Statement of Ethics in Neurosurgery of the World Federation of Neurosurgical Societies

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This Statement of Ethics in Neurosurgery was developed by the Committee for Ethics and Medico-Legal Affairs of the World Federation of Neurosurgical Societies to help neurosurgeons resolve problems in the treatment of individual patients and meet obligations to the larger society. This document is intended as a framework rather than a set of rules. It cannot cover every situation and should be used with flexibility. However, it is our intent that the fundamental principles enunciated here should serve as a guide in the day-to-day practice of neurosurgery.

INTRODUCTION

Relationships between neurosurgeons and their patients, similar to all patient-physician relationships, are based on a long-established body of ethical principles developed primarily for the well-being of patients. In recent decades, extremely rapid progress in science and technology has threatened the time-honored connection between patient and healer. Physicians rely increasingly on technology as a crucial part of patient care. With great increases in the cost of health care, physicians and hospitals also face ever-growing pressure for higher patient volume and lower costs. As a result, caregivers may find less time to relate to patients as individuals, each one with a unique set of needs and complaints. Patient alienation is the inevitable result.

Our focus in creating this ethical guide is to remind ourselves and neurosurgeons worldwide of our fundamental commitments to the patients and communities we serve. These principles are applicable to all neurosurgeons, in private practice and academic settings. Above all, we are obligated not to harm to our patients and to provide treatment that is of potential benefit. This requirement may raise challenges in the practice of neurosurgery, which has the potential to leave patients substantially worse, or even disabled, after treatment that may have achieved its surgical goal. We must maintain a high level of professional competence so that our patients can receive the best possible care and ensure that a high standard is
maintained in the training of young neurosurgeons. We must take time to get to know our patients as individuals and share with them information and perspectives suited to their personal needs, enabling them to understand their own medical situation and to participate knowledgeably in decisions about their own care. We must work to ensure our own ethical independence and the independence of our scientific conferences and publications. Finally, we must support international efforts to raise the standard of care in all areas of the world. Our objective must be to maintain and improve the high medical standards we are ensuring as our skill and understanding advance, while fostering the integrity and trust that have characterized our relationships with patients throughout time.

The Committee for Ethics and Medico-Legal Affairs has drawn on statements of medical ethics from a variety of sources. A bibliography of selected references follows the Guidelines (1-37). We wish to acknowledge here contributions from the following medical societies: World Federation of Neurosurgical Societies (WFNS), European Association of Neurosurgical Societies (EANS), American Association of Neurological Surgeons (AANS), Congress of Neurological Societies (CNS), American Board of Neurological Surgery (ABNS), American College of Surgeons (ACS), American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS), World Medical Association (WMA), American Medical Society (AMA), General Medical Council of the United Kingdom (GMP), American College of Arthritis and Rheumatism (ACR), and International Committee of Medical Journal Editors (ICMJE).

GOOD MEDICAL PRACTICE—THE STANDARD OF CARE

1. We must recognize the limits of our professional competence.
2. We should perform surgery when we believe the patient would substantially benefit and when the level of risk for complications is acceptable to the patient and family members.
3. We should be willing to consult with colleagues and cooperate fully with other specialists, using a team approach to care.
4. We should work to ensure good continuity of care when patients are transferred or referred to colleagues.
5. When visiting and treating patients in other centers, we should enter into formal agreements before providing patient care. We should satisfy ourselves that the standard of care is appropriate for the surgery we perform and remain personally involved in caring for the patient for 24–48 hours or until the patient is stable.
6. Experienced neurosurgeons must provide adequate oversight and supervision for younger physicians and support staff as they care for patients.
7. We should keep clear, up-to-date, detailed, and accurate clinical records and discharge summaries, with full descriptions of operative procedures, significant medical events, and medical management; the names of other caregivers; and summaries of important discussions with patients and family members.
8. When patient care may be compromised by inadequate facilities or equipment, lack of reimbursement for important medical services, or shortages of medical and support staff, we should address the issues to the best of our ability.

