

MDC 1; proposed DRG 537 (Local Excision and Removal of Internal Fixation Devices Except Hip and Femur With CC) and proposed DRG 538 (Local Excision and Removal of Internal Fixation Devices Except Hip and Femur Without CC) in MDC 8; and proposed DRG 539 (Lymphoma and Leukemia With Major O.R. Procedure With CC) and DRG 540 (Lymphoma and Leukemia With Major O.R. Procedure Without CC) in MDC 17. We are proposing that DRGs 4, 5, 231, and 400 would become invalid.

3. MDC 1 (Diseases and Disorders of the Nervous System)

a. Revisions of DRGs 1 and 2. In the FY 2003 IPPS final rule, we split DRGs 1 and 2 (Craniotomy Age >17 With and Without CC, respectively) based on the presence or absence of a CC (67 FR 49986). We have received several proposals related to devices or procedures that are used in a small subset of cases from these DRGs. These proposals argue that the current payment for these devices or procedures under DRGs 1 and 2 is inadequate.²

Therefore, we undertook an analysis of the charges of various procedures and diagnoses within DRGs 1 and 2 to assess whether further changes to these DRGs may be warranted. Currently, the average charges for cases assigned to DRGs 1 and 2 are approximately \$55,000 and \$30,000, respectively. We are proposing to create two separate new DRGs for: Cases with an intracranial vascular procedure and a principal diagnosis of an intracranial hemorrhage; and craniotomy cases with a ventricular shunt procedure (absent another procedure). The former set of cases are much more expensive than those presently in DRGs 1 and 2; the latter set of cases are much less expensive.

(1) Intracranial Vascular Procedures

Our analysis indicated that patients with an intracranial vascular procedure and a principal diagnosis of an intracranial hemorrhage were significantly more costly than other cases in DRGs 1 and 2. These patients have an acute condition with a high severity of illness and risk of mortality. There were 917 cases in DRGs 1 and 2 with an intracranial vascular procedure and a principal diagnosis of hemorrhage with average charges of approximately \$113,884, which are much higher than

the average charges of DRGs 1 and 2 noted above.

We also found 890 cases that had an intracranial vascular procedure without a principal diagnosis of hemorrhage (for example, nonruptured aneurysms). These cases are generally less acutely ill than those involving ruptured aneurysms, and have a lower risk of mortality. Among these 890 cases, the average charges were approximately \$52,756, which are much more similar to the average charges for all cases in DRGs 1 and 2.

Based on this analysis, we are proposing to create new DRG 528 (Intracranial Vascular Procedure With a Principal Diagnosis of Hemorrhage) for patients with an intracranial vascular procedure and an intracranial hemorrhage. We are proposing that cases involving intracranial vascular procedures without a principal diagnosis of hemorrhage would remain in DRGs 1 and 2.

Proposed new DRG 528 would have the following principal diagnoses:

- 094.87, Syphilitic ruptured cerebral aneurysm
 - 430, Subarachnoid hemorrhage
 - 431, Intracerebral hemorrhage
 - 432.0, Nontraumatic extradural hemorrhage
 - 432.1, Subdural hemorrhage
 - 432.9, Unspecified intracranial hemorrhage
- And operating room procedures:
- 02.13, Ligation of meningeal vessel
 - 38.01, Incision of vessel, intracranial vessels
 - 38.11, Endarterectomy, intracranial vessels
 - 38.31, Resection of vessel with anastomosis, intracranial vessels
 - 38.41, Resection of vessel with replacement, intracranial vessels
 - 38.51, Ligation and stripping of varicose veins, intracranial vessels
 - 38.61, Other excision of vessels, intracranial vessels
 - 38.81, Other surgical occlusion of vessels, intracranial vessels
 - 39.28, Extracranial-intracranial (EC-IC) vascular bypass
 - 39.51, Clipping of aneurysm
 - 39.52, Other repair of aneurysm
 - 39.53, Repair of arteriovenous fistula
 - 39.72, Endovascular repair or occlusion of head and neck vessels
 - 39.79, Other endovascular repair of aneurysm of other vessels

(2) Ventricular Shunt Procedures

We also found that craniotomy patients who had a ventricular shunt procedure (absent another procedure) were significantly less costly than other craniotomy patients in DRGs 1 and 2. Ventricular shunts are normally

performed for draining intracranial fluid. A ventricular shunt is a less extensive procedure than the other intracranial procedures in DRGs 1 and 2. As a result, if a ventricular shunt is the only intracranial procedure performed, these cases will typically be less costly.

There were 4,373 cases in which only ventricular shunt procedures were performed. These cases had average charges of approximately \$27,188. However, the presence or absence of a CC had a significant impact on patient charges and lengths of stay. There were 2,533 cases with CC, with average charges of approximately \$33,907 and an average length of stay of 8.2 days. In contrast, there were 1,840 cases without CC, with average charges of approximately \$17,939 and an average length of stay of 3.7 days.

Therefore, we are proposing to create two new DRGs, splitting on CC, for patients with only a vascular shunt procedure: proposed new DRG 529 (Ventricular Shunt Procedures With CC) and proposed new DRG 530 (Ventricular Shunt Procedures Without CC).

Proposed new DRG 529 would consist of any principal diagnosis in MDC 5, with the presence of a CC and one of the following operating room procedures:

- 02.31, Ventricular shunt to structure in head and neck
- 02.32, Ventricular shunt to circulatory system
- 02.33, Ventricular shunt to thoracic cavity
- 02.34, Ventricular shunt to abdominal cavity and organs
- 02.35, Ventricular shunt to urinary system
- 02.39, Other operations to establish drainage of ventricle
- 02.42, Replacement of ventricular shunt

• 02.43, Removal of ventricular shunt

Proposed new DRG 530 would consist of any principal diagnosis in MDC 5 with one of the operating room procedures listed above for the proposed new DRG 529, but without the presence of a CC.

b. DRG 23 (Nontraumatic Stupor and Coma). In DRG 23 (Nontraumatic Stupor and Coma), there are currently six principal diagnoses identified by the following ICD-9-CM diagnosis codes: 348.4, Compression of the brain; 348.5, Cerebral edema; 780.01, Coma; 780.02, Transient alteration of awareness; 780.03, Persistent vegetative state; and 780.09, Other alteration of consciousness. Code 780.02 is often used to describe the diagnosis of psychiatric patients rather than the diagnosis of patients with severe

² We also examined the issue of treating brain tumors through the implantation of chemotherapy wafers. This analysis is discussed later in this preamble under section II.E.2.b. relative to the application for new technology add-on payments for the GLIADEL® Wafer.