

Physiology 115 - Cell Physiology  
Spring 2015

Group: Thompson Taylor  
Date: 3-Jun 2011

Content: (weight= 55%) Score 8/10

Delivery: (weight= 10%) Score 9/10

Timing: (weight= 10%) Score 10/10

References/Bibliography: (weight= 25%) Score 10/10

Notes Eating frequency time, sleep deprivation  
1950s → now fast food meal size down  
25% of energy - fast, prep work food  
Effect of Sleep Deprivation  
Hormones Affecting Weight  
ghrelin & leptin ↑ with less sleep  
↓ Growth hormone with lower sleep  
Lunch time 20 week weight loss prog - late eaters lost less weight  
→ cortisol  
Chronotropic applicant - get adjusted

Questions:

What is ideal from fruit/veg?  
Frequency of eating - 6 vs 2 times a day  
Cortisol - adrenal hormone

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Group: Fajadcoasi, Velasco  
Date: 3 June

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Timing: (weight= 10 %) Score 10 / 10

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Notes

- HIV one slide
- sexually & mother infant & blood
- AIDS - caused by HIV -
- Acute - ~~CD4~~ Cells ↓ count
  - Acute retroviral syndrome
  - Clinical latency - replicating - no flu-like syndrome
  - AIDS
  - No cure for AIDS
- gp120 → CD4R on macrophage  
↳ CD4 coreceptor  
↳ endocytosis  
RNA → DNA → integrase
- gp120 gets mutated → altered  
binds CXCR4 on T-cells  
budding kills the T cell
- seattle.vaccines.org
- CD4-R ~~350~~ 350 cells/mm<sup>3</sup>
- Drug cocktail - RNA inhibitors  
transcriptase inhibitors
- opportunistic infection
- Vaccine trials -
- mucosal studies

Questions:

Chiropractic dimension -





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Group: Syubb-Warren  
Date: 3 Jun

Content: (weight= 55 %) Score 10/10

Delivery: (weight= 10 %) Score 10/10

Timing: (weight= 14 %) Score 10/10

References/Bibliography: (weight= 25 %) Score 10/10

Notes

- Effect of sugar cancer cells  
CHOs, Proteins, Lipids, Nucleic Acids →  
changes in metabolic  
( pH change →  
- anaerobic pathway  
- pH 6.2 →  
When acidity occurs →  
- Immune Cell Suppression  
- Sugar substitute ~~are~~ starch, xylitol, high fibre foods
- Cancer cells many glucose dependent  
- high glycolysis  
→ don't oxidize pyruvate  
Dysregulation of  $Ca^{2+}$  - (Insulin growth factor)

Questions:

- Lactate production  
are there in vitro tests? for phagocytosis

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Group: Nell-Cheney  
Date: 3 Jun

Content: (weight= 55 %) Score 10/10

Delivery: (weight= 10 %) Score 9/10

Timing: (weight= 10 %) Score 10/10

References/Bibliography: (weight= 25 %) Score 9/10

Notes

Osteoporosis defined by WHO  
Threaten in early stage - death from hip break  
First defined in 1830 - NIH in 1984 says

3 Types Type I - postmenopausal women 15-20 years  
Type II 'senile osteoporosis' kidney, calcium  
Type III - any age M & F

-BMD-

Prevention, Genetic, exercise, BMD (DXA), medical ERT  
Diagnosis BMD, radiological assess, bone turnover  
Risk Factors - Hormonal, Diet - Ca<sup>2+</sup>, Vit D  
Therapy - Diet, Nutrition, Exercise, Medication  
Biomarkers

Questions:

How can chiropractor help in osteoporosis

Physiology 115 - Cell Physiology  
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Group: Alan Crichton / Ben Lopez  
Date: 1 Jun 2015

Content: (weight= 35 %) Score 10 / 10

Delivery: (weight= 10 %) Score 9 / 10

Timing: (weight= 10 %) Score 10 / 10

References/Bibliography: (weight= 25 %) Score 10 / 10

#### Notes

Golgi - cisternae - faces - cis - rough ER  
trans - end of Golgi  
⇒ 3 mols of protein Thakur

Arabin digum potato

Cell Surface Functions of Golgi

PAPS - sulfation

- Glucosaminoglycans (GAGs) proteoglycans Keratan sulfate

Aggrecan - cartilage - specific chondroitin - hydration of cartilage

Disulfide bonds

Annulus Fibrosus - Plant species

Photodamage of Golgi

#### Questions:

GAAP - golgi - anti-apoptotic protein - stops cells from being apoptotic

Why would cell undergo apoptosis - is function Golgi important

- Cavin kinase 1 & 2 what do they do?



