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Transatlantic registry of type A aortic dissection

Submission date 22/10/2025	**Recruitment status** No longer recruiting	[_] Prospectively registered [X] Protocol
Registration date 29/12/2025	**Overall study status** Ongoing	[_] Statistical analysis plan [_] Results
Last Edited 03/11/2026	**Condition category** Circulatory System	[_] Individual participant data [X] 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 December 2029

Who is funding the study?
Helsinki University Central Hospital, Finland

Who is the main contact?
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2. Tatu Juvonen, MD, PhD, tatu.juvonen@hus.fi

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Type(s)
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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

11) Cost analysis (added 18/08/2026)

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

Primary study design
Observational

Study design
Retrospective observational multicenter cohort study registry

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
31/12/2029

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
31/07/2026

Locations

Countries of recruitment
United Kingdom

England

Belgium

Czech Republic

Finland

France

Germany

Hungary

Italy

Netherlands

Spain

United States of America

Study participating centre
The Glenfield Surgery
111 Station Road
Glenfield
Leicester
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Study participating centre
Helsinki University Hospital
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20251

Study participating centre
Erasmus Medical Center
Wytemaweg 80
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3015

Study participating centre
University Hospital Cologne
Kerpener Str. 62

Köln
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50937

Study participating centre
Cabrol University Hospital
Rue du Général Koenig
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51100

Study participating centre
Dijon University Hospital
14 Rue Gaffarel
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21079

Study participating centre
Ospedale di Circolo di Varese
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21100

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Study participating centre
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Study participating centre
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Study participating centre
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Study participating centre
University Medical Center Mainz
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55131

Sponsor information

Organisation
Helsinki University Hospital

ROR
https://ror.org/02e8hzf44

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Helsingin ja Uudenmaan Sairaanhoitopiiri

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