

The Ohio State University
College of Medicine and Public Health

Problem-Based Learning Pathway

STUDENT HANDBOOK

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The Ohio State University

College of Medicine and Public Health

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PBLP Web Home Page: <http://medicine.osu.edu/PBL>

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Chapter 1

INTRODUCTION AND GENERAL INFORMATION

Welcome to the Problem-Based Learning Pathway (PBLP). We think you will find it an exciting, productive approach to the basic medical sciences. As an introduction to the PBL process, we are giving you this handbook, which is designed to provide you with some important information, procedural and otherwise, about the Program. We will review some of the highlights when the program begins, at which time you can ask any questions you might still have. This handbook should give you an idea of what PBL is, and provide most of the answers to your questions regarding what we will be doing.

The following general information and policies will apply to all students in the College of Medicine and Public Health and the Problem-Based Learning Pathway.

I. ***PATIENT-CENTERED MEDICINE:*** (See page 52 for details)

Patient-centered Medicine is a separate course that runs concurrently with the basic science curriculum. All students in all basic science curricula take this course together. The course will meet once per week on either Tuesday or Thursday mornings. Students will be divided into two groups and the meeting day will depend upon your assigned group. If you have questions about this course, contact the PCM Program Coordinator, Eileen Mehl, at 292-9911 or the Course Director, Dr. Doug Post at 688-3908.

II. **PHYSICIAN DEVELOPMENT COURSE:** (See page 47 for details)

Physician Development (**PD**) is a separate course studied concurrently with the basic medical sciences and a satisfactory grade is required in order to progress to Med III. All Problem-Based Learning Pathway students are required to take this course which runs throughout the first two years of medical school. Specific details of the course will be provided by the Physician Development course director. If you have questions regarding this course, call the PD Program Coordinator, Laura Wolfe at 292-6445.

III. **SENIOR PARTNERS:** (See page 49 for details)

A portion of the Med I and Med II Physician Development Curriculum is devoted to the *Senior Partner Program* (<http://osuaging.com/srpart/>). All students, regardless of curricular pathway, must successfully complete the Physician Development Course, including satisfactorily completing the *Senior Partner Program*. For more information, review the website for more information or call the Program Coordinator, Michelle Myers at 293-7914.

IV. FACULTY ADVISORS.

Clinical Faculty Advisors will be assigned to MED II students winter quarter of their second year. He or she can be very helpful in making clinical contacts and for career counseling. MED I students can see Joan Curry, Medical Student Advisory Center, 061 Meiling Hall, 292-3340, curry.2@osu.edu

V. LEAVE OF ABSENCE (LOA).

Students may encounter interruptions in their study for extended periods of time. The reasons may include illness (which students should be able to document), family problems, research projects, etc. In the case of emotional or medical problems, the student should immediately seek help in dealing with these problems and may call on Joan Curry (292-3340), the college's Student Advisor in the Medical Student Advisory Center, 061 Meiling Hall, or any of the PBLP faculty. These interruptions must be reported to the PBLP office. If it is anticipated that an extended period of time will be needed to overcome a particular problem, the student and/or the PBLP may decide that the student should request a Leave of Absence (LOA). An LOA is required for any absence of greater than one month (other than University vacations). Approval is required by the PBLP Director, the Associate Dean for Student Affairs, and the College Financial Aid Officer. An LOA can be initiated with any of these but requires approval from the College of Medicine and Public Health Student Progress Committee.

VI. WITHDRAW/PASSING.

Decisions to withdraw from the College of Medicine and Public Health, whether from Year 1 or Year 2, (662E or 663E) **without penalty** (W/P), must occur within the first eight weeks of school (i.e., **10/14/02**). Any student who withdraws from the Year 1 curriculum (COM & PH 662E) must also drop MH (COM & PH 661). The student will receive **no credit** for any work completed during the eight weeks.

All PBL students must attend the first three weeks of embryology and take the first embryology exam. After that, students who are committed to PBL are done with embryology lectures and exams in the Anatomy course. Students may transfer from PBL without penalty anytime prior to the **second** Gross Anatomy/Embryology examination if they find PBL unsuitable for their learning style. Transfer to the Independent Study Pathway later in the first year or during the second year of PBL is possible but would require starting at the beginning of the Med I year curriculum (Module 1). Special schedules can be generated to assist students in their progress. Since the PBLP is essentially a two-year continuum, without separate first and second year content, any transfers from the PBLP into the Lecture/Discussion Program after the first year will require that the student repeat the entire basic science curriculum starting at the beginning of year 1.

VII. HONOR CODE.

All examinations are administered on the honor system. Any unauthorized use of examination materials such as copying, showing to other students, discussing contents, and so forth, shall be considered a violation of the College of Medicine and Public Health Honor Code. [For details see your COM Handbook.]

VIII. USMLE (U.S. Medical Licensing Examination):

After successful completion of Year 2 (COM&PH 663E), all OSU College of Medicine and Public Health students must take and pass the computer-based Step 1, USMLE to satisfy the requirements for entering MED 3 / 4 (Clinical Rotations). Students sign up for a 3-month block in which to take the exam. (For more details regarding the USMLE requirement, see your COM Student Handbook.) The passing score for Step 1 of the USMLE as of January 2002 was 182.

IX. OFFICIAL DOCUMENT OF THE PROBLEM-BASED LEARNING PATHWAY.

This PBLP Student Handbook is considered the official document of the Problem-Based Learning Pathway. Any changes of procedures or policies will be announced either through a letter in your student mailbox or via the PBL List Server, and will then be considered official. All students are expected to sign up for the PBLP List Server. **TO SUBSCRIBE to the OSU COM&PH List Server, send an email message to: *listserv@lists.acs.ohio-state.edu*. The email message must contain the following words in both the subject area and the body of the message: "subscribe COMPBL your first name your last name" e.g., "subscribe COMPBL John Doe".**

TO DELETE YOUR NAME from the listserve, send an email to: *listproc@lists.acs.ohio-state.edu* In the message part type: *Asign off COMPBL or unsubscribe COMPBL@*. Also, you must sign off from your own computer. ***If you have questions or problems, you will need to call Rob McKenney at 688-4429.***

X. STUDENT REVIEW COMMITTEE.

The PBLP Student Review Committee is responsible for establishing criteria for student evaluation, Honors, and Letters of Commendation as well as monitoring progress of students through the curriculum.

- The Committee will meet with any student whose overall score is below 70% after Gross Anatomy. Students must achieve a cumulative score of 70% in Gross Anatomy in order to remain enrolled in the Problem-Based Learning Pathway. Any student who does not achieve this score will be required to transfer to the Lecture/Discussion Pathway.
- The Committee will review the status of Problem-Based Learning students each academic quarter and will meet with students perceived to be in academic difficulty.

- The Committee will select students to receive Honors, and Letters of Commendation in COM & PH 662E and 663E.

It is the goal of the Student Review Committee to provide early intervention with students showing signs of academic difficulty as well as adequate warning of possible negative outcomes. It is not intended to intimidate but rather to provide advice and support at a time when corrective actions can still be taken. The Chairperson of the Committee has the discretion of deciding whether to counsel students individually or ask them to meet with the full Committee.

Chapter 2

PROBLEM-BASED LEARNING DESCRIPTION AND OBJECTIVES

*"The mind is not like a vessel for filling,
but like a fire for kindling."*

Plutarch

In a problem-based learning curriculum, passive delivery of information is almost completely eliminated. Students are placed in small groups of about seven students each, and each group assigned a faculty member whose function it is to facilitate discussion in the group. Because the faculty members who serve as group facilitators are not necessarily authorities on the material being discussed, the students learn to not rely upon him/her to teach. A series of cases serve as a basis for learning the basic sciences required to understand the clinical scenario. **The object is not to diagnose the case, but to use it to identify what are called *learning issues*, topics for further independent and/or group study.** Students then work independently on their learning issues before the next meeting, at which time the new information is discussed and refined in the context of the case. If necessary, further learning issues are then identified and studied.

Such a program provides an environment in which the learning of the basic sciences will be approached with considerably more enthusiasm than under the lecture system. With a problem-based approach to the basic sciences it is also hoped that the students will feel more comfortable and confident in dealing with uncertainties, and with the challenge of solving clinical problems. If so, then the students should be better prepared to enter into their clinical clerkships, which commence with the third year of medical school.

With this approach, the memorization of isolated facts, taken out of context, is de-emphasized. Those skills which are of value in helping students develop into self-directed, independent learners are used repeatedly throughout the student's education. It is the process of learning rather than the factual information itself which is stressed. The small group setting also fosters the development of a sense of community among students, who learn to work together in a problem-solving capacity. They learn both trust and responsibility as active members of the group. They become comfortable both receiving and giving criticism, with having their position questioned without taking it personally, and questioning without fear of threatening others. The small group process also provides valuable practice in sharpening students' clinical reasoning skills, which have been suggested to constitute the scientific method of clinical medicine.

The main objective of the course is to foster the educational and personal development of medical students who will:

- Take personal responsibility for learning, both during and following formal medical training.
- Command a relevant knowledge base characterized by depth, breadth and, most of all, flexibility.
- Be skilled in the critical evaluation and acquisition of new knowledge, with a commitment to life-long learning.
- Be proficient at clinical reasoning.
- Possess good interpersonal skills.
- Be better prepared for entry into clinical clerkships.

The mechanism of achieving this objective will be an approach which will;

- Shift the emphasis of the program from teaching to learning, by requiring students to be active, independent and self-directed learners and problem solvers, rather than passive recipients of information.
- Emphasize the development of attitudes and skills which stress the acquisition of new knowledge rather than the memorization of existing knowledge, by challenging the students with problems to be solved, without specific readings or content assignments, and by limiting the amount of factual information that students are expected to memorize.
- Provide a small group environment, within which the students can work cooperatively to solve common problems in an analytical way, with faculty who are facilitators of the discussion rather than teachers.

The Tutorial Process in Problem-Based Learning

The heart of a Problem-Based Learning Program is the tutorial group (students plus a faculty facilitator). Every member of the group has responsibilities which are important if the process is to succeed (See *Roles of Participants*, below). Members must feel free to challenge one another in a constructive manner and feel comfortable with being challenged without feeling personally threatened or insulted. In the early stages of group dynamics, this is difficult because members are uncomfortable with this behavior, but with familiarity, it becomes an enjoyable exercise which serves to help the group and its members focus on those areas where their knowledge must be extended.

