



# Education Grand Rounds University of Oklahoma Health Sciences Center

## **Active Learning: Activities that Help Improve Retention & Recall**

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OUHSC, College of Allied Health

*Cell phones and pagers should be turned to silent or off. Thank you!*

# **Active Learning: Activities that Help Improve Retention and Recall**

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# Objectives

1. Define active learning
2. Identify techniques to implement active learning
3. Discuss how to implement activities into your unique learning environment

# Traditional Learning

- Lectures
- Passive reading / watching video
- Independently completing worksheets

# The Cone of Learning

sparkinsight.com

After 2 weeks,

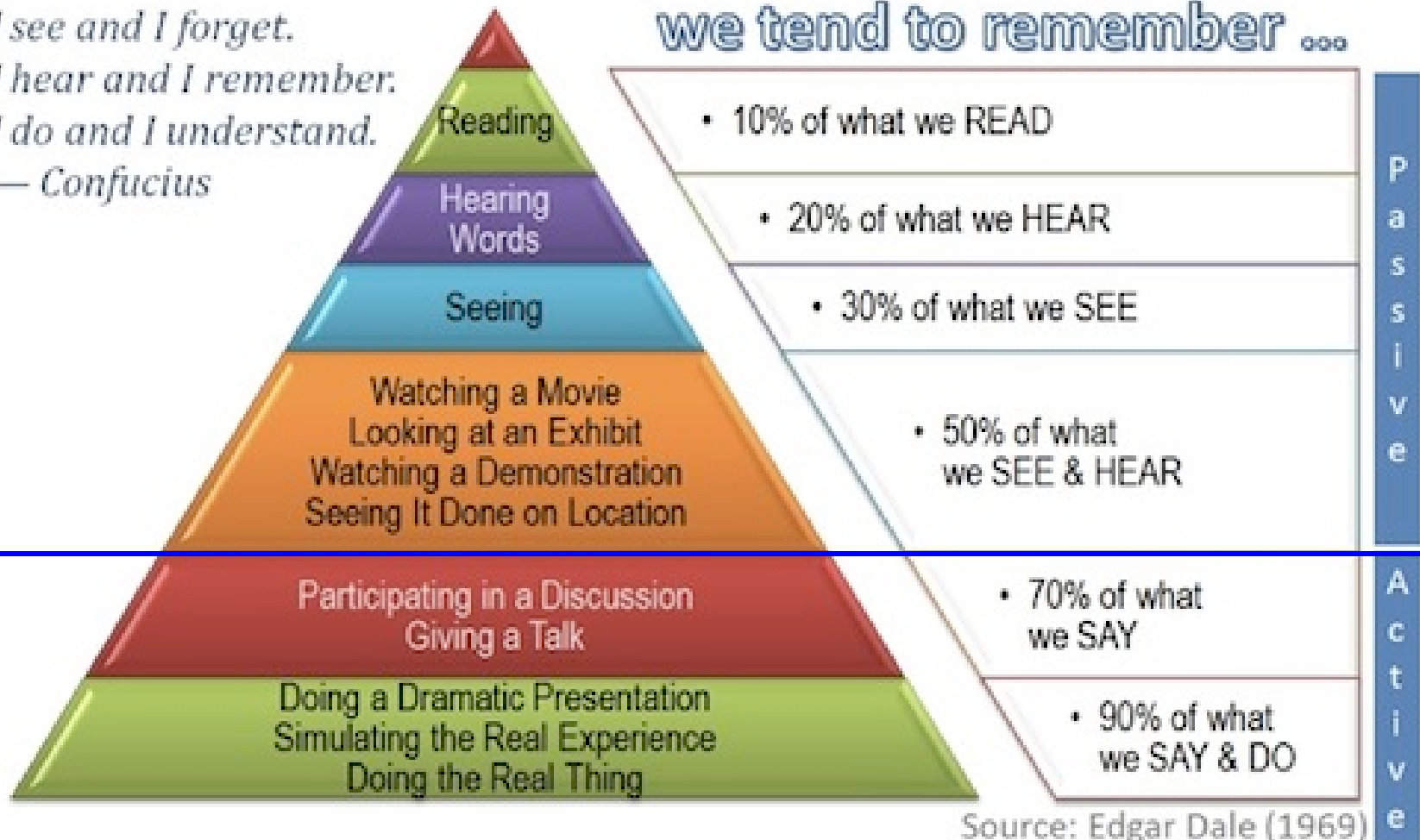
we tend to remember ...