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Group: Kevin Chao / Putar Chao  
Date: 1 Jun 2015

Content: (weight= 55 %) Score 10 / 10

Delivery: (weight= 10 %) Score 10 / 10

Timing: (weight= 10 %) Score 9 / 10

References/Bibliography: (weight= 25 %) Score 10 / 10

#### Notes

Cannabis effect - Antiinflammation, Analgesic properties  
# of diseases like MS, HIV, cancer

Legal aspects of other cannabinoids  
CBD

CBI, CB2 receptors      Caffeine      CBI → immune cell  
                                 Cocaine

↓  
brain immunosuppression

↓ amplifier of pain relief - how to lose

#### Questions:

Endogenous cannabinoids? What are they?

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Group: Adam & Kuo  
Date: 3 June 2015

Content: (weight= 55 %) Score 9/10

Delivery: (weight= 10 %) Score 10/10

Timing: (weight= 10 %) Score 10/10

References/Bibliography: (weight= 25 %) Score 9/10

Notes

Cell Mitosis

- S phase must be complete
  - centrosomes
  - cytokinesis
  - going over mitosis
- Prereq

Cytokinesis - plant & animal  
microfilaments

Questions:

Sea urchin

- replication stress - in mitosis
- stressors - cancer from an early stage





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Group: Chad Dredgen, Luke Nikifor  
Date: 1 June 2015

Content: (weight= 55 %) Score 7 / 10

Delivery: (weight= 10 %) Score 9 / 10

Timing: (weight= 10 %) Score 10 / 10

References/Bibliography: (weight= 25 %) Score 10 / 10

#### Notes

Ketone in 1920s Russell  
Force body to burn fat  
epileptic seizure → anticonvulsant drugs  
Liver produces ketone  
→ Fats to Droline / Key role ~ lower Carbohydrate  
rich body in stomach  
Helps in epilepsy cure  
- CNS - Ketones →  
Insulin secreted with fatty meal  
storing glucose within

#### Questions:

Diagnosis of decreased glucose -  
insulin not secreted in high fatty meal

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Group: Adhdi Robertay Shahrzad Sukra  
Date: 1 Jun 2015

Content: (weight= 55 %) Score 9 / 10

Delivery: (weight= 10 %) Score 9 / 10

Timing: (weight= 10 %) Score 10 / 10

References/Bibliography: (weight= 25 %) Score 8.5 / 10

### Notes

- Energy from metabolism NADH, ATP, mostly CoA
- Stability in break down of water
  - Phosphoanhydride hydrolysis  $\rightarrow$  ATP release  $\rightarrow$  less drug repulsion
  - 7.5 kcal/mol
  - exergonic react 65 kg ATP recycle 1300 X
  - Phosphoanhydride phosphate ester?
  - Kidney & Brain - 65% of ATP used
  - Muscle contract - 2 ATP
  - organelle & cell Mem - 2 NADH
  - anaerobic pathway
  - $\sum$  Energy Metabolism vital in structure
  - Anaerobic -
  - Aerobic -

### Questions:

red - slow twitch fibre - much mitochondria  
white fast twitch - anaerobic pathway - sprinting muscles



Physiology 115 - Cell Physiology  
Spring 2015

Group: Shaniqua Ridley  
Date: 1 June 2015

Content: (weight= 55%) Score 6 / 10

Delivery: (weight= 10%) Score 10 / 10

Timing: (weight= 10%) Score 10 / 10

References/Bibliography: (weight= 25%) Score 10 / 10

Notes Gaucher's Disease - accumulation of fat in organs

Achilles Tendon 1 in 10

Glucocerebrosidase bruising, anemia, enlargement

Type 1-3 of disease enlarged spleen & liver, blood disorders

Type 1 glucocerebrosidase activity is  $< 10\%$

Type 2: infants longevity  $< 5$  years

Type 3: children GCDs. 1 in 20,000 lysosomal storage diseases

autosomal recessive

Blood & saliva test -

Treatments - ERT

ELEYSO

lysosomal storage diseases

Questions:

- PCR test - blood saliva
- Tay Sachs -