

# **New Teaching Strategy Promotes Team Work**

**By Robin Suits**

Wright State University Boonshoft School of Medicine has become a national leader in applying a new medical education teaching strategy called Team-Based learning (TBL), according to Dean Parmelee, M.D., associate dean for academic affairs and professor of psychiatry and pediatrics.

The first medical school in the nation to implement TBL throughout its pre-clinical curriculum, Wright State recently hosted a national conference that drew 125 people from 51 institutions to examine strategies for employing the innovative teaching method across the curriculum. Now a major component of the first two years at the medical school, TBL is being introduced in the clinical years as well, Dr. Parmelee says.

TBL is a teaching strategy for developing high performance learning teams that was first used in other educational settings, such as business schools. Studies have shown that it can dramatically enhance the quality of student learning by improving problem-solving skills, reducing lecture time, ensuring better class preparation, generating energy in the classroom, and promoting team work. Because the method allows a single instructor to conduct multiple small groups simultaneously in the same classroom, it also makes better use of limited resources.

Students involved in TBL must actively participate in and out of class through intense preparation and group discussion. Class time is shifted away from learning facts and toward application and integration of information. The instructor retains control of content, and acts as both facilitator and content expert. The TBL method affords the opportunity for assessment of both individual and team performance. At Wright State, five to six students are assigned at the beginning of the year to a team that remains together for the entire year.

In medical education, the TBL technique involves three phases:

- First, students study independently outside class to master specific objectives. This might involve lectures, readings, lab work, computer-aided instruction, or a combination of activities to link and reinforce learning objectives.
- When they get to the TBL session, students take a test to show that they're adequately prepared. Then they meet with their team, where they must reach a group consensus on the correct answers to the test each just took individually.
- Finally, teams collaborate on in-class assignments, such as considering a clinically based case scenario and answering a series of questions that are significantly more difficult than questions on the first test. The teams typically have 30 minutes to wrestle with the case and reach a consensus on their answers. Teams are asked to defend their answers to the whole class, a process that increases the students' abilities to reason and express opinions to their peers.

In the TBL sessions led by Stuart Nelson, Ph.D., associate professor of pathology, students are presented with a case piece by piece. As each new clinical finding is revealed, the student teams must answer increasingly complex questions before moving forward. This is the process of learning clinical reasoning. "We call it an 'unfolding case' because it mimics what happens in real life medical practice," he explains.

"Because the culture here at the medical school is so collegial, the students learn to work well as teams right from the start. It's awesome to see six student minds working together. When you get six second-year medical students working as a team to solve a problem, they're not wrong very often," Dr. Nelson says. "This experience also mimics real life. When you're in medical practice, you need partners who can help you when you've got a tough case, or when you've been up all night and you're tired. Doctors need good partners."

The TBL component of a student's grade can range from 10-30 percent, depending upon the course. The final grade is derived from the student's performance on the individual test, the team's performance on group work, and often peer evaluation. Some medical students find it

difficult to “judge” their peers in a peer evaluation process, but giving and receiving constructive feedback from peers are important skills to learn in today’s practicing teams of health care professionals. “An important outcome of team-based learning is that students can learn and practice their interpersonal and communication skills regularly – something that does not happen in lecture-based curricula. Furthermore, learning to work collaboratively and effectively in a team is an essential skill set for any practicing physician today,” Dr. Parmelee asserts.