trust
249 Westminster Bridge Road
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SE1 7EH

Study participating centre
Helsinki University Hospital
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00029

Study participating centre
University Heart and Vascular Center Hamburg
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20251

Study participating centre
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Wytemaweg 80
Rotterdam
Netherlands
3015

Study participating centre
University Hospital Cologne
Kerpener Str. 62
Köln
Germany
50937

Study participating centre
Cabrol University Hospital
Rue du Général Koenig
Reims
France
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Study participating centre
Dijon University Hospital
14 Rue Gaffarel
Dijon
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21079

Study participating centre
Ospedale di Circolo di Varese
Viale Borri 57
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21100

Study participating centre
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Halle
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06108

Study participating centre
LMU University Hospital, Ludwig Maximilian University
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Germany
80539

Study participating centre
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Spain
08036

Study participating centre
Charles University's 3rd Faculty of Medicine and University Hospital Kralovske Vinohrady
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Prague
Czech Republic
10034

Study participating centre
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Via Giacomo Puccini 50
Trieste
Italy
34148

Study participating centre
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Sociální péče 3316
Ústí nad Labem-Severní
Czech Republic
40011

Study participating centre
University Hospital Muenster
Albert-Schweitzer-Campus 1
Muenster
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48149

Study participating centre
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Calle del Dr. Esquerdo 46
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28007

Study participating centre
Kuopio University Hospital
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Study participating centre
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Study participating centre
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Study participating centre
Westchester Medical Center
100 Woods Rd
Valhalla
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Study participating centre
Henry Ford Hospital
2799 W Grand Blvd
Detroit
United States of America
48202

Study participating centre

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Piazzale Aristide Stefani 1

Verona

Italy

37126

Study participating centre

Cliniques Universitaire Saint Luc

Av. Hippocrate 10

Bruxelles

Belgium

1200

Study participating centre

Maastricht University Medical Centre (MUMC+)

P. Debyelaan 25

Maastricht

Netherlands

6229 HX

Study participating centre

University Hospital Puerta de Hierro

C. Joaquín Rodrigo

Madrid

Spain

28222

Study participating centre

University Medical Center Mainz

Langenbeckstraße 1

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55131

Study participating centre

Semmelweis University's Heart and Vascular Center

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Hungary
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Study participating centre
Aachen University Hospital
Pauwelsstraße 30
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Sponsor information

Organisation
Helsinki University Hospital

ROR
<https://ror.org/02e8hzf44>

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Helsingin ja Uudenmaan Sairaanhoidopiiri

Alternative Name(s)
Helsinki University Central Hospital, HUS

Funding Body Type
Government organisation

Funding Body Subtype
Local government

Location
Finland

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file		01/05/2025	23/10/2025	No	No
Protocol file			30/10/2025	No	No