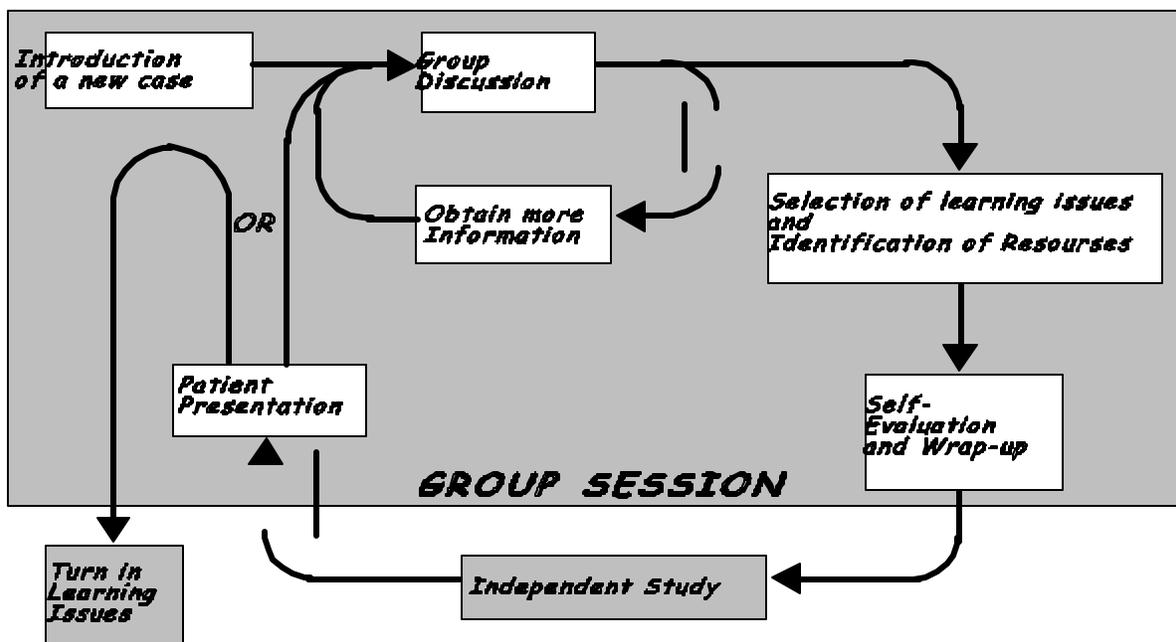
The cases will be based upon actual patients. The information concerning the patient will be distributed over several pages, presented one at a time, in approximately the same sequence in which it would be available to the physician. Thus, the first page will usually contain only that information which would be available to the physician at the onset of a visit; the sex and age of the patient and the complaints which prompted him/her to seek medical attention. After a brief discussion, the group will decide what additional information is required in order to begin understanding the patient's problem. The data provided on subsequent pages will include such information as responses to predictable questions concerning patient

history, other possible symptoms, results of selected laboratory tests and, ultimately, a diagnosis and course of treatment. In summary, the student will, as in the real clinical situation, (1) initially be given only the name, age, sex of the patient, along with the chief complaint, (2) be expected to follow this with an appropriate history and physical exam, plus requests for appropriate laboratory tests and diagnostic procedures, (3) be given additional information over time, allowing for hypothesis generation and testing at every step, (4) and not be given any feedback during this process regarding the appropriateness of the approach or the correctness of the direction of inquiry. The amount of information provided during a single session may vary with the progress of the group, but the group should rank its learning issues and select from the list, only as many learning issues as can be addressed prior to the next meeting. Other learning issues can be saved for study later in the case.

The facilitator will monitor the direction of the group, and redirect them if they digress too far, but this will be done only if absolutely necessary. The students must be given the latitude to pursue unproductive directions, and decide for themselves that a particular learning issue was not germane to understanding the patient's problems.

The group tutorial process begins with introductions of the students and the facilitator. Each student tells of his/her background so that levels of existing expertise are known. The session then begins with the circulation of the first page of the case to be discussed. A case may require up to three tutorial sessions to complete. A diagrammatic illustration of the group process is shown in the figure below.

The PBL Group Process



The group tutorial process may be divided into three phases. In the first phase, one student reads the case while another serves as a "scribe" and writes information on a blackboard. The blackboard should be divided into separate areas, for facts, general ideas, questions and hypotheses, and learning issues. Facts are listed as they are read. The students then begin to discuss the facts, to decide as a group which facts are important and which are irrelevant, and to probe for scientific explanations and correlative information relating to the clinical picture presented. This is accomplished first using existing knowledge of the group members. At this point, the students must challenge any information presented for accuracy and understanding. As they arise, ideas are listed which are eventually formulated into hypotheses to be tested. With each hypothesis, one or more learning issues (topics about which there is insufficient knowledge to understand the clinical picture or to test the hypothesis) are identified. At the conclusion of the session, the group decides which learning issues to pursue and which resources to utilize in order to obtain the information. During this process, the students must take particular care to not become preoccupied with making a diagnosis, but to adhere to their primary goal, that of understanding the basic mechanisms, not the diseases, responsible for the clinical symptoms and signs. The final activity of each session is for the group to evaluate its effort in this regard, and recommendations made as to how to improve the group's performance.

During the second phase, the students engage in "independent study", addressing the learning issues adopted in the group session. Appropriate resources for acquiring this knowledge include textbooks, journals, microscope slides, X-rays and tomographic scans, audio-visual materials, and designated resource faculty, who may upon request provide information on a topic. The term "independent study" is meant in the broadest sense to mean any activity outside the small group meeting. Students are allowed, in fact encouraged to work in teams, small groups, etc. Communication between members of different tutorial groups is likewise encouraged.

During the third phase, the students meet to discuss their new knowledge and use it to evaluate their hypotheses. In light of the new information they approach the case afresh, listing new ideas, formulating new hypotheses and learning issues, as new case information is provided and added to that which they already have. This is followed by another group self-evaluation, another period of independent study and another meeting. This process may be repeated several times during a single case, as additional learning issues are added until the group is satisfied that it has gained sufficient knowledge of basic scientific concepts to understand the basic mechanisms underlying the clinical picture presented in the case. At this time, a final self evaluation occurs, and the group evaluates its activities and summarizes what it has learned.

Learning Resources

Students working in their small groups will not only identify learning issues for further study, but will also identify the learning resources to be used. These resources will consist largely of the **required or recommended textbooks** and published material in the library. The staff of the Prior Health Sciences Library is working closely with the faculty, and will be providing an introduction to the library and a

workshop in information retrieval early in the curriculum. In addition, each small group will initially have a librarian-facilitator, who will meet with the group as needed and will be available for continued instruction in the use of the library facilities. Other learning resources will include histology microfiches, neuroanatomy microfiches and histopathologic material on microscope slides, radiologic films, electrocardiograms, and selected resource faculty, who will be available for brief presentations where and when appropriate. The ISP modules with their listed resources and practice tests (TES) may also be used.

Roles of Participants

The facilitator is responsible for handing out the case information at the appropriate times during the discussion. He/She also assures that each member of the group participates by prompting, if necessary, the more timid members and monitors how accurately the group is addressing the desired objectives. Chapters 4 and 5 are devoted specifically to the roles of the facilitators in detail.

The facilitator will also evaluate the efforts of the group members in terms of the willingness to contribute and willingness to complete their independent study to the extent that they are able to contribute to the group effort. The facilitators will also monitor the learning issues covered and will contribute in this way to the construction of the examinations used in the program.

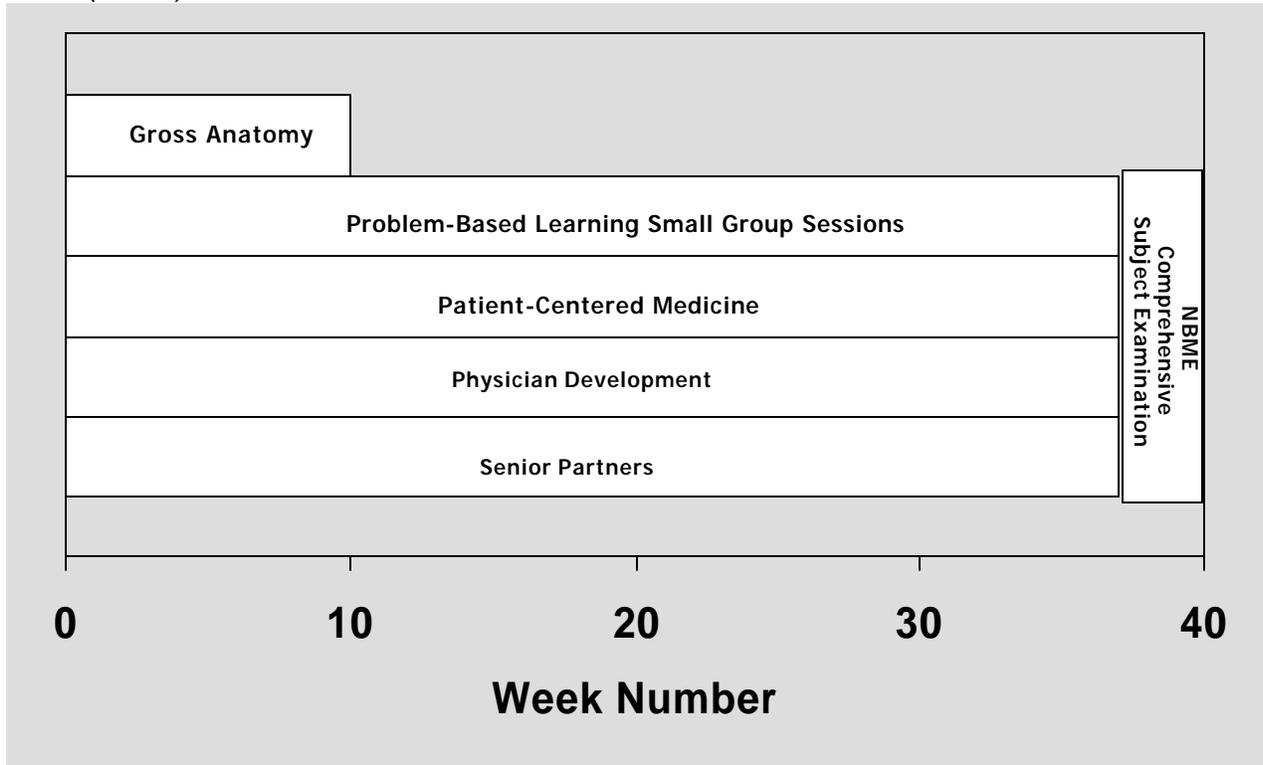
The students have the responsibility to participate actively in the discussions of the group. They must be willing to both give and accept constructive criticism, be willing to admit to knowledge deficiencies where they exist and to conscientiously complete their independent study assignments so as to contribute effectively to the group effort. Students also have the responsibility to honestly evaluate the activities of each other, themselves, the facilitator and the group as a whole. Only in this way is improvement possible.

The Problem-Based Learning Pathway Curriculum.

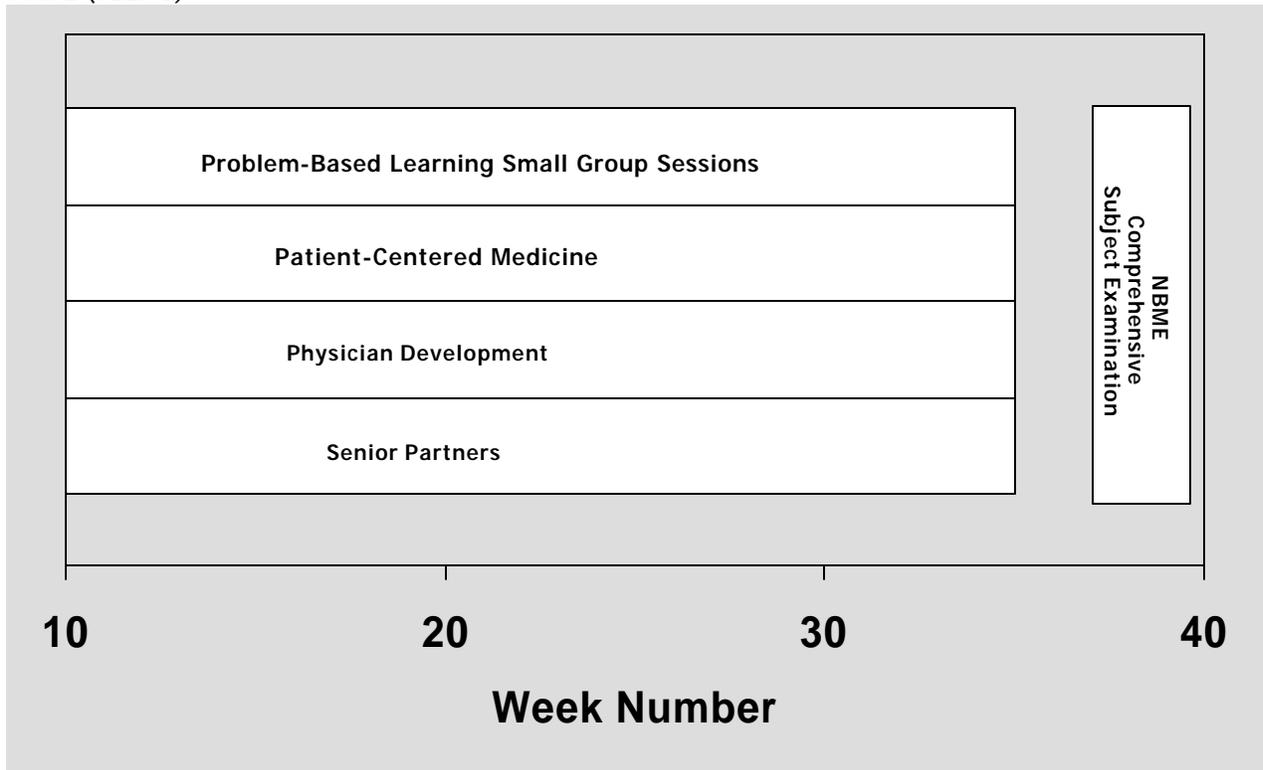
The Problem-Based Learning Pathway is a true alternative curriculum, not just an approach to learning. At present, the curriculum consists of the following components, which are also shown diagrammatically in the figure below.

