NYU School of Medicine
Emergency Care Electrocardiogram (ECG) Database

ECG Database Assembly:

The initial dataset was comprised of 98,420 ECGs obtained from the General Electric MUSE system of the NYU Langone Medical Center. These records represent all patients treated in the Perelman Department of Emergency Medicine who received at least one ECG during their ED visit, from the 5 year period immediately preceding the study. It is institutional policy that the ECGs performed during an ED visit be over-read by a cardiologist. Only one "most relevant" ECG is formally reported per ED visit. ECGs of patients younger than 18 or older than 80 years were excluded. Fifteen cases were excluded for data quality issues in the structure of the ECG data files. A total of 81,287 resting electrocardiograms remained. The individual native XML files that make up the ECG were downloaded and their data parsed (e.g. heart rate, axis etc) as well both the machine read and subsequent cardiologist over-read. In particular, the cardiologist interpretations were mapped to a controlled vocabulary (American Heart Association (AHA) Diagnostic Statement List). These ECG properties are reported using descriptive statistics.

American Heart Association Diagnoses Used in the ECG Adaptive Tutor

Aberrant conduction of supraventric beat(s)
Abnormal precordial R-wave progression
Acute pericarditis
Atrial fibrillation
Atrial flutter
Atrial premature complex(es) - APC APB

AV Block - Second-degree, Mobitz type I (Wenckebach)
AV Block - Second-degree, Mobitz type II
AV Block, complete (third-degree)

Brugada abnormality

Bundle Branch Block - Left - LBBB
Bundle Branch Block - Right – RBBB
Bundle Branch Block -RBBB – incomplete

Early repolarization
Extremity electrode reversal
Fusion complex(es)
Hyperkalemia
Hypokalemia or drug effect
Intraventricular conduction delay

Ischemia - Anterolateral Leads
Ischemia - location unspecified

Left anterior fascicular block
Left atrial enlargement
Left posterior fascicular block
Left ventricular hypertrophy
Left-axis deviation
Low voltage

Non specific ST changes with ST deviation
Non specific ST changes with ST & T wave changes
Non specific ST changes with T-wave change

Normal ECG

Pacing - Atrial-paced complex(es) or rhythm
Pacing - Atrial-sensed ventricular-paced complex(es) or rhythm

PR Interval - Short
QT Interval - Prolonged

Right ventricular hypertrophy
Right-axis deviation

Sinus bradycardia
Sinus tachycardia
ST-T change due to ventricular hypertrophy

STEMI - Anterior
STEMI - Anteroseptal
STEMI - Inferior or Inferolateral
STEMI - Lateral
STEMI - Posterior
STEMI - Right Ventricular

Supraventricular tachycardia
Ventricular fibrillation
Ventricular preexcitation
Ventricular premature complex(es) - VPB – VPC

Ventricular tachycardia
Ventricular tachycardia, polymorphous
Wide-QRS tachycardia

Remember, that favouring your KEYBOARD will make your flow smoother – just type in a few unique letters of your desired answer and the auto-prediction will quickly narrow down the list to a few possibilities; Use the TAB key to move between diagnosis boxes.

Using your mouse to choose from the picklist will be more laborious. Have FUN!!!