

Preface

Sleep Medicine: Its Imperfect Past



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It could be said that the past of Sleep Medicine is forgettable: as with life in general, it is sometimes easy to forget what brought us to today and simply ignore the past. It would be a mistake not to learn from the past journey, as it took a lot of courage, dedication, and determination from many scientists and clinicians to help develop this eclectic field and bring Sleep Medicine to what it is today. Unfortunately, much of the past of Sleep Medicine has already been forgotten or has never really been learned by the new generation of professionals working in or joining the field. Even more concerning is the fact that remembering the past is often tinted by today's knowledge unfettered by the sobering perspective of hindsight.

Sleep medicine is a field that is still growing and in conflict with itself. It is easy to recall with contempt those dreadful, large, and uncomfortable early CPAP masks, painful and untested surgical approaches, and dangerous medications prescribed many decades ago, without conceding that those were the best approaches available at that time. From looking at challenging conditions, such as insomnia, broken down to at least a dozen different potential causes, over time, however, were clumped into two categories; we appreciate the practicality of the current classification but yearn for the pathophysiologic insights gained from the earlier divisions. We edge idiopathic hypersomnia closer to narcolepsy but at the same time try to move the latter further away from the former: this tug-and-pull continues today with no clarifying pathophysiology, clinical feature, biomarker, or diagnostic test in sight for

hypersomnia. Each day, we treat more patients with parasomnias, either primary or secondary, and yet recognize that we know very little about these conditions and their true cause. Many circadian rhythm sleep disorders are increasingly becoming a lifestyle choice, as is chronic sleep deprivation, despite its public health hazards; we are powerless in the midst of this societal shift. There are more articles about sleep disorders, nightmares, and sleepwalking in the lay media than there are in our science journals, and personal opinions are often used to make recommendations instead of sound clinical research.

We learn that sleep is “of, by, and for” the brain and relearn that sleep predates the brain; how many textbook chapters, presentations, and mindsets must be revised! We venture into sleep's microarchitecture searching for the origins of cognition, memory, and emotion, and attempt to manipulate its hertz, spindles, and waves to augment, replace, or regulate them, and fail. It is peculiar to realize that the “microtuning” of sleep waves that is sought by the lay public and media has no real scientific basis. Superficial discussions about having more of an X or Y stage of sleep are often presented, as if someone could easily manipulate the electrical activity of the brain. This shows the lack of understanding of what sleep truly is, a complex chemical process, orchestrated by yet unknown factors with intended results.

As a field, Sleep Medicine has its share of rules, policies, guidelines, best-practices, and coverage determinations for service and care, which have a clear impact but do not necessarily bring value; we

trust the need for regulation but not always their purpose. The most embarrassing and inexcusable of all is our “4-hour, 70% of nights PAP use” rule, which, for many, has become a quasi-religion. Indeed, so much of Sleep Medicine was, and still is, a magic show, with all of us willingly or forcefully participating but none of us fully comprehending. One can only imagine if such rules would be expanded to other fields; imagine access to anti-coagulants or antihypertensive medications being denied to patients if they are not used more than 70% of the time!

Finally, our clinical recommendations have become platitudes that are often incompatible with the realities of contemporary life. Is it better to tell our patients what is the ideal way to sleep, or to help them sleep better as they go through their lives in the modern world? Is it more important to develop devices to detect sleepiness among drivers, or to invent technology to always ensure safe driving for everyone? Is it more effective to limit work hours among health care workers in order to reduce medical errors, or to create algorithms and systems to prevent errors by anyone at any time? Do we modify school times, or should we help change the methods of teaching? Perhaps both approaches should be considered, and if so, which one should be prioritized?

The march of science is slow and tedious. We increasingly expect science to eventually give us the (a) knowledge, (b) understanding, and (c) solution for everything in Sleep Medicine. However, many of us value facts over methods, choose confirmation rather than discovery, favor standardization to heterogeneity, and try to find solutions and not answers. But this isn’t science, and misinterpreting what science is can be threateningly dangerous or annoyingly frustrating. How

can science help us standardize approaches and still personalize care? Understanding and coping with these disparities is a major challenge, and looking to our past may help guide us.

The biggest danger of the past of Sleep Medicine is mistrust. In a “temporary society,” the next best thing is always just around the corner. In an “information society,” there are multiple versions of the truth. When we cannot fully remember our history, we are liable to embellish our failures and distort our errors, both of which can magnify the mistrust of our past choices, actions, and science. It is, therefore, essential to acknowledge that, even in an imperfect past, each of us tried to do our best in the field and remember that there are opinions and interests on one side and facts and science on the other end of the spectrum. At a societal level, our role is to help these two ends meet in order to implement a healthier and improved sleep for all.

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