

Using clinical practice guidelines to reduce the risk of stroke for patients with atrial fibrillation

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1. Clinical practice guidelines

- Thromboprophylaxis guidelines to reduce the risk of stroke in patients with atrial fibrillation (AF) admitted to the Royal Hobart Hospital.
- Local adaptation of National Heart Foundation of Australia guidelines.

2. Stakeholders

- Steering group comprising key clinicians (geriatrician, cardiologist, haematologist, general physician and clinical pharmacists) and other opinion leaders from the Royal Hobart Hospital.
- Doctors directly responsible for prescribing antithrombotic therapy for stroke prevention in AF.

3. Evidence-practice gap

- Despite compelling evidence that antithrombotic therapy (warfarin or aspirin) reduces strokes in AF, the treatment remains underutilised.
- Previous research has found that doctors underestimate the risk of stroke for patients with AF and also overestimate the risk of bleeding from warfarin.
- A previous study by the author in the community setting resulted in a significant improvement in the use of antithrombotic therapy. The next step was to intervene in the hospital setting, which presents an ideal opportunity for evidence-based medication review.

4. Guideline implementation strategies

A novel technique using a pharmacist as a stroke risk assessor was employed.

- The project pharmacist assessed all admitted patients identified with AF for their risk of stroke according to the guidelines.
- The pharmacist made a written and verbal recommendation to the medical team about the most appropriate antithrombotic therapy based on evidence-based guidelines, the patient's individual comorbidities and any contraindications to antithrombotic therapy.
- This process was documented on a stroke risk assessment form placed in the medical record (see sample form at right).

Stroke Risk Assessment in Atrial Fibrillation (STRAAF)

This patient has been identified as having atrial fibrillation (AF) documented from an electrocardiograph (ECG) taken during this patient's hospital stay. The ECG records have been accessed from the ECG department and your patient has given informed consent to have a formal stroke risk assessment. The risk assessment has been based on published Australian guidelines. This study aims to improve stroke prevention in AF by assessing individual patients' risk of stroke and contraindications to antithrombotics. The Royal Hobart Hospital Research Advisory Committee and the Human Research Ethics Committee (Tasmania) Network have approved this project.

UR no.
Patient name
Age
Sex

This patient has been assessed as being at **very high risk** of stroke (approximately 12% per year without antithrombotic treatment).

Stroke risk in atrial fibrillation for patients at very high risk of stroke

| Treatment | Annual stroke risk |
|-----------|--------------------|
| Untreated | 12 |
| Aspirin | 7.5 |
| Warfarin | 1.4 |

Current antithrombotic therapy
• Aspirin 100mg daily

Presence of risk factors for stroke
• Prior TIA or Stroke

Potential contraindications to warfarin
• No contraindications present

RECOMMENDATION
• Anticoagulation with warfarin (Target INR range 2.0-3.0)

By treating this patient with warfarin instead of aspirin, you will reduce the absolute risk of stroke by 75% per year. The number needed to treat (NNT) with warfarin instead of aspirin per year to prevent one stroke is 14.

The medical team agree with the recommendation and will implement it. YES / NO
If the medical team disagrees with the recommendation or feels that it is inappropriate to implement it in this patient state reasons

Date: _____ Doctor's name: _____ Doctors signature: _____

*Hickey GJ. Non-valvular atrial fibrillation and stroke prevention. Medical Journal of Australia 2001;176:234-239.
These guidelines are intended to help with categorising patients at risk of thromboembolic stroke secondary to AF. Clinical judgement and individual patient needs and preferences must always be considered in the decision on the use of antithrombotic therapy.

5. Data sources

- The proportion of patients receiving appropriate antithrombotic therapy at discharge from hospital was compared to admission therapy.
- Discharge therapy was also compared to an historical control sample of hospitalised patients with AF.

6. Results

- 134 stroke risk assessments were performed.
- There was a significant increase in the use of warfarin between admission and discharge in the intervention cohort (43% to 58%; $p = 0.05$).
- 98% of AF patients at high risk of stroke with no contraindications to warfarin (warfarin-eligible patients) were receiving warfarin on discharge, compared to 74% on admission ($p < 0.001$).

7. Barriers

- Some doctors perceive that it is not the role of the pharmacist to make recommendations regarding appropriate antithrombotic therapy.

8. Enablers

- A team approach to implementing the guidelines and ensuring that patients receive an accurate evidence-based stroke risk assessment.
- Involvement of key opinion leaders.

9. Resources

- NICS Fellowship.

10. Key messages

- Pharmacists and other allied health professionals can be key change agents in the optimal use of evidence in practice.
- A process of accurate risk assessment and subsequent recommendations to the medical team can result in improved use of evidence in practice.
- If pharmacists performed this role as part of their normal healthcare role it could save 600 strokes per year and \$16million per annum.

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