IT'S A WRAP!

How to Plan and Conduct a Useful Wrap-Up Session for Year I and Year II Medicine

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Introduction

The purpose of this manual is to provide instructors, including SDG leaders, weekly captains and lecturers, with practical approaches to conducting wrap-up sessions at the end of each week and/or SDG.

Wrap-up sessions are a valuable component to our curriculum and have already been allocated time into the SDG schedule. They usually occur at the end of each week and ideally, last for 1-2 hours. These sessions provide the opportunity for students to:

- consolidate information presented during the previous week
- review major concepts
- integrate themes and/or topics
- provide practical overviews to disease management
- clarify concepts

OBJECTIVES FOR WRAP-UP?
Given the current trend to providing students with different modes of learning beyond didactic lectures, wrap-up sessions also provide another medium to learn, interact and collaborate with peers and professors.

Over the course of the past two years, many professors put forth great effort in conducting useful wrap-up sessions. After polling Meds2006, we have selected a variety of examples that students found particularly valuable and divided them into categories based on the particular approach:

1. General Overview of Block Material
2. Exam Review
3. “Case Conference” Approach
4. Interactive Clinical Case Approach
5. Algorithms/General Approach to Disease Management
6. Creative/Multimedia Approaches

We have provided 2 examples within each category, from years I and II.

We hope that this manual will provide ideas to various lecturers and improve the quality and consistency of wrap-up sessions conducted during each SDG.

Many thanks to all the instructors who contributed their ideas, comments and materials for this manual. Additional thanks to the PTC for supporting this project.

Sincerely,

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Quick Reference: What Works and What Doesn’t

What Works….

1. Making Use of the full scheduled time
   Wrap-ups usually occur during the afternoons following clinical methods. Many students travel back to the school just for the wrap-up and find it disappointing when the leader does not take full advantage of the allocated time.

2. Creative Approaches (e.g. multimedia)

3. Case-based Approaches

4. Practice Exam Questions

5. SDG Leader Familiar with Material
   - It is helpful if the SDG leader is familiar with what is taught in each lecture and can thereby “touch upon” every lecture to highlight important points.

6. TAKE HOME MESSAGES
   - Students appreciate a clinical perspective on the essential points presented during the week. These include practical approaches to disease, “red flags” and any clinical information that all physicians need to know.

7. Post Powerpoint Presentations/Notes of the Wrap-up session on WebCT before class

What to Avoid….

1. No Structure to Session
   - Some lecturers with good intentions arrive at the session and ask students, “what do you want to do?” Students feel that it is a better use of the wrap-up session if the instructors come prepared with an overall framework. Otherwise, these sessions become disorganized and do not fully review material presented during the previous week.

2. Completely Open Q&A Period
   - Although student questions are a valuable learning tool for the entire class, without any structure or designated time period, the questions become repetitive, geared towards personal interests and lack relevance for the group as a whole. Students appreciate if a professor addresses pertinent questions during the wrap-up session and saves time at the end for other students to stay behind ask individual-based questions.

3. Presentation of New Material
   - Wrap-up is a coveted time in our schedule to review material and should NOT be used as a time to conduct a new lecture or to present completely new material.
1. General Overview of Block Material

**Purpose:** To review material presented during past week/SDG, outline “take home messages,” tie together concepts that were touched upon different areas, clarify confusing issues, address student concerns including exam-issues and in certain cases when notes are extensive, provide suggestions on where to focus.

**Example 1:** Dr. Sequeira (MSK SDG, Year I and II) – *see page 5*

Dr. Sequeira attended most lectures during the block and had a complete grasp on what material was presented and what needed to be clarified. He made use of his wrap-up sessions to address ALL lectures, highlight key concepts and outline practical approaches (for example, “Red Flags” of Back Pain)

**Example 2:** Dr. Sugimoto (Reproduction SDG, Year II)

Dr. Sugimoto conducted a less formal wrap-up and used the blackboard to create concept maps outlining and linking various topics in gynecological oncology. Although he did not make use of a powerpoint presentation/handout, he had an overall plan for the session and ensured to touch upon all lectures that were conducted during the previous week. Most notably, he made sure to outline CRUCIAL concepts to remember, recognizing that we cannot retain all the details provided in the notes.
Example 1:  Dr. Sequeira (MSK SDG, Year I and II)

**Review**
- We are trying to categorize back pain into:
  - Mechanical – 85%
  - Disc 1%
  - Stenosis
  - Worrisome:
    - Infection
    - Inflammatory Arthritis
    - Neoplastic
    - Visceral
    - PID, renal, pancreatitis, prostatitis, aneurysm, PUD
    - Generalized with other symptoms

