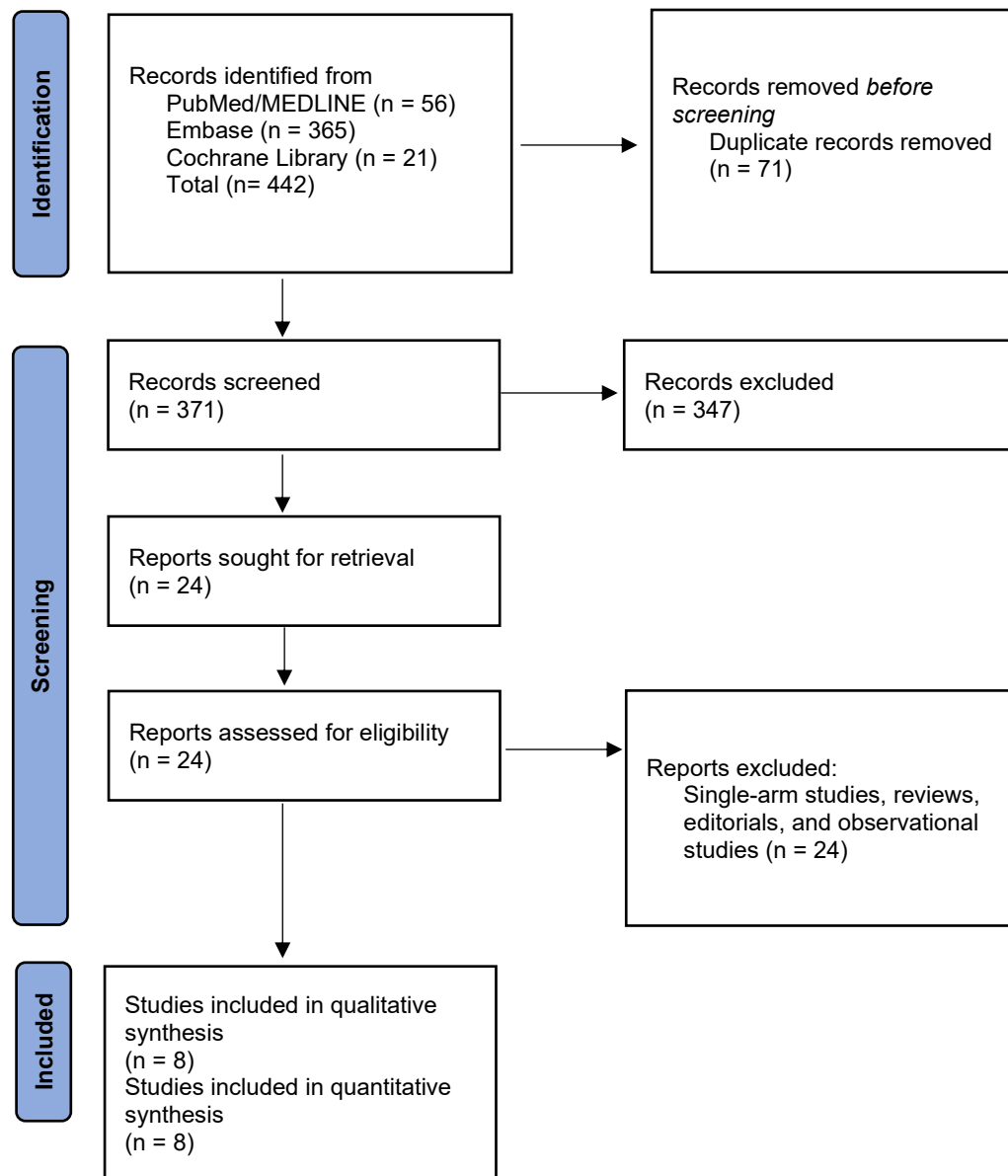


**Supplementary Table SI.** Detailed search strategy for each database and number of retrieved articles

| Database         | Search strategy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Records retrieved |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| PubMed/MEDLINE   | ("Transcatheter Aortic Valve Replacement"[MeSH Terms] OR "TAVR"[Title/Abstract] OR "TAVI"[Title/Abstract] OR "Transcatheter Aortic Valve Implantation"[Title/Abstract] OR "aortic valve stenosis/surgery"[MeSH Terms]) AND ("Embololic Protection Devices"[MeSH Terms] OR "CEPD"[Title/Abstract] OR "cerebral embolic protection"[Title/Abstract] OR "embolic filter"[Title/Abstract] OR "Sentinel device"[Title/Abstract] OR "TriGuard"[Title/Abstract]) AND ("Randomized Controlled Trial"[Publication Type] OR "RCT"[Title/Abstract] OR "randomized"[Title/Abstract] OR "randomised"[Title/Abstract] OR "controlled trial"[Title/Abstract]) | 56                |
| Embase           | ('transcatheter aortic valve implantation'/exp OR 'transcatheter aortic valve replacement' OR 'tavr' OR 'tavi')<br>AND<br>( 'cerebral embolic protection device' OR 'embolic protection device' OR 'cepd' OR 'sentinel device' OR 'Claret' OR 'TriGuard' OR 'Boston Scientific' OR 'filter-based protection' OR 'cerebral protection')<br>AND<br>( 'randomized controlled trial'/exp OR 'randomized controlled trial' OR 'randomised controlled trial' OR 'rct' OR 'clinical trial')                                                                                                                                                           | 365               |
| Cochrane Library | ("transcatheter aortic valve replacement" OR TAVR OR TAVI)<br>AND<br>("cerebral embolic protection" OR "embolic protection device" OR CEPD OR Sentinel OR TriGuard OR "cerebral protection device")<br>AND<br>("randomized controlled trial" OR RCT)                                                                                                                                                                                                                                                                                                                                                                                           | 21                |

**Supplementary Figure S1.** PRISMA flowchart showing the screening and study selection process



**Supplementary Figure S2.** Risk of bias assessment for the included studies

|                  |                | Risk of bias domains |    |    |    |    |         |
|------------------|----------------|----------------------|----|----|----|----|---------|
|                  |                | D1                   | D2 | D3 | D4 | D5 | Overall |
| Study            | REFLECT II     |                      |    |    |    |    |         |
|                  | CLEAN-TAVI     |                      |    |    |    |    |         |
|                  | MISTRAL-C      |                      |    |    |    |    |         |
|                  | Sentinel       |                      |    |    |    |    |         |
|                  | DEFLECT III    |                      |    |    |    |    |         |
|                  | REFLECT I      |                      |    |    |    |    |         |
|                  | PROTECTED TAVR |                      |    |    |    |    |         |
| BHF PROTECT TAVI |                |                      |    |    |    |    |         |

Domains:

D1: Bias arising from the randomization process.  
D2: Bias due to deviations from intended intervention.  
D3: Bias due to missing outcome data.  
D4: Bias in measurement of the outcome.  
D5: Bias in selection of the reported result.

Judgement

Some concerns  
 Low