

# INPLASY PROTOCOL

## Atrial fibrillation burden and risk of stroke: a systematic review

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**Review Stage at time of this submission:** Piloting of the study selection process.

**Conflicts of interest:**  
There is no conflicts of interest.

**Review question / Objective:** Atrial fibrillation (AF) quintuples the risk of stroke, and patients with stroke and AF are the most likely to be left dead or permanently disabled. There were lots of studies shows that the risk of stroke is correlated with AF burden, and suggests that efforts at stroke prevention may have to take burden into account. R. Proietti and Steven B. Uittenbogaart had done System reviews However, neither of these systematic reviews described the clear linear relation between increasing burden of AF and risk of stroke. And there are also more original studies published recent years.

**Condition being studied:** We have a strong atrial fibrillation team, senior statisticians and advanced laboratories, as well as national project support. In addition, our team has published many systematic reviews in international journals.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 October 2020 and was last updated on 10 October 2020 (registration number INPLASY2020100032).

### INTRODUCTION

**Review question / Objective:** Atrial fibrillation (AF) quintuples the risk of stroke, and patients with stroke and AF are the most likely to be left dead or permanently disabled. There were lots of studies shows that the risk of stroke is correlated with AF burden, and suggests that efforts at stroke

prevention may have to take burden into account. R. Proietti and Steven B. Uittenbogaart had done System reviews However, neither of these systematic reviews described the clear linear relation between increasing burden of AF and risk of stroke. And there are also more original studies published recent years.

**Rationale:** Our studies will include following innovations: 1) Including more original studies. 2) Including the clear linear relation between increasing burden of AF and risk of stroke (does response meta). 3) We're going to include more vascular event endpoints within stroke. 4) We will explore the relationship between AF burden and stroke in Asymptomatic atrial fibrillation and Clinic AF. 5) We found that the burden point of atrial fibrillation is 5 hours or 24 hours, and more of them are less than 48 hours. If we can, we want to find a wider range of AF burden to merge. 6) The AF burden is defined as the quantity of AF, expressed in both the time spent in AF per unit of time (day, week, month, etc) or the number of it. However, the first definitions have many original researches of different unit time. We will use unit time as subgroups to combine different research results, if possible, and draw their own dose-response curves to determine which definition of atrial fibrillation is more meaningful to the prediction of cardiovascular diseases including stroke. 7) Substudies of some trials showing an association between AF burden and stroke, have paradoxically shown that AF burden are not necessarily temporally related to stroke occurrence. We will explore the temporal Association of AF burden and Stroke by pooling the different researches.

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## METHODS

**Participant or population:** Patients who can measure AF burden.

**Intervention:** No applicable.

**Comparator:** The severity of AF burden.

**Study designs to be included:** Study design was a cohort, prospective, retrospective or case– control type or RCT.

**Eligibility criteria:** Outcome measures of studies had to report TBEs either as stroke, transient ischaemic attack (TIA), and systemic embolism or as a combined endpoint. Studies did not recruit patients based on a history of TBE or catheter ablation for AF. There are corresponding instruments to quantify the burden of AF in per unit time and so on.

**Information sources:** Medline (Ovid), Embase (Ovid), PubMed, and Cochrane Library [Cochrane Database of Systematic Reviews (CDSR), Database of Abstracts of Reviews of Effects (DARE), and Cochrane Central Register of Controlled Trials (CENTRAL)] for studies in the English, French, Dutch, German, Italian, and Spanish language and contact with authors if necessary.

**Main outcome(s):** More vascular event endpoints within stroke.

**Additional outcome(s):** 1) Including more original studies. 2) Including the clear linear relation between increasing burden of AF and risk of stroke (does response meta). 3) We're going to include more vascular event endpoints within stroke. 4) We will explore the relationship between AF burden and stroke in Asymptomatic atrial fibrillation and Clinic AF. 5) We found that the burden point of atrial fibrillation is 5 hours or 24 hours, and more of them are less than 48 hours. If we can, we want to find a wider range of AF burden to merge. 6) The AF burden is defined as the quantity of AF, expressed in both the time spent in AF per unit of time (day, week, month, etc) or the number of it. However, the first definitions have many original researches of different unit time. We will use unit time as subgroups to combine different research results, if possible, and draw their own dose-response curves to determine which definition of atrial fibrillation is more meaningful to the prediction of cardiovascular diseases including stroke. 7) We will explore the temporal Association of AF burden and Stroke by pooling the different researches.

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**Quality assessment / Risk of bias analysis:**  
QUIPS tool/Funnel plots and Egger's test

**Strategy of data synthesis:** We performed the meta-analyses of the included studies using Review Manager (version 5.3).

**Subgroup analysis:** Different gender, age , AF burden, Types of AF, Unit time, study designs and outcomes of diseases.

**Sensibility analysis:** Sensitivity analysis was conducted with the studies that were distributed on both sides of the pooled prevalence.

**Language:** No language limits.

**Country(ies) involved:** China.

**Keywords:** AF burden; Stroke; Systematic reviews; Liner relation.

**Contributions of each author:**

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