**Fibromyalgia**
- EASY AS PIE
  - Educate
  - Aerobic Exercise
  - Stretching
  - Yoga or other relaxation technique
  - Analgesics
  - Serotonin agonists
  - Pacing
  - Investigate other co-morbid conditions
  - Encouragement

**Red Flags**
- Red flags
  - Cauda equina syndrome
  - Nocturnal symptoms
  - Systemic – fever, chills, sweats, wt. loss
  - Trauma
  - History of cancer
  - IV drug use or immunosuppression
  - Steroid use or known osteoporosis
  - Young kids (relative)

**Yellow Flags**
- Yellow flags
  - Fear of activity
  - Previous long disabling pain
  - Avoidant behaviour
  - Never pain free
  - Whole body part numbness
  - Whole extremity giving way
  - Job Dissatisfaction

**Rotator Cuff Tendonitis**
- Insidious onset
- Painful arc 60-120º
- Supraspinatus most commonly involved
- Repetitive injury
- If profoundly weak \( \rightarrow \) rotator cuff tear

**Tendonitis**
- Know locations and common presentations
  - Lateral epicondylitis
    - Pain with resisted supination and extension
  - Medial epicondylitis
    - Pain with resisted pronation and flexion
  - DeQuervain’s
    - Wrist pain in first dorsal compartment
    - Finklestein’s test

**X-Rays**
- Rheumatoid
  - Bony erosions
    - Gout: articular osteoporosis, symmetric loss, pain/urg
- Osteoarthritis
  - Osteophytes
  - Subchondral sclerosis and cysts, eccentric loss
- CPPD
  - Chondrocalcinosis

**Gout**
- Know about allopurinol
  - When to start, stop and how to use it
- Have an approach to acute and chronic treatment of gout
  - Maintain fluid intake
  - Control risk factors
  - Control acutely and then chronic Tx.
  - NSAIDs, colchicine, steroids
  - Uric acid inhibitors, uricosurics
2. Exam Review

**Purpose:** To provide students with an indication of what to expect on the exam, including the types of questions, basic approaches to answering short-answer questions, outline expectations. A good resource of sample questions may be questions that have not been accepted by the exam-committee and/or questions from previous years.

**Example 1:** Dr. Howard (GI SDG, Year II) - *see page 8*

Dr. Howard compiled a sheet of exam questions that were not accepted by the exam committee. He handed out the sheet, provided students the time to answer the questions and then took up the answers with the entire class.

**Example 2:** Dr. Sequeira (MSK SDG, Year II) - *see page 9*

Dr. Sequeira integrated exam questions into his wrap-up review questions. The questions were presented in Multiple Choice Format following each concept that was reviewed.
Example 1: Dr. Howard (GI SDG, Year II)

1. A 49-year-old woman presents with progressive dysphagia for both liquids and solids. She denies reflux-type symptoms such as heartburn. The most likely diagnosis is:
   a) peptic stricture
   b) connective tissue disorder such as scleroderma
   c) esophageal carcinoma
   d) achalasia
   e) diffuse esophageal spasm

2. The most important risk factor for the development of adenocarcinoma of the esophagus is:
   a) smoking
   b) alcohol abuse
   c) Barrett’s esophagus
   d) family history
   e) achalasia

3. Which of the following tests is the most accurate to determine if a patient’s symptoms are related to gastroesophageal reflux?
   a) upper GI endoscopy
   b) 24 hr pH monitoring
   c) esophageal biopsy
   d) esophageal manometry
   e) barium swallow

4. Which of the following is not an appropriate treatment for constipation predominant irritable bowel syndrome with pain on defecation?
   a) osmotic laxative
   b) reassurance
   c) patient education
   d) Tylenol® with codeine as necessary for pain management
   e) high fibre diet

5. A correct statement about hepatitis B and C is:
   a) Most affected patients have chronic hepatitis.
   b) Both are diagnosed by testing for a circulating surface antigen.
   c) Both are highly infectious by needle stick injury.
   d) Most patients are unaware that they have hepatitis.
   e) Sexual transmission is common.