The Two-Year PBLP Curriculum

Year 1 (PBLP-1)



Year 2 (PBLP-2)



YEAR 1:

1. **Gross Anatomy.** The Human Anatomy course is a structured laboratory course in which all OSU College of Medicine and Public Health first year students participate during the first 12 weeks of the autumn quarter. This includes the students in the Problem-Based Learning and Independent Study Pathways of the Independent Study Program. This course meets five half days per week, Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays, from 8:30 a.m. to 12:30 p.m. beginning the first full day of school and ending in mid-November. Embryology will normally be taught on Tuesdays and Thursdays but the days will vary at times during the course. Students in the PBL will participate in the introductory portion of this course (the first three weeks). After that time, Embryology will be picked up in the PBL Cases. Students who remain in PBL after the first three weeks do not take the embryology portion of any anatomy exams.
2. **Cases.** PBLP students will work through PBLP modules (cases), in five small groups with two facilitators per group. Each group will meet for two hours, once per week during gross anatomy, and three times per week for the remainder of the first year. Facilitators are changed and groups are re-assigned at the beginning of each quarter.
3. **Patient Centered Medicine (PCM)** is a separate course that is required for all students. These sessions will take place on either Tuesday or Thursday mornings, depending upon your assigned group. More information will be provided by the PCM staff.
4. **Physician Development 1 (PD1)** is a separate course studied concurrently with the basic medical sciences and a satisfactory grade is required. All students are required to participate in this course. *See page 47 for details.*
5. **Senior Partners Program.** This program is required for all students. Students will be paired with a senior adult in the community and through this relationship, develop the attitudes, knowledge and skills necessary to support the health care needs of older adults. The *Senior Partner Program* is a longitudinal, experiential program that spans the four years of medical school. Michelle Myers, Program Coordinator, 2114B Dodd Hall, 293-7914, myers.654@osu.edu. *See pages 49 & 51 for details.*

YEAR 2:

1. **Cases.** Students will work through PBLP modules (cases) in five small groups with two facilitators per group. During the second year, each group will meet for two hours, twice per week. Facilitators are changed and groups are re-assigned at the beginning of fall and winter quarters.

2. **Physician Development 2 (PD2)** is a separate course studied concurrently with the basic medical sciences and a satisfactory grade is required. All students are required to participate in this course. *See page 50 for details.* The Physical Exam Course is offered as part of the Physician Development course. In lieu of the preceptorship that accompanies the Physical Exam Course, PBLP students will take the PBL **Ambulatory Care Subclerkship**. This will begin in September and the beginning portion will serve as the preceptorship for the Physical Exam course. The subclerkship will continue for one-half day per week until the end of April. Subclerkships will be in a primary care setting, either in a primary care clinic facility or in a private practice office setting in the central Ohio region. The physician responsible is designated the **Attending Physician**, rather than the Preceptor. The students are expected to function in all ways as student physicians during this assignment. The goals of the program are to: 1) observe and practice real clinical problem solving in an ambulatory setting; 2) introduce students to the spectrum of ambulatory primary care medicine; 3) expose students to a wide variety of commonly encountered clinical problems; 4) observe delivery of primary care in a variety of clinical settings; 5) develop good habits in acquiring and recording data from the history and physical examination in an ambulatory setting; 6) appreciate the opportunities and limitations in an ambulatory setting for education of patients about promoting health and preventing disease; 7) and further develop appropriate attitudes about the doctor-patient relationship.

3. **Clinical Communication Course.** This is a one half-day per month discussion program focussing on patients with health problems that require life-long management. The focus is on both the problem and its genetic basis, and upon the impact of chronic health management on the patient and his/her family and other psychosocial issues. Students are expected to 1) perform research on a topic using the current medical literature, 2) identify a peer-reviewed journal, 3) prepare a brief scientific paper with appropriate language and formatting styles, 4) prepare and deliver a clear and concise 5 minute verbal presentation using Powerpoint, 5) achieve familiarity with good slide/overhead preparation and construction, and 6) understand better the psychosocial issues facing individuals with chronic diseases, to enhance the doctor-patient clinical communication. Each session is divided into three parts: Presentation/question & answer, discussions and interactions with patients, and presentation/discussion of psychosocial issues.

Following the conclusion of the second year, PBLP students take the national administration of the USMLE, take two weeks of Introduction to Clinical Medicine (ICM), and enter clerkships to complete their third and fourth years via the existing MED III-IV curriculum.

Program Administration

The faculty responsible for the administration of the Problem-Based Learning Pathway include the following:

<u>NAME</u>	<u>OFFICE</u>	<u>PHONE</u>
John J. Curry, III, Ph.D. Director, Problem-Based Learning Pathway Associate Professor of Physiology and Obstetrics and Gynecology	5170 Graves Hall	292-9000
Sarah Tjioe, Ph.D. Associate Director, Problem-Based Learning Pathway Chairperson, PBLP Curriculum Committee Assistant Professor of Pharmacology	5072 Graves Hall	292-7037
Sorabh Khandelwal, M.D. Coordinator, PBLP Subclerkship Experience Assistant Professor of Emergency Medicine	016 Prior Library	293-8305
Judith A. Westman, M.D. Coordinator, PBLP Clinical Communications Course Clinical Assistant Professor of Pediatrics Associate Dean for Student Affairs and Medical Education Administration	260 Meiling Hall	292-5126
David L. Clark, Ph.D. Professor of Biomedical Informatics, Division of Anatomy Chairperson, PBLP Student Review Committee	3187L Graves Hall	292-5521
Robert M. DePhilip, Ph.D. Associate Professor of Biomedical Informatics, Division of Anatomy Chairperson, PBLP Evaluation Committee	3084 Graves Hall	292-9777
Jodi Skinner Program Coordinator, PBLP	5170 Graves Hall	292-9000

Chapter 3

IDENTIFYING AND FORMULATING LEARNING ISSUES

The Learning Issues are the topics designated by the group as areas in which there is inadequate knowledge to understand what is happening with the patient. It is important that the students remember that the goal of the curriculum is to learn the **basic sciences**. When students evaluate their performance with regard to identifying learning issues, the most frequent self-criticism is that the learning issues were either too broad or that they were not well defined. These problems may be avoided if the students remember to organize their learning issues in two ways; by basic science discipline, and by levels of organization.

When formulating learning issues, keep mind that their are seven basic science disciplines and that there are seven levels of organization. The basic science disciplines and the seven levels of organization are as follows:

THE SEVEN BASIC SCIENCE DISCIPLINES

- Anatomy, including:
 - Gross Anatomy
 - Histology
 - Embryology
 - Neuroanatomy
- Biochemistry
- Physiology
- Behavioral Science
- Pharmacology
- Microbiology (including Immunology)
- Pathology

THE SEVEN LEVELS OF ORGANIZATION

- The Molecular Level
- The Cellular Level
- The Tissue Level
- The Organ Level
- The Body System Level
- The Whole Patient Level
- The Family and Community Level

If these are kept in mind when formulating learning issues and, even more importantly, when studying, then the student can feel confident that a given issue is being approached in the appropriate depth and with

appropriate breadth. Obviously, not all disciplines and levels are applicable to every learning issue, but if each topic is analyzed from this perspective, then oversights can be minimized.

The Problem-Based Learning Pathway students who have preceded you have reached some conclusions about formulating learning issues after a year of working with the program and after taking the shelf copy of the National Board examinations. We will share some of these with you in order to help you get started on what is perceived as "the right foot" when deciding upon learning issues.

- When selecting learning issues, those that deal with the **physiology** of organs and organ systems will come most easily. However, keep in mind that whenever an organ or organ system is brought up, you must also keep the **histology** in mind and study that as well. Also, when appropriate, any **neuroanatomy** involved in the control of the organ or system should be included.
- Whenever learning issues involving **biochemistry** are selected, it will usually address the pathways for metabolism of particular groups of compounds, such as carbohydrates or phospholipids. When considering such pathways, it will be helpful to appreciate how these pathways integrate with other biochemical pathways.
- You will find that it will become almost automatic, that whenever a patient in your cases is treated with a particular drug, the **pharmacology**, the properties and activities of that drug will be selected as a learning issue. Previous students relate that they have learned that, rather than selecting a specific drug as a learning issue, it would be better to select an entire category of drugs, and to address compare their mechanisms of action, relative risks and side effects, interactions with other drugs, *etc.* For example, when a patient is treated with propranolol, instead of selecting "propranolol" as the learning issue, you should consider "beta adrenergic blockers" as the learning issue.
- **Pathology** learning issues are most likely to arise when you finally arrive at a diagnosis of the patient in your case. More experienced students suggest that rather than selecting a specific disease as a learning issue, you would be better served by selecting diseases of the (organ in question), or at least related diseases of the organ, so that you can study the comparative histopathology, and differential diagnosis of diseases of the organ. You should refer to the [ISP Syllabus for Pathology Slide Set](#) for direction in covering the pathological material which corresponds to each organ system and/or clinical discipline. (Slides may be checked out of the ISP/PBLP Office - 5170 Graves during normal working hours--not overnight.)
- **Microbiology and immunology** learning issues will present themselves at obvious times. There might be a tendency to deal with these in a more superficial manner than is desirable. Use the ISP Modules and the textbooks as topic guides. For those who require it there is available, a selection of appropriate microbiology laboratories. Particularly if you have not had any microbiology, you should plan on taking one of these. A basic laboratory series is available in the Lecture/Discussion Program, which occurs once each year at a fixed time. Consult the Med II Office on the fourth floor of Graves Hall for dates. There is a somewhat more extensive program available in the ISP.

A simple set of guidelines for selecting learning issues could be summarized as follows:

- A learning issue should be selected in response to the need to answer a question.
- The learning issue should not be so specific as to be simply the answer to a specific question. e.g., AWhat does the first heart sound represent?@
- The learning issue should be a relatively complete topic representing a body of information within which the answer to the specific question can be found. e.g., AHeart sounds@, or even AThe cardiac cycle@.
- The body of information that is the learning issue should include topics related to the question being asked, and within the context of which the question lies.

