



Physiology Lessons
for use with the
Biopac Student Lab

PC under Windows® 98SE, Me, 2000 Pro
or Macintosh® 8.6 – 9.1

Manual Revision
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J.C. Uyehara, Ph.D.
Biologist
BIOPAC Systems, Inc.

William McMullen
Vice President
BIOPAC Systems, Inc.

BIOPAC Systems, Inc.

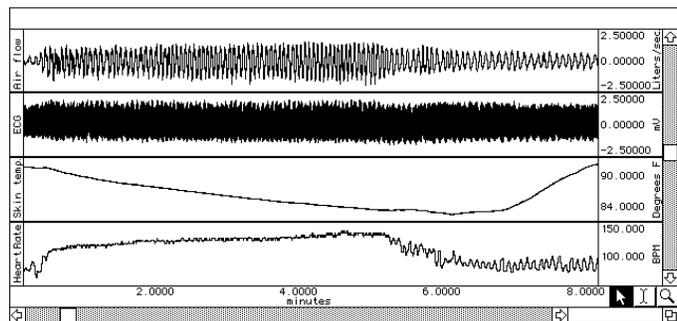
42 Aero Camino, Goleta, CA 93117
(805) 685-0066, Fax (805) 685-0067
Email: info@biopac.com
Web Site: <http://www.biopac.com>

Lesson 15 Data Report

Aerobic Exercise Physiology

Cardiovascular and Respiratory Adjustments

- *ECG During and Post-Exercise*
- *Ventilation During and Post-Exercise*
- *Heat Exchange*



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DATA REPORT

Student's Name: _____

Lab Section: _____

Date: _____

I. Data and Calculations

Subject Profile

Name _____

Height _____

Age _____

Weight _____

Gender: Male / Female

Calculated maximum heart rate: _____

A. Pre-exercise

Complete Table 15.1 with the requested measurements for data in the 5-second interval before exercise.

Table 15.1

Heart Rate [CH 41] Value	Breathing Rate [CH 1] BPM)	Airflow [CH 1] max	Skin Temp [CH 3] Value

B. During Exercise

Complete Table 15.2 with the requested measurements for data during exercise.

**Note* Time references are the starting points of the exercise segment and do not correspond to the data window's horizontal time scale. If you did not collect 5 minutes of data, leave excess entries blank.

Table 15.2

Time* (min)	Time* (secs)	Heart Rate [CH 41] Value	Breathing Rate [CH 1] BPM)	Airflow [CH 1] max	Skin Temp [CH 3] Value
0	0				
	30				
1	60				
	90				
2	120				
	150				
3	180				
	210				
4	240				
	270				
5	300				

C. Post-Exercise

Complete Table 15.3 with the requested measurements for data after exercise.

**Note* Time references are the starting points of the post-exercise segment and do not correspond to the data window's horizontal time scale. If you did not collect 5 minutes of data, leave excess entries blank.

Table 15.3

Time* (min)	Time* (secs)	Heart Rate [CH 41 Value]	Breathing Rate [CH 1 BPM]	Airflow [CH 1 max]	Skin Temp [CH 3 Value]
0	0				
	30				
1	60				
	90				
2	120				
	150				
3	180				
	210				
4	240				
	270				
5	300				

II. Questions:

D. Using your data, describe the timing and types of physiological changes observed during exercise:

i. ECG: _____

ii. Heart Rate: _____

iii. Breathing Rate _____

iv. Temperature: _____

v. Ventilation Depth: _____

E. i. When did the Subject start sweating? _____

ii. Describe the temperature changes before and after sweating commenced.

iii. When exercising, does wiping off sweat help cool down the body? Why or why not?

F. i. How long did it take before the Subject's physiological measurements returned to resting levels?

ii. What physiological mechanisms are operating during the post-exercise period?

G. i. Define **anaerobic threshold**.

ii. How does anaerobic threshold change with training?

H. Compare the changes in airflow (ventilation) rates:

i. Within Subject: (rest, maximal rate during exercise, post-exercise)

ii. Between Subjects: (For the same level of exercise, did people differ in their ventilation rates? Explain.)
