CAGE “EXPLOSION” LEADS TO CONTROVERSIES

There has been a virtual “cage explosion” in spine surgery in the United States over the past two years. Cages are devices placed between adjacent vertebrae to facilitate a fusion of the instrumented interspace. The cages are typically made of titanium, although allograft bone spacers can be used for the same purpose. The overwhelming majority of cases involving cages are performed in the lumbar spine.

Lumbar interbody fusions have been performed for many years. Posterior lumbar interbody fusions (PLIF’s) were popularized by orthopedic surgeons for the treatment of back pain resulting from degenerative disc disease. Typically, most of these surgeries occurred at the caudal motion segments (either L4-L5 or L5-S1). PLIF’s have been performed for more than fifty years. Anterior lumbar interbody fusions (ALIF’s) have enjoyed less widespread popularity; however, ALIF’s also have been performed for more than fifty years.

The rapid increase in the number of interbody fusions has occurred for multiple reasons. First, biomechanical studies have shown that the instantaneous axis of rotation of the lumbar spine is located in the vertebral body. As such, the most biomechanically desirable location to support the degenerated spine is between the vertebral bodies. This is most easily accomplished by performing an interbody fusion. Second, the continuing controversy over the use of bone screws in the pedicles of the lumbar vertebrae (pedicle screws), due to the Food and Drug Administration (FDA) refusing to grant unrestricted approval of these devices, has led some spine surgeons to seek other methods of stabilizing the lumbar spine.

Significant controversy has been raised over the indications for interbody fusions (either PLIF or ALIF). Classically, degenerative disc disease, which causes mechanical low back pain, has been the most frequent surgical indication. Discogenic back pain causes back pain to a much greater degree than leg (radicular) pain. The corroborating radiographic imaging studies also have been challenged. Magnetic resonance (MR) imaging studies will show a black disc on T2-weighted sequences; however, disc abnormalities have been demonstrated on MR studies in up to one-third of normal volunteers who do not have back pain. Provocative discography involves performing a discogram in an alert patient where infusion of dye into the disc space at the involved segment will re-create the patient’s typical back pain. In addition, dye injected into other discs will not cause the same type of pain pattern.

The current, most widely accepted indication for interbody fusions includes a long standing history of low back pain, which does not respond to conservative treatment, in a patient where the MR imaging study and discogram both isolate the same, isolated motion segment. Variations of these indications to include multiple discs are less common and not as well received.

Once an interbody fusion is deemed necessary, either an anterior or a posterior approach may be chosen. ALIF’s have the advantages of much less muscle dissection/disruption, avoidance of the epidural space and the potential for scarring, the ability to place larger surface area cages, and less postoperative pain. The disadvantages of ALIF’s include less familiarity of the approach to most spine surgeons, the usual need for another surgeon to provide the exposure, and the possibility of autonomic dysfunction in male patients. PLIF’s are performed via an approach familiar to all spine surgeons. PLIF’s can be performed with less muscle dissection than is required for pedicle screws and transverse process fusions. The disadvantages of PLIF’s are the degree of nerve root and thecal sac retraction which is required, the need to resect the involved facet joint complexes (usually entirely),
The Joint Section on Disorders of the Spine and Peripheral Nerves

**Neurosurgery Spine Fellowship**

The Joint Section will award one fellowship annually to a U.S. or Canadian trained neurosurgical resident to provide supplemental funds for advanced education and research in disorders of the spine or peripheral nerves in the form of fellowship training. The amount of the fellowship award is $30,000.

The application should include the applicant’s curriculum vitae and a personal statement describing the reasons for pursuing the scholarship. This statement should include plans for subsequent work once the scholarship is completed. A detailed, but concise, plan for the proposed scholarship must also be provided.

A letter of support from the proposed mentor must accompany each application. If the applicant is a resident, a letter from the program director supporting the application is also necessary. Additional letters of support from neurosurgeons and others familiar with the applicant, his/her goals and commitment are also welcome.

The award recipient will be selected by the Awards Committee of the Joint Section of Disorders of the Spine and Peripheral Nerves.

