PREOPERATIVE DIAGNOSIS: , T12 compression fracture with cauda equina syndrome and spinal cord compression.,POSTOPERATIVE DIAGNOSIS:, T12 compression fracture with cauda equina syndrome and spinal cord compression.,OPERATION PERFORMED: , Decompressive laminectomy at T12 with bilateral facetectomies, decompression of T11 and T12 nerve roots bilaterally with posterolateral fusion supplemented with allograft bone chips and pedicle screws and rods with crosslink Synthes Click'X System using 6.5 mm diameter x 40 mm length T11 screws and L1 screws, 7 mm diameter x 45 mm length.,ANESTHESIA: , General endotracheal.,ESTIMATED BLOOD LOSS:, 400 mL, replaced 2 units of packed cells.,Preoperative hemoglobin was less than 10.,DRAINS:, None.,COMPLICATIONS:, None.,DESCRIPTION OF PROCEDURE: , With the patient prepped and draped in a routine fashion in the prone position on laminae support, an x-ray was taken and demonstrated a needle at the T12-L1 interspace. An incision was made over the posterior spinous process of T10, T11, T12, L1, and L2. A Weitlaner retractor was placed and cutting Bovie current was used to incise the fascia overlying the dorsal spinous process of T10, T11, T12, L1, and L2. An additional muscular ligamentous attachment was dissected free bilaterally with cutting Bovie current osteotome and Cobb elevator. The cerebellar retractors were placed in the wound and obvious deformation of the lamina particularly on the left side at T12 was apparent. Initially, on the patient's left side, pedicle

screws were placed in T11 and L1. The inferior articular facet was removed at T11 and an awl placed at the proximal location of the pedicle. Placement confirmed with biplanar coaxial fluoroscopy. The awl was in appropriate location and using a pedicle finder under fluoroscopic control, the pedicle was probed to the mid portion of the body of T11. A 40-mm Click'X screw, 6.5 mm diameter with rod holder was then threaded into the T11 vertebral body.,Attention was next turned to the L1 level on the left side and the junction of the transverse processes with the superior articular facet and intra-articular process was located using an AM-8 dissecting tool, AM attachment to the Midas Rex instrumentation. The area was decorticated, an awl was placed, and under fluoroscopic biplanar imaging noted to be at the pedicle in L1. Using a pedicle probe, the pedicle was then probed to the mid body of L1 and a 7-mm diameter 45-mm in length Click'X Synthes screw with rod holder was placed in the L1 vertebral body.,At this point, an elongated rod was placed on the left side for purposes of distraction should it be felt necessary in view of the MRI findings of significant compression on the patient's ventral canal on the right side. Attention was next turned to the right side and it should be noted that the dissection above was carried out with operating room microscope and at this point, the intraspinous process ligament superior to the posterior spinous process at T12 was noted be completely disrupted on a traumatic basis. The anteroposterior spinous process ligament superior to the T12 was incised with cutting Bovie current and the posterior

spinous process at T12 removed with a Leksell rongeur. It was necessary to remove portion of the posterior spinous process at T11 for a full visualization of the involved laminar fractures at T12.,At this point, a laminectomy was performed using 45-degree Kerrison rongeur, both 2 mm and 4 mm, and Leksell rongeur. There was an epidural hematoma encountered to the midline and left side at the mid portion of the T12 laminectomy and this was extending superiorly to the T11-T12 interlaminar space. Additionally, there was marked instability of the facets bilaterally at T12 and L1. These facets were removed with 45-degree Kerrison rongeur and Leksell rongeur. Bony compression both superiorly and laterally from fractured bony elements was removed with 45-degree Kerrison rongeur until the thecal sac was completely decompressed. The exiting nerve roots at T11 and T12 were visualized and followed with Frazier dissectors, and these nerve roots were noted to be completely free. Hemostasis was controlled with bipolar coagulation.,At this point, a Frazier dissector could be passed superiorly, inferiorly, medially, and laterally to the T11-T12 nerve roots bilaterally, and the thecal sac was noted to be decompressed both superiorly and inferiorly, and noted to be quite pulsatile. A #4 Penfield was then used to probe the floor of the spinal canal, and no significant ventral compression remained on the thecal sac. Copious antibiotic irrigation was used and at this point on the patient's right side, pedicle screws were placed at T11 and L1 using the technique described for a left-sided pedicle screw placement. The anatomic landmarks being the transverse

process at T11, the inferior articulating facet, and the lateral aspect of the superior articular facet for T11 and at L1, the transverse process, the junction of the intra-articular process and the facet joint.,With the screws placed on the left side, the elongated rod was removed from the patient's right side along with the locking caps, which had been placed. It was felt that distraction was not necessary. A 75-mm rod could be placed on the patient's left side with reattachment of the locking screw heads with the rod cap locker in place; however, it was necessary to cut a longer rod for the patient's right side with the screws slightly greater distance apart ultimately settling on a 90-mm rod. The locking caps were placed on the right side and after all 4 locking caps were placed, the locking cap screws were tied to the cold weld. Fluoroscopic examination demonstrated no evidence of asymmetry at the intervertebral space at T11-T12 or T12-L1 with excellent positioning of the rods and screws. A crosslink approximately 60 mm in width was then placed between the right and left rods, and all 4 screws were tightened.,It should be noted that prior to the placement of the rods, the patient's autologous bone, which had been removed during laminectomy portion of the procedure and cleansed off soft tissue and morcellated was packed in the posterolateral space after decortication had been effected on the transverse processes at T11, T12, and L1 with AM-8 dissecting tool, AM attachment as well as the lateral aspects of the facet joints. This was done bilaterally prior to placement of the rods.,Following placement of the rods as noted above, allograft bone chips were packed in

addition on top of the patient's own allograft in these posterolateral gutters. Gelfoam was used to cover the thecal sac and at this point, the wound was closed by approximating the deep muscle with 0 Vicryl suture. The fascia was closed with interrupted 0 Vicryl suture, subcutaneous layer was closed with 2-0 Vicryl suture, subcuticular layer was closed with 2-0 inverted interrupted Vicryl suture, and the skin approximated with staples. The patient appeared to tolerate the procedure well without complications.