



MASTER CHEAT SHEET

KEY CONCEPTS



KEY CONCEPTS TO KNOW

- ♥ EKG (ECG) records the electrical activity of the heart.
- ♥ It helps detect arrhythmias, ischemia, heart attacks, and other cardiac conditions.
- ♥ Always verify patient identity and explain the procedure.
- ♥ Correct lead placement and patient preparation are key to accurate results.
- ♥ **Safety first:** Maintain privacy, monitor the patient, and follow standard precautions.



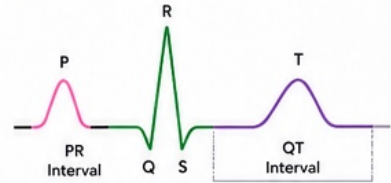
NORMAL EKG VALUES

Heart Rate	60 – 100 bpm
PR Interval	0.12 – 0.20 sec
QRS Duration	< 0.12 sec
QT Interval	< 0.44 sec

Outside these ranges = potential problem



EKG WAVE BREAKDOWN



- **P Wave:** Atrial depolarization
- **PR Interval:** AV node delay
- **QRS Complex:** Ventricular depolarization
- **T Wave:** Ventricular repolarization
- **U Wave:** May be present; electrolyte issues

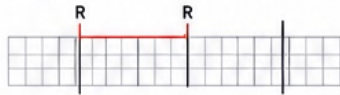


HEART RATE CALCULATION

300 METHOD (Most Common)

300 – 150 – 100 – 75 – 60 – 50

Count the large boxes between R waves.



6-SECOND METHOD

Count the number of R waves in 6 seconds and multiply by 10.



COMMON RHYTHMS

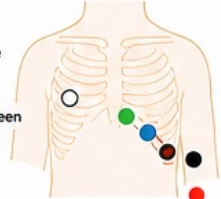
- ♥ **Normal Sinus Rhythm (NSR)**
Rate: 60–100 bpm
Regular rhythm, P wave before every QRS.
- ♥ **Sinus Bradycardia**
Rate: < 60 bpm
Otherwise normal.
- ♥ **Sinus Tachycardia**
Rate: > 100 bpm
Otherwise normal.
- ♥ **Atrial Fibrillation (AFib)**
Irregularly irregular rhythm, no distinct P waves.
- ♥ **Ventricular Tachycardia (V-Tach)**
Wide QRS, rate > 100 bpm, serious rhythm.
- ♥ **Ventricular Fibrillation (V-Fib)**
Chaotic waveform, no organized rhythm. No pulse – CPR!



12-LEAD PLACEMENT

LIMB LEADS

- **RA** Right Arm (-) White
- **LA** Left Arm (-) Black
- **RL** Right Leg (Ground) Green
- **LL** Left Leg (+) Red



CHEST LEADS (V1–V6)

- **V1** 4th ICS, right sternal border
- **V2** 4th ICS, left sternal border
- **V3** Between V2 and V4
- **V4** 5th ICS, midclavicular line
- **V5** Anterior axillary line
- **V6** Midaxillary line

Remember the **4-4-5 Rule!**
4th ICS, 4th ICS, 5th ICS



PATIENT PREPARATION

- ✓ Explain the procedure.
- ✓ Ensure patient is relaxed and comfortable.
- ✓ Remove jewelry and excess clothing.
- ✓ Cleanse skin (remove oils & lotions).
- ✓ Shave if necessary.
- ✓ Ensure skin is dry.
- ✓ Attach electrodes securely.
- ✓ Ask patient to remain still and breathe normally.



COMMON ARTIFACTS

- Patient movement
- Loose or improper electrodes
- Muscle tremors
- Poor skin preparation
- Electrical interference

Always check leads and connections before assuming an abnormal rhythm!



WHEN TO ACT FAST

- ♥ **No pulse rhythm** (Asystole, V-Fib, Pulseless VT): Start CPR and call for help.
- ♥ **Ventricular Fibrillation (V-Fib):** Immediate defibrillation.
- ♥ **Ventricular Tachycardia (V-Tach):** Assess stability – notify provider.
- ♥ **Chest pain + abnormal EKG:** Urgent care needed.



EKG EXAM / STUDY TIPS

- ✓ Always check: Rate – Rhythm – P Waves – QRS
- ✓ Learn common rhythms & how to identify them.
- ✓ Practice counting with different strip speeds.
- ✓ Understand normal values and what's abnormal.
- ✓ Use mnemonics and flashcards.
- ✓ Review, review, review!



HIGH-YIELD REMINDERS

- P before every QRS = good sign.
- Wide QRS = think ventricular origin.
- No P waves + irregular = think AFib.
- Rate < 60 = Brady, Rate > 100 = Tachy.
- Always correlate with symptoms!



EKG SAFETY TIPS

- Ensure cords are in good condition.
- Keep area dry and safe.
- Respect patient privacy.
- Report any discomfort.
- Follow infection control protocols.



QUICK NORMAL VALUES

- Heart Rate: 60 – 100 bpm
- PR Interval: 0.12 – 0.20 sec
- QRS Duration: < 0.12 sec
- QT Interval: < 0.44 sec



EKG KEY TERMS

- Depolarization** – Electrical activation of the heart.
- Repolarization** – Recovery phase of the heart.
- Ischemia** – Reduced blood flow to the heart.
- Arrhythmia** – Abnormal heart rhythm.
- Bradycardia** – Heart rate < 60 bpm.
- Tachycardia** – Heart rate > 100 bpm.
- ST Segment** – Early repolarization phase.



YOU'VE GOT THIS!

Study. Practice. Believe.

SUCCESS IS PREPARATION + OPPORTUNITY!

KEEP LEARNING.
KEEP GROWING.
MAKE A DIFFERENCE.