Applications should be sent to:

Vincent C. Traynelis, MD
Division of Neurosurgery
The University of Iowa Hospitals and Clinics
200 Hawkins Drive
Iowa City, IA 52242-0002

**THE DEADLINE FOR SUBMISSION IS SEPTEMBER 4, 1998.**
Joint Section on Disorders of the Spine and Peripheral Nerves
1999 Annual Meeting

Scientific Program Chairman:
Gerald Rodts, MD

Annual Meeting Chairman:
H. Louis Harkey, MD

February 10-13, 1999
Disney Yacht and Beach Club Resort,
Lake Buena Vista, Florida

Deadline for Abstracts: September 4, 1998
The online abstract form is available through NEUROSURGERY://ON-CALL®
at www.neurosurgery.org
The following questions and answers have been provided by the AANS/CNS Task Force on CPT Coding.

Q: I have some discrepancies with coding surgery done with two other physicians for corpectomy and fusion. There is usually a general surgeon for approach, a neurosurgeon for his portion and an orthopedic surgeon for the fusion and instrumentation. There is a question as to whether this is assisted surgery, co-surgery or team surgery. Depending on this, I would then have a question as to the codes to use.

A: The issue of several surgeons operating is simply resolved by having the surgeon code for his part of the operation. The general surgeon should code the main operative code with a –62 modifier to address the issue of the approach. The neurosurgeon would code for his part (discectomy, corpectomy, etc.) which may have a –62 modifier attached. The orthopedic surgeon should code for the arthrodesis and the instrumentation. Under Medicare rules, the orthopedic surgeon and the neurosurgeon cannot use –81 modifiers to describe their assisting on the other parts of the operation since they are billing a full operative code on that patient at the same operative session. The –66 surgical team modifier is risky to use because there is not set reimbursement rules for that modifier and you are, therefore, leaving it up to the discretion of the insurance company to decide the reimbursement.

Q: We have a new neurosurgeon joining the clinic and she questions how to bill charges for a patient who was first seen by our other neurosurgeon for a consultation at which time he requests that the patient be seen by the new doctor for a second opinion. Is it appropriate for the first doctor to bill a consult and for the second doctor to bill a regular office exam code, or can they both bill consults? (Note: Same day appointments)

A: If the two neurosurgeons in your group have the same provider number, then I don’t think that they can bill for the second neurosurgeon for the same day. If they have different provider numbers, then I think they could probably bill for the confirmatory (second opinion, CPT 99271-99275) consult. It would be somewhat problematic to have both neurosurgeons bill for a full new patient consult, even if there are different provider numbers.

The other option, if the two surgeons have the same provider number it would be necessary for the second surgeon to see the patient on another day and again code it as a confirmatory consult.

Q: Is it permissible to charge for 63075, 63076, in addition to 63081, 63082?

A: A 4-level corpectomy already includes (bundles) the discectomy to perform the corpectomy. Hence, 63075 would NOT be billed with 63082 +/-63082

Q: I am looking for the proper code for placing an anterior cervical odontoid screw.

A: At present, there is no CPT code that appropriately describes the use of an odontoid screw for treatment of an odontoid fracture. Such a code is being developed, but is not presently in the CPT book. The most appropriate way to code would be with the unlisted procedure code 22899.

Q: When a procedure is done for lumbar stenosis, such as a lumbar laminectomy L2-L4, and it is a bilateral procedure, how would you code this procedure for Medicare?

A: The operations described by CPT codes 63047 and 63048 are considered to be bilateral procedures. Therefore, neither can be used with a –50 modifier. If the operation involved includes only a laminectomy of L2, L3 and L4 without any significant foraminotomy or facet joint removal, then the appropriate code would be 63017. If significant foraminotomy and facet joint resection is performed at each level, then the coding would be 63047, 63048, 63048.

NEUROSURGEONS IN DEVELOPING COUNTRIES NEED YOUR HELP

The Education Committee of the World Federation of Neurosurgical Societies is seeking individuals with experience in spine surgery who would be interested in participating in didactic courses for neurosurgeons in developing countries. The committee sponsors several courses each year. They typically last two to three days, and the speakers are asked to present lectures on basic spine surgery, as well as recent developments in the field. Speakers are expected to provide their own transportation, but the host country furnishes meals and living accommodations during their stay.

