ED observation protocol for **hemodynamically stable** atrial fibrillation

Consider differential diagnosis for afib: PE, thyroid disease, intoxication, withdrawal, valvular disease, infection. Evaluate and treat associated conditions as indicated.

Excluded from ED pathway:

1. Known intracardiac thrombus*
2. Signs of heart failure*
3. Known EF<30%*
4. Angina
5. Acute MI within 4 weeks
6. Stroke/TIA within 3 months
7. Renal dysfunction
8. CHA2DS2-VASC score ≥ 5
9. Other comorbid conditions that require admission

*Consider bedside echo

Yes → Hospital admission

No →

Consider CBC
Consider BMP
Consider TSH if new diagnosis
INR if on warfarin if not done recently
Echo if no recent echo and possible to obtain OR can get echo as an outpatient

Appropriate for immediate cardioversion?

Yes → Cardiovert , assess need for AC(1), and discharge

Appropriate for cardioversion after observation period:

AF<48 hours at end of planned obs period AND

- Need to address other issue prior to CV
- OR for "pill in pocket" strategy (3)
- OR for rate control and monitoring for spontaneous cardioversion

Rate control strategy desired

Initiate AC
Rate control (2)
Expert consultation by phone or in person as needed
Utilize CDU if appropriate

AF Continues at 8 hours → Cardioversion

Sinus rhythm:

- Assess need for AC (1)
- Early PCP F/U
- consider arranging cards F/U

Discharge

Continued AF

Symptomatic or not rate controlled

Admit

Rate control (HR<100) and pt asymptomatic

-monitor 1-2 hours, ambulate patient
-Home AC and rate control meds
- Early PCP F/U
- consider arranging cards F/U

Discharge

1. Calculate CHA2DS2-VASc Score:

CHF	1
Hypertension	1
Age >/= 75	2
Diabetes Mellitus	1
History of stroke or TIA	2
Vascular disease (prior MI, PAD, or aortic plaque)	1
Age 65-74 years	1
Female gender	1

0: Reasonable to omit antithrombotic therapy
1: No anticoagulation OR aspirin OR oral anticoagulation may be considered
>/= 2: Oral anticoagulation

Consider contraindications to AC

Preferred anticoagulants in patients without severe renal dysfunction (CrCl<30) are **apixaban and rivaroxaban**. Options below adapted from MMC/MaineHealth Clinical Guideline for Anticoagulation in Atrial Fibrillation:

Age <80 years:

		Weight	
		<60 kg	60-100kg**
CrCl	>50 mL/min	**Apixaban 5mg bid*** **Rivaroxaban 20 mg daily** Warfarin	**Apixaban 5mg bid** **Rivaroxaban 20 mg daily** Dabigatran 150mg bid Warfarin
	30-50 mL/min	**Apixaban 2.5mg bid*** **Rivaroxaban 15 mg daily** Warfarin	**Apixaban 5mg bid*** **Rivaroxaban 15 mg daily** Dabigatran 150mg bid Warfarin
	<30 mL/min	Warfarin; not appropriate for ED management protocol, consider admission	

*Apixaban MAY be preferred in lower weight patients and those with poor renal function due to increased bleeding risk but data is very limited; rivaroxaban may be chosen in these patients if preferable for other reasons

**Clinical trials of NOACs did not include large numbers of patients with body weight >100kg, thus their efficacy in AF patients is not well understood; Pharmacokinetic studies demonstrated no definitive alterations in drug concentrations of dabigatran, rivaroxaban, and apixaban in patients up to 110kg, 140kg, and 120kg, respectively.

Please refer to "MMC Clinical Guideline for Anticoagulation in Atrial Fibrillation" for further guidance in patients >80 years old and special cases. Consider consultation with MMC anticoagulation pharmacy specialist if needed: 741-7933.

2. Initial treatment with IV beta-blocker or nondihydropyridine calcium channel blocker, then convert to long acting medications:

<table>
<tr><td>IV</td><td colspan="2">PO</td><td>Timing</td><td>Notes</td></tr>
<tr><td>Metoprolol 5mg IV q 15 minutes</td><td colspan="2">Metoprolol succinate XL 25-50 mg daily</td><td>Give PO at same time as first IV dose</td><td></td></tr>
<tr><td>Diltiazem10-20 mg IV push over 10-20 min</td><td colspan="2">Diltiazem LA 120-240 mg po daily</td><td>Give po dose if initial IV dose achieves rate control and infusion is not planned</td><td rowspan="8">Diltiazem is preferred for patients with asthma or COPD</td></tr>
<tr><td rowspan="7">Diltiazem infusion 5-15 mg /hr</td><td>IV rate</td><td>PO dose</td><td rowspan="7">Turn off IV infusion 1 hour after PO dose is given</td></tr>
<tr><td>2.5mg/h</td><td>120mg</td></tr>
<tr><td>5mg/h</td><td>180mg</td></tr>
<tr><td>7.5mg/h</td><td>240mg</td></tr>
<tr><td>10mg/h</td><td>300mg</td></tr>
<tr><td>12.5mg/h</td><td>360mg</td></tr>
<tr><td>15mg/h</td><td>480mg</td></tr>
<tr><td colspan="5">Goal HR is < 100. After this has been achieved, monitor patient for 1-2 more hours and ensure patient can ambulate prior to discharge</td></tr>
</table>

Short acting medications may be chosen if there are severe financial constraints: metoprolol 50 mg po bid, diltiazem 30 mg po tid. Strongly consider involving care management/pharmacy as long acting medications are preferable.

2. Pill-in-pocket strategy:
    a. AVOID in patients with known structural heart disease including history of MI, congenital abnormalities, NICM. Consider discussion with cardiology consultant if unsure about appropriateness for pill-in-pocket strategy
    b. Administer flecainide 200 mg po if <70 kg, 300 mg if ≥70 kg
    c. Success rates for cardioversion are reported at 58-95%
    d. Patients should be monitored for 8 hours after drug administration on telemetry. Transient aflutter with rapid ventricular rate occurs in about 1% of patients.