RELATIONSHIPS WITH PATIENTS AND FAMILY MEMBERS

Duty of Care

9. All patients are entitled to receive care at the standards of best practice.
10. We should encourage patients in their right to request a second opinion because it is important for the patient to have full confidence in the choice of a surgeon.
11. Neurosurgeons should make all clinical records and investigations easily accessible to the patient and other caregivers.
12. We should provide guidance as to the optimal course of action, while enabling patients to participate in decisions regarding their own care.
13. We should not promote treatments that are recognized as failing to meet the recognized standard of care.
14. We should obtain a fully informed consent before any operation.
15. Patients should not be deprived of necessary care because of an inability to pay.
16. We should advocate for patients in dealing with third parties when appropriate.
17. Personal beliefs should never prejudice decisions regarding patient care.
18. There is no justification to refuse to treat patients because their diagnosis could pose a risk to the health of the neurosurgeon.
19. When a personal moral judgment or religious belief prevents the neurosurgeon from recommending a particular therapy or operation, the patient and family should be told and given the opportunity to seek alternative care.
20. We should not diminish our professional services to patients who have acted in such a way as to harm their own health.
21. In time of war, we should provide care impartially, on the basis of need, to all participants and to civilians.
22. Prisoners should be treated without discrimination, and we should not be a party to torture or to any form of physical or psychological punishment.

Patient Communication

23. We should listen to patients, respect their views, and respond to their questions with sensitivity to a patient’s feeling of vulnerability.
24. Neurosurgeons should be willing to provide patients with clear information and discuss fully the benefits, risks, and costs of appropriate treatment alternatives.
25. We must weigh our decisions on what information to disclose and how to present that information, with consideration for cultural mores and values and the makeup of individual patients. This becomes particularly important when we are treating patients with malignant diseases, and they wish to discuss their prognosis.
26. We should be careful about discussing outcomes that our proposed treatment or surgery may be unlikely to provide and should never guarantee that a particular treatment will be effective.
27. We must ensure that the information we provide is accurate and up-to-date and can be verified if challenged.
28. We should be honest with patients and their families about the reasons for complications and express our sincere regret when the situation does not go according to plan.

**Patient Privacy and Confidentiality**

29. Patients have a right to expect that information about them will be held in confidence by their physicians. When a patient is a competent adult, information about the patient’s medical situation can generally be shared with family members only with the patient’s approval. However, there are cultures where it is customary to share information readily with the next-of-kin or close relatives.

30. In situations where there is clear risk of major disability or death, it may be good practice to disclose this possibility to relatives because it may help them to accept a poor outcome if this does occur.

31. We should not reveal confidential communications or information without the consent of the patient when speaking with colleagues and associates not directly involved in the patient’s care.

32. Patient confidentiality must be completely protected when using medical images, films, and photographs, and when conveying data stored in computers.

33. In some circumstances, the duty to society may override the patient’s right to confidentiality:
   i. When patients may be entering an activity or employment for which they are unfit and where they may pose a danger to others. (In this case, we should attempt to dissuade the patient and attempt to obtain permission for disclosure when feasible.)
   ii. When disclosure is a legal requirement, such as notification of specific disease.
   iii. When disclosure is required by a court of law.

34. When information is requested by the media, the physician must obtain the consent of the patient or an authorized representative before disclosure.

**Ending Patient Relationships**

35. On rare occasions, for example, where a patient has been violent, has stolen from the premises, or has persistently acted unreasonably, it may be necessary to end a professional relationship with a patient. However, we should never end a patient relationship because of our personal beliefs regarding a patient’s private life, because of the patient’s inability to pay for surgical or medical care, or because of a complaint from the patient about the medical team.

36. If a relationship must be ended, the patient should be informed orally and in writing with a prompt and smooth referral process to a competent physician, including full transfer of patient records and communications.

**STANDARDS OF PERSONAL AND PROFESSIONAL LIFE**

37. We should avoid overwork to the level that it leads to excessive tiredness or stress and diminished competence.

38. We should avoid lifestyles and personal habits that may impair competence.

39. Our self-interest is subordinate to patient care. Patient referrals, the choice of procedure, and the use devices or surgical aids must never be affected by personal financial considerations.

40. We must respect the professionalism of others involved in health care and not compete with colleagues for professional or financial gain to the detriment of those colleagues or patients.

41. We must communicate personally and via clear patient records with referring and family physicians.

42. We must avoid unnecessary criticism of colleagues.

43. If there is reason to believe the actions of a colleague are endangering patients, we have a duty to make every effort to persuade that colleague to change his or her practice. If this approach fails, we must act to protect patients from risk.