This is a real opportunity to help improve neurosurgical practices in developing countries. Interested neurosurgeons should contact:

Russell W. Hardy, MD
University Hospitals of Cleveland
Dept. of Neurosurgery
11100 Euclid Avenue
Cleveland, OH 44106-5042
By Richard A. Roski, MD

A great deal of controversy and misunderstanding has developed regarding the proper way to code for complex spine procedures. With more spine operations being done from an anterior approach to either the thoracic or lumbar spine, there has been a growing concern as to how to properly code for the involvement of the general surgeon or thoracic surgeon who may be helping with the operative exposure and closure of the anterior spine.

Following is a summary of some salient points from the American Medical Association’s (AMA) CPT Assistant, (Volume 6, issues II and III) regarding spine surgery coding practices.

1) Historically, general surgeons, vascular surgeons and thoracic surgeons have used a variety of distinctly separate CPT codes to define their work when assisting neurosurgeons approach the anterior spine in the thoracic and lumbar area. The AMA has never acknowledged that this is an appropriate way to code for the work done by those specialists. According to the CPT Assistant, (Volume, 6, issue II, page 6) “Another CPT code modifier commonly used to report various approach enclosure techniques, performed to access the spinal region, is the two surgeon modifier –62. Use this modifier to report when one physician performs the incision, exposure, enclosure of the area requiring surgery, and another surgeon performs an infundibulum spinal surgery described by the CPT code. The –62 modifier indicates that two surgeons performed one total procedure listed in CPT.” For example, if a neurosurgeon were performing a vertebral corpectomy in the thoracic region, with a thoracic surgeon doing the thoracotomy and closure, each would code 63085-62 for their operative procedure.

2) According to Medicare payment rules, when the -62 modifier is used, the payment is paid out at 125 percent of the Medicare fee schedule for this particular CPT code. The payment, by default, is split equally among the two physicians unless otherwise determined. Under the default payment rule, each would be paid 62.5 percent of the standard Medicare fee for the operation. How that split is handled with various insurance companies would depend on the specific contractual arrangements that each had made with the insurance company. At present, there is no limit to the number of CPT codes for which the thoracic or general surgeon can use as co-surgeon. For example, if a neurosurgeon were performing a vertebral corpectomy with a thoracic surgeon doing an arthodesis and a spinal instrumentation, both could add a –62 modifier to each of those codes. It is anticipated that this will change in 1999, with a limitation of one CPT code per operative session being placed on the –62 modifier. The change, however, will allow the surgeon doing the approach to code as an assistant for the other procedures if he stays in the operating room and is directly involved with the remaining surgical procedures. Another option for the thoracic surgeon is to code the operation with a –80 modifier designating him as an assistant for which he would be paid, under Medicare payment rules, 16 percent of the standard fee.

Conflicts with general and thoracic surgeons have arisen because, in the past, specialists were able to use a plethora of codes for which they deemed appropriate in describing an approach, regardless of the code’s intended use. Those codes increasingly are being denied, and the other specialists are finding themselves without adequate reimbursement. They are instructed by their specialty societies to use the –62 modifier. This code significantly decreases the reimbursement paid to the spinal surgeon, as more of his payment is now paid out to cover the specialty surgeon doing the approach and closure. To that end, spinal surgeons and other specialty surgeons performing co-surgery need to determine how many CPT codes they wish to affix the –62 modifier. After all, each additional code that has the –62 modifier attached decreases the spinal surgeon’s reimbursement by 38 percent. The spinal surgeon and the approach surgeon, therefore, must determine the role the approach surgeon plays in the remaining CPT codes and whether there is justification for them using the –62 modifier on additional codes.

CODING FOR COMPLEX SPINE PROCEDURES

Editor’s Note (continued from page 1)

epidural scarring, and the need to use smaller cages than can be placed via an anterior approach.