6. Antiviral therapy for hepatitis B and C:
   a) therapy is identical, duration of treatment is different
   b) is successful in less than half of the cases treated
   c) is recommended for all cases
   d) is inexpensive and well tolerated
   e) prevents the need for liver transplantation

7. Appropriate investigations for Gilbert’s syndrome would not include:
   a) liver enzymes – ALT, AST
   b) hemoglobin with blood smear
   c) bilirubin fractionation
   d) liver biopsy
   e) urine bilirubin

8. Common signs and symptoms of cirrhosis would not include:
   a) ascites
   b) right upper quadrant pain
   c) splenomegaly
   d) hematemesis
   e) encephalopathy

9. A 25-year-old overweight man presents to you with a three-week history of epigastric burning pain that comes on when he is hungry. It wakes him up in the middle of the night. It is relieved by food and antacids. He has had this same pain on four occasions, each lasting about four weeks, over the last five years. The statement that most likely applies to this patient is:
   a) Weight loss, avoidance of acidic foods, avoidance of tight clothing, elevation of the head of the bed are important lifestyle changes that will help his problem.
   b) His helicobacter pylori serology will be positive.
   c) Given the possibility of stomach cancer, he should be referred for an endoscopy.
   d) A complete blood count, a serum amylase and liver function tests are appropriate first tests in this man.
   e) Antacids given one hour and three hours after meals is an appropriate first line of therapy.
Example 2: Dr. Sequeira (MSK SDG, Year II)

Case A
A 73-year old woman has been well until 6 months ago. Up until then, she had
never had a headache in her life. However, just before Christmas, she
developed a headache that has never gone away. You suspect temporal arteritis.

1. Which of the following is not associated with temporal arteritis?
   a) jaw claudication  
   b) amaurosis fugax  
   c) malar rash  
   d) elevated erythrocyte sedimentation rate  
   e) scalp tenderness

2. Which of the following conditions is most commonly associated with temporal arteritis?
   a) pregnancy  
   b) rheumatoid arthritis  
   c) vasculitis  
   d) polymyalgia rheumatica  
   e) rhabdomyolysis

3. Which statement about temporal arteritis is incorrect?
   a) A small percentage of temporal arteritis patients will have a normal erythrocyte sedimentation rate.  
   b) A normal temporal artery biopsy essentially rules out temporal arteritis.  
   c) Management should include educating the patient about temporal arteritis and associated conditions.  
   d) Management should include osteoporosis prevention.  
   e) Prednisone is the drug treatment of choice.

Case B
A 57-year old man falls off of a roof while taking down Christmas tree lights
and fractures his left femur. He is brought into the emergency department
where you are on call. A detailed history reveals otherwise good health.
Physical examination reveals stable vital signs. Examination of the left lower
extremity reveals an open wound with bone protruding at mid thigh. There
does not appear to be ongoing heavy bleeding. The patient complains of
extreme pain with any movement of the affected extremity.

4. Which potential injury must you consider and/or rule out at this time?
   a) nerve injury  
   b) vascular injury  
   c) internal organ injury  
   d) multiple fractures  
   e) all of the above

5. Which statement re: fractures is incorrect?
   a) Committed fractures involve more than one principle fracture line.  
   b) Open fractures are at greater risk for non-union.  
   c) Open fractures are at greater risk for infection.  
   d) A common example of a pathologic fracture is a fracture across the line of a bony metastasis.  
   e) Osteoporosis significantly increases the risk of bony fracture and markedly increases fracture non-union rates.

6. This gentleman goes on to develop a necrotizing infection at the site of the injury. What is the most important component of
managing necrotizing wound infections?
   a) high dose steroids  
   b) broad spectrum antibiotics

7. Which statement is incorrect?
   a) The constellation of symptoms is entirely consistent with an L5 radiculopathy. At this time, further work-up (beyond a history and physical examination) should be considered optional.  
   b) Red flags suggesting further work-up include this gentleman’s history of fevers and weight loss.  
   c) If available, an emergent MRI would be indicated, if a back X-ray is inconclusive.  
   d) The differential diagnosis in this case must include malignancy, infection and fracture.  
   e) Narcotic analgesics may be required to manage this gentleman’s pain.

Case C
A 62-year old man presents with sharp, shooting low back pain that radiates
into the left buttock, the posterolateral thigh, the lateral leg and into the
dorsum of the foot. It started 5 days ago after stumbling off a sidewalk. He
did not fall, but noted immediate pain shooting down the leg. The pain has
persisted, worse when standing or sitting, but also all throughout the night.
He is in agony. You obtain further history. Over the past 3 months, this
gentleman has noted chronic low-grade fevers and progressive 25-pound
weight loss. Otherwise, his review of systems is positive only for progressive
difficulty voiding urine over the past year.

