

Team Presentation Guidelines (Mar 10 & 12)

Objectives

- Understand the basics of a disease or medical condition.
- Understand both the clinical and engineering aspects of some biomedical instrumentation used during screening, diagnosis, and/or treatment.

Deliverables

- Each team must email Buma their topic by Feb 24 (Mon).
 - Teams of three students are preferred, but teams of two are acceptable.
 - Each team must choose a different topic. Topics are claimed on a first come, first serve basis.
- Each team must make a 15 minute oral presentation. Email Buma your slides before the start of class!

Guidelines

- The rule of thumb is “one minute per slide”.
 - This is not strict, so < 18 slides should be fine. 50 slides would be inadvisable.
 - Don't rush your presentation! It takes some time for the audience to absorb the contents of a slide.
 - There are basically 3 sections to the presentation (see below). It is up to the team to decide who speaks when. You can have each teammate be in charge of one section. If you choose to tag team within a section, it is better to NOT alternate every slide – it disrupts the flow of the presentation. A suggestion (not a requirement) is to let one teammate speak for at least three consecutive slides.
- Section 1 of the presentation should be a tutorial on the disease or medical condition.
 - Make sure to include some basic anatomy and/or physiology, as well as clinical significance (e.g. number of people affected per year).
 - Figures are good! Remember to properly cite any images, figures, tables, etc. The figure caption should include an abbreviated reference (e.g. www.gehealthcare.com [1]) to avoid clutter. Detailed information should go in the list of references in the last slide of the presentation.
- Section 2 of the presentation should introduce some of the primary biomedical instrumentation used during screening and/or diagnosis and/or treatment.
 - The instrumentation needs to be electronics-based (rather than mechanical or chemical or magical).
 - If there are several pieces of instrumentation that you want to mention and BRIEFLY describe, that is fine. However, you must eventually focus on one or two for the remainder of the presentation.
 - Describe the clinical aspects of the instrumentation.
 - What are the indications of use (i.e. when would it be used by a physician, surgeon, EMT, etc.)?
 - Give a qualitative explanation of how the instrumentation is used (e.g. attach to patient's arm).
 - Mention some major manufacturers and/or product models.
 - If possible, include some cost information (e. g. price of device, cost of procedure).

- Section 3 of the presentation should discuss the engineering details.
 - If possible, show a system block diagram (i.e. like in your lab reports).
 - Due to time constraints, focus on two or three of the most interesting component blocks.
 - If your device performs a measurement (e.g. EMG), then you may want to focus on the sensor (material, theory of operation), signal conditioning, and signal processing.
 - If your device performs a therapeutic function (e.g. cardiac ablation catheter), then you may want to focus on the transducer, control electronics, and power requirements.
 - In your explanations, try to leverage what you've learned in this and other courses!
 - Mention practical issues (e.g. must be miniaturized, motion artifacts, adhesion to skin).
 - Figures are good! Remember to properly cite any images, figures, tables, etc. The figure caption should include an abbreviated reference (e.g. www.gehealthcare.com [1]) to avoid clutter. Detailed information should go in the list of references in the last slide of the presentation.
- Remember to properly cite any images, figures, tables, etc.!
 - Your last slide should list your references (websites, articles, etc.).

Grading Criteria

- Content of slides (sufficient clinical and technical details)
- Organization of slides (good balance of text and images, not cluttered)
- Clarity of presentation (good pace, speaks clearly, doesn't say "ummmm" all the time)
- Quality of references (doesn't just rely on Wikipedia)