Chapter 4

ASPECTS OF GOOD GROUP DYNAMICS AND GROUP ENVIRONMENT

It is important that you, the members of the group, establish and maintain a good working environment, so that you and the other members will feel comfortable with one another. There must be an atmosphere of trust and respect among the group members or interpersonal problems will fester. Some light conversation at the beginning helps to establish a collegial atmosphere and you should feel comfortable injecting appropriate humor at times. You will find that you will remember things which occurred in a humorous setting and an occasional good chuckle serves as a tension breaker. A group always seems to be a little refreshed after a humorous incident. We like to think in terms of students "learning the ropes" of effective group function, and in order to guide your behavior during group meetings, it is helpful to keep the acronym "**ROPES**" in mind. This acronym will help you to remember the characteristics required for a good group process. The letters "ROPES" represent those characteristics, as follows:

- **R**isk - A successful experience in the small group involves taking risks. Group members will have to generate hypotheses, which then must be tested in order to be either proved or disproved. You must be prepared to risk suggesting a hypothesis, knowing that it may be erroneous. This represents a risk which you must be prepared to take, feeling confident that you will not be berated for being wrong. In addition, the Problem-Based Learning curriculum is centered around and directed by you, the students. You will select your own learning issues, rather than having them identified by the faculty, and you must decide upon the appropriate depth for study. This will also appear to be a risk which you must be prepared to take.
- **O**penness - Finally, the group members must be open with each other. They must be willing to admit their deficiencies, to share ideas, and to let the group profit from their knowledge and experience. In addition, they must be willing to express their feelings, good or bad about the group or any of its members.
- **P**articipation - Participation by every member of the group is the backbone of good group processing. Every member should be encouraged to participate as fully as possible by others in the group. This involves recognizing the "S", above and also respecting everyone's viewpoint. There is a positive way to deal with everything, and anything you do to discourage participation is counterproductive.
- **E**xperience - Experience is the key to learning in the small group setting. This does not refer to the experience which group members bring to the group, but rather that the experience of reasoning one's way through the case provides the environment and the meaningful framework for true learning of the material. Therefore, it is important that each member of the group be involved in the experience,

including the self-study that takes place outside the small group setting. This is a part of the experience. One who simply participates in the discussion without holding up his/her part of the outside work is not profiting from the experience. Such a group member is not being fair to either himself/herself or to the rest of the group.

- **Sensitivity** - Each member of the group must be sensitive to the needs and feelings of others in the group. Everyone comes to the group with a different background, different experiences, and his/her own collection of feelings. While it is part of the group process to challenge and to probe, this must not be done in a threatening or derogatory manner but in a spirit of collegiality. There are no stupid questions. Every question must be assumed to represent a genuine educational need. Since admitting ignorance is an important part of the learning process, no-one should be criticized for one's lack of knowledge of a topic lest he/she be discouraged from future participation.

Any of these items, taken alone, will appear to you to represent a great leap of faith. However, taken together, they are a prescription for a successful group. They are all related; none of them really stand alone. Accepting any one of these characteristics becomes easier if one accepts them all.

Chapter 5

THE PROBLEM-BASED LEARNING MODULE

Our PBLM's will be organized along the lines of the Progressive Disclosure Model. The general plan for the PBLM is shown in the figure below.

THE PROBLEM-BASED LEARNING MODULE PROGRESSIVE DISCLOSURE MODULE Part I - Students and Facilitators

Page 1	· Case Presentation Name, sex, age and complaint
Page 2	· Case Presentation Answers to possible questions History of present illness Past medical history Social and family histories Review of systems
Page 3	· Results of physical examination Vital signs Results of appropriate systemic exams
Page 4 thru Page n	· Additional patient information Laboratory and diagnostic test results Any appropriate x-rays, MRIs, Cts, ECGs , etc. Any other relevant facts and findings Progress notes, diagnosis and follow-up

Specifically, the module will contain the following information:

· **Page 1:** The identity of the patient by a fictitious name along with the age and sex of the patient, and his/her chief complaint. The group should begin work on the case by first generating a list of possible causes of the patient's problem, called a differential diagnosis. Initially, this list will consist of possible organ systems involved and the possible problems with each organ system (See "An Approach to the Patient for Problem-Based Learning Students", below). Later on, as students gain knowledge and experience, this list will be a list of specific diseases. Students should then identify a list of information to be sought from the patient during the clinical interview, or history (See also, "An Approach to the Patient for Problem-Based Learning Students", below). One student should then receive page 2 and "role-play" the patient while one or more of the remaining students conduct the interview, until all relevant information has been obtained.

- **Page 2:** The results of the clinical interview.
- **Page 3:** The next step should be the physical exam. Students should request all routine vital signs, and list the specific elements of the physical exam which they would like to see evaluated. Results will be state using terms which might appear in the official record.
- **Page 4 et seq.:** At this point, the students should begin to engage in the generation of some serious hypotheses. You should begin to consider ideas for learning issues, and begin to identify tests and procedures, the results of which will help clarify the patient's problem. These may include such information as:
 - Diagnostic data such as X-rays, ECG records, CT scans, MRI films, etc.
 - Laboratory test results such as Complete blood counts, arterial blood gases, cardiac enzymes, serum electrolytes, urinalyses, sputum or wound cultures, etc.
- **Final Page:** This will usually be a statement of the diagnosis, along with information regarding the treatment and management of the patient and, if appropriate, information relative to any follow-up of the patient.

NOTE: Cases involving trauma will not necessarily conform to the above module, as such patients are likely to present with a less subtle set of symptoms, and the differential diagnosis and management strategies may take on somewhat different features.

Chapter 6

AN APPROACH TO THE PATIENT FOR PROBLEM-BASED LEARNING STUDENTS

The Clinical Reasoning Process

The clinical reasoning process is the means by which physicians diagnose patients, and is the basic process by which students in the Problem-Based Learning Pathway progress through their case studies. The clinical reasoning process has been termed the scientific method of the physician. As this would imply, the two processes are remarkably similar. Both basically involve the formulation of hypotheses to be tested, followed by the application of tests designed to eliminate all hypotheses except the correct one.

The process can be difficult for students because it centers around the idea of proving that your hypotheses are incorrect. This is usually psychologically distasteful at first, and beginning students often are reluctant to suggest hypotheses which might subsequently be discarded because they are incorrect. There is this nagging feeling that you will "look bad" if you suggest things that turn out to be "wrong"; everyone wants to come up with the "right" answer. This is particularly difficult because our education system conditions students to respond to every question posed by the teacher with the correct answer.

This is an obstacle to be overcome. Students must first accept the concept that all hypotheses are there for the disproving, and that once having eliminated that possibility, we are one step closer to the truth. They must devote themselves to the task of disproving their own, as well as others' hypotheses.

The thinking at each stage in the case should go something like this:

1. Given the information that we have right now, what are the possible problems that could result in the patient's complaint, or the findings at hand?

If this question arises at the beginning of a case, when the only information available is the patient's name, age, gender, and chief complaint, then the diagnostic grid on page 26 is the appropriate place to begin. Once you have listed as many hypotheses as you can think of, the next step in your thinking should be:

What additional information (tests, etc.) can we obtain, which will help us eliminate each of the hypotheses which we have listed?

Again, if this question arises at the beginning of a case, when the only information available is the patient's name, age, gender, and chief complaint, then the additional information will come from the history. Once that information is obtained, then ask yourselves:

Based upon this new information, can I reject any of the hypotheses listed? Alternatively, does the new information raise any additional hypotheses, which were, up until now, overlooked?

A good physician will have completed 90% of his/her investigative work, by the time the history has been taken. We will not, at first at least, hold such high expectations of our students, but don't be surprised if, as time goes by, most cases are well targeted by this time. After step 3, above has been completed, it is then time to return to step 1. The loop continues with each page of the case until the module is completed. The second round of new information will usually come from the results of the physical examination, and thereafter from whatever laboratory tests and other diagnostic procedures the group deems necessary. The goal is not to "shotgun" with a large number of tests in order to "see what comes up", but to judiciously select those tests that will answer a specific question about your hypotheses. Any tests selected should be arrived at on the basis of two questions:

1. How will this test contribute to the rejection of one or more of the hypotheses? (It is also O.K. to ask yourself how the test might support one or any of your hypotheses.), and;
2. What specifically are the results I would expect, if the hypothesis being tested is either correct or incorrect?

Another question that will often arise when considering a test is asked not so much from a clinical reasoning standpoint per se, but rather, is based upon economic grounds. This question addresses whether or not the test is really needed. It should be phrased along the lines of:

"Do we really need this test? Will the results of the test affect our diagnosis or will it impact upon the decisions that we make when we decide on how to manage or treat the patient?"

If the answers to this two-part question are "no", then the students need to question the necessity of ordering the test.

The cases you will see are constructed in such a way that the clinical reasoning process as described here should work very well. It is, in fact, the same process used by the physician when working with a patient, and the cases also mimic this interaction and procedure. What follows are some guidelines as the details of exactly how to proceed with at least the initial phases of a case, along with some guidelines regarding the patient presentation with which each small group session after the first one should begin.

The patient is usually presented to the group with only a chief complaint as data. The group then acting as the physician, will then work on generating the questions to be answered during the clinical interview, or history. The history actually consists of several parts as follows:

1. History of present illness (HOPI)
2. Past medical history (PMH)
3. Family history
4. Social history
5. Review of systems

When working through the PBLM, we will concentrate on items 1-4, and not worry about a detailed review of systems. There are some helpful mnemonics which can help keep you organized as you reason through some of these elements of the history.

History of Present Illness (HOPI) - There are two mnemonics for taking the HOPI. The first is **CODIERS**, which represents a series of inquiries designed to provide you with more knowledge about the chief complaint. The letters stand for:

C hronology:	The sequence of events leading up to the present problem.
O nset:	When the problem began.
D escription/duration:	What it's like; How long it lasts; If it's constant, or comes and goes.
I ntensity:	How severe it is; Whether it's getting better or worse.
E xacerbation:	Things that make it worse or bring it on.
R emission:	Things that make it better or make it go away.
S ocial/psychological:	How it has affected work, family, activity or self image.

The second mnemonic was devised specifically for painful stimuli, but with a little imagination, could just as well be generally applicable for any chief complaint. It is the run of letters **PQRSTU**, which stands for:

P rovoke/Palliate:	Things that bring it on/make it go away.
Q uality:	What it's like; If pain, whether it's sharp, dull, burning, achy, <i>etc.</i>

- R**egion/Radiation: Where it is felt/whether it radiates to somewhere else.
- S**everity: How severe it is; Whether it's getting better or worse.
- T**emporal properties: How long it lasts; If it's constant, or if it comes and goes.
- U**nusual Correlates: Whether there are any unusual or other associated symptoms.

PAST MEDICAL HISTORY (PMH) - The mnemonic for this is **MMASH** which represents a series of inquiries designed to provide you with more knowledge about other aspects of the state of the patient's current health and problems of the past. The letters stand for:

- M**edical Illnesses - Other noteworthy illnesses, including Injuries in the patient's past.
- M**edications - Prescriptions **and** over-the-counter drugs currently being taken.
- A**llergies - Including hay fever, insect bites, drug sensitivities, food allergies, *etc.*
- S**urgeries - Routine and otherwise which the patient has had, including transfusions.
- H**ospitalizations - Any other hospitalizations without surgery, for any reason.

FAMILY HISTORY - A series of inquiries designed to provide you with knowledge about other family members, including parents, children, siblings. This information is of value for detecting familial disorders and possible genetic diseases, such as hypertension and other cardiovascular disease, diabetes, cancer, etc.

SOCIAL HISTORY - A series of inquiries designed to provide you with information regarding support (physical and emotional) available to the patient, the patients life-style, including the assessment of risk factors possibly related to the patient's symptoms, and ability to comprehend instructions you might give. These would include questions regarding:

- Home conditions; including marital/family status, diet, pets, hobbies and exercise.
- Stress level; including recent life events, present occupation and financial status.
- Life history information; including past occupations, military service and travels.
- Habits; including use of alcohol, tobacco, caffeine and drugs.
- Education.
- Sexual history (if pertinent)

REVIEW OF SYSTEMS - The review of systems is not something you would do in excruciating detail every time you see a patient. A thorough review of systems should be done on initial contact with every new patient in order to get a comprehensive picture of the patient's state of health at that time. Many physicians approach this with a long check-sheet which the patient can fill out while waiting to see the doctor, who would then follow up with detailed questioning in each area that positive responses were seen.

