Understanding Unrecognized Atrial Fibrillation and How to Help Build a Community Response

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Prevalence of AF by age





PATH AF Investigators. AHA 2010 Scientific Sessions.



Stroke Risk and AF

Stroke is a disabling and often lethal complication of AF

 15% of all strokes in the US are AF-related

Stroke risk persists in asymptomatic AF & paroxysmal AF



J Duke Clinical Research Institute

Kannel WB, et al. *Med Clin North Am*. 2008;92(1):17-42. Page RL, et al. *Circulation*. 2003;107(8):1141-1145. Dulli DA. Neuroepidemiology 2003;22:118-23 Hart RG, et al. J Am Coll Cardiol. 2000;35(1):183-187.

Risk Stratification



CHA₂DS₂-VASc Score

Risk Factors:

CHF or LV dysfunction (1) Hypertension (1) Age \geq 75 (2) Diabetes mellitus (1) Stroke or TIA or embolism (2) Vascular disease (MI, PVD, Aortic plaque; 1) Age 65-74 (1) Sex category = female (1)

- Modification of the CHADS₂ risk stratification tool
- Validated in 1084 patients from Euro Heart Survey
- Chief advantages:
 - maximizes eligibility
 - improved specificity for lowest risk







Wann SL. *Circulation.* 2011;23:104-23. Camm AJ. *Eur Heart J.* 2010;31:2369-429. Hunt SA. *Circulation.* 2009;119:e391-e479

Risk versus benefit









How much AF is too much?

Knowing when to say when.



AF Burden & Thromboembolic Events: the TRENDS Study

	Annualized Rate (Stroke & TIA)	Annualized Rate (Stroke only)
Zero Burden	1.1%	0.5%
Low Burden < 5.5 hours	1.1%	1.1%
High Burden <u>></u> 5.5 hours	2.4%	1.8%

Duke Clinical Research Institute

Glotzer TV. Circ Arrh Electrophysiol. 2009

ASSERT: Ischemic Stroke or Systemic Embolism



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Healy JS, et al. AHA 2010 LBCT

Prospective studies of AF burden & stroke risk

Study	Population	Mean CHADS ₂ Score	Definition of AT/AF Events and Threshold	Results	Frequency of detected AT/AF prior to stroke
MOST Ancillary Study	SSS with PM(n=312)	NR	Atrial rate ≥ 220 bpm for > 5 minutes	HR 2.79 (1.51- 5.15)*	88% (n=7/8)
TRENDS	≥ 1 risk factor for stroke and indication for PM or ICD (n=2486)	2.2 ± 1.2	Atrial rate > 175 for > 5.5 hours / 30 days	HR 2.20 (0.96- 5.05)	50% (n=20/40)
ASSERT	Age ≥ 65 with HTN & PM (n=2582)	2.2 ± 1.1^	Atrial rate > 190 for > 6 minutes	RR 2.50 (1.28 – 4.89)	35%



AF Burden: Summary

- Type of AF & AF burden should not influence stroke prevention strategy
- Once AF is diagnosed, antithrombotic therapy should be guided by risk stratification alone.
- Sinus rhythm should not necessarily provide reassurance.





How about screening for A. Fib



To assess whether point-of-care rhythm assessment with a single lead ECG will lead to an increase in newly diagnosed AF



Design





Primary care practice network



Screening offered at vital sign assessment by clinic staff

12-month practice screening July 2018 – Oct 2019

ne taken: 💿 ,	ä				Shou	ir: 🖌 All Choices
Values By + Create Note						
RHYTHM ASSESSMENT						
Rhythm Assessment	C Normal	Possible AF	Unclassified	Patient declined screening		
	No Analysis (unreadable)					
Study ID						

Integration with Epic-EHR



Cardiologist adjudication of tracings



EHR-based data ascertainment





Endpoints





Practice and patient enrollment





Patient characteristics



Patient characteristic	
N total	35,308
Age – years	75 ± 7
65-74 years	59%
75-84 years	41%
≥ 85 years	10%
Female	57%
Race/Ethnicity	
Non-Hispanic White	83%
Non-Hispanic Black	5%
Hispanic	2%
Other	8%
Unknown	2%

Patient characteristic	
Prevalent AF	13%
Hypertension	77%
Coronary artery disease	25%
Diabetes	25%
Heart failure	15%
Prior stroke	10%
CHA ₂ DS ₂ VASc	3.6 ± 1.5
≥ 2	95%
CHARGE-AF score	13.6 ± 1.0
5-year predicted risk	10% ± 10%

AliveCor results and 12-lead ECGs





Screening did not significantly affect AF diagnosis in the overall study sample











Diagnosis location shift





Initiation of oral anticoagulation





Conclusions



- Implementation of ECG-based rhythm assessments at primary care practices is feasible
- Screening <u>all</u> individuals ≥ 65 years of age is not an efficient way to detect undiagnosed AF
 - Screening older individuals (e.g., ≥ 85 years) may be effective
 - Screening at primary care clinics appears to shift the setting of diagnosis to the outpatient and primary care office setting
- In our study practices, systematic screening during primary care visits did not increase the (already high) proportion of newly diagnosed AF patients treated with OAC

Conclusions



- A fib is a large cause of stroke
- 2% over 75 and 6% over 85 have afib if screened
- Good primary care and screening leads towards more anticoagulation

