

# **PROCEDURE OF RECORDING ECG**



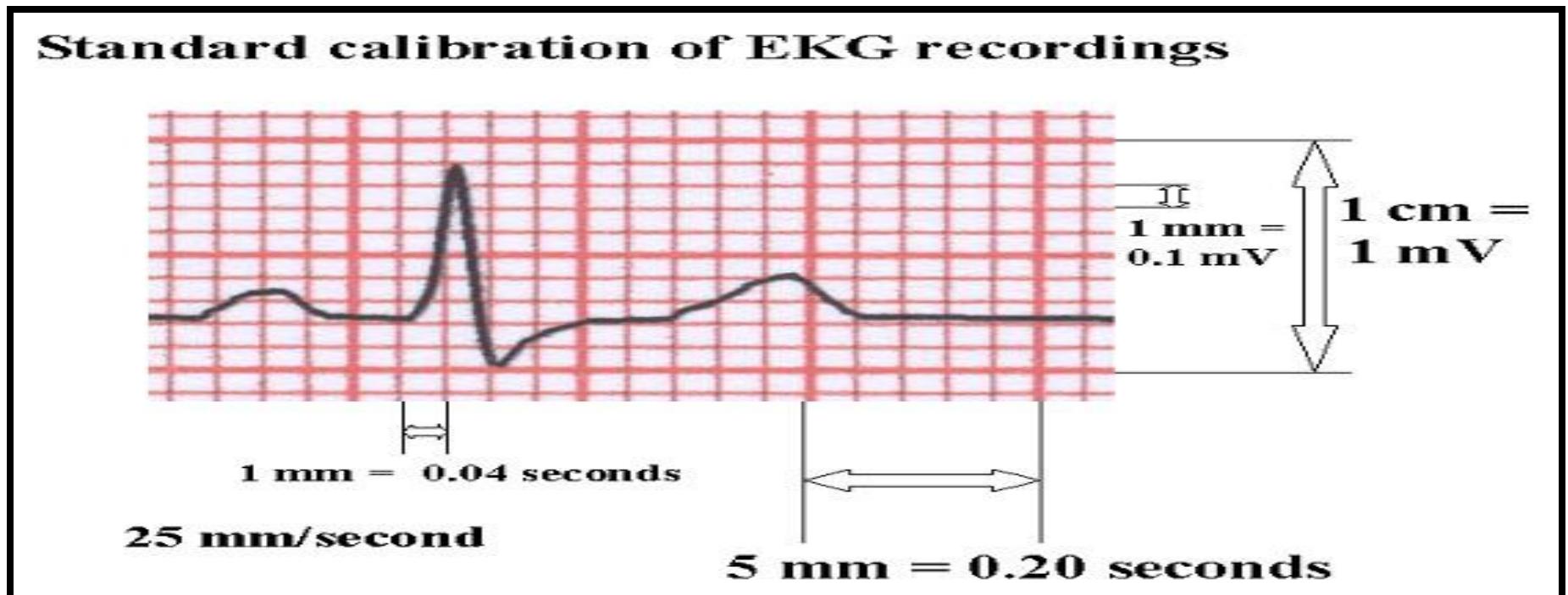
**BY- AHMED SODHA  
M.Sc.(N)- M.S.N.**

## q INTRODUCTION:-

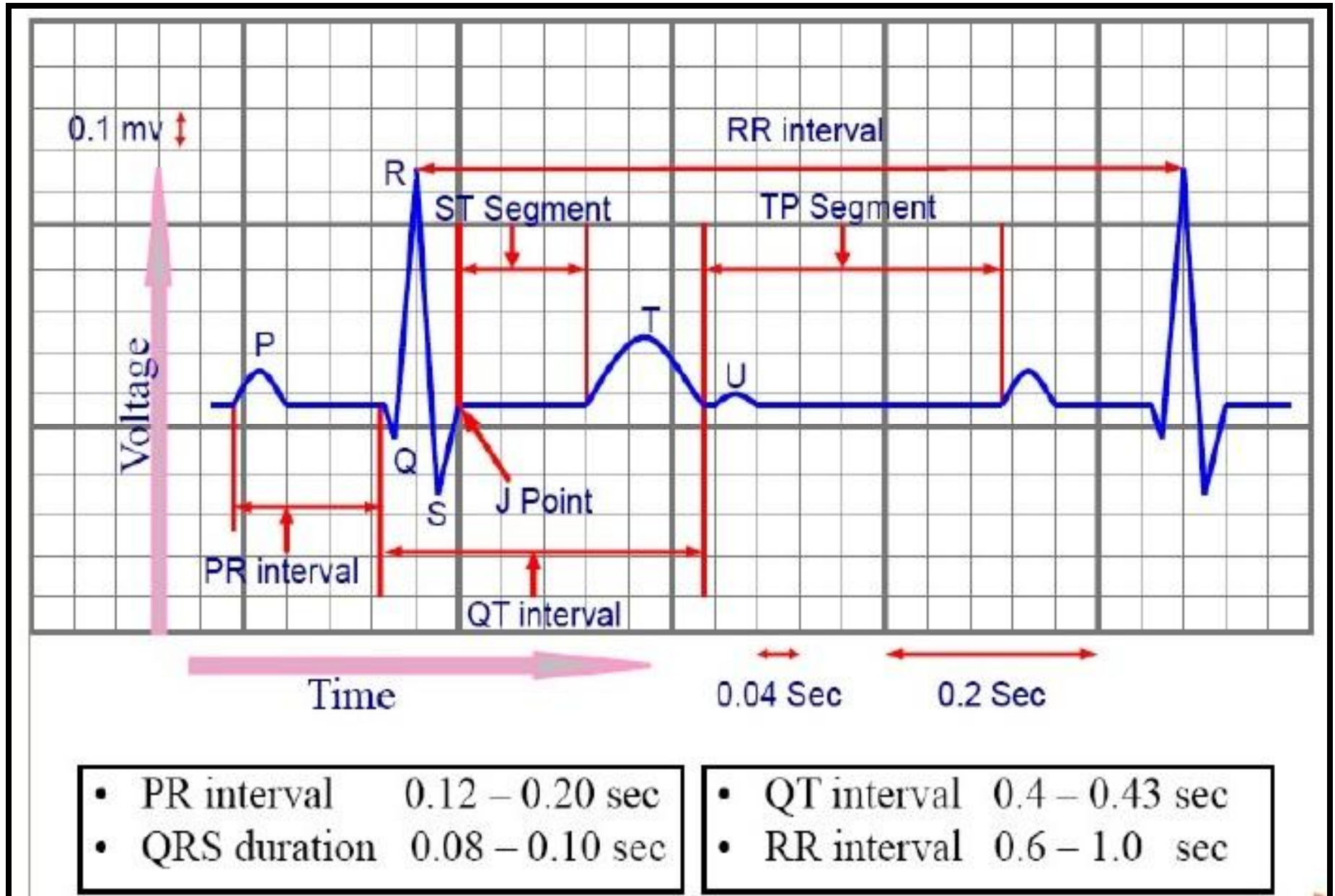
- AN ECG IS A RECORDING OF WAVEFORMS THAT REFLECTS THE ELECTRICAL ACTIVITY OF THE HEART.
- AN ELECTROCARDIOGRAM IS A GRAPHIC RECORD OF THE ELECTRICAL IMPULSES THAT ARE GENERATED BY DEPOLARIZATION & REPOLARIZATION OF THE MYOCARDIUM.
- ECG - A GALVANOMETER & ELECTRODES WITH SIX LIMB LEADS AND SIX CHEST LEADS. RECORDED ON GRAPH PAPER WITH DIVISIONS.

## q ELECTROCARDIOGRAPHIC PAPER:-

- A GRAPH PAPER WITH EACH SMALL SQUARE MEASURING **1mm X 1mm**.
- ECG RECORDERS & MONITORS ARE STANDARDIZED AT A SPEED OF **25 mm / sec**. TIME IS MEASURED ON HORIZONTAL AXIS & VOLTAGE ON Y AXIS.
- EACH SMALL SQUARE REPRESENTS **0.04** SECONDS.
- FIVE SMALL SQUARES MAKE UP ONE LARGE SQUARE REPRESENTING **0.20** SECONDS.



## q ELECTROCARDIOGRAPHIC PAPER:-



## q PURPOSE:-

- TO ASSESS THE CARDIAC FUNCTION (RATE , RHYTHM AND CONDUCTION).
- TO DIAGNOSE CARDIAC RHYTHM DISORDERS  
(Eg. HEART BLOCK, DYSRHYTHMIAS)
- TO DIAGNOSE CARDIAC DISEASES (Eg. MI)
- TO DETECT THE EFFECTS OF ELECTROLYTE IMBALANCE ON CARDIAC FUNCTION  
(Eg. HYPERKALEMIA, HYPOKALEMIA, ETC)
- TO EVALUATE EFFECTS OF TREATMENT  
(Eg. ADMINISTRATION OF CARDIAC DRUGS).