Thereafter, and for our purposes in group activities, the outline of the review of systems, serves as a guide to thorough questioning of the patient regarding those systems which, from the HOPI and past medical history, require more detail investigation. For example, if a patient's chief complaint suggests that the problem might involve either the cardiorespiratory or gastrointestinal systems, then the lists of terms under those categories identifies some specific things you might want to ask the patient about, which he/she may not think to mention.

In short, your use of the review of systems should be to focus on those systems which you have identified as potential problem areas, and to use the "laundry list" as a guide to more detailed questioning of the patient during your history-taking, to insure that you do not overlook anything which might be important in guiding your management of the patient in the case. The following is a guide to questions you might ask as part of the review of systems.

Body Weight/Height:

Average	Minimum	Maximum	Change
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Skin, Hair, Nails:

Texture	Past/present skin disease	Alteration of temperature
Itching	Excessive dryness or sweating	Unusual discoloration or pigmentation

Head: Headache Trauma Vertigo

Eyes: Itching Lacrimation Photophobia Vision disturbance Pain in eyeball or orbit

Ears: Deafness Pain Vertigo Tinnitus Discharge
Pediatric history: Otitis media

Nose, Nasopharynx, and Paranasal Sinuses:

Nasal discharge	Frequent colds	Epistaxis	Trauma
Obstruction	Allergies	Sense of smell	
Pediatric history: Recurrent tonsillitis			

Mouth and Throat:

Pain	Dysphagia	Soreness in mouth and tongue
Dental hygiene	Bleeding gums	Change in voice

Neck: Pain Swelling Trauma Limitation of movement

Cardiorespiratory:

Cough	Chest pain	Palpitations	Hemoptysis	Hoarseness
Dyspnea+/- exertion	Edema	Syncope/fainting	Wheezing/Stridor	Orthopnea
Sputum	Claudication	Hypertension	Cyanosis	
Paroxysmal nocturnal dyspnea				
Pediatric history: Tachypnea				

Gastrointestinal:

Appetite	Diarrhea	Nausea/Vomiting	Character of stool	Food idiosyncracies
Indigestion	Constipation	Hematemesis	Change in bowel habits	Blood in stool
Pyrosis	Jaundice	Flatulence	Abdominal pain/discomfort	Dysphagia
Hemorrhoids				

Urinary:

Frequency	Hematuria	Nocturia	Oliguria	Incontinence
Hesitancy	Pyuria	Edema	Polyuria	Dribbling
Urgency	Dysuria	Dark urine	Renal Colic	Sexually transmitted diseases

Gynecologic:

Menarche	Menorrhagia	Postcoital bleeding	Date of last period
Dysmenorrhea	Climacteric	Interval between periods	Pregnancy complications
Metrorrhagia	Dyspareunia	Contraception	Period duration/amount
Vaginal discharge	Swelling/soreness of breasts		

Neuropsychiatric:

Convulsions	Amaurosis	Vertigo/dizziness	Sensory disturbances	Paralysis
Pain	Paresthesia	Coordination	Mood/thought disturbances	

Musculoskeletal:

Weakness	Limp	Muscular pain	Spine or back symptoms
Joint swelling/deformity/pain			

Immunology/Hematologic:

Atopy	Lymph nodes	Night sweats/fever	bruising or bleeding	Anemia/abnormal blood counts
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Endocrinologic:

Polyuria	Goiter	Skin/hair changes	Growth/body proportions
Polydipsia	Nervousness	Sexual characteristics	

It may not be necessary to run through the entire litany of questions for every patient, but the above summary of the clinical interview will serve as a checklist of things to consider. Generally, only significant information, including important significant negatives will be provided in the results of the history portion of the module. Omissions should be assumed to be non-contributory. As you progress through the Problem-Based Learning curriculum, you will get to be pretty good at doing this. The knowledge and experience which you will gain in your Doctor-Patient Relationship course will also help you develop these skills. In cases involving trauma or emergency situations many aspects of the clinical interview may appear to take on a lesser importance, as the group must address the emergency nature of the scenario.

After obtaining the chief complaint, the questions asked when taking the patient's history should help you home in on the his/her problem. As Barrows and Tamblyn¹ point out, the physician instantly and almost unconsciously perceives cues from the patient, which are used to formulate an "initial concept" of the patient's problem. Further, "within moments after the initial encounter, almost simultaneous with the initial concept, the physician generates anywhere from two to five hypotheses that literally pop into his mind as possible explanations for the patient's problem . . . ". While this process may be almost automatic among clinicians, many students find it helpful initially to think in terms of a diagnostic grid. With experience, you will be able to work the grid in your head, but, as Problem-Based Learning students, you may find it helpful

¹ Barrows, H.S. and R.M. Tamblyn. *Problem-Based Learning: An Approach to Medical Education*. New York, 1980. Springer Publishing Co. p.23.

to doodle it on a piece of paper, or on the chalk board as you work through the case. One suggested method begins with a simple one-line grid which relates the chief complaint to the various body systems. For example, chest pain is a common complaint which might be set up as follows:

	Neuro	Pulmo	Cardio	Gastro	Renal	Repro	Endo	Hemat	Immun	Musc
Chest Pain										

You will have to decide for yourself which systems could be responsible for chest pain. Once the appropriate systems have been identified, it is then necessary to move to the second diagnostic grid, which identifies the different systems with the possible causes of the complaint within that system. A useful scheme for differential diagnosis has been developed by R.D. Collins². This scheme uses the mnemonic "**VINDICATE**" to represent causal categories within each system. We have incorporated a modified version of Collins' scheme into an extended diagnostic grid which you might find helpful as an extension of the one shown above. It uses the *VINDICATE* mnemonic, but adds an additional letter, "**P**", as a "**postscript**", which stands for "Psychosomatic", a category left out by Collins. Again, using chest pain as the example, the grid would appear as shown in the table below.

Note that the first letter of each category spells out "VINDICATE" plus the "P" postscript. As with the previous table, you will need to learn how to recognize the clinical signs of each of the following causes of the chief complaint as it relates to the various systems, as well as the additional information required to retain or reject each possibility. The knowledge you gain from this exercise will help you become more proficient at selecting questions and or laboratory tests which will help you unfold the case. Again, trauma cases present a picture which is already at least partially differentiated.

² Collins, R.D. *Dynamic Differential Diagnosis*. Philadelphia, 1981. J.B. Lippincott Co.

Chest Pain	Neuro	Pulmo	Cardio	Gastro	Renal	Repro	Endo	Hemat	Immun	Musc
Vascular										
Inflammatory/Infectious										
Neoplastic										
Degenerative										
Intoxication/Toxic										
Congenital										
Allergic/Autoimmune										
Traumatic										
Endocrine/Metabolic										
Psychosomatic										

Whatever the case, your participation in the Problem-Based Learning Pathway should be a special educational experience. Just keep in mind that although the challenge of solving the puzzle will be compelling, your major goal is to learn the basic sciences needed to understand the patient's problem, and to be able to explain, in basic science terms, exactly what is going on.

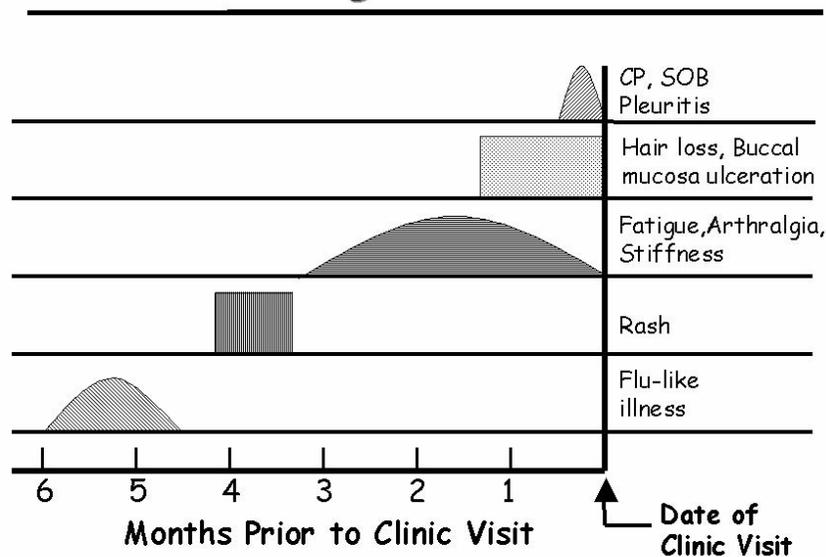
Use of a Time-Line to Organize the Sequence of Events in a Patient's Complaints.

Another useful process in clinical reasoning is to construct a time-line of the patient's complaints or symptoms in order to put the whole picture into perspective in a diagrammatical fashion. In this way, the entire sequence of events in the patient's history can be visualized in a quick glance, and you might see something that might otherwise go overlooked.

The following case history (HOPI only) serves as a good example of how to apply a time-line to the events relating to a patient's complaints.

This is the first clinic visit for this 35 year-old black female who states that she was in good health without known chronic medical illnesses, until approximately six months ago. At that time she developed a flu-like illness characterized by general malaise and low grade fevers, which lasted several weeks. She subsequently developed an erythematous rash, predominantly on the face and extensor surfaces of her arms (approximately four months ago). The rash appeared to worsen with sunlight, and was nonpuritic. She was seen by a local dermatologist and received a topical steroid cream which proved to be moderately beneficial. In the last few months, however, she related the gradual onset of progressive fatigue and arthralgias of her hands and ankles, with a mild degree of swelling and morning stiffness. In addition, over the last month she has noted some recent hair loss, and ulceration of her buccal mucosa. Two weeks ago, during a trip to Philadelphia, she become ill with a low grade fever, shortness of breath and pleuritic chest pain. She was seen at an emergency facility, and was diagnosed as having "pleuritis", and given an Non-Steroidal Anti-Inflammatory Drugs. Her symptoms abated over the next week. Currently, she has no fevers, chills, change in appetite, or weight loss. The patient comes today for further evaluation of her symptoms.

PROBLEM-BASED LEARNING PATHWAY Creating a Time-Line



The Patient Presentation

All sessions after the first one will begin with a student presenting the patient as he/she would on rounds. The presentation should be brief and concise. The sequence of the presentation should, by and large follow the same sequence as in the information gathering process. It should begin with the patients identifying information and the chief complaint. This is followed by the history (HOPI, PMH, Social and Family, Prior Physical Findings), and all relevant diagnostic test results. It should end with an assessment of the complete information and a recommendation as to how to proceed. A useful acronym to use is "SOAP", which stands for:

- "S" Subjective: The information obtained from the history.
- "O" Objective: The results of the physical exam.
- "A" Assessment: Your opinion of the problem, based upon all of the findings.
- "P" Plan: Your opinion as to how to proceed in the management of the patient, including pathophysiologic and mechanistic considerations.

The presentation should not be a simple reiteration of the information, but should be limited to the pertinent positives and negatives, and should be presented in an interpretive manner, where appropriate. It should last only a couple of minutes at most, and should be designed to inform colleagues, who have not seen the patient, and who do not know his/her problem or history, in sufficient detail so that they might contribute to a discussion of the patient and a critique of the assessment and direction to be followed.