8. The history in this case is consistent with which one of the following?
   a) mechanical back pain  
   b) inflammatory back pain  
   c) systemic/malignant back pain  
   d) malingering  
   e) vascular claudication

9. Which history would be consistent with neurogenic claudication from spinal stenosis of the lumbar spine? Pain that
   a) is associated with stiffness and is worst first thing in the morning.  
   b) comes on after walking 1 block. Relieved if he stops and stands.  
   c) is constant, all day and all night.  
   d) comes on with walking one block, but can ride a bicycle for miles with minimal pain.  
   e) is associated with past history of iritis.

10. Which statement is incorrect?
    a) The use of opioid analgesics should not be used in a patient with chronic mechanical back pain due to the very high risk of addiction.  
    b) Non-steroidal anti-inflammatories may be of help even in mechanical (non-inflammatory) back pain because of their analgesic properties.  
    c) Mechanical back pain is the commonest cause of chronic back pain.  
    d) The patient with inflammatory back pain tends to improve as the day progresses, even without treatment.  
    e) Sacroiliitis is a classic feature of the seronegative spondyloarthropathies.
3. Case Conference Approach

Purpose: To use a case-based approach to diagnosis, management, and treatment and to illustrate the collaboration between various disciplines of medicine.

Example 1: Dr. Howard/Dr. Driman (GI SDG, Year II) - see page 11

Dr. Howard and Dr. Driman combined a clinical and pathological overview of GI malignancies. This enabled students to appreciate the collaboration between clinicians and pathologists in establishing a diagnosis and outlining treatment plans. It also reviewed the material presented in both Integrative Medicine and Pathology lectures.

Example 2: Dr. McCormack (Resp/Airways SDG, Year I and II) - see page 12

Dr. McCormack presented a series of cases at the beginning of the SDG. Students then have the rest of the week to independently prepare a clinical approach/explanation of the case and a few volunteers agree to present the case during the wrap-up session. During the wrap-up session, he provided feedback, clarified concepts and provided professional opinions. These sessions also enable students to interact and share ideas. Dr. McCormack also invited a pathologist and a colleague as consultants to provide their own perspectives.
Example 1:  Dr. Howard/Dr. Driman (GI SDG, Year II)

Patient 1

- 67 year old man, otherwise well, presents with a six week history of dysphagia. 6 weeks ago he noticed problems with bread and meat and now has problems even with soft food such as cereal and pudding.

Most likely diagnosis

- Important questions
  - Predisposing conditions
  - Complications
- Investigations

Patient 1

A tumor at the GE Junction

Biopsy Pathology

- Treatment considerations
- Gross Pathology (Surgical Specimen)
- Microscopic (Surgical Specimen)

GI Pathology Recap – 1 esophagus

1. Causes of esophagitis?
2. Causes of GERD?
3. What is Barrett’s esophagus?
4. Significance of Barrett's esophagus?
5. Types of esophageal neoplasms?
6. Pathogenesis of SCC?
7. Pathogenesis of adenocarcinoma?
8. Differences in site?

GI Pathology Recap – 2 stomach

1. Classification of gastritis?
2. Pathogenesis of acute gastritis?
3. No. 1 cause of chronic gastritis?
4. Natural history of H. pylori infection?
5. Causes of PUD?
6. Pathogenesis of gastric carcinoma?
7. Pathological types of gastric carcinoma?
Example 2:  Dr. McCormack (Resp/Airways SDG, Year I and II)

CLINICAL PATHOLOGICAL CONFERENCE - Case A

This 72-year-old gentleman presented with a two month history of weight loss, malaise, and low grade fevers. He had a cough productive of a small amount of yellow sputum each day. For the last 4-6 weeks he had noticed some streaking of blood in the sputum. Four weeks prior to admission he had been seen by his family doctor for these same complaints. A sputum culture was taken which grew Haemophilus influenzae and he was treated with two weeks of Amoxicillin. During this course of treatment his symptoms did not change substantially.

This gentleman had immigrated from India five years previously. He works as a teller in a bank. He currently smokes one pack of cigarettes per day and has a 50 pack year smoking history.

On the day before admission, he started to cough up an increasing amount of blood in his sputum and he came to the Emergency Room. In the Emergency Room he was noted to be a chronically ill-looking gentleman in no respiratory distress. His temperature was 37.8, his heart rate was 96 per minute, and his blood pressure was 120/70. Head and neck examination revealed dental caries, but no lymphadenopathy. He was clubbed. On auscultation of the chest he had good breath sounds bilaterally with some crackles at the right base, but no wheezes or rubs heard. The remainder of the physical examination was unremarkable.

