# Instructions for Clinical Meeting: Website tips and expectations

## A & P Honors

## 1) Medical professionals:

**Step 1: Choosing a Career**

- Select a **specific medical career** (not just "doctor" or "nurse") — examples include: Radiologic Technologist, Cardiothoracic Surgeon, Respiratory Therapist, Physical Therapist, Forensic Pathologist, Occupational Therapist, EMT/Paramedic, Genetic Counselor, Pharmacist, Anesthesiologist, etc.
- Mr. Dawkins will ensure both groups in this category choose **different careers** to maximize variety.

**Step 2: Research Expectations**

Your project or presentation should cover the following key areas:

- **Role & Responsibilities:** What does someone in this career actually do day-to-day?
- **Work Environment**: Where do they typically work (hospital, clinic, lab, outdoors)?
- **Education & Training:** Degrees, certifications, residency, licensing, or specialized training required.
- **Salary Range & Job Outlook:** Median salary, employment growth, demand trends.
- **Relevant Anatomy/Physiology Knowledge**: What body systems does this career most often interact with? (e.g., cardiologists with cardiovascular, respiratory therapists with respiratory, physical therapists with muscular/nervous).
- **Tools & Technology Used**: What unique instruments, equipment, or diagnostic tools are essential?
- **Common Conditions Treated**: What diseases, injuries, or patient needs are they most likely to see?
- **Why It's Important**: The most important one! Explain this career's role in the healthcare system.

**Step 3: Other Considerations and Content Tips**

- Avoid overly long text blocks — use **bullet points and visuals**.

- Include at least **one diagram, image, or chart** related to the career.
- Tie back to **Anatomy & Physiology concepts** (body systems involved, skills like auscultation, palpation, imaging).
- Use **credible sources** (medical associations, government career outlooks, hospitals, peer-reviewed info).

**Step 4: Finishing Touches** - **Creative & Engagement Options**

- Bring in a **prop/tool** (e.g., stethoscope, reflex hammer, model skeleton, lab coat).
- Share a **case study or patient scenario** that career professionals might face.
- Role-play a **"day in the life"** of the career for the class.
- Include a brief **interactive element** (quiz question, demonstration, or audience poll).

## 2) Diagnostic Delivery

**Step 1: Choosing a Topic (It's most impactful if your group has a special interest in a particular topic)**

- **Select a specific disorder, disease, or medical imbalance connected to the body system currently being studied. Examples:**
    - **Cardiovascular:** Hypertension, Myocardial Infarction, Arrhythmia
    - **Respiratory:** Asthma, Pneumonia, Chronic Obstructive Pulmonary Disease
    - **Muscular/Skeletal:** Muscular Dystrophy, Osteoporosis, Scoliosis
    - **Nervous:** Neuropathy, Parkinson's Disease, Multiple Sclerosis
    - **Urinary/Endocrine:** Kidney Stones, Addison's Disease, Diabetes Mellitus
- **Mr. Dawkins will ensure you avoid choosing the same topic as another group.**

**Step 2: Research Expectations**

**Your presentation should cover these points:**

- **Definition & Overview:** What is the disorder or imbalance? Include medical terminology.

- **Etiology:** What causes this disorder? (genetic, environmental, lifestyle, infectious, etc.)
- **Symptoms & Signs:** How does it present in patients? Include visual examples if possible.
- **Anatomy & Physiology Connections:** Which body systems, organs, or tissues are affected?
- **Diagnosis:** How is the disorder identified? Include lab tests, imaging, or clinical examination techniques (auscultation, palpation, reflex testing, etc.).
- **Treatment & Management:** How is it treated, managed, or monitored? Include lifestyle, pharmacologic, or surgical interventions if relevant.
- **Importance:** Why is understanding this disorder critical for healthcare? (This is a huge emphasis!)