44. We should report personal health issues that could affect patient care to the appropriate administrative leader.

45. All surgeons reach an age when the technical competence and personal stamina necessary to perform surgical procedures may decline. We are responsible to adjust our activity as appropriate when that time occurs.

46. Sexual harassment is unethical. A physician should not enter into a sexual relationship with a current patient or into any other abusive or exploitative relationship.

47. Sexual relationships between medical supervisors and trainees and between physicians and other coworkers raise concerns because of the inherent inequalities in status and power. Even a consensual relationship may have a negative effect on patient care.

**Financial Concerns and Business Relationships**

48. We should ideally limit the source of our professional income to services actually rendered to the patients under our supervision.

49. Fees and terms for payment should be clearly communicated to patients, and patients should be allowed a reasonable amount of time for payment. To the greatest extent possible, we should consider the financial resources of our patients.

50. The division of income among members of an organized group may be based on the value of services performed by each member as determined by group members.

51. In cases where the physician has a financial interest in an enterprise related to a patient’s care, the patient should be informed of this fact.

52. When a portion of a fee is to be paid to another clinician or institution, the patient should be clearly apprised of this fact.

53. Material incentives to use any institution, service, medication, or equipment should never be accepted. Payments to encourage patient referrals should never be made.

**MEDICOLEGAL RESPONSIBILITIES**

Legal systems and national customs differ. It is the responsibility of a neurosurgeon to understand and function within the legal bound-
Aries where he or she resides and practices. The process of obtaining informed consent for surgical treatments and the option of creating a living will are intended to protect the rights of patients rather than physicians. Clear records should be kept documenting the dates and substance of conversations with patients and their families and neurosurgeons’ own decision processes.

Agreements on Treatment
54. We should determine whether patients are competent and capable of making reasonable decisions. We should consider the opinions of family members.
55. Once competence is established, we should give understandable information to patients:
   i. Explain the purposes, expected benefits, and risks of the proposed treatment.
   ii. Discuss treatment alternatives.
   iii. Provide unbiased information on the advantages and disadvantages of recommended and alternative treatments and offer advice.
   iv. Explain the likely consequences of refusing the treatment being offered.
   v. We may describe risks and benefits as cited in the world literature, but we must also describe our own experience and results with the patients we treat when requested.
56. We must remember and respect the patient’s right to choose between treatments or to refuse treatment altogether.
57. If there is a disagreement between the patient and family members, and the patient is competent, we must respect the patient’s decision.
58. In cases where the patient refuses treatment or chooses an alternative that we believe is suboptimal, it may be appropriate to seek the patient’s permission to discuss the choice with family members.
59. Psychiatric patients may be competent to participate in decisions regarding their care. Medical competence should be determined in consultation with the clinicians responsible for the patient’s psychiatric care.
60. When patients are unconscious or medically or psychologically incompetent and in the absence of any advance directives from the patient declining such intervention, we are responsible to perform procedures that are lifesaving and prevent severe or permanent disability. Depending on circumstances and on national law and custom, treatment decisions may be made after discussions with relatives, consideration by a hospital ethics committee, or legal advisement.

Treatment Agreements When Children Are Patients
61. When minor children are patients, agreement on the course of treatment should be reached with the patient’s parents or with the person legally responsible when there are no parents.
62. Children who are younger than the age of consent but able to understand what is proposed should be informed and consulted regarding their treatment.
63. In some circumstances, children may have the right to accept treatment even if their parents do not agree. Parents should not have the right to withhold agreement to procedures that may be lifesaving or may prevent serious disability. When faced with a situation where parents refuse such treatment, we are advised to seek legal authority before operating when time allows.

Planning for End-of-Life Care and Advance Directives
64. We should provide a good opportunity for patients to discuss and plan for end-of-life care. This should include the ability to discuss scenarios and treatment preferences and to make a formal living will or advance directive and proxy designation.
65. We should provide trustworthy assurances that we will continue to care for the patient, even in a state of unconsciousness:
   i. We must be skilled in detection and management of the physical and mental suffering that are characteristic of end-stage disease, including pain, fatigue, and depression.
   ii. We must honor patient directives for withholding or withdrawing life-sustaining intervention, within the limits of local law.
   iii. In situations where a dying patient must be transferred to another facility, we should make efforts to ensure that the care will be adequate and that the facility will honor the patient’s advance directives.
   iv. We should support a patient’s desire to die at home when there is appropriate support and agreement from loved ones.
   v. When care of a patient becomes difficult for loved ones, we should provide or refer patients for medical resources such as long-term or hospice care when they are available.
66. We should support and facilitate a patient’s wish to meet personal goals and finish important tasks at the end of life.

