

**Excerpt from What Your Tutor May Never Tell You**, by Howard S. Barrows (1996) 45 pages paper bound.

There are a number of books on problem-based learning written for teachers, including a book on how to be an effective tutor. However, this book is written expressly for medical students. It is long overdue, as PBL is a student-centered educational method in which you become responsible for your own learning.

Much of the power behind PBL as an educational method lies in the discussions you and your group have as you work with a patient problem and study together. You express your ideas, discuss the ideas of others, ponder unclear issues and different points of view, go after references, pick the brains of faculty, and learn from and help each other. In PBL you learn as you work with actual patient problems like those you are going to face in the future as a physician. You are able to practice your problem-solving and self-directed learning skills. In PBL you can see to it that everything you learn is relevant to preparing for your career as a physician.

The steps you go through in the PBL learning process simulate the same process you will use in your future work as a physician. Physicians encounter their patients as an unknown, without prior preparation, and have to evaluate and initially manage the patient problem with the knowledge and skills they already possess at the time. They then have to get whatever additional information is necessary to fully understand and manage the patient's problem, using resources in their office, the library, computer-mediated searches, talking with consultants. They then apply what was learned in the continuing management of the patient. In all of this the physician needs to be aware of how well they are meeting the needs of their patients and how well they are keeping up with their particular field of medicine. This is exactly the sequence of events you carry out with each patient problem in PBL.

In addition to following a basic sequence of clinical behaviors, PBL stimulates you to learn what is relevant in the basic sciences of medicine while you practice and perfect the clinical skills you will need for your work as a clinical clerk and subsequently as a physician during internship, residency and practice.

The PBL process also has little tricks thrown into it that have been learned from the basic sciences of education, cognitive science and educational psychology. The results of research into the reasoning process of the physician, how to encourage the understanding, retention and application of knowledge, and the importance of student-centered learning have all informed and further shaped the PBL process. This is why tutors function as a guide and not as a dispenser of knowledge, as that would make you dependent on their expertise instead of being an independent thinker who can find the facts needed from experts around the world. Knowledge that you realize you need, that you dig out on your own and apply to a patient problem is better remembered and more useful to future clinical work than knowledge given in a lecture or in assigned reading. Other subtle twists in the PBL process that work towards building your skills as a physician will be mentioned later in the description of the process itself.

However, for you to maximize on the advantages of PBL as an educational method the process described here has to be followed in detail and in sequence. This book was created to put you more in control of the PBL process by understanding the rationale for each step and working with your tutor to be sure that the process will maximize your learning.

Every step in the PBL process is designed with your future role as a physician in mind. Each step has you carrying out a task that will be required in your career as a physician and will best ensure that what you learn will be retained, recalled and applied to your work with patients. Knowing how each

step in the process should be carried out and its relationship to your evolving skills as a physician will allow you to use the process fully and its value to your own learning in PBL will be enhanced.

Although this book starts with problem-based learning in the basic science or preclinical years as preparation for the clinical clerkships, the extension of problem-based learning to the clinical clerkships is also considered.