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The Push-Up View: A Superior Cross-Table Lateral Projection for Cervical Myelography

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The two most commonly used methods for obtaining cross-table lateral radiographs of the cervical spine are the conventional cross-table view (CCV) and the swimmer's view (SV). Shapiro [1] reported that another prone cross-table view, obtained with the shoulders elevated from the table, may facilitate visualization of the lower cervical spine. To our knowledge, this latter technique, which we call the push-up view (PUV), has not been evaluated critically and is not generally used by most radiologists.

The PUV is obtained by asking patients to place their palms down underneath the ipsilateral shoulder, push up, and simultaneously elevate both shoulders from the table without elevating the trunk (Fig. 1). In contrast, the CCV is performed by asking patients to place their arms at their sides and move the shoulders in a caudal direction. The radiographic technique and centering are otherwise the same.

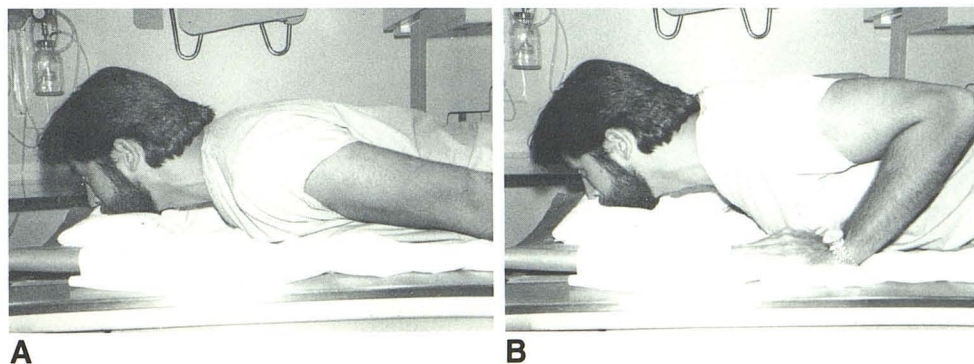
The PUV, CCV, and SV were performed in 20 consecutive patients undergoing cervical myelography in order to evaluate the efficacy of the former technique. Patients ranged in age from 18–74 (mean age, 48.5 years) and 16 of 20 were males. Using the CCV, the C6–C7 interspace was visible in only six of 20 cases. The mean inferior level of the cervical spine

visualized was the top of C6. Using the PUV, the C6–C7 interspace was visible in 16 of 20 cases, and the mean visualization of the cervical spine was down to the level of the mid-C7 vertebral body. There was no difference between the PUV and CCV in delineation of the mid- or upper cervical spine.

In seven of 20 cases, pathologic findings evident on the PUV were not visible on the CCV. In one case, a C6–C7 disk bulge was evident on the PUV but was poorly seen on the SV because of the overlying humerus. In every case, the PUV depicted all findings evident on the CCV. In one case, a C5–C6 disk bulge was seen on the SV but missed on the PUV and CCV, neither of which adequately showed the cervical spine inferior to the C5 level. Figure 2 shows the different radiographic appearances of the PUV, CCC, and SV. Note that the C6–C7 disk bulge evident on the PUV is not seen on the CCV.

In conclusion, the PUV is a superior cross-table lateral radiographic position for examining the cervical spine during myelography. It can certainly replace the CCV, and was found to be equal or superior to both the CCV and SV in 19 of the 20 cases studied.

Fig. 1.—Differences in patient positioning between the conventional cervical view and the push-up view. **A**, Conventional cervical view. **B**, Push-up view. Key feature is hyperabduction of both clavicles.



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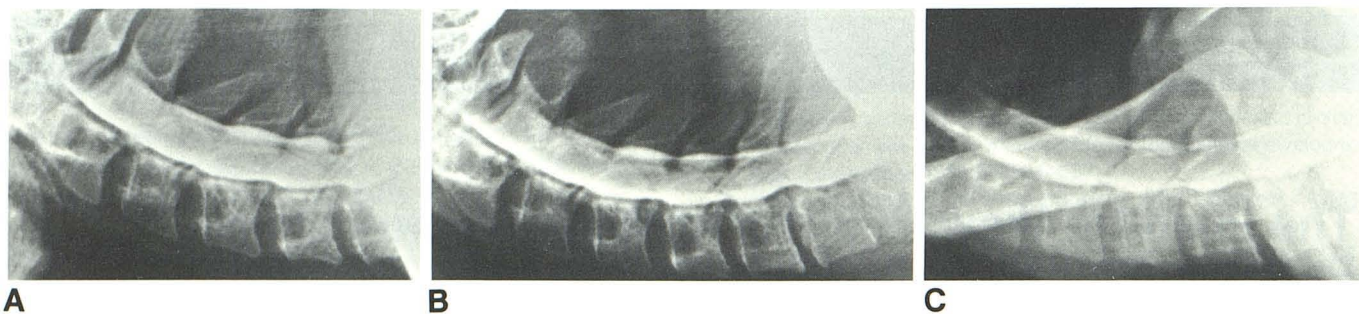


Fig. 2.—Differences in radiographic appearance of conventional cervical view, push-up view, and swimmer's view. **A**, Conventional cervical view depicts cervical spine to level of C6 vertebral body. **B**, Push-up view results in improved

visualization of lower cervical spine. Note disk bulge at C6–C7, missed on conventional cervical view. **C**, Swimmer's view on same patient. Although disk bulges are also seen, humeral head provides relative obstruction.

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