### Cardiac Rhythm Abnormalities Level II

**Cardiac Rate or Rhythm Abnormalities**

**Level II**  
*(No Level I)*

**Skill Level:** RN

**Definition:** Irregular apical pulse; pulse rate below 60 or above 100 beats per minute; apical-radial pulse deficit; abnormal rate and rhythm or configuration on EKG.

#### Subjective:
- “My heart is: skipping beats, beating funny, beating too fast/too slow, pounding in my chest.”
- History of what triggers episode(s).
- History of what relieves episode(s).

#### Assessment:
- Potential for Anxiety: Perceived or actual cardiac rhythm abnormality.
- Alteration in comfort.
- Potential for impaired/decreased cardiac output.

#### Objective:
- **Vital Signs normal:**
  - Pulse - radial and apical, strength, pattern, rate above 40 but less than 120. Heart rhythm is regular to apical listen for two minutes.
  - Blood Pressure may be elevated.
- No chest pain, syncope, shortness of breath, diaphoresis, nausea, or focal weakness.
- Blood pressure normal for patient and not below 85 systolic.
- Review medical history and medications for compliance.
- Review for history of pacemaker/ICD placement.

#### Plan:
At nursing discretion may use any of the below:
- EKG/rhythm strip, especially if heart rhythm is irregular. Discuss results with provider if reads abnormal. Consider faxing or emailing the tracing to the provider. The computer reading may not be correct. (See attached EKG/rhythm strip samples)
- Call provider if irregular heartbeat and patient has a history of cardiac problems. Discuss possible ambulatory cardiac monitoring device and other options with provider.
- Vital signs and monitor ABC’s. If patient’s vitals are stable and normal, the heartbeat is regular and no prior history of cardiac problems, consider provider appointment and reassurance.
- If patient complains of chest pain, syncope, shortness of breath, diaphoresis, nausea or has unstable vital signs, treat as possible Myocardial Infarction, and initiate full emergency treatment.

#### Nursing Education:

1. If the patient has no symptomatic complaints such as chest pain, shortness of breath, nausea, syncope and pulse is above 40 but below 120 and the EKG reveals an SR with 6 or fewer ectopic beats per minute, blood pressure is within normal limits, this is likely to be a single, self-limited episode.
2. If subjective/objective findings indicate anxiety caused, refer to Anxiety protocol; consider BHS referral.
3. If this is a reoccurring episode, but the patient’s vitals are stable, refer to provider.
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4. Be sure to have provider review all EKG’s even when read normal by machine.
5. If the patient is unstable, monitor vital signs, administer O2, initiate IV infusion, transport to local hospital emergency room.
6. There are various ambulatory cardiac monitoring devices available; the use of these devices should be explored with the provider.

Patient Teaching:

1. Reassure and help with relaxation techniques.
2. Explain some possible causes such as smoking, caffeine products, and stress/anxiety.
3. Rest and restrict activity based on tolerance and severity of episode.
4. Notify practitioner if any problems or heart rate remains less than 50 or greater than 120 for 5-10 minutes and if not tolerated by patient.

APPROVED:

Medical Services Manager ___________________________ Date ______________

Chief Medical Officer ___________________________ Date ______________

Clinical Medical Director ___________________________ Date ______________

Effective Date: ___________________________
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Shown are the six precordial electrocardiogram (ECG) leads (V1-V6). The QRS complex is wide and bizarre and the rhythm is ventricular tachycardia (VT). The sixth (+) and seventh (*) QRS complexes show a change in morphology, resembling a normal QRS complex; these represent fusion beats, with partial (+) or complete (*) normalization of the QRS complex. The seventh QRS complex (*) is preceded by a distinct P wave, which is probably conducted, capturing the ventricle for one beat, but not terminating the VT; this is also known as a Dressler beat.

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The continuous lead II electrocardiogram (ECG) tracing initially shows a regular tachycardia at a rate of 160; the QRS complex is wide with a terminal S wave compatible with a right bundle branch block. There is gradual slowing of the rate with the development of atrioventricular (AV) nodal block; ultimately a series of nonconducted P waves (arrows) are seen and there is one escape ventricular premature beat (*). After a second ventricular premature beat (+), sinus rhythm is restored.

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The 12 lead ECG shows atrial fibrillation. The QRS complex is narrow, P waves are absent, and the baseline between successive QRS complexes shows irregular coarse "fibrillatory waves." The QRS complexes occur at irregularly irregular intervals.

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The 12 lead electrocardiogram (ECG) of atrial flutter shows a regular rhythm with a narrow QRS complex. Flutter waves are present, best seen in leads II, III, and aVF (*). In this ECG, the flutter waves are negative in leads II, III, and aVF, and positive in lead V1. One flutter wave is obvious between the QRS complexes, while the second one is superimposed on the terminal portion of the QRS complex; hence there is 2:1 atrioventricular nodal block, which is the most common presentation for atrial flutter.

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Single lead electrocardiogram (ECG) showing torsades de pointes

The electrocardiographic rhythm strip shows torsades de pointes, a polymorphic ventricular tachycardia associated with QT prolongation. There is a short, preinitiating RR interval due to a ventricular couplet, which is followed by a long, initiating cycle resulting from the compensatory pause after the couplet.