I AM REFLECTING ON MORE THAN A DECADE OF INVOLVEMENT IN PHARMACY EDUCATION. IN ESSENCE, A GENERATION OF PHARMACY PRACTITIONERS HAS PASED BENEATH MY TULELAGE. I CONSIDER THAT A GREAT HONOR AS WELL AS AN ENMOROUS RESPONSIBILITY TO MY PROFESSION. THOSE OF US WHO ARE CHARGED WITH TRANSMITTING HIGHLY SPECIALIZED KNOWLEDGE TO THOSE WHO WILL FORM THE NEXT GENERATION CONTINUE TO SOUL SEARCH. WE ARE TRYING TO DISCOVER THE FORMULA THAT WILL ALLOW US TO MIX A CUP OF STUDENTS, A POUND OF INFORMATION, AND A PINCH OF WISDOM INTO ONE OF OUR DELICATE TOUJOULES THAT WE CALL A PHARMACY PRACTITIONER.

I OFFER THE FOLLOWING APPROACH TO PHARMACY EDUCATION THAT IS SIMPLE, STRAIGHTFORWARD, AND SEEMS TO WORK. FIRST, EACH STUDENT MUST HAVE A DEEP-ROOTED UNDERSTANDING OF WHAT A PHARMACIST DOES. THIS MAY SOUND OVERLY SIMPLISTIC, BUT ASK A GROUP OF 10 STUDENTS AND YOU WILL GET 9-11 DIFFERENT RESPONSES. IF YOU REALLY WANT TO GET DEPRESSED, ASK A GROUP OF 10 PHARMACY FACULTY MEMBERS, "WHAT IS THE PRIMARY FUNCTION OF A PHARMACIST?"

I BELIEVE THAT IF YOU REALLY UNDERSTAND SOMETHING YOU SHOULD BE ABLE TO EXPLAIN IT BRIEFLY ENOUGH SO IT FITS ON A BUMPER STICKER. THE FOUNDATION FOR ALL PHARMACY EDUCATION MUST BE BASED ON THE PREMISE THAT THE PRIMARY FUNCTION OF THE PHARMACIST IS TO ENSURE THAT EACH PATIENT RECEIVES THE RIGHT AMOUNT OF DRUG. SOMETIMES THE RIGHT AMOUNT OF DRUG IS NO DRUG. ALL OF OUR EDUCATIONAL EFFORTS MUST BE BASED ON THIS PREMISE. IT IS CLEAR, CONCISE, AND ALL-ENCOMPASSING. HOW DOES ONE PREPARE STUDENTS TO MAKE SURE EVERYONE GETS THE RIGHT AMOUNT OF DRUG? ONE NEEDS TWO MORE PIECES OF BUMPER STICKER PHILOSOPHY AND A HALF-DOZEN STEPS TO THERAPEUTIC PROBLEM-SOLVING.

THE NEXT IMPORTANT IDEA FOR THE ASPIRING PHARMACY STUDENT TO UNDERSTAND IS THAT THE QUESTION IS ALWAYS THE SAME! PEOPLE ALWAYS ASK, "HOW MUCH DRUG X SHOULD I TAKE (OR GIVE) TO PATIENT Y IN SITUATION Z?" PEOPLE OFTEN DISGUISE THE QUESTION BY ASKING THINGS LIKE, "WHAT IS THE HALF-LIFE OF GENTAMICIN IN RENAL FAILURE?" THEY REALLY DO NOT WANT TO KNOW, BUT THEY THINK IF YOU TELL THEM THE HALF-LIFE OF GENTAMICIN IN RENAL FAILURE THEN THEY WILL BE ABLE TO ANSWER THEIR REAL QUESTION: "HOW MUCH GENTAMICIN DOES THIS SEPTIC PATIENT IN RENAL FAILURE REQUIRE?"

NOW, IS IT NOT LOGICAL TO THINK THAT IF A PHARMACIST HAS A SINGULAR PURPOSE AND CONTINUALLY ADDRESSES THE SAME QUESTION THERE SHOULD BE A LOGICAL, CONSISTENT APPROACH TO RESOLVING THE THERAPEUTIC PROBLEMS PHARMACISTS ARE INCREASINGLY BEING ASKED TO SOLVE? I BELIEVE THERE IS SUCH AN APPROACH. EACH PHARMACY STUDENT MUST BE TAUGHT TO APPLY THE FOLLOWING PROBLEM-CENTERED PROCESS IN LEARNING AND IN PRACTICE. THIS SYSTEM ALWAYS STARTS WITH THE PROBLEM—JUST LIKE LEARNING DOES IN LIFE.

1. PHARMACIST PROBLEM LIST—IDENTIFY PROBLEMS ASSOCIATED WITH OR POTENTIALLY ASSOCIATED WITH DRUG THERAPY.
2. COLLECTION OF RELEVANT DATA—THIS INFORMATION WILL BE OF TWO TYPES: (A) INFORMATION DESCRIBING HOW DRUGS AFFECT THE PATIENT'S STATUS, AND (B) INFORMATION DESCRIBING HOW THE PATIENT'S STATUS MIGHT AFFECT DRUG THERAPY.
3. DESIRED THERAPEUTIC OUTCOMES—WHAT ARE THE DESIRED GOALS FOR EACH PROBLEM?
4. THERAPEUTIC ALTERNATIVES—LIST ALL FORMS OF DRUG THERAPY (NOT JUST THE DRUG OF CHOICE) THAT HAVE THE POTENTIAL TO PRODUCE THE DESIRED OUTCOME FOR EACH PROBLEM.
5. PHARMACIST'S RECOMMENDATION FOR DRUG THERAPY—WHICH OF THE THERAPEUTIC ALTERNATIVES HAVE YOU CHOOSEN TO PROVIDE OPTIMAL BENEFIT TO THE PATIENT, CONSIDERING EFFICACY, SAFETY, AND EXPENSE?
6. PLAN FOR CONTINUED MONITORING OF DRUG THERAPY—WHAT TESTS AND OTHER INFORMATION ARE REQUIRED AND AT WHAT FREQUENCY TO ENSURE THAT THE DESIRED OUTCOMES
are occurring and the undesired toxicities are minimized?

If you know your job and the question, you formulate a problem list consisting of therapeutic problems or potential problems that are your responsibility to resolve. You must then gather information concerning the effects of drugs on a patient's status and the influence of any altered physiologic state on the disposition of the drugs you recommend. You establish a desired goal for each problem, review and consider all possible alternative solutions, and decide which therapeutic alternative to pursue. Lastly, and most importantly, you must design a therapeutic drug monitoring plan to ensure that the desired outcomes of your drug therapy are occurring and that you are not producing undesirable toxicity. If your drug therapy is not producing the desired results or is inducing an undesired response, you have a new therapeutic problem to resolve.

There is one last piece of bumper sticker philosophy that will help determine if you have considered all necessary information and have confidence that you made the best possible decision in each situation: only do to patients what you would do to your own grandmother. This standard for professional practice has certainly withstood the test of time, is amazingly consistent from practitioner to practitioner, is undeniably cost effective, and represents a standard our patients expect and deserve.

Reference