



Diagnosis

Atrial Fib/Flutter (AFF) on ECG

Is RAFF the **primary** arrhythmia or **secondary** to medical cause?
2° causes - Pulmonary embolism, ischemia (cardiac), respiratory illness (pneumonia), thyroid disease, hypovolemia, sepsis, cardiomyopathy (young or elderly/recent Hx of viral illness), **strongly consider PoCUS** to assess global cardiac function

STOP, if **secondary**, treat underlying cause as rate/rhythm control can be **harmful**

Stroke risk

If **STABLE**, assess stroke risk to determine if safe for CV

Low Risk
-Onset <24h + **NO** high risk factors OR OAC >3 weeks

High Risk
No OAC >3 weeks +
-Onset of AFF >24h/unknown OR
-Stroke/TIA in previous 6 months OR
-AAF >24hours and ≥2 CHADS OR
-Mechanical valve or rheumatic valve disease

UNSTABLE

Severe chest pain, acute heart failure, new severe hypotension or SBP<90 with hypoperfusion

Instability to 1° arrhythmia is uncommon

Synchronized electrical cardioversion
200J following adequate risk assessment and sedation

LMWH
If high stroke risk, enoxaparin 1mg/kg SC prior CV

The CCS recommends OAC for 4 wks in all cardioverted ED patients (low quality evidence)
We recommend shared decision making on risk and benefits of OAC in CHADS65 negative patients who are cardioverted

Cardiology consultation and admission

Investigations

None if recurrent and stable

Consider: CBC, Lytes, Renal, TSH, tox screen, VBG/ABG, troponin (if chest pain)

Additional investigations based on suspicion of 2° causes (e.g. CXR if pneumonia)

Mx

Rhythm vs rate control

Low risk for stroke and systemic embolism (SSE)

Rhythm control Rate control

High risk for stroke and systemic embolism (SSE)

Rate control

Rhythm control options

Synchronized electrical cardioversion at 200J following adequate risk assessment and sedation

Procainamide 15mg/kg over 30-60 min (avoid if hypotension and stop if QRS or QTc widens)

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Rate control options to HR <100 bpm

Diltiazem 0.25mg/kg IV over 10 min, can repeat 2nd dose at 0.35 mg/kg (contraindicated if heart failure)

Metoprolol 5 mg IV q5-10min to max of 3 doses (contraindicated if heart failure)

Digoxin 0.25-0.5 mg IV is first line if heart failure. 2nd line if diltiazem or metoprolol fail

Begin PO dosing within 30 min of adequate rate control

- Diltiazem 30-60mg PO
- Metoprolol 25-50mg PO

*No one agent has superiority (BB vs CCB)
 *If patient already on one class of medication, avoid class switching

OAC

CHADS65

Age 65 - Yes → OAC

No → Any 1 of the following: CHF, HTN, DM, Stroke/TIA - Yes → OAC

No → Known coronary artery or peripheral vascular disease? - Yes → Anti-PLT

No → No Rx

Oral anticoagulation (OAC)

Apixaban* 5mg PO BID (2.5 mg twice daily if any two of the following: age ≥80 years, body weight ≤60 kg or serum creatinine ≥133umol/L)

Rivaroxaban* 20 mg PO daily if CrCl >50 mL/min or 15 mg PO daily if CrCl 15-50 mL/minute

Edoxaban* 60 mg PO daily or 30mg PO daily if CrCl 15-50 mL/minute

Warfarin 10 mg PO daily x 3 days (2 to 5 mg PO daily if frail and renal dysfunction) and recheck INR in 72h to determine subsequent dosing via Anticoagulation Clinic

*DOAC vs warfarin trials have shown non-inferiority multiple trials

*DOACs may require special auth for coverage

*There are no DOAC vs DOAC trials

*DOAC coverage. If NBPDP, requires special authorization, if private coverage, may be covered as per plan. or may require authorization. ED Pharmacist can assist

NBPDP Special authorization form **Criteria**

Dispo

Majority of patients can be D/C home

Follow up

If 1st time AFF presentation - Outpatient cardiology referral

If recurrent - Primary care provider follow up unless patient requires cardiology follow up as determined by ED provider

Discharge medication checklist

- OAC if applicable or CHADS65 + and Anticoag Clinic referral
- Metoprolol or diltiazem if rate control. Not needed if converted to sinus rhythm

Abbreviations
 AFF - atrial fibrillation/flutter
 RAFF - rapid atrial fibrillation/flutter
 CV- cardioversion (electrical or chemical)
 OAC - oral anticoagulant
 DOAC - direct oral anticoagulant

Patient resources from Thrombosis Canada
 Atrial Fibrillation/flutter
 Warfarin
 Apixaban
 Rivaroxaban
 Edoxaban