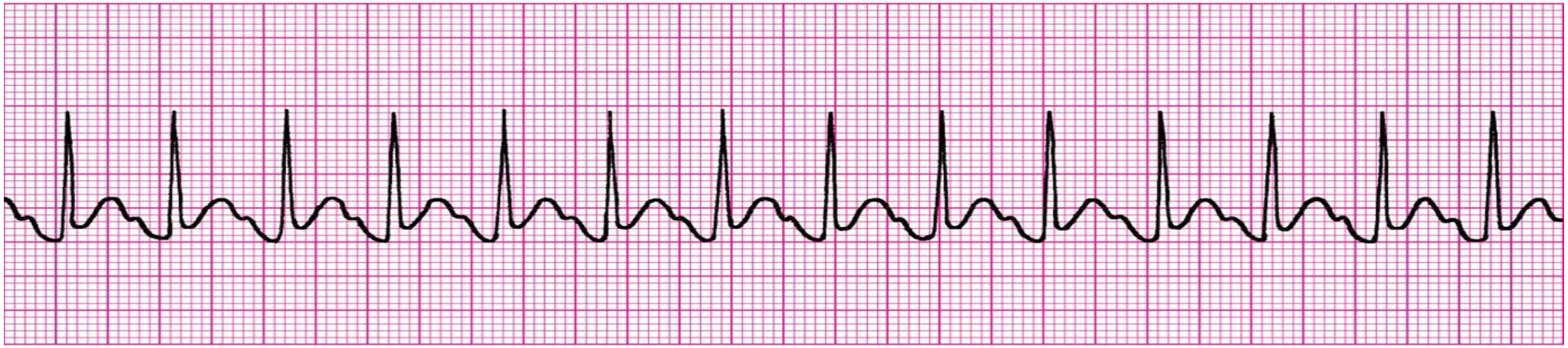
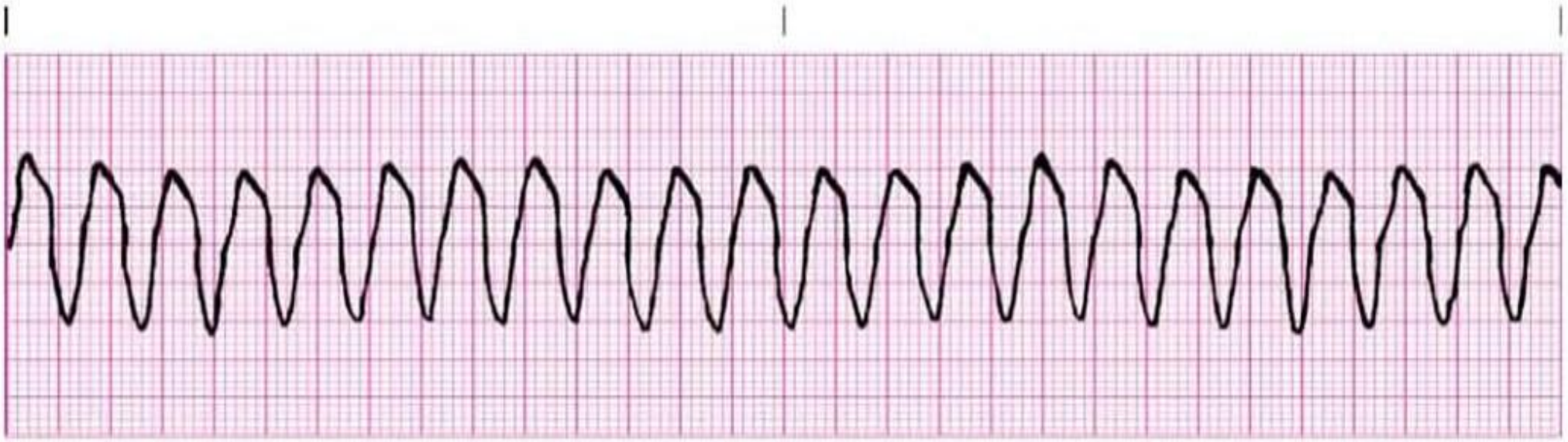
1. **Identify the rhythm** **Sinus Rhythm (6 second strip, 10 x 8=80 bpm; or 1500/19=79 bpm)**
2. **What are you going to do for this patient?** **First assess the patient to R/O what?** **PEA**
3. **Is this a shockable rhythm?** **NO!!!**
4. **What meds are you going to give?** **Not applicable!**
5. **What causes this?** **A good health heart!**



- Maintain patent airway
- Oxygen

1. **Identify the rhythm** **Sinus Tachycardia, atrial tachycardia, supraventricular tachycardia, or atrial fibrillation with rapid ventricular response ≥ 150 bpm**
2. **What are you going to do for this patient?** **Assess the patient**
3. **Is this a shockable rhythm?** **Consider synchronized cardioversion (sedate the patient) or vagal maneuver**
4. **What meds are you going to give?**
   - **Adenosine IV 1st dose: 6 mg fast followed by NS flush, 2nd dose: 12 mg if needed**
5. **What causes this?**
   - **Damaged heart tissue from heart disease, congenital heart conditions, long QT syndrome, anemia, high or low blood pressure, smoking, fever, alcoholics, medications, cocaine, electrolyte imbalance, hyperthyroidism**