Cages, whether placed from an anterior or a posterior approach, are typically made from titanium (which is MR compatible) or allograft bone. Allograft bone dowels, or cages, are not subject to FDA regulation. Various forms of interbody bone grafting with allograft have been performed for more than 50 years. Titanium cages received FDA approval in September 1996, to be placed either anteriorly or posteriorly. In July 1997, FDA approval of the laparascopic placement of cages was granted. FDA approval has been granted to individual devices, for selected approaches, and not to the technique. As a general rule, most titanium cages or bone dowels have utilized autologous cancellous bone grafts to increase the fusion rates. The possible use of bone morphogenic protein (BMP) to supplement the cages, rather than autologous bone graft, is undergoing preliminary trials.

Cages are not without significant problems. As with any spine surgery for degenerative conditions, strict compliance with operative indications is mandatory in order to achieve optimal results. Nonetheless, some patients will fail these surgeries and operative removal or revision of these cages is extremely challenging. Cage misplacement, migration, and deformation have all been observed. Most importantly, long term follow-up (10-20 years) with cages is essentially unknown. Caution needs to be exercised in choosing the best candidates for these surgeries. The need for the surgeon to develop a relationship preoperatively with these patients cannot be overstated.

The various biomechanical and technical issues, as well as cage controversies will be explored, in detail, at this year’s Congress of Neurological Surgeons (CNS) Annual Meeting in Seattle, Washington, October 3-8. Two separate sessions of the Joint Spine Section will be held with the first session being a cage symposium and the second session being a cage debate. In order to keep up with the current state-of-the-art advances in these new cage techniques, plan on attending the spine sessions at the upcoming CNS Meeting.
SPINE HIGHLIGHTS FOR THE CNS ANNUAL MEETING
OCTOBER 3 – 8, 1998

Saturday, October 3, 1998—Practical Clinics

8 AM–5 PM/All Day

004 Thoracoscopic and Laparoscopic Approaches to the Thoracolumbar Spine
Course Director: Curtis A. Dickman
Faculty: Stephen Papadopoulos, Regis W. Haid, Jr., R. John Hurlbert, Charles Riedel, Dean Karahalios, Daniel Rosenthal

005 Spinal Cord Injury Workshop
Course Director: Russell P. Nockels
Faculty: Michael Beattie, Douglas Anderson, A. R. Blight, Jackie Bresnahan

8 AM–Noon/Half Day

008 Spinal Biomechanics
Course Director: Edward C. Benzel
Faculty: Vincent Traynelis, Nevan Baldwin, Michael Marone, Greg Przybylski

011 Minimally Invasive Lumbar Spinal Surgery
Course Director: Noel I. Perin
Faculty: J. Patrick Johnson, Thomas Mehalic, Mario Zucarello, Robert Heary, Stephen Onesti, Maurice Smith, Bruce McCormack, Parviz Kambin, Seong-Hoon Oh, Charles Reidel

1–5 PM/Half Day

017 Cervical Spine Instrumentation
Course Directors: Christopher G. Paramore, H. Louis Harkey, III
Faculty: Allan Levi, Gerald Francis Tuite, Michael Fehlings, Joseph Alexander, John R. Hulbert, Paul Marcotte, Timothy Ryken, Juan Roneros, Seth Zeidman, Brian Cuddy, Gerald Rodts, Jr., Carl Laurysen, Perry Ball

Sunday, October 4, 1998

8 AM–5 PM/All Day

021 Surgical Exposure of Thoracic & Lumbar Spine
Course Director: Richard G. Fessler
Faculty: Ben Guiot, Richard Tippetts, Lloyd Zucker, Christopher Shaffrey, Noel Perin, Bruce McCormack, David Cahill, Gary Rea, Robert Heary, Martin Weiss

022 Brachial Plexus & Peripheral Nerves
Course Directors: David G. Kline, Michel Kliot

8 AM–Noon/Half Day

030 Posterior Thoracolumbar Instrumentation
Course Director: Russell P. Nockels
Faculty: Richard Fessler, Andrea Halliday, Christopher Shaffrey, Perry Ball

1–5 PM/Half Day

038 Neurosurgical Navigation – Spinal
Course Director: Iain H. Kalfas
Faculty: J. Patrick Johnson, Kevin Foley, Stephen Papadopoulos, Nevan Baldwin, Mitchell Gropper

