NEUROLOGICAL SURGERY

Neurological Surgery, better known as neurosurgery, is a board-certified surgical specialty that focuses on the central, autonomic and peripheral nervous systems, including their supporting structures and vascular supply; and the evaluation of the pathological processes that modify the function or activity of the nervous system, including the hypophysis. Neurosurgeons treat adult and pediatric patients using surgical procedures as well as non-operative therapies, and they are involved in every aspect of patient care—prevention, diagnosis, evaluation, critical care, and rehabilitation. They diagnose problems through physical examination using tools such as magnetic resonance imaging and cranial taxonomy scans. Some neurosurgeons have a special interest in operative and nonoperative pain management.

Neurosurgery requires manual dexterity and intense concentration when dealing with delicate parts of the nervous system. Not only must neurosurgeons be skilled surgeons, but many of them divide their time between the research lab and operating room.
Profile
The following information reflects responses from 29 neurosurgeons who completed the 2003 Pathway Physician's Survey.

A. Respondents by types of areas
- Small City: 34.48%
- Metropolitan City: 55.17%
- Large City: 10.34%

B. Respondents by gender
- Male: 86.21%
- Female: 13.79%

C. Respondents by years in practice
- 1-5 yrs: 10.34%
- 6-10 yrs: 13.79%
- 11-15 yrs: 19.38%
- 16-25 yrs: 20.69%
- 26-30 yrs: 16.90%
- More than 30 yrs: 23.21%

Perspectives
A. Respondents’ satisfaction with current specialty/area of work
- Very satisfied: 18
- Somewhat satisfied: 8
- Neither satisfied nor dissatisfied: 10
- Somewhat dissatisfied: 2
- Very dissatisfied: 1
B. Would you choose this specialty again?

Not Sure: 6.90%
No: 3.45%
Yes: 89.66%

C. Respondents by practice environment

D. Respondents' satisfaction with practice environment
**Rating and Weighting of Critical Factors**

Critical Factors represent significant aspects of physicians’ experiences in their practices. The rating represents their assessment of their current practice characteristics, while the weighting represents the importance of each factor to physicians.

**A. Caring for patients:** How much time do you spend directly seeing and caring for patients?

<table>
<thead>
<tr>
<th>Rating</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**B. Continuity of care:** How much continuity of care do you have with patients, (i.e., the length of patient relationships)?

<table>
<thead>
<tr>
<th>Rating</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>3.9</td>
</tr>
</tbody>
</table>

**C. Autonomy:** To what extent do you have the final word on the treatment of your patients?

<table>
<thead>
<tr>
<th>Rating</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.8</td>
<td>4.5</td>
</tr>
</tbody>
</table>
D. Diversity: How much routine (similar work) or diversity (different tasks/activities) is involved in your work?

![Graph showing diversity rating and weighting]

E. Personal time: Does your work allow you to control the scheduling and amount of time you spend on personal activities, (i.e., family, leisure)?

![Graph showing personal time rating and weighting]

F. Expertise: How broad is the scope of your work?

![Graph showing expertise rating and weighting]
G. Income satisfaction: Compared to all physicians, do you feel you are fairly compensated for the amount of time and effort you spend?

Rating

Very dissatisfied

Highly satisfied

Weighting

Not at all important

Very important

σ = 2.82

σ = 0.87

H. Creativity: To what extent does your work provide opportunity for creativity?

Rating

Little opportunity

Great deal of opportunity

Weighting

Not at all important

Very important

σ = 2.29

σ = 0.85

I. Certainty of outcomes: How much certainty of clinical outcomes does your work provide?

Rating

Very little, often "wait and see"

A great deal, outcomes usually clear

Weighting

Not at all important

Very important

σ = 1.90

σ = 0.83
J. Clinical decision-making: On what basis are your clinical decisions made?