Chapter 7

STUDENT EVALUATION

Students in the Problem-Based Learning Pathway will be evaluated at several points throughout each of the two years of the curriculum in a number of different ways. Since, by its very nature, the Problem-Based Learning Pathway emphasizes non-cognitive as well as cognitive aspects of student academic growth, the student's final grade will not be reflective of examination scores alone, but will also include a number of other forms of evaluation which reflect not only cognitive development, but the development of other personal abilities and skills. These include, but are not limited to, teamwork, problem-solving ability, and commitment. The components of the evaluation process during the two years of the curriculum, and their relative weights in calculating the final grade are shown below:

Year One (PBLP-I):

Content examinations, including Gross Anatomy (CE)	= 40% of final grade
Individual Process Assessments (IPA)	= 20% of final grade
Facilitator Assessments of Student Performance (FASP)	= 20% of final grade
Comprehensive subject examination of the USMLE	= 10% of final grade
Student Peer Evaluation (SPE)	= 10% of final grade

Year Two (PBLP-II):

Content examinations (CE)	= 40% of final grade
Individual Process Assessments (IPA)	= 20% of final grade
Facilitator Assessments of Student Performance (FASP)	= 25% of final grade
Student Peer Evaluation (SPE)	= 15% of final grade
Ambulatory Care Subclerkship	= Pass required
Clinical Communication Course (Pass/Fail)	= Pass required

In addition, since minimal abilities in both the cognitive and non-cognitive domains are believed to be important for the practice of medicine, there will be minimally acceptable standards required for certain for the evaluation processes. These include the following:

Minimum Gross Anatomy score	= 70%
Minimum Content Examination score	= 70%
Minimum Facilitator Assessment score	= 70%
MINIMUM OVERALL SCORE	= 70%

Students who fail to meet any of these minimum criteria will be reviewed by the Student Review Committee, and may be dismissed from the Problem-Based Learning Pathway, regardless of overall cumulative score.

Content Examination: CE's based upon the learning issues submitted by students as they progress through their cases will be administered four times per year. The general exam schedule will be as follows:

YEAR 1

Examination No.1 Mid-October
Examination No.2 End of Autumn Quarter
Examination No.3 End of Winter Quarter
Examination No.4 Early June

YEAR 2

Examination No.5 Mid-October
Examination No.6 End of Autumn Quarter
Examination No.7 End of Winter Quarter
Examination No.8 Early May

Students are expected to study the learning issues as they progress through the cases, and should not save up learning issues and cram for exams at the end of the examination period as this defeats the goal of learning within the context of the clinical relevance.

For examination purposes, students are responsible for ONLY those learning issues selected by their group. Students are NOT responsible for learning issues selected by other groups.

Each exam may include board-type multiple choice, short answer and short essay questions, as well as practical questions about laboratory material such as interpretation of histology and pathology slides and gross pathology material, X-rays and laboratory data and questions about patient interactions and clinical skills and procedures. Examinations may range in length from about an hour to up to four hours to complete, and students are expected to be present on the days exams are scheduled. The questions will be drawn from an item bank generated by the faculty. These items will emphasize the topics covered since the last examination. The exam process will acquaint you with Board-type questions and will be used to identify your strengths and weaknesses as well as contribute to your overall evaluation. In the first year, the overall grade in gross anatomy will count as one content exam. The content exams for the first and second years of the curriculum will be weighted as follows:

PBLP-I

Final anatomy score = 10%
PBLP Content exam 1 = 5%
PBLP Content exam 2 = 15%
PBLP Content exam 3 = 35%
PBLP Content exam 4 = 35%

PBLP-II

PBLP Content exam 5 = 20%
PBLP Content exam 6 = 20%
PBLP Content exam 7 = 40%
PBLP Content exam 8 = 20%

After each examination, students will receive a report showing their score of the examination, their cumulative score, and the class summary statistics for both the examination and the cumulative scores. At

the end of the year, each student's cumulative score will be factored into the final score calculations as indicated above.

Individual Process Assessment: The IPA will evaluate the students' clinical reasoning skills, approach to the patient, and oral communications skills. There will be two IPA's during each of the two years of the curriculum. The IPA can best be described as an individualized version of the small group problem-based learning activity. Each student will obtain several pages of a clinical case similar to those seen during group sessions. The student will then have approximately one hour to summarize the relevant facts, generate hypotheses with justification, and identify further tests needed, explain their rationale, and formulate a number of learning issues. He/she will then have a brief period of time, usually one or two days to research the case and prepare for an oral evaluation lasting approximately 30 minutes. The evaluation will be divided into four categories as follows:

- Part 1: Case presentation - Students will approach this presentation as though it were a formal presentation to an attending physician during rounds. It should last no longer than 5 minutes, and should follow the "SOAP notes" format.
- Part 2: General Knowledge - Examiners are free to ask any questions germane to the case. Students should be prepared to integrate learned basic science information into the findings in the case.
- Part 3: Assessment and Plan - This is an evaluation of the student's thinking and analysis. It is not necessary for the student to obtain the correct diagnosis, but to demonstrate logical analysis of the data and to defend his/her conclusions with a sound basis.
- Part 4: Self-Assessment and Mannerisms - This is an evaluation of the student's ability to evaluate his/her own performance in the written portion of the examination and to explain or defend any changes in position. It also evaluates the student's presentation skills.

Each student is expected to work independently. The IPA's will be evaluated using a 100-point scale. At the end of the year, the mean of the two IPA scores will be factored into the final score calculations as indicated above.

Faculty Evaluation of Student Performance: The facilitator(s) will evaluate the students' participation in their small groups. There will be one formative assessment (not entered into the permanent record), and one summative assessment (for the record) per quarter, using a form designed for that purpose. Results of this evaluation will be reported three times during year 1, and twice during year 2, but students will receive feedback at least six times per year, and more frequently if the situation warrants. The formative evaluation will occur early in each quarter, so that the students have time to respond to any facilitator concerns. The summative evaluation will occur at the end of each quarter during year 1, and at the end of the autumn and spring quarters during year 2. In general, student performance in the small group will be evaluated on a 100-point scale on the basis of the facilitators' assessment of them in the following categories:

1. Preparation for group meetings.

2. Participation in the discussions during group meetings.
3. Interpersonal and group skills.
4. Contributions to the group process.

You will notice that near the bottom of page 2 of the forms for Facilitator Evaluation of Student Performance (see sample forms at the end of this book), there are two items with Ayes/no@ check boxes. These items are for facilitators to indicate any concerns they may have regarding students' academic performance and professional behavior and/or demeanor. If the Ayes@ box in either of these items is checked (commonly referred to as being Aboxed@), the student will automatically be referred to the Student Review Committee so that early intervention can be initiated to help the student.

Peer Evaluation of Student Performance: Each student will also be evaluated by his or her peers each quarter of the curriculum. A form will be provided for this purpose. Each student will evaluate the other students of the group in a number of areas, including attendance, participation, contributions to the group process and to overall learning, professional behavior and interpersonal skills, and overall value of the individual to the group. The contributions category will include areas such as preparation, sharing of responsibilities, ability to synthesize and focus the group, and support of other group members. At the end of the year, the mean of the peer evaluations will be factored into the final grade as indicated above. There will be both a formative (mid-quarter) and a summative (end of quarter) evaluation. The peer evaluation results are factored into the final grade, and each student will be responsible for completing an evaluation for each of his or her peers in the group. Students are expected to be professional and constructive in their evaluations.

The United States Medical Licensing Examination (USMLE) Comprehensive Subject Examination: This will assess the student's knowledge at the end of the first year. The scores on the comprehensive subject examination will be adjusted such that the class mean is 75%, and the adjusted score will count 10% towards the students' final grade. The USMLE National Administration will be taken at the end of the second year, but will not be factored into the final grade. Students in all preclinical programs of the Ohio State University College of Medicine and Public Health must pass the National Administration of the USMLE, before being matriculated into Med III/IV.

Ambulatory Care Subclerkship: Students will spend one-half day per week seeing patients in an ambulatory setting, either in one of the clinic facilities at the university or in a private office of a physician in the community. The student's attending physician will evaluate each student on attendance, initiative, knowledge and understanding, professional behavior and overall ability. This evaluation will not be factored into the students' grade, but it is a requirement that they successfully complete these programs in order to pass PBLP-II.

Clinical Communication Course: Students will be provided with information regarding this program independently at the appropriate times. Their participation will be evaluated by the program coordinator on a pass/fail basis. This evaluation will not be factored into the students' grade, but it is a requirement that they successfully complete in order to pass PBLP-II.

Grading System:

The grades given in the College of Medicine and Public Health are as follows:

Honors: **This grade is an internal grade only.** The grade of S (Satisfactory) will appear on the student's transcript. The Honors designation will appear as a letter indicating Honors, in the student's COM record, in recognition of the student's outstanding academic performance.

Letter of Commendation: **This grade is an internal grade only.** The grade of S (Satisfactory) will appear on the student's transcript. The Letter of Commendation will be placed in the student's COM record.

S = (Satisfactory): A student receiving this grade has passed.

U = (Unsatisfactory): A student receiving this grade has failed.

P = (Progress): This grade is automatically assigned at the end of each quarter. As described in the College of Medicine and Public Health Bulletin, this means that the final grade for the year will apply retrospectively to each quarter.

Keep in mind that only grades of S, U, and P will be reported to the registrar.

PASSING/FAILING:

A student who achieves a final weighted mean score of at least 70%, and who meets the stated minimum criteria on content examinations and facilitator assessments will receive a final grade of "S" for that year. Students who fail to achieve a final weighted mean score of 70%, or who fail to meet any other passing criteria will be subject to review by the PBLP Student Review Committee and a decision regarding passing or failing will be made.

LETTERS OF COMMENDATION/HONORS:

Superior performance in the Problem-Based Learning Pathway will be recognized with Letters of Commendation and Letters indicating Honors in the PBLP. All decisions regarding Letters of Commendation and Honors will be made by the PBLP Student Review Committee. **It is the policy of The Ohio State University College of Medicine and Public Health in all preclinical academic programs to award Honors and LOC's to no more than 25% of students completing each year; Honors cannot exceed 12% of the total.**

Chapter 8

PROBLEM-BASED LEARNING PATHWAY BOOK LIST

The following is a list of recommended books for your first two years of medical school. Unlike the other students, who buy their books one year at a time, the integrated nature of problem-based learning requires working from all of the books during both years. While the list may appear extensive, there should be few, if any, additional books required for the second year.

You will also note that in some cases, several choices are offered. Bear in mind that, except for Gross Anatomy and Medical Humanities, where the identified books are required, this is a list of recommended, not required, books. Other books in each discipline may be just as helpful. The self-directed nature of the Problem-Based Learning Pathway dictates that you select your own learning resources. The most important considerations are: 1.) that you select books that you are comfortable with and will read, and 2.) that the books you select cover the material at a level appropriate for medical students. The books on the list have been recommended by the faculty and/or students, but if you have another favorite in any given subject, we will be happy to provide you with an opinion. Our list is not meant to be exhaustive.

In some cases, you may elect to not select and purchase a book right away, but to work with library copies until you decide for yourself which of the choices are best for you. Also, speak with the second year students to get their opinions regarding the relative strengths and weaknesses of each book. This is fine, but please keep a couple of things in mind. First, the number of copies in the library is limited, and despite our emphasis upon "library etiquette", books can tend to be not readily available when you want them. Second, the Medical Bookstore will stock adequate numbers of books only for a limited time, after which, for cash flow reasons, they return all but a few of each to the publishers. After that time, if several students decide to purchase a given book at one time, it may become difficult to obtain it on short notice. For these reasons, complete, or even extensive reliance upon library resources is discouraged. We also believe that it is important that you begin building your own personal library.