His initial blood work demonstrated a hemoglobin of 140 and a white count of 11.9 with 79% neutrophils and 21% lymphocytes. His liver function tests, urea, and creatinine were normal.

A Chest x-ray and a CT scan of his chest were also obtained. Diagnostic investigations confirmed the nature of his illness. These Images were available to students on the web.
4. Interactive Clinical Case Approach

**Purpose:** To provide a series of cases that enable the lecturer to guide students through a practical and logical approach to diagnosis and treatment. These sessions are best if conducted in a step-wise manner (e.g. present the case, outline key points of history, physical, labwork etc. and answer as series of questions)

**Example 1:** Dr. Rebel (Reproduction SDG, Year II)

Dr. Rebel presented a series of cases during class and led students through a discussion of the appropriate diagnosis, investigations, management and treatment. This enabled students to develop an approach towards common OB/GYN presentations.

**Example 2:** Dr. Krahn (CVS SDG, Year II) - see page 14

Dr. Krahn also provided a series of cases with step-wise questions and led the class in an interactive analysis session. In particular, he included relevant laboratory investigations and ECGs to analyze as a class.
Example 2: Dr. Krahn (CVS SDG, Year II)

Case for Wrap Up

- 58 year old man presents for routine physical
  - BP 140/95
  - Obese
  - Positive family hx
  - Smoker

- Now what?

2 years later

- Cholesterol 6.4 mmol/l, LDL 3.6 mmol/l
- Smoker, BMI 33, Exertional chest pain
- Resting ECG

2 days later

- Acute dyspnea
- Hypotension
- Now what?

2 weeks later

- Now what
5. Algorithms/General Approach to Disease Management

**Purpose:** To provide a practical and stepwise approach to disease (e.g. “Approach to ECGs,” “Approach to Stroke.”) Flow-charts and other schematic diagrams are useful teaching tools.

**Example 1:** Dr. Krahn (CVS SDG, Year II) – *see page 16*

Dr. Krahn’s approach to ECGs made use of many schematic and clear flowcharts. Since this was a new concept, students appreciated having concise, well-presented guidelines to use as building blocks for understanding the clinical significance of the various findings.

**Example 2:** Dr. Moulin (Neuro/Eye/Ear SDG, Year II) – *see page 17*

Dr. Moulin provided an algorithm to an “Approach to Stroke,” including a manner to assess the various types of stroke and determine etiology through a sequence of lab tests.
**Example 1:** Dr. Krahn (CVS SDG, Year II)

Basic Approach to the ECG

- **Rate:**
  - Use your 300/150/100/75/60 … rule for each large box
  - Count boxes for RR interval
- **Rhythm:**
  - Is there a p wave preceding each QRS complex?
  - Is there a QRS for each P wave?
  - Is it regular or irregular?
  - Is the QRS wide or narrow?
- **Axis:**
  - Positive in I and AVF (which quadrant)?
  - Isoelectric lead - it is 90 degrees from where that lead “looks”
  - Or use I and AVF for X and Y amplitudes
- **Intervals**
  - pr interval, QRS duration, QT duration
- **Waveforms**
  - P wave (left or right atrial abnormality)
  - QRS (pathologic Q waves, ST shift, ventricular hypertrophy)

### ECG Algorithm

**Rate**

(RR interval transformed into beats/min)

**Rhythm**

(check p waves and relationship to R waves)

**Axis**

(XY vector based on I (X), AvF (Y) and isoelectric lead in frontal plane)

**Intervals**

(PR, QRS, QT)

**Waveforms**

(P waves, Q waves, R waves, ST segments, T waves and U waves)

**Hypertrophy**

(P and R waves)

