Physiology Lessons
for use with the
Biopac Student Lab

PC under Windows®98SE, Me, 2000 Pr
or Macintosh® OS 8.6-9.1

Manual Revision
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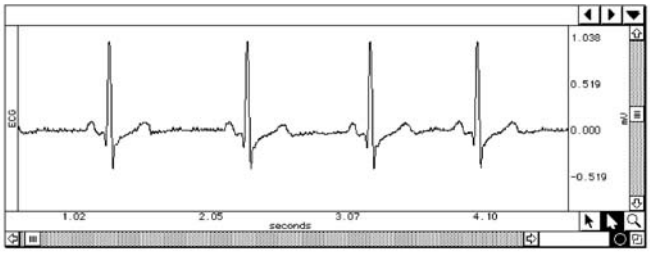
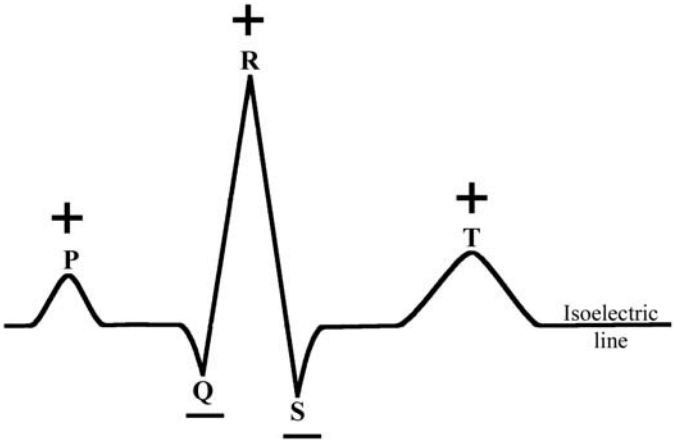
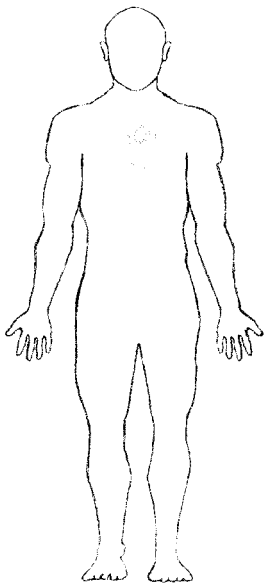
Lesson 5 Data Report

ELECTROCARDIOGRAPHY I

Components of the ECG







Lesson 5

ELECTROCARDIOGRAPHY I

ECG I

DATA REPORT

Student's Name: _____

Lab Section: _____

Date: _____

I. Data and Calculations

Subject Profile

Name_____ Height_____

Age_____ Weight_____

Gender: Male / Female

A. Supine, Resting, Regular Breathing (using *Segment 1* data)

Complete the following tables with the lesson data indicated, and calculate the Mean and Range as appropriate.

Table 5.3

Measurement	From Channel	Cardiac Cycle 1	2	3	Mean	Range
ΔT	CH 2					
BPM	CH 2					

Table 5.4

ECG Component	Duration Δ T [CH 2] Cycle 1	Cycle 2	Cycle 3	Mean	Amplitude (mV) Δ [CH 2] Cycle 1	Cycle 2	Cycle 3	Mean
P wave								
PR interval								
PR segment								
QRS complex								
QT interval								
ST segment								
T wave								

Table 5.5

Ventricular Readings	CH 2 Δ T			
	Cycle 1	Cycle 2	Cycle 3	Mean
QT Interval (*corresponds to Ventricular Systole*)				
End of T wave to subsequent R wave (*corresponds to Ventricular Diastole*)				

B. Seated, deep breathing

Table 5.6

Rhythm	CH. #	Cycle 1	Cycle 2	Cycle 3	Mean
Inspiration					
Δ T	CH 2				
BPM	CH 2				
Expiration					
Δ T	CH 2				
BPM	CH 2				

C. Sitting

Table 5.7

Heart Rate	CH. #	Cycle 1	Cycle 2	Cycle 3	Mean
Δ T	CH 2				
BPM	CH 2				

D. After Exercise

Table 5.8

Ventricular Readings	CH 2 Δ T			
	Cycle 1	Cycle 2	Cycle 3	Mean
QT Interval (*corresponds to Ventricular Systole*)				
End of T wave to subsequent R wave (*corresponds to Ventricular Diastole*)				

II. Data Summary and Questions

E. Heart Rate (BPM)

Condition	Mean	Range
Supine, regular breathing		
Seated, deep breathing, inhalation		
Supine, deep breathing, exhalation		
Sitting, regular breathing		
After exercise – start of recording		
After exercise – end of recording		

Explain the changes in heart rate between conditions. Describe the physiological mechanisms causing these changes.

F. Duration (Δ T)

Rhythm

Measurement	Mean	Range
Supine, regular breathing		
Inhalation		
Exhalation		
Supine, deep breathing		
Inhalation		
Exhalation		

Are there differences in the cardiac cycle with the respiratory cycle?

Measurement	Mean	Range
Supine, regular breathing		
Ventricular systole	_____	_____
Ventricular diastole	_____	_____
After Exercise		
Ventricular systole	_____	_____
Ventricular diastole	_____	_____

What changes occurred in the duration of systole and diastole between resting and post-exercise?

_____

_____

_____

_____

G. Review your Data

1. Is there always one P wave for every QRS complex? Yes No
2. Describe the P and T wave shapes:_____
3. Do the wave durations and amplitudes for all subjects fall within the normal ranges listed in Table 5.2? Yes No
4. Do the ST-segments mainly measure between –0.1 mV and 0.1 mV? Yes No
5. Is there baseline "drift" in the recording? Yes No
6. Is there baseline "noise" in the recording? Yes No

End of Lesson 5 Data Report