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# How to Balance Clinical Work and Research in the Current Era of Academic Medicine

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Dr Martin Heinrich Fischer, a full professor of physiology and medicine and world-renowned physician at the University of Cincinnati from the age of 25 until his death at the age of 77 stated in 1962, "A doctor must work eighteen hours a day and seven days a week. If you cannot console yourself to this, get out of the profession."[1] He is certainly not the only physician to express such a sentiment. Although this advice might support a life of celibacy let alone one filled with patient care alone, many of us continually wrestle with the conflicting yet important allegiances to our patients and our desire to do research. Is this an internecine battle? No—if you learn to blend the two, work with others, and maximize your efficiency.

## Why Take Care of Patients and Do Clinical Research?

Practicing medicine and doing clinical research are complementary. Doing one makes you better at the other. Research is not to be feared. After all, physicians are researchers at heart. When we take a history we are physiologists—merely devising questions in a common vernacular to allow the patient to tell us the pathophysiology of their disease. Furthermore, when we see patients, we realize how little we know and how many questions need to be answered. The first step in clinical research is going the next step in clinical care and formulating those unanswered questions. Albert Einstein said, "The important thing is not to stop questioning. Curiosity has its own reason for existing. One cannot help but be in awe when he contemplates the mysteries of eternity, of life, of the marvelous structure of reality. It is enough if one tries merely to comprehend a little of this mystery every day. Never lose a holy curiosity."[2] Said another way, the good physician tries to answer *what*; the great physician tries to answer *why*. In turn, formulating questions and trying to answer them makes us better doctors. When your clinical judgement is defined by the creativity of your mind in addition to a textbook or review article, a world of possibility in clinical care opens. After all, only a small percentage of all clinical questions have been rigorously studied. As a result, most of what we do in medicine is improvisation on a theme. Many people can play "My favorite things" on the saxophone but to do what John Coltrane did—well, that was a masterpiece. Complicated and undiagnosed patients allow us the excitement to ponder and create a composition in medicine perhaps never before heard. What is required is your questioning research mind that allows and promotes you to expand on the theme.

## What Type of Research Should You Blend With Your Practice?

For years, a few types of medical research were performed by clinicians. These were mostly retrospective studies, therapeutic trials, and supplying tissue to basic scientists. In the past 20 years, the world of clinical research has exploded. There is research in quality of life, cost utility, health economics, patient decision making, systematic analysis, meta-analysis, physiology, and translational research. As a result, clinicians have a host of avenues to explore in their research and a wide range of journals in which to publish. Needless to say, different from years ago, you will need more training for each of these directions. At least, some courses in statistics, study design, systematic and meta-analyses, storing and analyzing data, and writing a proposal are essential. It is best to do these during fellowship. These courses are often available on line so can be taken when convenient. Furthermore, there is no need to limit your interests to one type of research—many of us have an entire medical center/university at our disposal. Your interests may evolve with time, experience, and the expanding network of your collaborators. By the way, many of the best clinical researchers start in a basic science laboratory. There is no substitute for seeing first-hand the arbitrary nature of bench methodology and experimentation

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to absorb a healthy skepticism when reading any review or guideline seemingly set in stone.

## Efficiency in Clinical Practice

The first step in achieving clinical efficiency comes with establishing a clinical team (Table 1). In your clinical team, you need a physician extender who will be able to help you at least with phone calls and prescriptions. A nurse practitioner or physician associate can help see your patients. Also, not every phone call needs to be personally returned to the patient. Take those that require clinical decision making and/or reassurance. Furthermore, prioritize your calls, particularly during dedicated research time. Speaking with patients who call multiple times per week takes important time away from other priorities and commonly reinforces the patient's sense of desperation and dependence. Be reassuring but firm in your need to limit phone calls to once a week unless an emergency arises. Also, try to answer the patient's question at that time. It may require some immediate electronic medical record review, but adding a second call for another time doubles your work.

As a gastroenterologist, it is difficult to be all things to all patients despite our oath. Our patients can be complicated with multiple non-gastrointestinal diseases. These may be psychiatric, gynecologic, or neurologic, and involve pain management. Lend a sympathetic ear but, more important, get them to the right consultants. Eventually, establish your team of physicians who reliably aid you in the management of these disorders. Furthermore, talk directly to the consultant if needed. A quick phone call is more efficient than back and forth emails or communications through the patient. With physicians for patients who come to see you from great distances, give your best opinion but leave the primary care to the local physicians. You cannot and should not manage serious medical problems alone from hundreds or thousands of miles away. However, follow-up with these patients. Academic consultants often feel their initial evaluation is sufficient. As one of my mentors used to tell me, not following patients after the initial consultation or procedure is akin to only seeing the first act of a play. Clinical expertise encompasses not only making the diagnosis, but understanding the course and management of a disease. This also yields more research questions.

## Efficiency in Clinical Research

Just as you will establish your clinical team, you will need your research team (Table 2). First, get a research coordinator. Your coordinator will initially and perhaps always be much better than you at calculating the budget, getting the protocol written, and submitting it to the institutional review board. They will keep you informed of the strict rules of the institutional review board. And they will be forever grateful when you treat them as a colleague, make them an author, and ask them to present at meetings. Next, consult a person with expertise in statistics at the beginning of the project. This is not only to make calculations but for advice on study design, data analysis, and writing of the manuscript. Building such a relationship will bring its weight in gold. Next, assemble a team of investigators with whom you may meet regularly and discuss your protocols, data, and conclusions. As clinical investigators, we often feel we need to come up with ideas all on our own and singularly develop them. Nothing could be further from the truth. Just as we discuss interesting and challenging patients with colleagues, so should we discuss our research. It is particularly important to do this at the beginning of a project, not when the paper is almost written and it is too late to correct errors in method design. If possible, organize a research conference with your colleagues. Criticize protocols, review data, and write papers together. This makes you a part of their research also. This does not have to be a department sanctioned process—find a few colleagues whose research skills you admire and consult with them. It is also important to bounce around ideas with colleagues. Make clinical research a part of your regular conversation and thoughts. Think about questions in your free time. Einstein was told by his father to come home every day with a question.[3]

As a junior faculty member, get internal medicine residents and colleagues to work with you. When you assign trainees to your projects understand their goals, their tools, and the time they have available to devote to the project. Residents interested in gastroenterology are best served performing retrospective studies. You want these to be successful in yielding abstracts for major meetings and publications. You do not want to be one of those faculty members for whom the projects do not get completed—residents will stop coming. It is also great practice for mentoring for when the fellows start to work with you. For fellows, the projects become more ambitious depending on their training and research time allotted. Ask them to help you with all your projects: reviews, retrospective and prospective projects—they need to learn to write all of these. Let them do your database mining for you. These days, most fellows learn quickly how to do systematic and meta-analyses. Let them expand your repertoire. Finally, if permitted, ask them to see and follow your patients. You can give them your expertise and they will enjoy sharing your clinical responsibilities.

Write, write, write! One of the great aspects of research is you do not have to be the best writer to achieve what you need—you just have to be good. Medical writing, as in most skills, takes practice. Write review articles, but only ones that allow you to review the literature, expand your knowledge, give you research ideas, or publish in a prestigious journal. Similarly, review submitted manuscripts from good journals within your expertise. This not only allows you to see where the field may be moving, but forces you to think critically about the subject. I also read the comments from the other reviewers when the journal notifies me of the decision. One of my former chiefs advised me to read a paper in the *New England Journal of Medicine* completely every week if you want to improve your writing. Also make it a habit of writing your manuscripts after you submit your abstract to a meeting. One of my mentors uses the following