**Rating**

- Application of theory to a situation: 7.7
- Based on prior evidence of clinical outcomes: 7.7

**Weighting**

- Not at all important: 4.2
- Very important: 4.2

K. Patient decision-making: To what extent do your patients have input into decisions about their health care?

**Rating**

- Little opportunity: 7.8
- Great deal of opportunity: 7.8

**Weighting**

- Not at all important: 4.1
- Very important: 4.1

L. Interacting with other physicians/members of health-care team: To what extent does your work provide opportunities for you to interact with other physicians/ members of a health-care team?

**Rating**

- Very little: 8.7
- A great deal: 8.7

**Weighting**

- Not at all important: 4.1
- Very important: 4.1
M. Manual/mechanical activities: How often do you use manual/mechanical activities for highly skilled tasks (i.e., following procedures, performing operations)?

**Rating**

- **Never**
- **Most of the time**

**Weighting**

- **Not at all important**
- **Very important**

\[ \sigma = 1.59 \]

N. Pressure: How much pressure do you have in your work (i.e., dealing with clinical crises, need for immediate decisions about patients, dealing with multiple patients simultaneously).

**Rating**

- **Minimal pressure**
- **High pressure**

**Weighting**

- **Not at all important**
- **Very important**

\[ \sigma = 0.69 \]

\[ \sigma = 1.67 \]

\[ \sigma = 0.86 \]

O. Responsibility: How much responsibility do you assume for patient outcomes in your work?

**Rating**

- **Limited responsibility**
- **Sole responsibility**

**Weighting**

- **Not at all important**
- **Very important**

\[ \sigma = 0.97 \]

\[ \sigma = 0.63 \]
**P. Schedule:** What type of schedule do you have in your work?

**Q. Security:** How much professional security do you have in your position, (i.e., know where you stand and are certain of your future professionally, will there be a need for your services in the future)?

**R. Sense of accomplishment:** To what extent does your work provide the opportunity to see end results?
Weekly distribution of time
According to the survey, neurosurgeons spend their week as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Average Hours per week (may overlap)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient care activities</td>
<td>49.65</td>
</tr>
<tr>
<td>On-call (in contact)</td>
<td>16.84</td>
</tr>
<tr>
<td>On-call (available)</td>
<td>61.50</td>
</tr>
<tr>
<td>Administrative</td>
<td>8.81</td>
</tr>
<tr>
<td>Professional travel</td>
<td>5.14</td>
</tr>
<tr>
<td>Continuing education</td>
<td>2.54</td>
</tr>
<tr>
<td>Community service</td>
<td>3.00</td>
</tr>
<tr>
<td>Research</td>
<td>5.75</td>
</tr>
<tr>
<td>Other professional</td>
<td>7.76</td>
</tr>
</tbody>
</table>

Patient profile

A. Patient encounters per week

B. Patient characteristics

By age

<table>
<thead>
<tr>
<th>Age</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants(0-2 yrs)</td>
<td>6.68</td>
</tr>
<tr>
<td>Children(3-18 yrs)</td>
<td>11.24</td>
</tr>
<tr>
<td>Adults(19-64 yrs)</td>
<td>56.11</td>
</tr>
<tr>
<td>Older adults(65+ yrs)</td>
<td>34.37</td>
</tr>
</tbody>
</table>

By race

<table>
<thead>
<tr>
<th>Race</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underrepresented minority (URM)</td>
<td>20.04</td>
</tr>
<tr>
<td>Non-URM</td>
<td>79.96</td>
</tr>
</tbody>
</table>

By type of insurance

<table>
<thead>
<tr>
<th>Insurance</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicaid/Medicare</td>
<td>37.31</td>
</tr>
<tr>
<td>Uninsured</td>
<td>10.92</td>
</tr>
<tr>
<td>Other</td>
<td>51.77</td>
</tr>
</tbody>
</table>

Percentage of patient encounters that deal with:

