**Appendix A**

# Stroke Risk Assessment in Atrial Fibrillation: $CHADS_2$ Score

This Risk Assessment table pertains to the Guideline *Stroke and Transient Ischemic Attack – Management and Prevention*
www.BCGuidelines.ca

**Establish the risk of stroke in atrial fibrillation using the Cardiac failure, Hypertension, Age, Diabetes Stroke system ($CHADS_2$):[6]

| | |
|---|---|
| C – Recent cardiac failure | 1 point |
| H – Hypertension | 1 point |
| A – Age 75+ | 1 point |
| D – Diabetes | 1 point |
| S – Prior Stroke or TIA | 2 points |
| $CHADS_2$ Score = | |

| Treatment Recommendations based on $CHADS_2$ Score* | |
|---|---|
| **$CHADS_2$ Score** | **Treatment Recommendation** |
| **0** | **ASA alone** |
| **1** | **ASA or Warfarin (INR 2-3)** |
| **2+** | **Warfarin (INR 2-3)** |

**These scores have been validated to be approximately equivalent to the following stroke risk (see table below). In diabetic patients, the $CHADS_2$ score may underestimate the risk.[7]**

| Approximate Annual Stroke Risks based on $CHADS_2$ Score | | | |
|---|---|---|---|
| | With Treatment (%) | | |
| **$CHADS_2$ Score** | **On ASA** | **On Warfarin§** | **Without Treatment (%)[26]** |
| **0** | 1.0 | 1.0 | 1.9 |
| **1** | 1.5 | 1.4 | 2.8 |
| **2** | 2.5 | 2.0 | 4.0 |
| **3** | 5.0 | 3.0 | 5.9 |
| **4+** | ≥ 7.0 | ≥ 4.3 | ≥ 8.5 |

| Treatment Harms: Annual Bleeding Complications (%) ‡ | | | |
|---|---|---|---|
| | | **On ASA** | **On Warfarin§** |
| **All $CHADS_2$ Scores** | Major bleed (all) | 0.25 | < 1.5 |
| | Intracranial bleed | < 0.1 | 0.4 |

§ Based on an estimate of relative risk reduction (RRR) of 50%.[27] For elderly populations, RRR is estimated at 0.48.[29] Estimates range as high as 0.68 RRR – see also CAFA study.[30]

‡Increased absolute risk of hemorrhage associated with ASA alone compared to placebo ranges from < 0 (a reduction) to 0.5 % annually in 4 studies.[31] Harms of warfarin are also taken from this same reference. Harms of warfarin may be more than this in the very old. A recent study of major hemorrhage among elderly patients found cumulative risk of major hemorrhage of 13.1 per 100 patient years for patients ≥ 80 years of age.[31]

*These treatment recommendations can be made because, statistically, the probability of benefit appears to exceed the probability of harm. Nevertheless, risk of stroke is never eliminated, and some individuals who might not be destined to have a stroke may be harmed by the treatment. Therefore patients' values and acceptance of risk must be discussed. The possibility of higher risk of harm among the elderly should also be taken into consideration.

Please refer to the Warfarin guidelines at www.BCGuidelines.ca

**Note:** Throughout the table these point estimates are shown without respective confidence intervals and represent a range of results.

**For numbered references please see full guideline.

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