## q ARTICLES:-

- ECG MACHINE WITH 12 LEADS
- ELECTROCONDUCTIVE GEL
- TISSUE PAPER / TOWEL
- KIDNEY TRAY / PAPER BAG

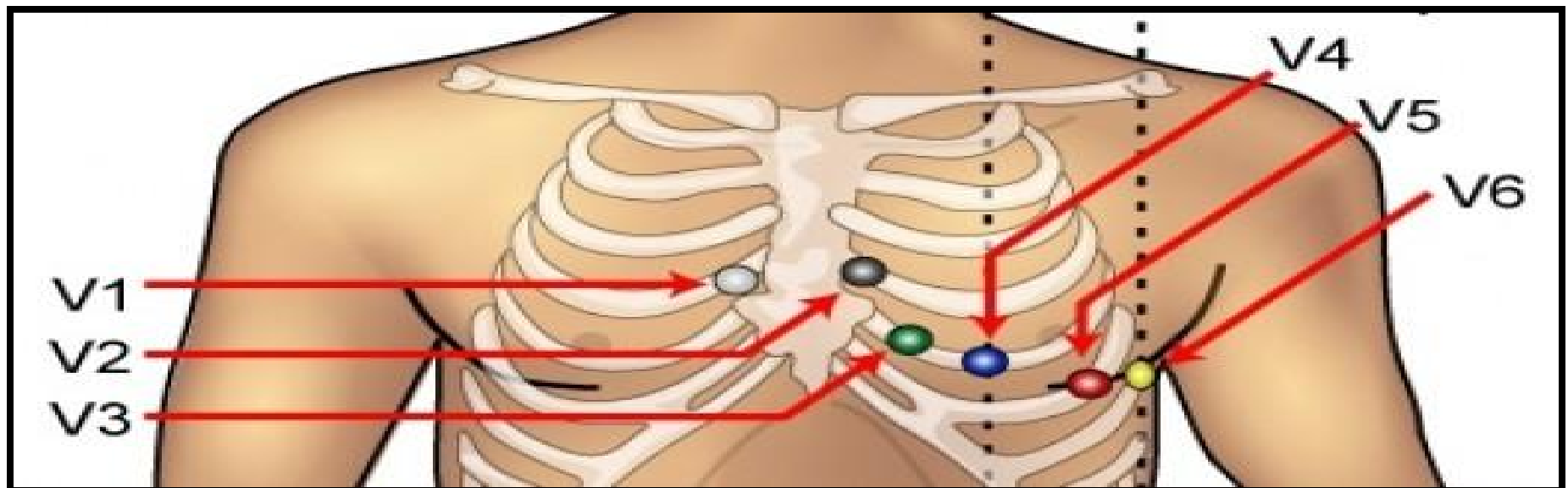
## q PLACEMENT OF ELECTRODES

Ø 4 ARE LIMB ELECTRODES:

- RIGHT ARM : RED 
- LEFT ARM : YELLOW 
- LEFT LEG : GREEN 
- RIGHT LEG : BLACK 

## q PLACEMENT OF ELECTRODES (CONT.):-

- V1 - ELECTRODE POSITIONED IN THE 4<sup>th</sup> INTERCOSTAL SPACE IN THE RIGHT STERNAL BORDER.
- V2 - 4<sup>th</sup> ICS IN THE LEFT STERNAL BORDER.
- V3 - MIDWAY BETWEEN V2&V4.
- V4 - 5<sup>th</sup> ICS IN THE LEFT MIDCLAVICULAR LINE.
- V5 - SAME LEVEL AS V4, ANTERIOR AXILLARY LINE.
- V6 - SAME LEVEL AS V4 & V5, MIDAXILLARY LINE.



## q PROCEDURE:-

- EXPLAIN THE PURPOSE & PROCEDURE OF ECG TO PATIENT.
- ENSURE THAT THE PROPER STANDARD ECG MACHINE WITH WORKING CONDITION.
- PROVIDE SUPINE POSITION TO PATIENT.
- PERFORM HAND WASHING.
- ARRANGE ECG MACHINE, GEL & ECG PAPER IN TROLLEY.
- EXPOSE CHEST COMPLETELY. ASSIST PATIENT TO PUT ON A FRONT OPEN LOOSE GOWN OR SHIRT.  
(ASK FEMALE PATIENT TO REMOVE ALL TIGHT FITTING CLOTHING AROUND THE CHEST.
- APPLY ECG GEL ON LEAD PLACEMENT SITES AND POSITION ALL ELECTRODES APPROPRIATELY.  
(ENSURE PRIVACY DURING PROCEDURE)



## q PROCEDURE (CONT.):-

- START TO RECORD ECG.
- AFTER RECORDING REMOVE ALL ECG LEADS PROPERLY .
- CLEAN ECG GEL FROM PATIENT'S BODY WITH TISSUE PAPER OR TOWEL.
- REPLACE THE ARTICLES PROPERLY.
- RECORD THE PROCEDURE IN NURSES RECORD BOOK.
- SEND ECG REPORT TO PHYSICIAN.

### ◆ VIDEO LINKS ◆

<https://www.youtube.com/watch?v=UcPqVjjCaik>

<https://www.youtube.com/watch?v=kwLbSx9BNbU>

<https://www.youtube.com/watch?v=RYZ4daFwMa8>