039 Lumbar Sacral Instrumentation and Fusion: Cages, Dowels, and Screws
Course Directors: Gerald E. Rodts, Jr., Regis W. Haid, Jr.
Faculty: J. Patrick Johnson, Scott Erwood, Joseph Alexander, Gregory Trost, Brian Cuddy, Christopher Shaffrey, Nevan Baldwin, Christopher Paramore, Bruce McCormack

Monday, October 5, 1998—Luncheon Seminars

101/102 Minimally Invasive Spinal Surgery Techniques
Moderator: Richard Fessler
Faculty: Curtis Dickman, Mark Smith, Stephen Ondra

103/104 Techniques of Bone Grafting and Biology of Spinal Fusion
Moderator: Gerald Rodts
Faculty: Noel Perin, Mitchell Gropper, Christopher Paramore, James Hollowell

105/106 Advances in the Management of Spinal Cord Injury
Moderator: Jack Wilberger
Faculty: Barth Green, Fred Geisler, Charles Tator

107/108 Management of Thoracolumbar Fractures
Moderator: Russell Nockels
Faculty: John Knightly, Edward Benzel, Randall Chesnut, Carl Laurysen

109/110 Cervical Spondylosis
Moderator: Richard Saunders
Faculty: Paul Maurer, Perry Ball, Gregory Trost, Nachshon Knoller

111/112 Consultants Corner: Cervical Spine
Moderator: Stephen Papadopoulos
Faculty: Thomas Ducker, Ronald Apfelbaum, Paul Cooper, Regis Haid

131/132 Consultants Corner: Pediatric Spine
Moderator: Tim Mapstone
Faculty: Dachling Pang, Richard Ellenbogen, Douglas Brockmeyer

Monday, October 5, 1998—Scientific Program

Section on Spine and Peripheral Nerves I
2–5:30 PM

Moderator: Kevin Foley
2–2:50 PM Lumbar Interbody Fusion Cages
Biomechanics, Nevan Baldwin
Indications, Curtis Dickman
Outcomes, Richard Fessler

2:50–3:30 PM Oral Posters
3:30–4 PM Coffee Break
4–5:30 PM Oral Papers (722-731)


Use of Peripheral Nerve Grafts and Intrathecal Infusion of BDNF and GDNF to Enhance Survival and Axon Regeneration of Motoneurons Following Nerve Root Avulsion in the Adult Rat. Thomas J. Zuwieger, Jie Liu, Christine Tarazi.

Results of Posterior Interbody Fusion Cages in the Treatment of Spondylo-Lolisthesis: A Prospective Study. Robert Hacker.


Tuesday, October 6, 1998—Luncheon Seminars

201/202 Lumbar Interbody Fusion
Moderator: Regis Haid, Jr.
Faculty: Curtis Dickman, Christopher Shaffrey, Charles Ray

203/204 Image Guided Spinal Navigation
Moderator: Gerald Rodts, Jr.
Faculty: Iain Kalfas, Kevin Foley, Stephen Papadopoulos

205/206 Principles of Spinal Biomechanics and Instrumentation
Moderator: Edward Benzel
Faculty: J. Hurlbert, Neal Baldwin

207/208 Management of Spinal Column and Cord Neoplasms
Moderator: David Cahill
Faculty: Charles Branch, Paul McCormick, Patrick Hitchon, Joan O’Shea

209/210 Management of Cervical Fractures
Moderator: Thomas Ducker
Faculty: Serh Zeidman, Robert Heary, Russell Nockels, Paul Marcotte

211/212 Evaluation and Management of Brachial Plexus Disorders
Moderator: David Kline
Faculty: Eric Zager, John Laurent, Allan Friedman, Alain De Lorinieri

Wednesday, October 7, 1998—Luncheon Seminars

301/302 Nerve Entrapment Syndromes
Moderator: Michel McGillicuddy, Setti Renganchary, John Reeves

303/304 Spinal Implants
Moderator: Nevan Baldwin
Faculty: T. Glenn Pait, Richard Fessler, Gregory Bennett, Gregory Willard