The following is the list of recommended books and the disciplines they represent. An (F) indicates that this is a faculty-recommended book, an (S) indicates that it was recommended by a significant number of first-year PBLP students, and an (F/S) indicates that both faculty and students like the book. Again, some students used and recommended other books not on this list. Those identified by an "S" were those which were recommended most frequently. The books for gross anatomy and for embryology have not been so designated. Gross anatomy and embryology stand as a separate program and are not part of the Problem-Based Learning Pathway, *per se*. The books listed are those recommended by the faculty.

GENERAL (*Choose one medical dictionary*)

Dorland's Illustrated Medical Dictionary, W.B Saunders Publ., Current Ed.

OR

Stedman's Medical Dictionary, Williams & Wilkins Publ., Current Ed.

BIOCHEMISTRY

Lippencott's Biochemistry: An Illustrated Review, Basic Medical Biochemistry: A Clinical Approach, Marks, Marks & Smith, Eds. Lippencott Publ. Co., Current Ed. (S)

Principles of Biochemistry, by Lehninger, Nelson and Cox, Worth Publishers, Current Ed. (F)

OR

Harper's Biochemistry, by Murray, Granner, Mayes & Rodwell, Appleton & Lange, Current Ed. (F/S)

OR

Biochemistry, Stryer, W.H. Freeman Publ. Co., Current Ed., (F/S)

BIOSTATISTICS & EPIDEMIOLOGY

Medical Epidemiology, by R.S. Greenberg. Appleton & Lange, Current Ed. (F)

Epidemiology, Biostatistics and Preventive Medicine, by J.F. Jekel. W.B. Saunders, Publ., Current Ed.

High Yield Biostatistics, by A.N. Glaser. Williams & Wilkins

HISTOLOGY

Basic Histology, Junqueira, et al., Appleton-Lange, Current Ed. (F/S)

Color Atlas of Histology, by Gartner & Hiatt, University of Maryland, Current Ed. (S)

Wheater's Functional Histology, by Burkitt, Churchill Livingstone, Current Ed. (S)

*Also, see **HISTOLOGY VISUALS** at the end of this book.

NEUROSCIENCE (Dr. Clark's recommendations and comments in order of his preference:)

Clinical Neuroanatomy Made Ridiculously Simple, Goldberg, S., Miami, FL, MedMaster, Inc., Current Ed. (Don't think twice. Buy this book. Read it first before any other neurotext. Read it last, just before the exam, boards, etc. Warning: Don't expect to be able to pass any neuro exam using this text alone.)

Neuroanatomy: Basic and Clinical, FitzGerald, M.J.T., W.B. Saunders, current Ed. (This is a thinner text but it covers the basics and is reasonably up-to-date. The clinical emphasis makes it particularly valuable and more interesting to read.)

Fundamental Neuroscience, Haines, D.E., New York, Churchill Livingstone, Current Ed. (It is an excellent text and quite up-to-date.)

Neuroanatomy: Text and Atlas by Martin, Stanford, CT, Appleton & Lange, Current Ed. This text is completely revised and up-to-date. It is the companion text to Kandel, Schwartz and Jessell, which covers functional aspects of the nervous system

Principles of Neural Science by Kandel & Schwartz, Appleton & Lang, Current Ed. This is the companion text to Martin.

Clinical Neuroanatomy for Medical Students, by R.S. Snell, Little, Brown & Co., Current Ed., This is the primary text for the ISP Module 3, The Central Nervous System.. This text was recommended by ISP students.

Atlas

Neuroanatomy; An Atlas of Structures, Sections, and Systems, by Haines, D.E., Baltimore, Williams & Wilkins, Current Ed. (This is an excellent atlas. The diagrams in the back of the atlas that show the long CNS pathways give it the edge over the DeArmond atlas.)

The Netter Series, by Netter, Frank H. (The illustrations in Netter are great. The text is variable and contains errors and out-of-date information. Look at the pictures. Don't read the text.)

Computer applications are found at <http://www.med.ohio-state.edu/ame/>. Click on AOnline Studies@. The multiple choice examination is in Authorware. There are instructions on the page explaining how to download the Authorware reader. (It may take up to 20 minutes.)

***Also, Brain Stem Models can be signed out from the ISP/PBL Office.**

OPHTHALMOLOGY

Basic Ophthalmology for Medical Students and Primary Care Residents, by C.A. Bradford. American Academy of Ophthalmology. Current Ed. (F)

Ophthalmoscopy: Red, White, Black Pathology, Optic Disc, by P.A. Weber & W.H. Havener. A computer program that is installed on the computers in the ISP/PBL Library.

PHYSIOLOGY

Physiology, Berne & Levy, C.V. Mosby Publ., Current Ed. (F/S)

OR

Review of Medical Physiology, W.F. Ganong, Appleton & Lange, Current Ed. (F/S)

OR

Textbook of Medical Physiology, A.C. Guyton, Saunders, Current Ed. (S)

OR

Medical Physiology, R.A. Rhoades & G.A. Tanner, Current Ed., Little Brown & Co. (F)

Also recommended for specific subjects:

Gastrointestinal Physiology, Johnson, C.V. Mosby Publ., Current Ed.

Essentials of Respiratory Physiology, J.B. West, Williams & Wilkins Publ., Current Ed.

Renal Function, Valtin, Little-Brown & Co., Current Ed.

Clinical Gynecology, Endocrinology & Infertility, L. Speroff, *et al*, Wms & Wilkins Publ., Current Ed.

IMMUNOLOGY

Immunology, Janis Kuby, W. H. Freeman Publishers, Current Ed. (F/S)

OR

Immunology, Roitt, *et al.*, C.V. Mosby Publ., Current Ed. (F)

OR

Basic and Clinical Immunology, D.P. Stites & A.I. Terr Appleton & Lange, Current Ed. (S)

MEDICAL MICROBIOLOGY/INFECTIOUS DISEASE

Medical Microbiology: An Introduction Infectious Diseases, John C. Sherris, Elsevier Publishers, N.Y., Current Ed. (F/S)

Mechanisms of Microbial Disease, M. Schaechter, *et al.*, Williams & Wilkins Publ, Current Ed. (F/S)

Medical Microbiology and Immunology, by Levinson, University of San Francisco, Current Ed. (S)

Clinical Microbiology Made Ridiculously Simple, by Gladwin, Med Master, Current Ed.

PATHOLOGY

Robbins Pathologic Basis of Disease, Robbins & Cotran, W.B. Saunders Publ., Current Ed.

OR

Pathology, Rubin and Farber, J.B. Lippencott, Current Ed. (S)

Pulmonary Pathophysiology: The Essentials, West, J.B., Williams & Wilkins Publ., Current Ed. (F)

Color Atlas of Basic Histopathology. C. Milikowski & I. Berman, Current Ed., Appleton & Lange. (F)

Basic Histopathology: A Colour Atlas and Text. P.R. Wheater, *et al.*, Current Ed., Churchill Livingstone. (F)

PHARMACOLOGY

Basic and Clinical Pharmacology, Katzung, B.C., Lange Med. Publ., Current Ed. (F/S)

Pharmacology, Brenner, George M., Saunders, Current Ed. (F)

Lippincott's Illustrated Reviews: Pharmacology by Harvey, Lippincott Raven Publishers, Current Ed. (S)

PHYSICAL EXAM COURSE

A Guide to Physical Examination, Bates, J.B. Lippincott Co., Current Ed. (F/S)

Below are instruments also needed for this course. To obtain these instruments at the best prices, instrument sales will be organized during the year.

Oto-ophthalmoscope
Reflex hammer
Stethoscope
Tuning fork
Light source

Ruler
Tape measure
Rosenbaum pocket eye chart
Sphigmomanometer (optional)

INTERNAL MEDICINE

Cecil's Essentials of Medicine, Andreoli, et al., W.B. Saunders Publishers, Current Ed., (F/S)

OR

Harrison's Principles of Internal Medicine, Isselbacher, et al., Current Ed., McGraw-Hill Publ. (F/S)

EKG Books:

Rapid Interpretation of EKG's, Dubin, Cover Press, Current Ed. (S)

The Only EKG Book You'll Ever Need, by Thaler, Bryn Mawr Hospital, Current Ed., (S)

How to Quickly and Accurately Master ECG Interpretation, 2nd Ed., by Dale Davis, Lippincott Raven Publishers, 1991. (S)

Interpretation of ECGs, by Laiken (S)

DIAGNOSTIC:

Mosby's *Laboratory and Diagnostic Manual* by Pagana & Pagana.

PATHOLOGY WEBSITE:

The web address for the OSU/COM Department of Pathology website for images is:

<http://pathology.osu.edu>

Click on: Medical Education

Click on: Pathology Education Website (PEWS)
User name: medii
Enter: First name Initial, Last name (no spaces between)
Last four digits of social security number

In addition, there are several additional websites that students feel are excellent for learning pathology. The most popular of these is the Pathology web site for the University of Utah. A recommended list of web sites will be distributed at the beginning of the year, along with the URLs for accessing these sites.

HISTOLOGY LABORATORY AND INTERACTIVE TUTORIAL COMPUTER PROGRAMS FOR MED I B LD, ISP, PBL. -- (Dr. Thomas G. Hayes, Histology Program Director, 292-5787, hayes.5@osu.edu)

The Laboratory portion of Histology has been placed on computers that may be accessed from several university computing sites. These programs have been designed on Macintosh computers, but can also be accessed on the IBM computer.

COMPUTER LOCATIONS: Hours of access may vary during quarters so you may want to call before you visit the following locations:

- The General Biology Annex Computer Lab - open Monday B Thursday 9AM - 5PM; Friday 1-5PM; Closed Saturday and Sunday. 30 Macintosh terminals available.
- Health Center Computer Laboratories - Room 460 Prior Library B open Monday B Thursday 9AM B 9PM; Friday 9AM B 5PM; Saturday 10AM B 5PM; Sunday 1 B 7PM. (10 Macintosh terminals available)
- Page Hall Computer Site B Room 18 B open Monday - Friday 9AM B 5PM (20 Macintosh terminals available)
- Ohio Union B Room 13 B open Monday, Wednesday, Friday 8AM B 6PM; Tuesday & Thursday 8AM B 9PM. Closed Saturday & Sunday (30 Macintosh terminals available)
- Hamilton Hall B This program can also be accessed on the IBM computers in Hamilton Hall Room 271 B open Monday B Friday 1:30PM B 5:30PM; Saturday 10:30AM B 3:30PM; Sunday 1:30PM B 6:30PM.

- Central Classroom 3rd floor B OSU bookstores (Room 345) B Monday B Thursday B 8AM B Midnight; Friday 8AM B 10PM; Saturday 11AM B 7PM; Sunday 11AM B Midnight. (50 Mac terminals).



These studies require the use of the Authorware Web F1ayer. which is available as a free download from Macromedia.



Blood Cells



Bone & Cartilage



Cardiovascular System



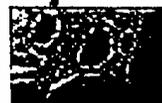
Connective Tissue



Cytology



Digestive System



Endocrine Organs



Epithelial Tissue



Female Reproductive System



Hematopoiesis



Lymphoid Organs



Male Reproductive System



Muscle Tissue



Nervous Tissue



Respiratory System



Skin



Urinary System

The histology modules in this web-based laboratory were created by:

Thomas G. Hayes, Ph.D.

Timothy J. Cain, Ph.D.

G. Adolph Ackerman, M.D., Ph.D.

Department of Anatomy & Medical Education

The Ohio State University College of Medicine & Public Health

Columbus, on 43210

<http://academic.med.ohio-state.edu/histology/>

Histology - The Web Laboratory

The Laboratory portion of Histology uses a series of computer-based programs. The seventeen modules in this series are accessible via the World Wide Web and can be viewed using both Macintosh® and Windows® computers. Histology - The Web Laboratory can be found on the Web by going to the following URL...
<http://academic.med.ohio-state.edu/histology/>

To access these online programs from...