<table>
<thead>
<tr>
<th>Condition</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine check-ups</td>
<td>9.79</td>
</tr>
<tr>
<td>Acute illness</td>
<td>62.24</td>
</tr>
<tr>
<td>Chronic illness</td>
<td>27.67</td>
</tr>
<tr>
<td>Terminal illness</td>
<td>7.86</td>
</tr>
</tbody>
</table>

Percentage of time per patient encounter devoted to:

<table>
<thead>
<tr>
<th>Condition</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute conditions</td>
<td>65.93</td>
</tr>
<tr>
<td>Chronic conditions</td>
<td>31.12</td>
</tr>
<tr>
<td>Preventive health</td>
<td>8.84</td>
</tr>
</tbody>
</table>

C. Five types of illnesses/conditions most frequently encountered

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back pain/surgery</td>
<td>28</td>
</tr>
<tr>
<td>Brain tumors</td>
<td>18</td>
</tr>
<tr>
<td>Cervical pain/surgery</td>
<td>14</td>
</tr>
<tr>
<td>Trauma to nervous system</td>
<td>13</td>
</tr>
<tr>
<td>Vascular disease of nervous system</td>
<td>8</td>
</tr>
</tbody>
</table>
Specialty: Neurological Surgery

Summary of comments for question: List up to three other factors, if any, you would advise students to consider carefully before selecting your specialty?

Physicians who completed the Pathway Physician’s Survey, 2003, submitted the following comments. The majority of comments are categorized by the Critical Factors that are rated and weighted in another section. Numbers in parentheses indicate the total number of responses for a particular comment.

1. Caring for Patients
   - Should not trade their oath as patient advocate for anything else
   - Patient trust and loyalty are significant benefits of this field

2. Continuity of Care

3. Autonomy
   - A lot of autonomy and satisfaction (3)

4. Diversity

5. Personal Time
   - Type of family life they anticipate

6. Expertise
   - Intellectual challenge

7. Income Satisfaction
   - Adequate reimbursement for services
   - Relatively low income (2)
   - Decreasing rates of remuneration
   - Changing reimbursements
   - Financial satisfaction

8. Creativity

9. Certainty of Outcomes
   - How much unpredictability they can live with

10. Clinical Decision Making

11. Patient Decision Making

12. Interacting with Other Physicians/Members of Health-care Team
13. **Manual /Mechanical Activities**
   - Manual dexterity/skills (3)

14. **Pressure**
   - Stress vs. compensation
   - Ability to handle stress/pressure/responsibility (3)
   - Willing to work hard and long (2)

15. **Responsibility**
   - Sense of responsibility

16. **Schedule**
   - You don't have to work 18 hour days if you don't want to
   - Irregular hours (2)
   - Long work hours (2)

17. **Security**

18. **Sense of Accomplishment**

19. **Patient Characteristics**

20. **Types of Illnesses**
   - Severity of illnesses treated
   - What disease process they are most happy treating.

21. **Practice Environment**
   - Legal pressures (suits)
   - Malpractice insurance
   - Difficult to practice in rural areas (need substantial population base)

22. **Health Care Environment**
   - Government intervention
   - Impact of socioeconomic and medical legal climate
   - Increasingly poor medical legal situation

23. **Personality/Temperament**
   - Personality characteristics
   - Willingness to work
   - Emotional maturity and security
   - Need to be creative
   - Ego
   - Ability to understand that bad outcome may be result of disease
   - Flexibility
• Self-confidence
• Stamina--physical and emotional
• Dedication/commitment to specialty/patients (5)
• Deep interest in the nervous system
• Capable
• Intelligence
• Work should be central to your feelings of self-worth or satisfaction
• Intellectual curiosity

24. Miscellaneous Comments
• Time needed in training and practice (4)
• Time management
• Where they want to live
• Unpredictability
• Changing work ethics
• Love what you do
• Long time commitment (2)
• There is room for activities with reduced stress levels in this field