Decisions on Not Starting or Withholding Treatment
67. The decision to offer a neurosurgical operation can be complex. Often the chances of stopping or slowing disease progression or relieving symptoms must be carefully weighed against the risks of injury and sustained disability. In some circumstances, a recommendation against surgical intervention should be considered good practice.
68. In some instances, it may be appropriate to avoid or withdraw active treatment:
   i. When, because of the patient’s condition, treatment is unlikely to produce benefit.
   ii. When the patient has stipulated in advance that he or she does not wish to undergo advanced procedures for the sake of briefly prolonging life.
   iii. In cases where family resources are extremely limited and when there is no insurance, it is acceptable to avoid costly treatment when there is no prospect for prolonged survival to preserve minimal financial resources for the sake of the surviving spouse and dependents. In these situations, withholding treatment should be a consensus decision by the medical team, and a hospital ethics committee should ideally be consulted.
69. In all circumstances, treatment to relieve pain and suffering and provide emotional support should be continued.
PARTICIPATION AS AN EXPERT WITNESS IN LEGAL PROCEEDINGS

70. We should protect patient confidentiality during involvement in legal proceedings.
71. We should cooperate with lawyers to provide justice to patients who may have suffered through medical accidents.
72. When serving as expert witnesses, neurosurgeons should maintain a fair and unbiased position based on the facts of the case at hand, within the standards of current scientific knowledge and acceptable practice.
73. It is appropriate for a neurosurgeon who serves as an expert witness to accept reasonable fees for his or her time in preparing a deposition and testifying. However, a neurosurgeon should not accept any payment that is contingent on the outcome of a legal proceeding because this may create a conflict of interest or lead to bias during testimony.

TEACHING AND TRAINING

74. Neurosurgeons in teaching institutions have a duty to teach medical students and train young postgraduate physicians. We should freely pass along our particular skills to others to raise the standard of neurosurgical practice.
75. We should always respect patient dignity and confidentiality during the teaching process.
76. We should ask patients if they agree to take part in clinical teaching. Although we should endeavor to explain the importance of training for society, a patient’s refusal must be accepted and must not adversely affect medical care.
77. We should directly and honestly answer patient requests for information about the training and experience of the physicians involved in their care.
78. We should ensure that fully trained and experienced neurosurgeons are fully responsible for patient care at all times and that young physicians and trainees have easy access to help and advice.
79. Experienced neurosurgeons are responsible to decide when trainees have achieved sufficient competence and clinical maturity to assist in operations, to operate with supervision, and to operate independently.
80. The aim should be to enable all trainees to reach the same level of competence. We should clearly inform trainees of the standards they are expected to achieve and provide them with sufficient time and oversight in training programs to achieve these goals reasonably.
81. We should provide trainees with periodic assessment of progress and counseling as needed, in a fair and conscientious manner. In cases where performance in not up to standard, trainees should be informed early on.
82. Experienced neurosurgeons should be honest and objective in appraising or assessing the performance of physicians that we examine, supervise, and train. Patients are put at risk when someone who has not reached or maintained a satisfactory standard of practice is unfairly protected or promoted to higher levels of clinical responsibility.

INTEGRATING THE PRINCIPLES OF EVIDENCE-BASED MEDICINE

No study or combination of studies can anticipate each factor affecting an individual patient or lead to development of algorithms that would provide simple answers for every therapeutic question. No individual surgeon can reliably sift through the myriad accumulated reports and individual variations affecting patient care decisions to define clear and consistent principles for treatment. The discipline of evidence-based medicine (EBM) emphasizes use of a defined set of principles to analyze critically and synthesize research findings and disseminate evidence into practice. When applied with skill and judgment, these analytic principles have the potential to capture and integrate the wealth of information in our fast-evolving subspecialty into better patient care decisions, improved outcomes, and better information for patients and their families. EBM can also help us to define high-quality clinical research as a means to elucidate general principles that are relevant for the care of many neurological patients.