*I see and I forget.*

*I hear and I remember.*

*I do and I understand.*

— Confucius

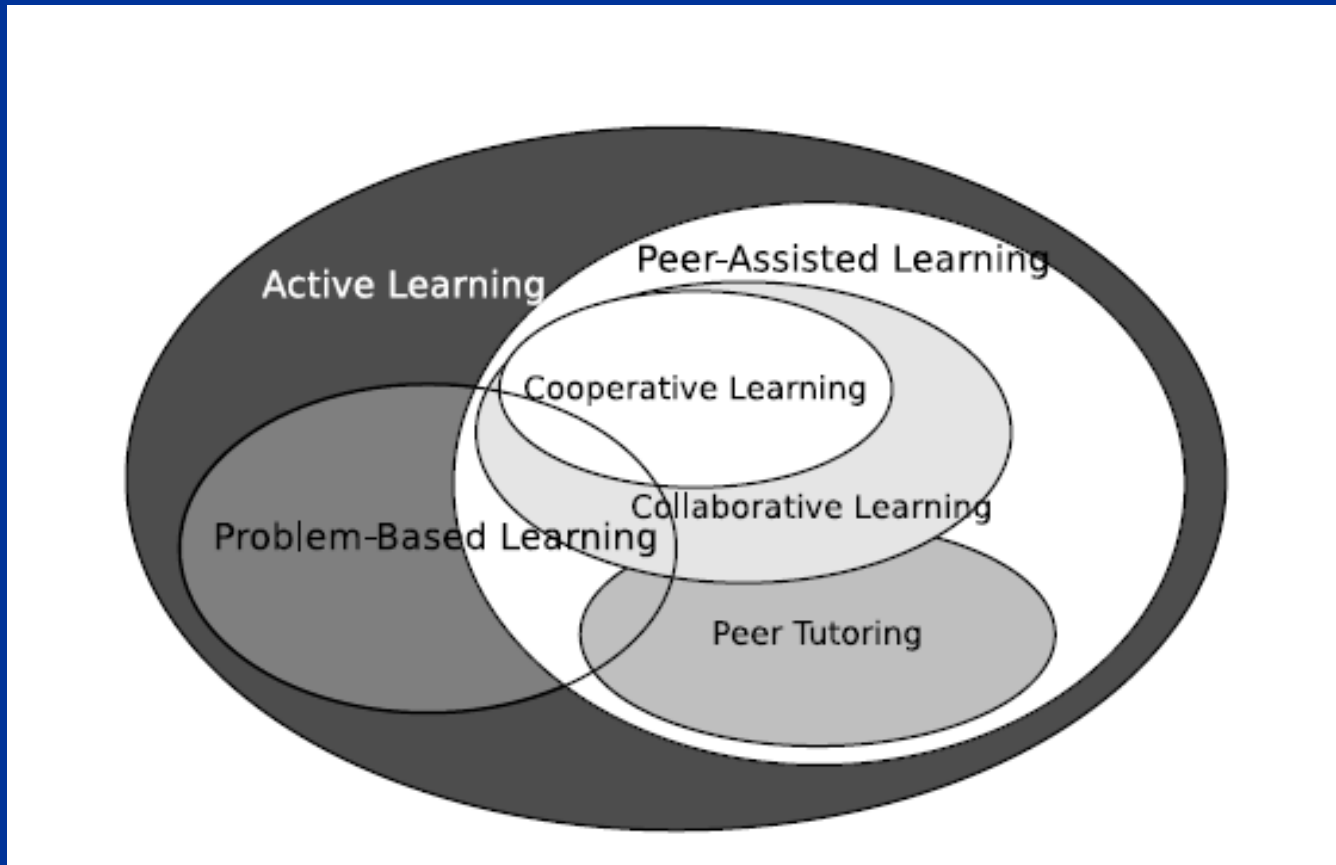


Source: Edgar Dale (1969)

