**Supplemental appendix 4: Modified Newcastle-Ottawa Scale**

**Note:** A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability

**Selection**

1. Representativeness of the study population
   a. Truly representative of the general adult ICU population ★
   b. Somewhat representative of the general adult ICU population ★
   c. Poorly representative of the general adult ICU population
   d. No description of the derivation of the cohort

2. Demonstration that the outcome of interest was not present at the start of the study
   a. Exclusion of AF (current and historic) described ★
   b. AF (current and historic) excluded but no description

3. Ascertainment of the presence of risk factor
   a. Medical record or investigation result ★
   b. Structured interview ★
   c. Written self-report
   d. No description or none of the above

4. Study size
   a. ≥100 participants in each group ★
   b. <100 participants in each group

**Comparability**

1. Comparability of the cohorts on the basis of the design or analysis
   a. Study design controls for confounding factors ★
   b. Study controls for confounding factors in data analysis ★

**Outcome**

1. Study design
   a. Prospective ★
   b. Retrospective

2. Assessment of outcome
   a. Independent assessment of heart rhythm from primary source (e.g. monitor/ECG) ★
   b. Non-independent assessment or heart rhythm identified from secondary source (e.g. patient records)
   c. Other identification of heart rhythm
   d. No description

3. Adequacy of follow up of cohorts
   a. Complete follow up – all subjects accounted for ★
   b. Subjects lost to follow up unlikely to introduce bias – small number lost, ≥90% follow up or description of those lost ★
   c. Follow up rate < 90% and no description of those lost
   d. No statement