Synchronized cardioversion If persistent s/s of
- Hypotension
- Acutely altered mental status
- Signs of shock
- Ischemic chest discomfort
- Acute heart failure



- Maintain patent airway
- Oxygen

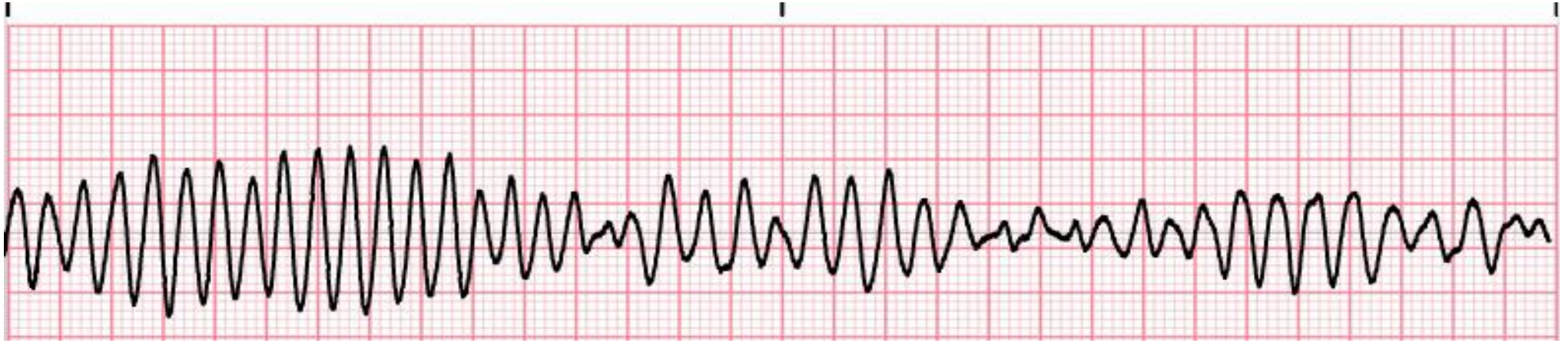
1. **Identify the rhythm** **Ventricular Tachycardia [V-Tach]**
2. **What are you going to do for this patient?** **Assess the patient!**
   - **With a pulse or without (pulseless)?**
     - **Pulseless, call for help, start CPR for 2 minutes**
     - **Follow ACLS protocol**
3. **Is this a shockable rhythm?** **Yes, if pulseless - shock; No, if pulse present ▼**
4. **What meds are you going to give?**
   - **Epinephrine IV or IO 1 mg q 3-5 minutes**
   - **Amiodarone IV or IO 1st dose: 300 mg bolus; 2nd dose: 150 mg**
   - **Continue CPR & ACLS protocol**
5. **What causes this?**
   - **Hypovolemia, hypoxia, hydrogen ion (acidosis), hypo-hyperkalemia, hypothermia**
   - **Tension pneumothorax, tamponade, toxins, thrombosis pulmonary or cardiac.**

Narrow Regular 'QRS':
- Synchronize 50-100 j

-or-
- 1st dose Adenosine 6 mg IV slam
- 2nd dose Adenosine 12 mg IV slam
- Antiarrhythmic drugs

- Maintain patent airway
- Oxygen

1. **Identify the rhythm** **Ventricular Fibrillation [V-Fib]**
2. **What are you going to do for this patient?** **Assess the patient**
   - **Call for help**
   - **Start CPR for 2 minutes**
   - **Follow ACLS protocol**
3. **Is this a shockable rhythm?** **YES, then shock!**
4. **What meds are you going to give?**
   - **Epinephrine IV or IO 1 mg q 3-5 minutes**
   - **Amiodarone IV or IO 1st dose: 300 mg bolus; 2nd dose: 150 mg**
   - **Continue CPR & ACLS protocol**
5. **What causes this?**
   - **Hypovolemia, hypoxia, hydrogen ion (acidosis), hypo-hyperkalemia, hypothermia**
   - **Tension pneumothorax, tamponade, toxins, thrombosis pulmonary or cardiac.**



- Maintain patent airway
- Oxygen

1. **Identify the rhythm** **Torsade of Pointes**
2. **What are you going to do for this patient?** **Assess the patient**
3. **Is this a shockable rhythm?** **YES!! Then shock!**
4. **What meds are you going to give?**
   - **Epinephrine IV or IO 1 mg q 3-5 minutes**
   - **Amiodarone IV or IO 1st dose: 300 mg bolus; 2nd dose: 150 mg**
   - **Magnesium 1-2 g IV or IO for hypomagnesemia**
   - **Continue CPR & ACLS protocol**
5. **What causes this?**
   - **Hypovolemia, hypoxia, hydrogen ion (acidosis), hypo-hyperkalemia, hypothermia**
   - **Tension pneumothorax, tamponade, toxins, thrombosis pulmonary or cardiac.**

