# NOMENCLATURE OF QRS COMPLEX

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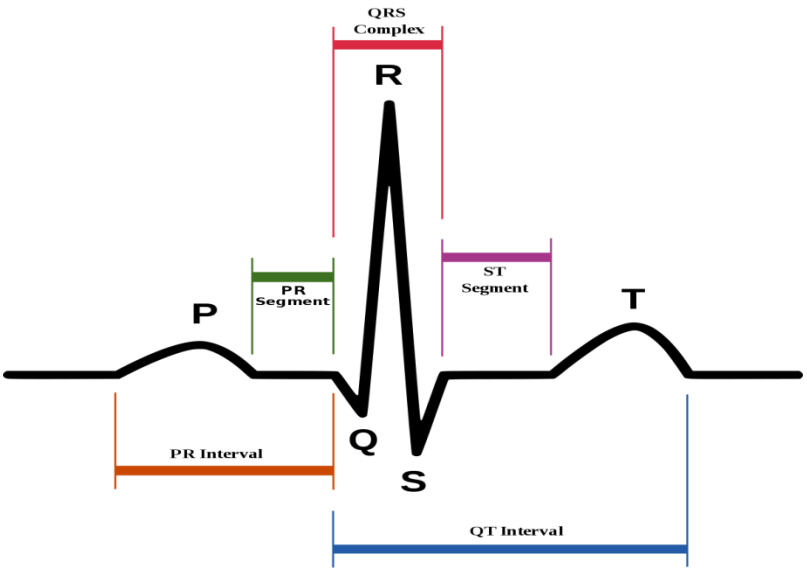
QRS Complex is graphic representation of ventricular depolarization.




Isoelectric line – produced when there is no electrical activity in heart. Isoelectric line lies between T wave and P wave, also called TP segment.

In healthy people, PR segment and ST segment remains at same level of isoelectric line but we don't take these segments as reference because under certain pathologic conditions, these ST and PR segment may be deflected.

Three basic parameters to determine nomenclature of QRS complex:

1. Direction of deflection (positive or negative deflection)
2. Position of wave in the complex
3. Amplitude of deflection

Principles of Nomenclature:

1. Initial negative wave is labelled as q wave (if amplitude is small) or Q wave (if amplitude is large)
2. First positive deflection is called R or r wave

3. Negative deflection after the R wave is S or s wave
4. Second positive deflection within QRS is labeled as r' or R'
5. Negative deflection after R' is s' or S'
6. Small deflections (less than 3 small squares) are designated by q, r, s, r', s'
7. Large deflections (more than 3 small squares) are designated Q, R, S, R', S'

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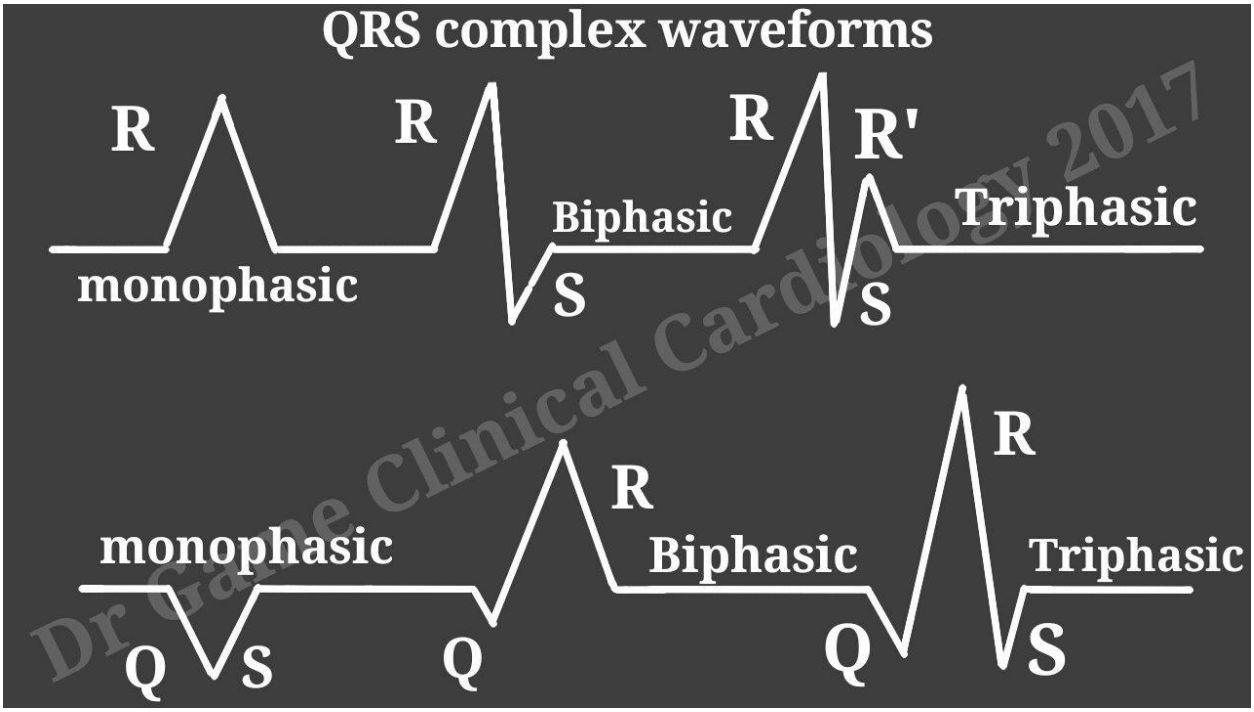
|---|---|---|---|
| R<br>  <br>The first (and only) wave is positive and thus an R wave. | Rs<br>  <br>The first wave is large and positive (R), followed by a small negative wave (s). | rS<br>  <br>Initially a small positive wave (r), followed by a large negative wave (S). | qRs<br>  <br>The first wave is negative and small (q), followed by a large positive wave (R), and finally a small negative wave (s). |
| QR<br>  <br>Initially a large negative (Q), then a large positive wave (R). | QS<br>  <br>A single negative wave is called a QS-complex. | Qr<br>  <br>A large negative wave (Q), followed by a small positive wave (r). | rsR'<br>  <br>The negative wave manages to pass the baseline, and is therefore qualified as an S wave. |
| qR<br>  <br>Initially a small negative wave (q), followed by a large positive wave (R). | R<br>  <br>Notching on the upstroke of the R wave. | rR'<br>  <br>The negative deflection does not manage to pass the baseline and can therefore qualify as an s wave. |  <br>Examples of fragmented QRS-complexes. |

When we use the word QRS complex, it does not mean that Q, R and S; all three waves must be there. QRS complex is name given to any wave complex produced by ventricular depolarization. It may consist of one wave, two waves, three waves or even more waves.

- Triphasic QRS Complex – QRS complex having three waves
- Biphasic QRS Complex – QRS complex having two waves
- Monophasic QRS complex – QRS complex having one wave




Any deflection below the baseline following Q wave without R wave is called as QS wave.


QS wave is a monophasic wave but known as QS wave since we don't know for sure if it's Q wave or S wave.