85. We should seek to define the role and appropriate use of EBM in daily clinical routines.
86. It is appropriate to include the principles and processes of EBM in the curricula of residency and fellowship training programs and continuing medical education programs for senior neurosurgeons.
87. We should seek cooperation between neurosurgeons and between medical centers to initiate carefully designed research programs with the goal of accumulating a growing base of high-quality evidence.

RESEARCH AND CLINICAL TRIALS

88. The ultimate goals of research should be the betterment of mankind, the alleviation of suffering, and the improvement of neurological practice. The potential benefits of any neurological research should always be greater than any potential risk to the subject.
89. Research must always be conducted in full compliance with national laws and professional regulations, including the Declaration of Helsinki and local institutional review boards. Committees reviewing research protocols must be fully independent and should include nonmedical members and individuals who are knowledgeable in the ethics of research. Such committees should monitor ongoing investigations through regular reports.
90. Neurosurgeons should refrain from participating in research for which they and their collaborators are not qualified or in
which they cannot remain fully objective throughout the research process.

91. We should use invasive procedures solely for research only in the most exceptional circumstances and with the greatest safeguards to subjects.

92. Neurosurgeons may participate in industry-sponsored clinical trials to establish the efficacy and safety of drugs, biologicals, or devices, for the purpose of registration with government regulatory authorities. Such research may be managed by an outside contract research organization. An external review board that is fully independent of the investigators and funding entities must be engaged for active monitoring of data collection and participant safety.

93. It is appropriate for a neurosurgeon who is conducting research on behalf of an outside entity to accept reasonable fees, including research and academic support, for his or her time in performing the study. However, a neurosurgeon should not accept any payment or honorarium that is contingent on the outcome of a study or on providing specific findings to an organization because this may create a conflict of interest or lead to bias during the research process.

94. Similarly, investigators should not participate in sponsored clinical trials of drugs or devices when they, a relative, or a colleague have an employment, an ownership interest, or another conflict that precludes objective and unbiased evaluation during the study process.

95. Purposes and endpoints of research vary widely. The purposes, applications, consequences, and sponsorship of research projects should be clearly disclosed to all individuals who are materially affected, including patients participating in the research project, subjects, collaborators, and funders.

96. If there is reason to believe that a colleague is conducting scientific or medical research in an unethical manner, for example, by misrepresenting data, using the work of colleagues in an unfair manner, or recruiting subjects with inappropriate techniques, it is appropriate to alert the relevant authorities.

Protection of Patients and Research Subjects

97. It is incumbent on collaborators in neurosurgical research programs to protect the safety, dignity, and privacy of patients participating in research, in full compliance with standards promulgated by governmental authorities.

98. A conflict between roles may emerge during research because the physician-patient relationship is different from the researcher–research participant relationship. In such situations, the physician-patient relationship must take precedence. A physician must be prepared to recommend that a patient not participate in a research project if current treatment is providing good management of a chronic condition and the project requires randomization.

99. Unless they are unable to read, competent patients participating in research must be fully informed, in writing, about the purpose and methods of the research and must give their voluntary, fully informed, and explicit consent to participate.

100. In broad terms, investigators must inform their subjects regarding:

i. The rationale and methods of the study, including randomization.

ii. Alternatives to the proposed treatment that are available within the center and elsewhere.

iii. Their right to “opt out” of the study at any point and receive full treatment.

iv. The risks of participation and contingency plans for treating complications.

v. All existing and potential conflicts of interest.

101. Patient consent should be sought if tissue removed in an operation is to be used for research at any time.

102. The involvement and consent of families to participate in research are insufficient in situations where the patient is competent. The informed consent of relatives or legal representatives is required for incompetent patients.

103. Investigators must confirm that the consent form fully complies with requirements of the institutional review board, the external review board, and relevant laws pertaining to patient confidentiality. It is advisable to work with an expert consultant or counsel to develop the consent protocol.

Confidentiality of Data, Protection of Intellectual Property, and Publication of Research Findings

104. All collaborators in research and scientific investigations are responsible for the ethical integrity and the scientific and academic integrity of all aspects of the research process and of the publications, communications, presentations, and proposals relating to all studies.