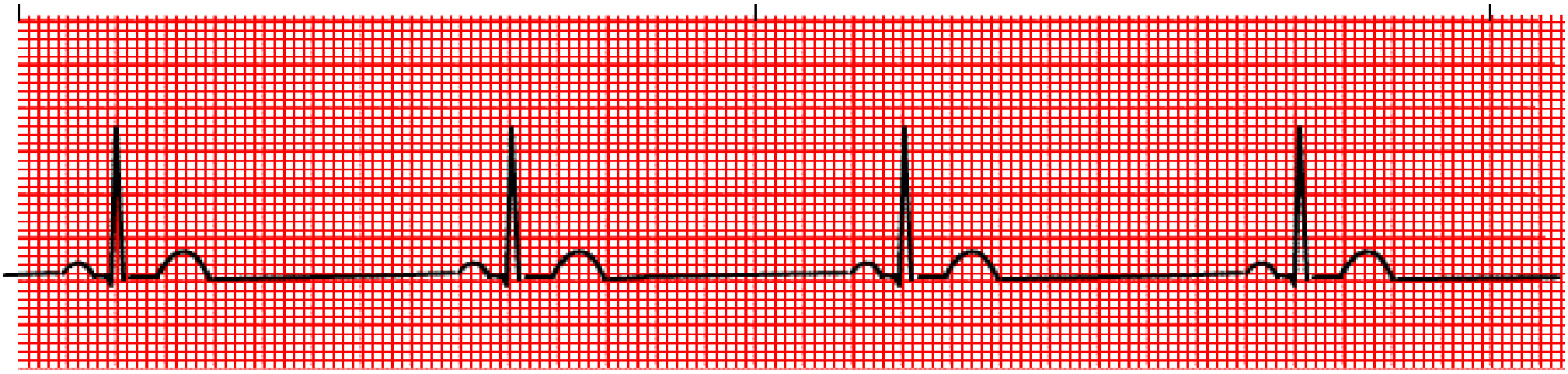
S&S
- Palpitations
- Dizziness
- Fainting
- Sudden cardiac death

Causes
- Severe diarrhea
- Low blood magnesium
- Low potassium
- hypothyroidism
- Alcoholics
- Subarachnoid hemorrhage
- Drugs causing long 'QT' (clarithromycin, levofloxacin, haloperidol, amiodarone..)

1. **Identify the rhythm** **Sinus Bradycardia**
2. **What are you going to do for this patient?** **Assess the patient, asymptomatic will monitor closely or symptomatic will treat. Remember athletes can have a resting heart rate in the 40's and 50's without any symptoms.**
3. **Is this a shockable rhythm?** **NO!!**
4. **What meds are you going to give?**
   - **Atropine 1st dose: 0.5 mg bolus q 3-5 minute if needed, max: 3 mg**
   - **Transcutaneous pacing, Dopamine, or epinephrine infusion**
5. **What causes this?**
   - **Ischemia (inverted 'T' waves), MI (STEMI or NSTEMI), medications (BB, dig, amiodarone), sick sinus syndrome, hypothermia, hypothyroidism**

- Maintain patent airway
- Oxygen
- Cardiac monitor
- Monitor BP & oximetry
- IV access
- Stat 12 lead EKG

Causes:
- Hypotension
- Altered mental status
- Signs of shock
- Ischemic chest discomfort
- Acute heart failure



- Maintain patent airway
- Oxygen

1. **Identify the rhythm** **No pulse = Pulseless Electrical Activity [PEA]**
   can have a narrow or wide 'QRS'
2. **What are you going to do for this patient?** **Assess the patient, no pulse, start CPR**
3. **Is this a shockable rhythm?** **NO!!**
4. **What meds are you going to give?**
   - **Epinephrine IV/IO 1 mg every 3-5 minutes**
   - **Amiodarone IV/IO 1st dose: 300 mg bolus; 2nd dose: 150 mg**
   - **Continue CPR**
5. **What causes this?**
   - **Hypovolemia, hypoxia, hydrogen ion (acidosis), hypo-hyperkalemia, hypothermia,**
   - **Tension pneumothorax, tamponade, toxins, thrombosis pulmonary/coronary,**

- Maintain patent airway
- Oxygen

1. **Identify the rhythm** **Asystole**
2. **What are you going to do for this patient?** **Assess the patient start CPR**
3. **Is this a shockable rhythm?** **NO!!**
4. **What meds are you going to give?**
   - **Epinephrine IV/IO 1 mg every 3-5 minutes**
   - **Continue CPR**
5. **What causes this?**
   - **Hypovolemia, hypoxia, hydrogen ion (acidosis), hypo-hyperkalemia, hypothermia**
   - **Tension pneumothorax, tamponade, toxins, thrombosis pulmonary/coronary**