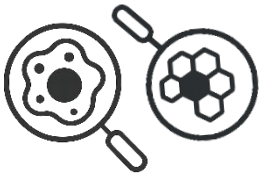
**Step 3: Other Considerations and Content Tips**

- Use bullet points instead of long paragraphs.
- Include at least one visual: diagram, medical image, X-ray, histology slide, or chart.
- Highlight diagnostic techniques (palpation, auscultation, imaging, lab tests) and tie them to anatomy/physiology.
- Use credible sources: medical journals, textbooks, or reputable health websites.
- Keep your explanations concise but accurate and focus on how the disorder affects the body and how it's detected.

**Step 4: Finishing Touches** - **Creative & Engagement Options**

- Bring in a **prop** or model demonstrating the affected organ/system.
- Create a **case study or patient scenario** showing how the disorder is diagnosed.
- Include an **interactive element**, e.g., ask classmates to guess the disorder from symptoms or lab results.
- Show **before/after treatment images** or simulate diagnostic techniques in class (like a mock auscultation or reflex test).
- Think of yourselves as medical detectives! Your goal is to **show how a disorder is uncovered, what it does to the body, and how healthcare professionals respond**.

## 3) Cytology/Histology



**Step 1: Choosing a Cell or Tissue**

- Select a specific cell or tissue type that is specialized within the body system currently being studied. Please seek out unique examples before examining the following **Examples:**
    - Cardiovascular: Cardiac muscle cells, endothelial cells
    - Respiratory: Ciliated epithelial cells, alveolar cells
    - Muscular/Skeletal: Skeletal muscle fibers, chondrocytes, osteocytes
    - Nervous: Neurons, glial cells
    - Digestive: Goblet cells, hepatocytes
    - Urinary/Endocrine: Podocytes, beta cells of the pancreas
- There is a great possibility that we will cover your selected tissue(s) or cell(s) as a class. Redundancy is a good thing!

**Step 2: Research Expectations**

**Your presentation should cover these key areas:**

- **Cell/Tissue Identification:** Name, location, and basic structure. Include diagrams or microscopic images.
- **Function & Role:** Explain what the cell/tissue does and why it is important in its organ system.
- **Special Features & Adaptations:** What makes this cell/tissue specialized? Consider structure-function relationships.
- **Development & Lifecycle**: If applicable, explain how the cell/tissue develops, regenerates, or dies.
- **Interactions with Other Cells/Tissues:** How it communicates or integrates with surrounding structures.
- **Clinical Relevance:** Diseases or disorders that affect this cell/tissue type, including etiology if relevant.
- **Connection to Class (current unit):** How does the cell/tissue contribute to the function of the organ or system?

**Step 3: Other Considerations and Content Tips**

- Use bullet points and labeled images instead of long paragraphs.
- Include at least one labeled microscopic image or diagram showing the cell/tissue clearly.
- Highlight unique features and relate them to function. e.g., “Ciliated epithelial cells move mucus to protect the lungs.”
- Include any clinical relevance: what happens if this cell/tissue is damaged or diseased.
- Use credible sources: histology textbooks, scientific journals, reputable medical websites.

**Step 4: Finishing Touches - Creative & Engagement Options**

- Bring a 3D model or physical representation of the cell/tissue.
- Create a case study showing how damage to this cell/tissue affects the organ system.
- Include an interactive activity (e.g., ask classmates to identify features in a histology image).
- Use animations or videos showing cell activity or tissue function if available.
- Compare the cell to other well known cell types (size (in µm, function, shape, etc.)

## 4) Recent Research Field

**Step 1: Choosing a Research Article**

- Each group selects a recent research article (ideally within the last 5 years) that relates to the body system currently being studied. Examples:
    - Cardiovascular: Recent studies on cardiac regeneration, hypertension treatment, or new stent technologies
    - Respiratory: Studies on COVID-19 treatments, asthma therapies, or lung tissue engineering
    - Muscular/Skeletal: Research on osteoporosis interventions, muscle regeneration, or tendon repair
    - Nervous: Research on neurodegenerative disease therapies, neural plasticity, or brain imaging techniques
    - Digestive: Studies on microbiome impacts, liver regeneration, or GI disease therapies

    - Urinary/Endocrine: Research on diabetes, kidney disease, or adrenal hormone therapies

