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question that is often raised when patients come to our office is "Why doesn't my doctor know all of this?" The reason is that the overwhelming majority (all but a few percent) of physicians (endocrinologists, internists, family practitioners, rheumatologists, ect.) do not read medical journals. When asked, most doctors will claim that they routinely read medical journals, but this has been shown not to be the case. The reason is multi-factorial, but it comes down to the fact that the doctors do not have the time. They are too busy running their practices. The overwhelming majority of physicians rely on what they learned in medical school and on pharmaceutical sales representatives to keep them "up-to-date" on new drug information. Obviously, the studies brought to physicians for "educational purposes" are highly filtered to support their product.

There has been significant concern by health care organizations and experts that physicians are failing to learn of new information presented in medical journals and the lack of ability to translate that information into treatments for their patients. The concern is essentially that doctors erroneously rely on what they have previously been taught and don't change treatment philosophies as new information becomes available. This is especially true for endocrinological conditions, where physicians are very resistant to changing old concepts of diagnosis and treatment despite overwhelming evidence to the contrary because it is not what they were taught in medical school and residency.

This concern is particularly clear in an article published in the New England Journal of Medicine entitled Clinical Research to Clinical Practice-Lost in Translation.1 The article was written by Claude Lenfant, M.D., Director of National Heart, Lung and Blood Institute and is well supported. He states there is great concern that doctors continue to rely on what they learned 20 years before and are uninformed about scientific findings. The article states that medical researchers, public officials and political leaders are increasingly concerned about physicians' inability to translate research

findings in their medical practice to benefit their patients and states that very few physicians learn about new discoveries at scientific conferences and medical journals and translate this knowledge into enhanced treatments for their patients. He states that a review of past medical discoveries reveals how excruciatingly slow the medical establishment is to adopt novel concepts. Even simple methods to improve medical quality are often met with fierce resistance. The ar-

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ticle states, "Given the ever-growing sophistication of our scientific knowledge and the additional new discoveries that are likely in the future, many of us harbor an uneasy, but quite realistic suspicion that this gap between what we know about disease and what we do to prevent and treat them will become even wider. And it is not just recent research results that are not finding their way into clinical practice; there is plenty of evidence that 'old' research outcome have been lost in translation as well (1)."

Dr. Lenfant discusses the fact that the proper practice of medicine involves "the combination of medical knowledge, intuition and judgment" and that physicians' knowledge is lacking because they don't keep up with the medical literature. It states that there is often a difference of opinion amongst physicians and reviewing entities, but that judgment and knowledge of the research pertaining to the patient's condition is central to the responsible practice of medicine. He states, "Enormous amounts of new knowledge are barreling down the information highway, but they are not arriving at the doorsteps of our patients(1)."

These thoughts are echoed by physicians who have researched this issue as well, such as William Shankle, M.D., Professor, University of California, Irvine. He states, "Most doctors are practicing 10 to 20 years behind the available medical literature and continue to practice what they learned in medical school... There is a breakdown in the transfer of information from the research to the overwhelming majority of practicing physicians. Doctors do not seek to implement new treatments that are supported in the literature or change treatments that are not (2)."

The Dean of Stanford University School of Medicine understands that there is a problem of doctors not seeking out and translating new information to benefit their patients. He states that in the absence of translational medicine, "the delivery of medical care would remain stagnant and uninformed by the tremendous progress taking place in biomedical science (3)."

This concern has also received significant publicity in mainstream media. In an article published in a 2003 Wall Street Journal article entitled, Too Many Patients Never Reap the Benefits of Great Research, Sidney Smith, M.D, former President of the American Heart Association, is very critical of physicians for not seeking out available information and applying that information to their patients. He states that doctors feel the best medicine is what they've been doing and thinking for years because that is what they've been doing. They discount new research because it is not what they have been taught or practiced and refuse to admit that what they have been doing or thinking for many years is not the best medicine. He states, "A large part of the problem is the real resistance of physicians...many of these independent-minded souls don't like being told that science knows best, and the way they've always done things is second-rate (4)." The National Center for Policy Analysis also reiterates concern for the lack of ability of physicians to translate medical therapies into practice. (5)

A review published in The Annals of Internal Medicine found that there is clearly

a problem of physicians not seeking to advance their knowledge by reviewing the current literature, believing proper care is what they learned in medical school or residency and not basing their treatments on the most current research. They found the longer a physician is in practice, the more inappropriate and substandard the care. (6)

A study published in the Journal of the American Medical Informatics Association reviewed by The National Institute of Medicine reports that there is an unacceptable lag between the discovery of new treatment modalities and their acceptance into routine care. They state, "The lag between the discovery of more effective forms of treatment and their incorporation into routine patient care averages 17 years." (7,8) In response to this unacceptable lag, an amendment to the Business and Professions Code, relating to healing arts, was passed. This amendment, CA Assembly Bill 592; An act to amend Section 2234.1 of the Business and Professions Code, relating to healing arts states, "Since the National Institute of Medicine has reported that it can take up to 17 years for a new best practice to reach the average physician and surgeon, it is prudent to give attention to new developments not only in general medical care but in the actual treatment of specific diseases, particularly those that are not yet broadly recognized [such as the concept of tissue hypothyroidism, chronic fatigue syndrome and fibromyalgia]...(9)"

The Principals of Medical Ethics adopted by the American Medical Association in 1980 states, "A physician shall continue to study, apply, and advance scientific knowledge, make relevant information available to patients, colleagues, and the public." 10 This has unfortunately been replaced with an apathetical goal to merely provide socalled adequate care. The current reimbursement system in America fosters this thinking as the worst physicians are financially rewarded by insurance companies. The best physicians are continually fighting to provide cutting edge treatments and superior care that the insurance companies deem not medically necessary. Even the best physicians eventually get worn down and are forced to capitulate to the current substandard care. This was clearly demonstrated in a study published in the March 2006 edition of The New England Journal of Medicine entitled Who is at Greater Risk for Receiving Poor-Quality Health Care. This study found that the majority of individuals received substandard poor-quality care. There was no significant difference between different income levels or whether or not the individual has insurance. It use to be the case that it was only those in low socioeconomic classes without insurance received poor-quality care. Insurance company restrictions of treatments and diagnostic procedures have made the same poor care afforded to those of low socioeconomic status without insurance to become the new standard-of-care. (11)

Most physicians will satisfy their required amount of continuing medical education (CME) by going to a conference a year, usually at a highly desirable location that has skiing, golf, boating, ect. A physician is rarely monitored as to if they actually showed up for the lectures. One must also understand that the majority of conferences by medical societies are sponsored by pharmaceutical companies. While these payments are called unrestricted grants, in that the society has free reign to do what they want with the money and can thus claim there is no influence of lecture content by the pharmaceutical company. The problem is that if the society wants to continue getting these unrestricted grants from the particular company, they better provide content that is of benefit to the pharmaceutical company that paid for the grant. Consequently, ground breaking research that goes against the status quo and does not support the drug industry receives little attention. The doctor must actively search for these studies, which only a few percent are willing to do on a consistent basis.

There is clear evidence and concern that published research is clearly tainted by whoever is the financial sponsor of the study. A study published in the Journal of Psychiatry (and later discussed in the May 2006 edition of Forbes magazine) states that the most important determinant of the outcome of the study is who paid for it. An analysis in the Archives of Internal Medicine reviewed 56 studies of painkillers and not once was the sponsor's drug deemed inferior. In addition to reading the conclusion of the study, a physician must read the

tire study and review the data with a critical eye, which is rarely done.

## References

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