# Active Learning

- Students engage with content during class
- Instructor guided tasks/assignments
- Reflecting and Feedback
- Individual and group accountability

# Active Learning Emphasis



# Instruction Adjustment

## ■ Flipped Approach

- Pre assignment not repeated in class
  - Reading
  - Videostream, voiceover, etc.
- Verify preassignment
  - Prequiz or assignment
  - Class activity

## ■ Interactive Lectures

- Lecture with periodic pauses for structured activities
- Comprehension of lecture is assessed with feedback given



# Example Activities

# Discussion Strategies

- Think – Pair – Share
  - Given an open ended question/problem
  - Learner thinks and writes personal answer – discusses with partner - shares with class
- Discussion Web
  - Group considers a topic then regroups to share work and add to the topic

# Activity

- Pick the best activity for your environment
  - Generate a specific example of when you would use it
- Share with a partner
  - Discuss the scenario and give suggestions
- 3 minutes
- Be prepared to discuss scenario with the group

# Discussion Strategies

- Think – Pair – Share
  - Given an open ended question/problem
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  - Group considers a topic then regroups to share work and add to the topic

# Writing Strategies

- Minute papers
  - Summarize knowledge of a topic
  - Discuss the issues that arise
- Journaling
  - Give examples of good responses
  - Write a response to a given topic
- the Gist
  - Provide the most important aspect
  - 20 words or less

# Guide the Activity

- Gain attention
- Give directions
- Clarify expectations(outcomes)
- Find middle ground for questions
- Allow just enough time to complete activity