- **Ensure articles are peer-reviewed or from credible journals (PubMed, JAMA, NEJM, Science, Nature, medical Xpress.com (my personal favorite), phys.org, etc.).**

**Step 2: Research Expectations**

**Your presentation should cover the following:**

- **Article Overview**: Title, authors, journal, and publication date.
- **Research Question or Hypothesis**: What was the purpose of the study?
- **Methods**: How was the research conducted? Include techniques, populations, or models studied.
- **Key Findings**: What were the major results or conclusions?
- **Connection to Anatomy & Physiology**: Which organs, tissues, or systems were studied, and how do the findings relate to function?
- **Clinical or Practical Relevance**: How could this research impact patient care, diagnostics, or treatment?
- **Limitations or Considerations**: What are the potential weaknesses or areas for future study?

**Step 3: Other Considerations and Content Tips**

- Use bullet points and visuals (figures, graphs, charts) from the research paper.
- Translate complex terminology into clear, understandable language for classmates.
- Highlight how the study advances understanding of the body system.
- Discuss why the research matters for health, diagnosis, or treatment.
- Include citations for all sources used.

**Step 4: Finishing Touches - Creative & Engagement Options**

- **Imagine you are the researchers**! We want to simplify findings for an easy path to understanding for your peers.
- Present a **diagram or figure** from the research with labels or simplifications.
- Create a **case study scenario** inspired by the research findings.

- Ask classmates a **question related to the findings** to encourage discussion.
- Use **animations or short videos** if the research involves physiological processes or lab techniques.

## 5) Pathology Platform

**Step 1: Choosing a Disease**

- Select a specific disease or disorder that affects the body system currently being studied. Recommended that you choose your own outside the examples below!
- Examples**:**
    - Cardiovascular: Myocardial infarction, Hypertension, Atherosclerosis
    - Respiratory: Pneumonia, Asthma, Chronic Obstructive Pulmonary Disease (COPD)
    - Muscular/Skeletal: Muscular dystrophy, Osteoarthritis, Osteoporosis
    - Nervous: Parkinson's disease, Multiple Sclerosis, Stroke
    - Digestive: Crohn's disease, Hepatitis, Ulcerative colitis
    - Urinary/Endocrine: Chronic kidney disease, Addison's disease, Diabetes Mellitus
- **Mr. Dawkins will ensure your disease is different from other groups to maximize variety.**

**Step 2: Research Expectations**

**Your presentation should cover these key areas:**

- **Disease Overview**: Name, definition, and brief description.
- **Etiology:** Causes of the disease (genetic, infectious, environmental, lifestyle, or unknown).
- **Pathophysiology**: How the disease affects normal anatomy and physiology - what goes wrong in the body.
- **Symptoms & Signs**: Key clinical manifestations; include any anatomical or physiological indicators.
- **Diagnosis**: How is the disease identified? Include lab tests, imaging, physical exams, or other diagnostic methods.

- **Treatment & Management**: Standard treatments, lifestyle interventions, medications, or surgeries.
- **Prognosis & Complications**: Likely course of the disease and potential long-term effects.
- **Connection to Anatomy & Physiology**: How the disease impacts organs, tissues, and systems.
- **Clinical Relevance**: Why understanding this disease is important for healthcare.

**Step 3: Other Considerations and Content Tips**

- Use bullet points and labeled diagrams instead of long paragraphs.
- Include at least one diagram or image: anatomy affected, microscopic tissue changes, or diagnostic imaging.
- Highlight pathophysiology: explain what's happening in the body due to the disease.
- Include diagnostic techniques relevant to the disease (auscultation, palpation, lab work, imaging).
- Use credible sources: medical textbooks, journals, CDC, NIH, WHO, professional associations.

**Step 4: Finishing Touches** - **Creative & Engagement Options**

- Bring a **model or visual representation** of affected anatomy.
- Create a **case study or patient scenario** showing disease progression and diagnosis.
- Include an **interactive activity**: e.g., quiz classmates on symptoms or show an image of diagnostic findings.
- Use **animations or videos** showing disease progression, organ dysfunction, or cellular pathology.