## LECTURE SIX: Ethics in Clinical Trials and Interim Monitoring

### Reading Assignment for Lecture 6

**Required Reading:**

- Designing Clinical Research (4th Edition), Chapter 11, pages 163-164 and 168-169.
- Lo B. Ethical issues in clinical trials, pages 1-7.
- Dixon D, Freedman R et al. Guidelines for data and safety monitoring for clinical trials not requiring traditional data monitoring committees. Clinical Trials 2006. Nov 3: 314-19.
- Bryant J and Wolmark N. Letrozole after tamoxifen for breast cancer--what is the price of success? N Engl J Med. 2003 Nov 6;349(19):1855-7.

**Optional Reading:**

- DeMets DL, Pocock SJ, Julian DG. The agonizing negative trend in monitoring of clinical trials. Lancet 1999:354:1983-88.

### Homework Assignment for Lecture 6

**Assignment file:** AssignL6_2017.doc
**Assignment due:**

- Email to Tina Bhutani & Melisa Wong (UCSFClinicalTrials2017@gmail.com) by March 6, 2017; 5pm.
    - Make sure that your NAME is on the top of the document
    - Use this format to name your homework documents: LastnameFirstname_L#, for example: SmithJohn_AssignL6
    - Subject Line of email: SmithJohn_L6
- bring a copy of homework to Section III on March 9, 2017.

**Please answer the following questions:**
(total 11 points)

You are a co-investigator for a trial of growth hormone to improve muscle strength in the elderly. The trial is funded by new start-up called "Growtech". You plan to enroll 100 men and women over the age of 75 who have poor quadriceps strength (measured using an isokinetic dynamometer during maximal isometric extension of the knee). The intervention is subcutaneous growth hormone given twice per day. Growth hormone is suspected to cause diabetes and hyperlipidemia in the elderly. The control group will get a placebo injection. The outcome is change in muscle strength at the quads and the hands (measured with a grip dynamometer). You plan to follow participants for 3 years, measuring strength, fasting glucose, glycohemoglobin, lipids and adverse effects every 6 months. Your recruitment plan is to enlist older persons attending the Group Medical

Practices at the VA where you see patients and supervise residents and nurse practitioners.

1. Your co-investigators assign you to write the Data and Safety Monitoring Board (DSMB) Guidelines.

   1a. Comment on whom you would include (what types of people) as members in the DSMB and why (Please give a bulleted list).
   (2 points)

   1b. What variables would you as the DSMB monitor over time?
   (2 points)

   1c. What statistical methods would you use to carry out the oversight function of the DSMB?
   (2 points)

2. At the one year DSMB meeting, the Board notes that 8% of participants in one group, and 1% in the other group have developed diabetes defined as fasting glucose greater than 126 mg/dL. As a member of the DSMB, what else do you want to know before you decide whether or not to stop the trial? (Please give a bulleted list of questions you might ask as the DSMB, for example: "which group had 8% diabetes and which group had 1%?". Questions can be drawn from the many different considerations surrounding "when to stop" clinical trials).
   (5 points)