I. **Announcements**  
Next Tues HR & BP Lab 4 + Required Notebook Check. Turn in today? Next Thurs Blood Chemistry Lab 5. Please read Lab 5 twice < Thurs. Thanks!

**II. Cardiovascular System**  
LS ch 9, Torstar Books 1984, DC 2013 Module 4, Guyton & Hall (G&H) 2011 +...  
A. Circulatory vs Cardiovascular (CV)? cf + parts  
   LS pp 229, CV vs Lymphatic, DC pp 23, 31  
B. CV Pulmonary & Systemic circuits  
   DC fig 4-1 p 24, LS fig 9-2b p 231  
C. Arteries, capillaries, veins G&H + Torstar  
D. Varicose veins? Phlebitis? DC  
E. layers, box, chambers, valves, inlets, outlets  
   LS fig 9-4 p 233, fig 9-2a p 231; DC pp 23-6  
F. Normal vs abnormal blood flow thru ♥ & CV system  
   Billy has a hole in his ♥ SI Fox 2009 fig 13.16, 13.17

**III. Comments on Midterm & Tests Returned?**

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**Bl 121 Lecture 10**

I. **Announcements**  
Remember to read Lab 5 before Thursday. Thanks for helping us be well-prepared. Q from last time? Calculating grade from estimated final. Keys to success? Q?  
**II. CVDs Prevention & Treatment**  
Exercise, dietary modifications, anti-inflammatory oils? PTCA, CABG,... Torstar, S&W ch 5+...  
**III. Blood Form & Function**  
LS ch 11 pp 296-304, 309-12  
DC Module 5 + SI Fox + National Geographic Lennart Nilsson  
A. Formed vs. nonformed/cells vs. plasma fig+tab 11-1  
B. Red blood cells/erythrocytes: O2-carrying  
   sickle cells, ABO blood typing, Rh factor pp 299-304.  
C. White blood cells/leukocytes: Defense/immunity differential + general functions pp 309-12  
D. Platelets/thrombocytes: Initial clotting p 304

**IV. Blood Glucose & Diabetes Mellitus**  
LS ch 17, DC Module 13

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**Bl 121 Lecture 11**

I. **Lab 5 Review: Safety & Techniques** Q?  
**II. Introduction to Endocrinology**  
LS ch 17, DC Module 13, SI Fox+  
A. Endocrine vignette: Cushing’s syndrome LS fig17-20 p 521-2  
B. Endocrine system DC p 103 fig 13-1, LS fig 17-1, tab 17-1  
C. What’s an endocrine? + classes ~ LS pp 495 – 6  
D. Hypothalamus (Master) – Pituitary (subcontroller)  
   DC pp 104-6 + LS pp 499-506  
E. Posterior pituitary + hormones DC p 108, LS fig 17-4 p 502  
F. Anterior pituitary + hormones DC pp 105-7, LS pp 502-6  
H. Peripheral endocrine organs DC pp 109-13, LS pp 513-36  
1. Pancreas (insulin, glucagon, diabetes) 2. Thyroid 3. Adrenals  
**III. Nervous System & Excitable Cell Connections**  
LS ch 5, 4, 7  
A. How is the nervous system organized? fig 5-1 p 108  
B. Neurons? What kind? fig 5-2 p 109  
C. Brain structure & function fig 5-7, 5-8 pp 116 - 7  
D. Protect your head with a helmet! Bicycle head injury statistics, NHTSA & BHIS!
BI 121 Lecture 12

Thanks for your help with the blood chemistry lab!!

I. Announcements Optional notebook check + Lab 6 tomorrow. Pulmonary Function Testing. Final exam > your Q on Wed. Q?
II. Brain + Autonomic Nervous System Overview DC pp 71-77, LS pp 178 – 85, tab 7-1 p 183 + stories to remember fight-or-flight!
III. Neuromuscular Connections LS ch 7 pp 186-92, DC pp 69-71
How does the signal cross the nerve-muscle gap? LS fig 7-5
A. Normal function? Ca2+ for bones!...but what else? LS p 190
B. What do black widow spider venom, botulism, curare & nerve gas have in common? Botox? LS p 189-91

IV. Muscle Structure, Function & Adaptation LS ch 8, DC Module 12
A. Muscle types: cardiac, smooth, skeletal LS fig 8-1 p 194-6
B. How is skeletal muscle organized? LS fig 8-2, DC fig 12-2
C. What do thick filaments look like? LS fig 8-4, DC fig 12-4
D. How about thin filaments? LS fig 8-5
E. Banding pattern? LS fig 8-3, fig 8-7
F. How do muscles contract? LS fig 8-6, 8-10
G. What's a cross-bridge cycle? LS fig 8-11 +...
H. Summary of skeletal muscle contraction
I. Exercise adaptation variables: mode, intensity, duration, frequency, distribution, individual & environmental char...?
J. Endurance vs. strength training continuum? fiber types...

BI 121 Lecture 13

I. Announcements Optional notebook check today. Discussion-Review followed by final exam tomorrow. Q?
II. Introduction to PFT Lab 6 Pulmonary Function Testing
III. Respiratory System LS ch 12, DC Module 7, SI Fox +...
A. Steps of respiration? External vs. cellular/internal? LS fig 12-1 pp 345-7
B. Respiratory system anatomy LS fig 12-2 p347, DC, SI Fox +...
C. Histology LS fig 12-4 pp 347-9, DC
D. How do we breathe? LS fig12-12, fig12-25 pp 349-56, 373-8
E. Gas exchange LS fig 12-19 pp 362-5
F. Gas transport LS tab 12-3 pp 365-70

IV. Physiology of Cigarette Smoking
A. ANS, autonomic nerves & nicotine? Route of chemicals,...
B. Emphysema? 2nd-hand smoke?... p 356, 365
C. UO Smoke-Free since Fall 2012! Help is available!