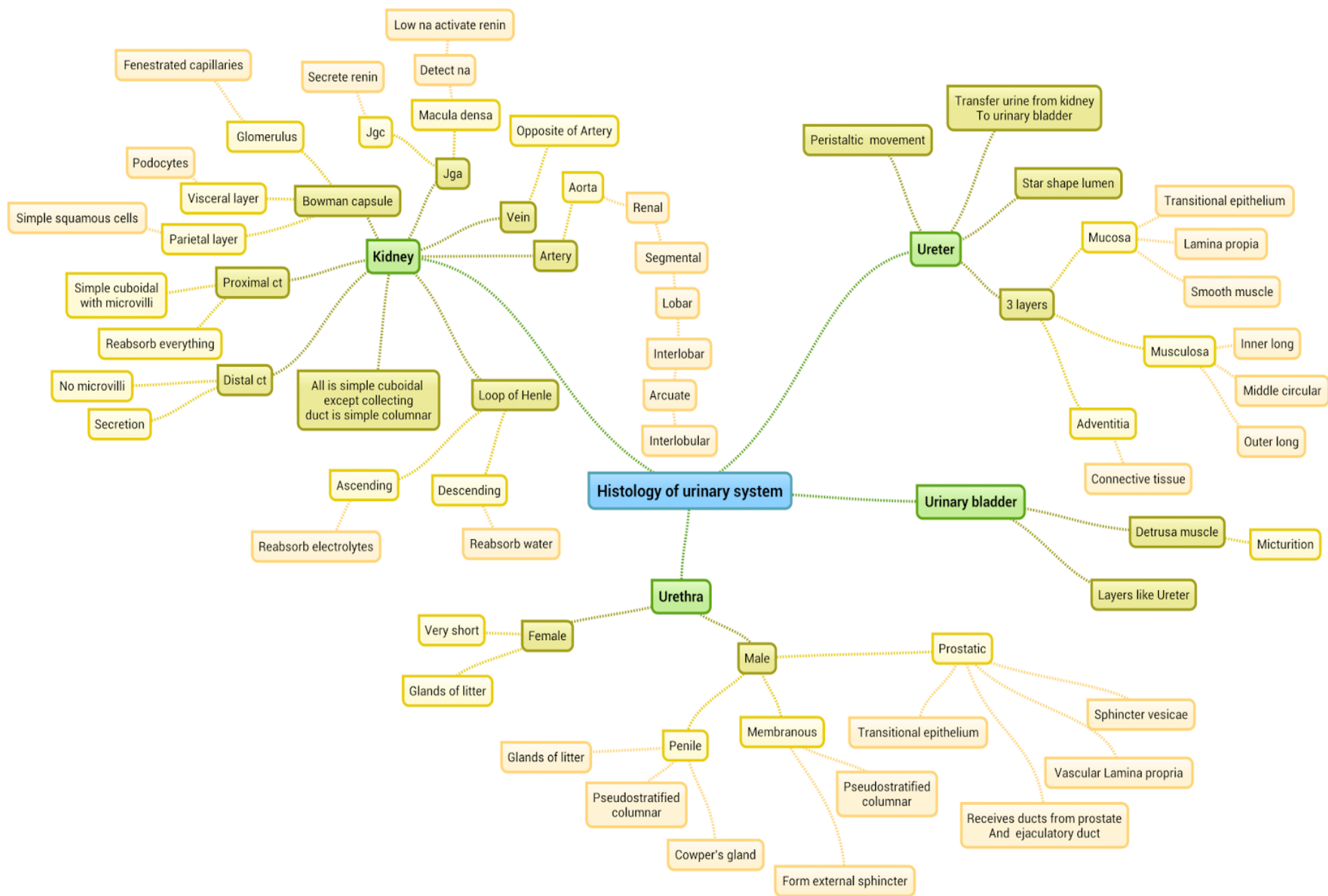
# Challenges

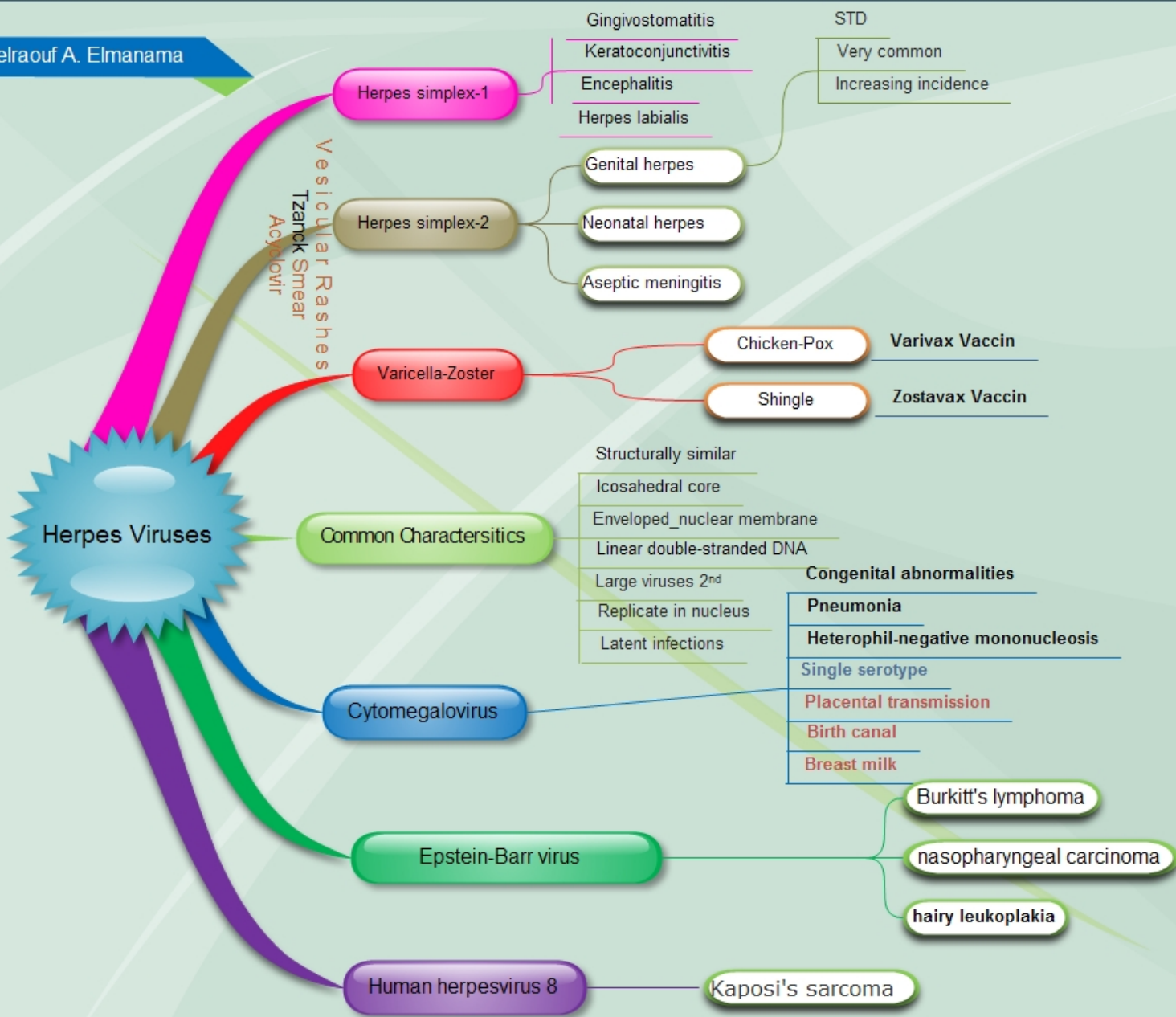
- Room issues
  - Room layout and equipment, hearing speaker
- Noise and Distractions
  - preplan, structure
- Target activities to objective
- Activities shouldn't distract from learning