### ECG Interpretation Table

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<th>Rate</th>
<th>RR interval transformed into beats/minute Count large boxes on the horizontal axis</th>
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<tr>
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<td>1 2 3 4 5 6</td>
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<td>300-150-100-75-60-50</td>
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<tr>
<th>Rhythm</th>
<th>Sinus Junctional Ventricular</th>
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<tr>
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<td>P before each QRS Narrow QRS (no preceding p wave) Wide QRS (no preceding p wave)</td>
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<tr>
<th>Axis (frontal)</th>
<th>XY Isoelectric lead Largest amplitude QRS</th>
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<tr>
<td></td>
<td>Lead I (X), lead AvF (Y) 90 degrees from lead Closest to axis of that lead</td>
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<tr>
<th>Intervals</th>
<th>PR QRS QT</th>
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<tr>
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<td>Normal 120-200 msec Normal 80-120 msec Normal QTc ≤400 msec (M), ≤460 msec (F)</td>
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<tr>
<th>Waveforms</th>
<th>P wave Q waves R wave Progression ST segment T wave</th>
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<tr>
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<td>Lead II, V1 ≥40 msec, ≥ 1/3 of R wave &lt;3 mm in lead V3 Elevated or depressed Flat or peaked</td>
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<tr>
<th>Other</th>
<th>LV Hypertrophy RV hypertrophy</th>
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<tr>
<td></td>
<td>S in V2 + R in V5 &gt; 35 mm R&gt;S in V1</td>
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### Tachycardia Algorithm

Rapid Assessment- ABCs

IV, monitor, O₂

Rapid clinical assessment / ECG

ECG points regular / irregular narrow / wide QRS p waves P-R relationship

Vagal maneuvers

Treatment

### Bradycardia Algorithm

Heart rate

Tips:

- 2 forms:
  - Initiation (sinus node) vs conduction (AV node)
  - grouped beating- Wenkebach

P waves visible

P-R relationship

Regular / Irregular QRS

Narrow / Wide QRS
**Example 2:** Dr. Moulin (Neuro/Eye/Ear SDG, Year II)*

Patient Presents with:
- Sudden onset “thunder clap” headache
- Nausea & vomiting
- Photophobia
- Stiff neck
- Focal neurological signs/altered consciousness

Have access to CT

Immediate unenhanced CT scan of head

Positive

Refer to nearest neurosurgical unit ASAP*

Negative

Discuss the patient by telephone with a consultant neurosurgeon or resident

No CT

LP

Four consc. Uniformly blood-tinged CSF samples (rose coloured)

Clear CSF**

No SAH

Dx = SAH!

*Compiled by Josh Mayich (Meds2006)
6. Creative/Multimedia Approach

**Purpose:** To review material in a unique and less didactic manner

**Example 1:** Dr. Madrenas (Immunology SDG, Year I) – see page 19

Dr. Madrenas delivered a wrap-up session on Immunology in Art. His powerpoint presentation showed a series of famous artwork to which he creatively linked some key immunological concepts presented during the previous block. Students appreciated the change in pace and found the lecture to be enjoyable, while thought-provoking.

**Example 2:** Dr. Penava (Reproduction SDG, Year I)

During the reproductive SDG in Year I, Dr. Penava showed a movie concerning abortion through the past 50 years, “If These Walls Could Talk.” The wrap-up session was reserved for a class discussion regarding the ethical issues surrounding this topic and the role of physicians. This session enabled an open dialogue between peers and the opportunity for all points of view to be expressed. Such a forum is an ideal way to tackle ethical issues and fostering an environment in which we learn to respect other opinions.

“If These Walls Could Talk”

Set in a single suburban house, this made-for-cable trilogy examines the evolution of women's right to choose an abortion in three disparate years: 1952, 1974, and 1996. From the pre-"Roe V. Wade" back-alley option, to the mid-'70's struggle between conscience and career, to the hot-button, controversial decision faced in the '90's, the issue is given its due.

From: [http://www.eonline.com/Facts/Movies/0,60,45745,00.html](http://www.eonline.com/Facts/Movies/0,60,45745,00.html)
Example 1: Dr. Madrenas (Immunology SDG, Year I)

A Colorful Immunology

- Black Death = Plague
- Yellow Fever = Sot Xuat Hayet = Blood-Letting fever
- White Death = Ho Lao = Miserable Cough = Tuberculosis
- Red Speckles = Ban do = Chickenpox
- Pink Disease = Mercury hypersensitivity
- Blue Tongue Disease = Viral Disease in sheep
- Purple Disease = Variegate porphyria
- Agent Orange Disease = Herbicide-Induced?
- Green Sickness = Anemia
- Scarlet Rash = Rosacea
- Rose Cold = Hay Fever (allergy)

What is the structure of an antibody?

P. Klee
Legend of the Nile 1937

The Vision of Xenotransplantation

The Caresses of the Sphinx – 1896 – F. Khnopff

The Vision of Gene Therapy and Stem Cell Technology

The First Major Success of Immunology: Eradication of Smallpox

The Faces of Leprosy

Girl with smallpox, Ko-hong (281-340)
Sitala Mata, the Hindu goddess of smallpox, from India.