105. Research participants may have obligations to coinvestigators and to trial sponsors to hold the nature and findings of a study in confidence. Because information obtained in the course of commercially sponsored trials may have significant intellectual property and economic value, trial participants must refrain from improper disclosure of any data to any outside party without the express permission of the sponsor and of coinvestigators.

106. The results of research should not be published through any nonmedical media before publication in refereed scientific journals or presentation at a medical or scientific meeting.

107. There have been numerous recent reports of distortion and dishonesty in the reporting of research results. Authors of publications must observe the highest standards of honesty, disclosing a fair and balanced report of research data and findings. Failure to make proper disclosure may damage not only the authors and their institutions but also the larger scientific and medical community and patients by setting false standards of care.

108. At the time of publication, data should be fully and accurately disclosed, with appropriate recognition of sources. Investigators are responsible to ensure that data analysis, manuscript preparation, and presentation are objective and free of commercial input, influence, or bias. Concerns over confidentiality and the need to protect intellectual property should never be motivation to hide or obscure any research findings.

109. Plagiarism is unethical. Neurosurgeons should not claim as their own any intellectual property, results, or findings that are reported by others and should not use language or direct quotations from other publications without appropriate attribution.
110. Ethical dilemmas and conflicts of interest are inevitably encountered in study design, research collaboration arrangements, funding arrangements, and other areas. Investigators should be trained to anticipate these dilemmas and to disclose potential conflicts, whether real or apparent, promptly and openly.

111. Direct and indirect industry sponsorship often leads to the appearance of material conflict of interest, even where no conflict exists. It is appropriate to disclose fully all sources of funding or sponsorship, including nonmonetary resources that contributed to the analysis, preparation, or dissemination of research findings.

112. Data from original research should be retained for a reasonable period of time and should be available for external review when appropriate. This is particularly important for data that are used to substantiate a claim or to prove or disprove a hypothesis.

113. The International Committee of Medical Journal Editors (ICMJE) has recommended the following criteria for authorship of submitted manuscripts:
   i. Substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data.
   ii. Drafting the article or revising it critically for important intellectual content.
   iii. Final approval of the version to be published.

CONFLICTS OF INTEREST IN RESEARCH AND CLINICAL PRACTICE

114. A conflict of interest exists when an investigator, author, reviewer, or editor has a financial or personal relationship that inappropriately influences or biases his or her actions. Financial relationships, such as employment, consultancies, stock ownership, honoraria, and paid expert testimony are the most easily identifiable conflicts and have the greatest potential to undermine the credibility of academic institutions, investigators, authors, journals, and science itself. However, conflicts can occur for other reasons, such as personal relationships, academic competition, and intellectual passion.

115. We must work to ensure the independence of our scientific conferences and publications. Neurosurgeons who are asked to review publications or to referee grant applications, abstracts, and scientific papers should do so fairly and objectively. When there is a conflict of interest, it should be disclosed, and the individual should disqualify himself or herself as a reviewer.

116. Editors, reviewers, and referees are responsible to ensure that commercial bias does not influence the findings or the presentation of results in publications and scientific forums so that standards of patient care are defined in a safe and honest manner. Members of editorial boards should encourage editors to undertake reasonable audits of research data when appropriate.

117. Subsidies to underwrite the costs of continuing medical education conferences or professional meetings can contribute to the improvement of patient care. However, if company representatives provide such gifts directly to neurosurgeons, they could create a relationship that could influence the use of the company’s products and create conflicts of interest. Gifts and support for educational programs and conference attendance should ideally be accepted only by individuals who do not select products for purchase and who do not directly influence those decisions.

118. When companies underwrite medical conferences or lectures other than their own or contribute to the publication of medical or scientific literature, responsibility for and control over the selection of content, faculty, educational methods, and materials should remain with the organizers of the conferences or lectures and publishers.

119. Scholarships or other special funds to permit medical students, residents, and fellows to attend carefully selected educational conferences may be permissible as long as academic or training institutions determine who will receive the funds.

120. Subsidies from industry that are directly paid to neurosurgeons for costs related to travel, lodging, or other personal expenses of attending conferences or meetings or to compensate for the neurosurgeon’s time should ideally not be accepted. Subsidies for hospitality should not be accepted outside of modest meals or social events held as a part of a conference or meeting.

121. It is appropriate for a neurosurgeon who serves as faculty at conferences or meetings to accept reasonable honoraria and to accept reimbursement for reasonable travel, lodging, and meal expenses.

