Educated?... For Uncertainty*

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It has been customary for the President of Lawson Wilkins Pediatric Endocrine Society to make some comments at the annual meeting of the Society in the form of a lecture, a collection of homilies, folk wisdom, science and/or expressions of gratitude. These brief comments were made prior to an intense and crowded scientific program at the 6th Joint Meeting of the European Society of Pediatric Endocrinology and of the Lawson Wilkins Pediatric Endocrine Society, along with other sister societies from around the world, in Montreal, during July, 2001.

The concept of absolute certitude, or “never having to fear the truth of the opposite statement”, is a subject of theological debate. In the medical sciences, we face, on the contrary, the ever-present feeling of uncertainty. Indeed, the recognition that we make many medical decisions based on incomplete and conflicting data challenges the most confident of physicians. In the late summer of 1964, on my first day at the University of Rochester School of Medicine, a reprint of an essay by an emeritus faculty member at Johns Hopkins University School of Medicine that had been delivered in the late 1950s confronted and initially confused me. John C. Whitehorn’s “Education for Uncertainty” has, nonetheless, never left me. In his powerful essay, he asserts: “one cannot become aware of alternatives without some ability to tolerate uncertainty, and one cannot exercise good judgement and common sense in reaching well-considered conclusions and wise action unless one can tolerate uncertainty with equanimity. Frightened and over-anxious awareness of uncertainty is of little use for it hinders the operation of good judgement.” Well, approximately 37 years later, I am still striving, with variable success, to exist with equanimity in a world of continuing uncertainty. Although one recognizes the sensibility of Whitehorse’s words and becomes increasingly comforted by this state, the concept is not always easy to transmit to junior colleagues, residents or medical students. Nonetheless, I still give this article to each of our incoming interns as they embark upon their training years.

I had not run into any similar discussion until I happened to see and joyfully read a new series of articles, entitled The Uncertain Art, by a Yale surgeon, Sherwin Nuland, debuting in a 1998 issue of American Scholar. Someone else was uncertain and wrote about it! His subsequent articles define an elegant and thoughtful series of papers that address many complex examples of issues of modern medicine. The inexactitude, the seemingly contradictory idioms of different medical views, and the realization that there is a wide breadth to successful medical practice, are all discussed.

Dr. Nuland quotes the poet, John Keats, whose diminutive stature makes him particularly interesting for an audience of pediatric endocrinologists. Keats passed his licensing examinations at age 20 (in July, 1816), but left medicine to join the “Romantic Era”. Keats wrote that the “quality ... to form a man of achievement ... I mean Negative Capability, that is when a man is capable of being in uncertainties, mysteries, doubts.” Nuland comments that “a perceptive man ... could not study medicine in the early 19th century without becoming aware of the degree to which patient care was conducted in a pervasive atmosphere of inexactness.” Yes, it is so that modern imaging techniques, the availability of hormone assays with exquisite sensitivity, the magic of PCR, DNA

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sequencing, and other countless molecular tools have altered the level of inquiry, but have they eliminated uncertainty? The current debate regarding how many genes there are in the human genome (30,000 to 50,000, but not such a dramatically greater number than "lower" species) is but an introduction to the wide range of "truth". The meaning of the genes, their interactions, the factors which modulate their expression, are sure to elicit even more disparity of opinion. I am comforted that Nuland believes that there is "wisdom in the acceptance of uncertainty".

This grappling with the world of uncertainty is the never-ending struggle of the scholarly clinician and investigator, and is what brings joy and frustration to our lives. Even the simplest question of how to define growth hormone deficiency points out the complexity of the clinical and laboratory issues and truly the lack of absolute certitude. If we cannot answer that relatively straightforward and mundane clinical question, just ponder upon our scientific, ethical and moral conundrums in the post-human genome project era. All of our successes come from our responses to the challenges of problems, our attempts to diminish the degree of uncertainty, to lower the coefficient of variation, but we will never succeed because our very perturbing of the system studied elicits a whole array of new uncertainties. Truly, it is the inability to achieve absolute certitude that is the ongoing excitement of our lives.

REFERENCES

2. Nuland SB. The uncertain art. The American Scholar 1998; 139-142.