(1) Home / Off campus / Own computer

Using Netscape or Internet Explorer go to the website specified above. On your first visit to the Histology site you will need to download and install a free copy of the Authorware Web Player from Macromedia prior to starting the modules. To do so, click on "Get Shockwave Authorware" button located at the top of the Histology index page. This will take you to the appropriate web site where you will find the easy download and how-to install instructions. Once you have downloaded and installed the "web player" you will not need to do so on subsequent visits to the Histology page.

(2) Student Computing Labs in Prior Health Sciences Library (4th floor) & Hamilton Hall (Room 271)

Downloading the web player is NOT necessary; simply begin the programs by going to the website specified above.

Additional Computer-based Resources

Three additional computer-based programs are available for your review. These complimentary programs were designed to explore in greater depth the histological structure function relationship of *i)* Hematopoietic Tissue *ii)* the Integument, and *iii)* the Respiratory System. Please note that these three computer-based modules are accessible ONLY in the student computing labs in the Health Sciences Library (4th floor) and Hamilton Hall (room 271); they are NOT accessible via the Web. In the Health Science Library you can find the three *modules* (*) by following the directory pathway on the Macintosh® computers specified below...

- Hawkeye
 - Class/Instructor
 - Histology
 - Ackerman Series
 - Hematopoiesis
 - *Hemat - Start Here**
 - Skin
 - *Skin - Start Here**
 - Respiratory
 - *Respiratory - Start Here**

Dr. Thomas G. Hayes
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Director, Technology Enhanced Learning for
Medical Education
3015 Graves Hall
phone: 292-4125
cain.2@osu.edu

Physician Development - Med 1

The Physician Development Course begins for all **Med 1 students on August 22, 2002**. Students follow a two-year schedule for completion of this curriculum. In Med 1 students will have the opportunity to practice physical exam instrument usage in correlation with the Anatomy course. The **Anatomy Clinical Correlations** are designed to help students gain a better understanding of how instruments can assist the physician in gathering physical information from the patient. The anatomy correlation sessions are not designed to have you master the art of the physical examination but rather it is designed to help you become familiar with instrument usage so that when you are in the clinical setting during the coming year you will be able to take advantage of any opportunity to learn from your facilitator.

The **Doctor Patient Relationship(DPR)** module and **Preceptorship I** will begin in January. The primary focus of DPR is on the process skills of medical interviewing, such as listening and observing, empathic responding, questioning and probing, and professional presence. DPR is taught primarily in small-group discussion format. Preceptorship I is an introduction to the practice of medicine and is designed to provide an observational and interviewing experience. The goals of the preceptorship include observation of the doctor-patient relationship, observe medical practice, to role model physicians in practice, and to interview patients. The Advanced Clinical Interview portion of this course will focus on the Review of Systems and the introduction to differential diagnosis.

Basic Life Support (BLS) is a required course within the Med 1 Physician Development Curriculum. The College of Medicine will offer a certification course in February, 2003. This course consists of a mandatory one-hour lecture in January and one Saturday hands on skills course in February. **See Below for Additional Information on BLS**

A portion of the Med1 Curriculum is devoted to the Senior Partner Program (<http://osuaging.com/srpart/>). This program pairs students with a senior adult in the community. **See Below for Additional Information on the Senior Partner Program.**

Attendance and active participation at every session within the Physician Development curriculum is required. Student performance will be evaluated by attendance, participation, clinical performance evaluation, two written exams, as well as completion of the BLS course and the requirements of the Senior Partner Program.

Currently there is no required Text for Physician Development in Med 1. You are required to have your instruments for the first session of Anatomy Correlation beginning the week of September 3.

Required Instruments:

1. Oto-ophthalmoscope
2. Reflex hammers
3. Stethoscope (with bell and diaphragm)
4. Tuning forks B (128 HZ or 512 Hz).
5. Penlight
6. Ruler
7. Tape measure - often a helpful addition.
8. Rosenbaum Pocket Eye Chart.
9. Sphygmomanometer - (optional)

Contact Information:

Director: Daniel M. Clinchot MD
Program Coordinator: Laura Wolfe
4190 Graves Hall
292-6445, wolfe.242@osu.edu

Basic Life Support

Basic Life Support (BLS) is a required course for ALL Med 1 students that must be completed before the start of the Med 2 year. The COM will offer a certification course in February. This course consists of a mandatory one-hour lecture on January 29 and one Saturday hands on skills course. We will offer the course on two different Saturdays, February 1st and February 8th. You are required to attend one of these sessions at your scheduled time. Attendance will be taken at the lecture, those who do not go to the lecture cannot become certified during our sessions, and other arrangements for certification will need to be made by the student.

If a student is already BLS certified they are not required to take this course, however, proof of certification needs to be shown in the Med 1 office 4190 Graves Hall. Please note that only the American Heart Association BLS course is accepted. The American Red Cross basic CPR class does not cover all the necessary requirements and will not count as a substitute.

Our course will include adult, infant, and child one and two person CPR, use of the AmbuBag, and airway obstruction. In addition we will cover the use of the AED on adults.

If you have any questions regarding BLS please contact:

Jill Volkerding, Program Assistant in the Med 1/2/ office in 4190 Graves Hall
Volkerding.2@osu.edu, 292-9687

Senior Partner Program

A portion of the Med I and Med II Physician Development Curriculum is devoted to the *Senior Partner Program* (<http://osuaging.com/srpart/>). All students, regardless of curricular pathway, must successfully complete the Physician Development Course, including satisfactorily completing the *Senior Partner Program*. Students will be paired with a senior adult in the community and through this relationship, develop the attitudes, knowledge and skills necessary to support the health care needs of older adults. The *Senior Partner Program* is a longitudinal, experiential program that spans the four years of medical school. Please review the website for more information or call Michelle Myers at 293-7914.

Physician Development - Med 2

The Physician Development Course begins for all **Med 2 students on August 22, 2002**. The course runs through April 2003. You will have an opportunity to spend time learning component parts of the physical exam in the PE Tutorials, through small group sessions with a faculty tutor, reading assignments, and Web CT. You will have standardized patient encounters (outside of scheduled class hours) in modules such as Male and Female Genitalia Demonstrations and Patient Instructor sessions. In addition, you will have the opportunity to participate in small group sessions (Advanced Clinical Interview) devoted to the clinical interview, which will expand upon the skills learned in the first year Doctor-Patient Relationship module. Lastly, you will spend a substantial amount of time practicing the art of history taking and physical examination (Preceptorship II and Preceptorship III) under the instruction of expert clinicians at OSU Hospitals, community hospitals, and physicians' offices.

A portion of the Med II Curriculum is devoted to the Senior Partner Program (<http://osuaging.com/srpart/>). This program pairs students with a senior adult in the community. See Below for Additional Information on the Senior Partner Program.

Advanced Cardiac Life Support (ACLS) is a required course taught at the completions of Med II prior to starting Med III/IV. The College of Medicine will offer a certification course in May 2003. This course consists of a mandatory four-hour lecture on Monday morning May 5, followed by two 2 day sessions during the week. See Below for Additional Information on ACLS.

Physician Development is a very rich experience and one that is in preparation for your Med III Clerkships. Attendance and active participation at every session is required. Attendance, participation, clinical performance evaluations, written exams and an Objective Structured Clinical Exam (OSCE) will evaluate student performance. You must pass all components of the Physician Development Course in order to successfully complete Med II and advance to Med III/IV. Required reading assignments will be made from A Guide to Physical Examination and History Taking, 7th Edition, by Barbara Bates. You will also be required to use a new Web based program, which will augment the information you receive in your PE Tutorials. In addition, DeGowin and DeGowin's Physical Exam text, as well as Physical Examination instruments) listed below) are available for purchase at the medical bookstore. These will be described in more detail during the initial orientation to the course. You will need all instruments for your small group sessions beginning the week of August 26, 2002.

Required Instruments:

1. Oto-ophthalmoscope
2. Reflex hammers
3. Stethoscope (with bell and diaphragm)
4. Tuning forks B (128 HZ or 512 Hz).
5. Penlight
6. Ruler
7. Tape measure - often a helpful addition.
8. Rosenbaum Pocket Eye Chart.

9. Sphygmomanometer - (optional)

Contact Information:

Director: Daniel M. Clinchot MD
Program Coordinator: Laura Wolfe
4190 Graves Hall
292-6445, wolfe.242@osu.edu

Advanced Cardiac Life Support (ACLS)

ACLS is taught at the completion of Med II prior to starting Med III/IV. The course consists of lectures on arrhythmia and pharmacology with emphasis on use in acute cardiac syndromes. In small groups sessions students learn about coronary syndromes, recognition and management of cardiac arrest, respiratory failure, arrhythmias, and electrical therapy of arrhythmias. Hands on instruction in use of monitors, defibrillators, and techniques of airway management is an integral part of the course. Students are evaluated by their handling of a cardiac arrest situation as a team leader and by taking written tests.

The course is 1 2 days in length between the dates of May 5 through May 15. It is offered by the Department of Education Resources and Development at the completion of the Med II curriculum, but can be taken elsewhere during the last few months of the Med II curriculum as well.

If you have any questions regarding ACLS please contact:

Jill Volkerding, Program Assistant in the Med 1/2/ office in 4190 Graves Hall, Volkerding.2@osu.edu, 292-9687

Senior Partner Program

A portion of the Med I and Med II Physician Development Curriculum is devoted to the *Senior Partner Program* (<http://osuaging.com/srpart/>). All students, regardless of curricular pathway, must successfully complete the Physician Development Course, including satisfactorily completing the *Senior Partner Program*. Students will be paired with a senior adult in the community and through this relationship, develop the attitudes, knowledge and skills necessary to support the health care needs of older adults. The *Senior Partner Program* is a longitudinal, experiential program that spans the four years of medical school. Please review the website for more information or call Michelle Myers at 293-7914.

Computer Accessed Patient Information

The OSU Medical Center utilizes a medical information program known as the Computer Accessed Patient Information (CAPI) software system. A portion of the CAPI program is Physician Order Entry. This program allows physicians and other licensed care providers to place patient orders electronically. Training on the use of the Physician Order Entry system is mandatory for all Medical Students prior to the start of the Introduction to Clinical Medicine and Med 3 clerkship rotations. Training usually occurs on Wednesdays in April. Laura Wolfe in the ICM office, 4190 Graves Hall, coordinates scheduling for these sessions.

Patient Centered Medicine

Patients often present a complex picture to their physician: signs and symptoms of disease, thoughts and feelings concerning the illness experience, and their life context of relationships, work, and culture.

A goal of the preclinical curriculum is to teach the complexity of medical practice through an integrated model of education. The Patient Centered Medicine (PCM) course is an important component of this educational framework. You will be exposed to a variety of PCM modules throughout your first two years of medical education: professionalism, ethics, palliative medicine, cultural competency, medical careers, psychology of illness, violence, human sexuality, addiction, complementary/alternative medicine, and human development. In addition, you will be involved in a community service learning project and will also select an educational topic at the end of the second year to expand on your special educational interests (mini-modules).

A blend of large and small group activities will be offered to help develop your skills, values, and attitudes in these important areas of medical practice. Throughout the curriculum, we will be integrating your learning in the basic and behavioral sciences through case-based discussion sessions. The PCM schedule is designed to blend large group sessions (lectures, panel discussions, large group case discussions, multi-media presentations) with small group case-based discussions in an alternating week format. There are a few exceptions to this arrangement (e.g. third ethics session), but, generally, this is the curricular structure we will follow. Both large and small group sessions will be one and one-half hours in length. For further information or questions contact Eileen Mehl, PCM Program Coordinator, 292-9911 or mehl.27@osu.edu.