Week 9 Lecture 2

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1 Administrative drivel

- exams will be by monday

2 Anatomy and Physiology

2.1 Respiratory system

- More on asthma:
  - Immune response when the bronchial lining are irritated
    - Inflamation response (covered in immune system)
    - swelling, fluids, mucuus into the lumen, to try to catch the offenders
- Other diseases – infections – pneumonia (bacterial, viral) and tuberculosis (bacterial) infection
  - tuberculosis is super deadly
    - once called "consumption"
    - common in fairly large cities
    - spread by cough droplets
    - The old method of treatment was to quarenteen with really fresh air, at a sanatorium for months to a year, where you either died or recovered
    - WWII first treatments were made with the invention of penisilin!
    - illness kills a lot of soldiers, so having penisilin was a big advantage
    - there are now strains of tb that are antibiotic resistant
  - the infectees make their living by extracting nutrients from you, which damages your tissues!
  - Starts with a small population which grows
  - Alviolis swells due to an immune response
  - pneumonia
    - much more common in older people
  - these should be treated as an ecological process
    - looking at the growth of the population as exponential
- **Emphysema**
  - Characterized by alveolar walls rupture to form larger sacs and build up of environmental pollutants
  - when the alveolus burst, they fuse with a neighbor making these sacks
  - this decreases the surface area of the lungs
  - very common in smokers and coal miners

  - in mid-late stage, the patient needs an oxygen tank
  - can eventually kill you
- **Lung cancer**
  - very serious
  - treatments are much better than they were
    - if you got it in the 70s you were doomed
  - chemical treatments destroy new fast deviding cells in tumors, but also damaging older tissues
  - radiation is used
  - newer treatements deploy an imune response against cancer tissues (largeley experimental)
  - increased risk from iritants
- **Pulmanary fibrosis**
  - Environmental irritants, asbestos, autoimmune causes. Lung tissues are replaced with scar tissue.
- clicker q: by what mechanism does CO_2 move from the blood into the lungs? diffusion.
- end of respiritory system