# Visual Strategies

- Graphic organizer/Concept Maps
  - Give topic or process
  - Create visual representation of concepts, vocabulary and how they fit together
  - Use icons, pictures, words, colors
- Web search
  - Locate images/information that meet a specific criteria and justify choice







## Multidrug-resistant tuberculosis

There are nearly half a million new MDR-TB cases a year worldwide.

### MDR-TB among new TB cases 1990-2007

■ Less than 3% ■ 3%-6% ■ Greater than 6% □ No data



### Clinical

#### Acid fast stain

#### Culture on Löwenstein-Jensen agar

#### Culture on liquid BACTEC medium

#### Niacin test, semiquantitative catalase test

#### Luciferase assay to detect resistance

#### Skin test PPD

#### QuantIFERON-TB

#### X-ray

### Diagnosis

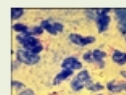


No. Killers microbe  
1/3 of world infected  
8 millions cases/year



Slow growers  
Weeks

## Mycobacteria



*M. tuberculosis*

*M. bovis*

*M. leprae*

*M. kansasii*

*M. marinum*

*M. avium-intracellulare* complex



Acid fast bacilli

*M. fortuitum-chelonae* complex



Rapid growers  
Days

### Main sites of Extrapulmonary tuberculosis

**Central nervous system**  
- Meningitis

**Lymphatics**  
- Scrofula (of the neck)

**Pleura**  
- Tuberculosis pleurisy

**Disseminated**  
- Miliary tuberculosis

**Bones and joints of spine**  
- Pott's disease

**Genito-urinary**  
- Urogenital tuberculosis

### Main symptoms of Pulmonary tuberculosis

**Central**  
- appetite loss  
- fatigue

**Lungs**  
- chest pain  
- coughing up blood  
- productive, prolonged cough

**Skin**  
- night sweats,  
- pallor

INH

Rifampin

Pyrazinamide

Ethambutol

Treatment  
6 months course

Resistance

MDR

XDR, 2005

	General Character	Location/NL Measures	Sono Features	Linked Assocs	Distinguishing Characteristics
Nuchal Translucency					
Nuchal Thickness					
Cystic Hygroma					
Posterior Cephalocele					

# Test Strategies

- Practice test
  - Give practice test items
  - Give feedback
- Write questions
  - Students write questions and share with the class
- Games
  - Students answer question but use a traditional game board to decide who wins

# Case Studies Strategies

- Complete a Case
  - Give a portion and asked to make final decision
- Missing Piece
  - Give a portion of a case and ask what is needed to make a final decision

# Suggestions for Successful Discussion

- Emphasize discussion in the syllabus
  - Clarify criteria to receive full credit
- Develop strategy to start a discussion
  - Goal?
- Allow sufficient wait time for response

# General Suggestions

- Vary the task or technique (give choices)
- Identify role of team members
- Individual and group accountability
- Students generate a product
- Be prepared with follow up material
  - Feedback, Clarification



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# Questions