305/306 Management of Spondylolisthesis/lysis
Moderator: Haynes L. Harkey
Faculty: Charles Stillerman, Dennis Vollmer

307/308 Cervical Spine Fixation Techniques
Moderator: Vincent Traynelis
Faculty: William Bingaman, Michael Fehlings, Brian Cuddy, Joseph Alexander

309/310 Neurosurgical Issues in Sports Medicine
Moderator: Julian Bailes
Faculty: Donald Becker, Jack Wilberger, J. Patrick Johnson

311/312 Avoiding Complications in Spinal Surgery
Moderator: Noel Perin
Faculty: Kenneth Yonemura, David Cahill, Paul Cooper

Wednesday, October 7, 1998—Scientific Program

2–5:30 PM
Interbody Cages Continued: A Debate Cages are Useful Devices for Lumbar Fusion
Moderator: H. Louis Harkey, III
2–2:25 PM Pro Gerald Rodts, Jr
2:25–3 PM Con Vincent Traynelis
2:50–3:30 PM Oral Posters
3:30–4 PM Coffee Break
4–5:30 PM Oral Papers (833-842)


834 Microendoscopic Discectomy (MED): The First One Hundred Cases. Maurice M. Smith, Kevin T. Foley.


837 The Incidence and Management of Lumbar Spinal Stenosis Adjacent to Previous Pedicle Screw Fixation. Samuel R. Boven II, Charles L. Branch, Jr.


There is still time to register for
Minimally Invasive Neurosurgery:
Neuroendoscopy—Hands On.

October 30-31, 1998, in Cleveland, Ohio
Course Chairman: Alan R. Cohen, MD

Don’t miss out on this excellent opportunity for
one-on-one instruction with expert faculty.

This course will give you a comprehensive review of endoscopy and its expanding role in neurosurgery. Hands-on instruction utilizing cadaveric materials allows you to gain expertise in handling a variety of neuroendoscopes for a broad range of procedures. You’ll also participate in interactive discussions and reviews of video demonstrations about neuroendoscopic procedures.

Other educational opportunities for 1998 include the following:

**Socio-Economic Course**
Reimbursement Foundations: Neurological Billing and Coding for Efficiency
August 27-29, 1998, Chicago, IL

**Clinical Skill Course**
Neurosurgery Review by Case Management Oral Board Preparation
November 8-10, 1998, Houston, TX

For more information or to register, please call the Professional Development Department at 847-692-9500, or e-mail us at info@aans.org or visit our Web site at www.neurosurgery.org
Application for Membership
Joint Section on Disorders of the Spine and Peripheral Nerves
of the AANS/CNS

I. Biographical

(A) Name: _____________________________________________________________________________________

(B) Home Address: ______________________________________________________________________________

Phone: _____________________________________________________________________________________

(C) Office Address:______________________________________________________________________________
                                                                                                   ____________________________________________
                                                                                                   ____________________________________________

Office Phone: _______________________________________________________________________________

(D) E-Mail Address: __________________________________________
                                                                                                   ____________________________________________
                                                                                                   ____________________________________________

II. Category of Membership Requested: (Must be a member of the AANS or CNS).

☐ Active ☐ Associate

☐ International ☐ Resident

III. Membership, Certification and Practice:

(A) Are you certified by the American Board of Neurological Surgery?

☐ Yes ☐ No

(B) Are you a member of

1. The American Medical Association?

☐ Yes ☐ No

2. A Local or Regional Medical Society?

☐ Yes ☐ No

Name: __________________________________________

3. A State or Provincial Medical Society?

☐ Yes ☐ No

Name: __________________________________________

4. The American Association of Neurological Surgeons?

☐ Yes ☐ No

5. The Congress of Neurological Surgeons?

☐ Yes ☐ No

Signature: __________________________________________ Date: _____________________________

Please return the completed application with your membership fee of $50 to:

Joint Section on Disorders of the Spine and Peripheral Nerves
Dept. 77-7586
Chicago, Illinois 60678-7586

* Membership dues are waived for applicants currently enrolled in a neurosurgical residency program.