IN FAVOR OF SIMPLICITY: APPLIED TO MEDICINE
IN GENERAL AND NEUROSURGERY
IN PARTICULAR

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MEDICAL care is steadily becoming more complex and more costly. I believe it is time to re-evaluate many of the modern innovations and to determine whether they are as often indicated as they are generally used or as reliable as at first thought.

Diagnostic procedures have multiplied, and although each one may be essential at times, they are time-consuming, painful, expensive, and not without danger. Certainly, we should endeavor to choose the one most likely to turn up with the answer and, at least, to see that the patient runs the gauntlet of the electroencephalogram, pneumoencephalogram, ventriculogram, arteriogram, venogram and isotopic concentration in the most likely order. Myelography for diagnosis of lumbar discs is used routinely by some neurosurgeons, although the clinical picture is far more reliable and every patient who has had both myelography and surgery insists that the myelography is more painful and trying. X-ray films made in various positions, at various angles, and frequently stereoscopically are apt to stack up until they need baling. We seem to get along satisfactorily with a much smaller number of carefully selected views. There is now reason to believe that patients undergoing diagnostic studies can be injured by excessive irradiation. It may be that even the progeny will be damaged for generations to come. Frequently, laboratory and clinical tests are ordered that can hardly supply useful information. Our laboratory chiefs often complain of too many "slap-happy and shotgun" requests. Counting the cells in bloody and cloudy spinal fluid is like counting the hairs on a rabbit to see if it is a big rabbit or a little rabbit! In our hospital, blood is extracted routinely from the patient—before he even gets to bed—for the purpose of V.D.R.L. determination; although a positive turns up in less than 1:1000 cases. In 5 years, we have had 2 positive fluids, both of which were false positive.

There are times when we cannot avoid interfering with the blood chemistry, electrolyte balance or endocrine balance; and occasionally patients are out of balance when admitted. A remarkable amount of knowledge has accumulated on these subjects—but not enough! Speaking for myself, understanding these intricate reactions is difficult. I have more confidence in the body's automatic ability to control them—remembering what an incredible

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variety of food, drink or other materials can be dumped into the stomach in almost any relative amounts and still perfect balance results. It may be safer as well as more comfortable to leave these matters to nature by simply avoiding anything that might upset the patient.

Nearly all neurosurgical procedures can be done satisfactorily and expeditiously with the patient lying on an ordinary operating table, but despite this, for almost every kind of operation, the patient is put in a different position. Tics are done with the patient sitting up jackknifed, with a complicated superstructure resembling an offshore oil rig. Operations on the cervical spine and cerebellum also are done with the patient sitting up, the surgeon working with his arms in the air, and the patient running the risks of hypotension and air embolism. Recently, seeing a neurosurgical friend struggling with a cerebellar tumor, with the patient insecurely anchored in this position, I could not resist asking if he had ever tried it standing up in a hammock! To remove a lumbar disc, some surgeons put the patient up on his elbows and knees—over a barrel, so to speak; and many even make a major procedure of ventriculography.

Next, the patient is draped in a manner as ritualistic and time-consuming as a Mormon wedding! Some surgeons spend a good deal of time sewing various layers to the scalp; only a few layers are necessary if one is an impervious plastic. Most neurosurgical operations may be carried out under local anesthesia, avoiding the hazards of both the anesthetic and the anesthetist; but multiple-drug anesthetics are employed, with amazingly complicated machines demanding nearly all of the anesthetist’s attention. Endotracheal intubation is considered obligatory by many, but we find it seldom necessary. In the meantime, so-called heart block has increased from 1:5000 to 1:600, according to recent reports, requiring frantic thoracotomy and heart massage in order to save the patient’s life, even if it is too late to save his brain. What a comfort to be free from the anxiety of having bleeding or other complications masked by residual anesthesia and to find the postoperative patient smoking, reading the papers or eating lunch after returning from the operating room! A study of mortality rates in 10 university hospitals revealed 1:4400 deaths attributed to nitrous oxide, 1:2000 to Pentothal or to spinal, and only 1:6000 when the operation was done under local anesthesia. The addition of curare more than doubled the mortality rate, with a peak of 1:62 when ether and curare were combined. To knock a patient unconscious and paralyze the respiratory centers in a minute and a half with a roughly estimated dose of Pentothal sodium (even when done by a medical anesthesiologist—as I have seen on occasions) is bound to be dangerous.

Blood is given almost routinely, being replaced rather than kept in the body. Some even take the blood out before operation and then return it. Patients who get only one pint of blood run all of the risks and probably do not need it in the first place—they can replace the blood loss the same way the donor does. Transfusions are now killing more patients than appendicitis. So persuasive are the transfusionists that we would believe them, if we had not done 5000 disc operations without giving any blood and with-