122. Individual gifts by representatives of businesses that produce or sell medical products or services that may be procured by neurosurgeons should primarily entail a benefit to patients and should be of minimal value. Cash payments should not be accepted.

123. No gifts should be accepted if there are strings attached. For example, neurosurgeons should not accept gifts if they are given in relation to the individual prescribing practices.

NEW PROCEDURES, MATERIALS, AND DEVICES

124. A new or innovative procedure, material, or device is one for which the safety and effectiveness have not yet been established. The development of these new technologies and techniques must be accompanied by scientific assessment of their safety, efficacy, and value for patients. The rigor and scope of the assessment may range from carefully monitored observational studies to controlled clinical trials, depending on the novelty and complexity of the technology.

125. New techniques and technologies should not be publicized before such scientific assessment, the results of which should be published in peer-reviewed medical journals. Neurosurgeons on editorial review boards should encourage editors to publish both negative and positive results from such trials.

126. Introduction of new procedures into clinical practice requires appropriate education and training of surgeons and support staff.

127. Outcomes from the new practices should be monitored, especially during the early period after introduction.
Tissue and Organ Transplantation

128. Tissue for transplantation, including fetal tissue, should be obtained and used only within national laws and professional regulations. Any prior views of potential donors and the wishes of bereaved families should be taken into account. No financial or other inducement should be used to obtain such tissue.

129. We should work within national laws, religious beliefs, and social customs to maximize the supply of cadaver organs to other surgical disciplines. The relatives of potential donors and the public should be informed of the potential benefits to patients and society.

130. The formal process of determining brain death should be undertaken by physicians independent of the transplant team, following accepted legal and clinical protocols.

Advertising and Publicity

131. Neurosurgeons have the right to inform medical colleagues and the public about their services by way of notices and advertisements in print, audio, and electronic forums and with nameplates on buildings.

132. Communications to the public must be accurate and must not omit material information without which the communication would be deceptive. Objective claims regarding the experience, competence, and quality of physicians and the services they provide may be made only when they are factually supportable.

133. We should not, directly or through other parties, make claims of superiority over the work of other neurosurgeons or other comparable surgical procedures.

134. We must be responsible for information relating to our own practices that is produced and disseminated by other institutions.

135. Communications must not convey false, deceptive, or misleading information through statements, testimonials, photographs, graphs, or other means and must not omit material information without which the communication may be deceptive.

136. Discussions of specific treatments and procedures should include only benefits that reflect efficacy established by clinical trials or broad discussion in refereed scientific forums. Significant risks and available alternatives must also be presented.

137. We should not promote the use of procedures that are new or experimental. We should take an active role in protecting the public from direct-to-consumer advertising that promotes false expectations, and we should deny requests for inappropriate treatment or procedures that result from such promotional efforts.

138. Aggressive, high-pressure advertising and publicity should be avoided, especially when it could create unjustified medical expectations.

139. The Internet has enabled health care professionals, patients, and other consumers to gain unparalleled access to health information and has transformed our relationships with patients. This ease of access, combined with the lack of peer review for most material with broad public access, mandates a higher level of vigilance on the part of neurosurgeons who contribute material to this forum. We must exercise great care to participate only in professionally responsible websites and to protect the accuracy and appropriateness of medical information and perspectives on care that we provide for online access. Readers should be directed to seek further information from qualified health care professionals.

140. On pages or websites where we provide material content, we should allow only links to other information sources that we know to be accurate and reliable.

141. Medical websites should clearly disclose sources of outside funding, including cooperative relationships with commercial firms, and the distinction between a purely medical assessment and an advertisement should be clearly made.

Narrowing the Gap—Neurosurgery in the Developed and Developing World

142. Neurosurgeons in the developed world have a moral and social obligation to help their peers in the developing world to gain theoretical and practical knowledge that would enable them to improve the standard of care.

143. We should seek to provide young physicians from developing nations with residency and fellowship opportunities, enable them to become members in our professional societies, and support their participation in international congresses and scientific forums.

144. We should support efforts of the World Federation of Neurosurgical Societies Foundation and national and regional neurosurgical societies to provide training and equipment for neurosurgeons in the developing world, through financial contributions or by sharing our time and skills as volunteer trainers and mentors.

References


