



Figure 7.8 a. Comparison of facial images: a. Original image; b. Curved wedge RCM applied b.

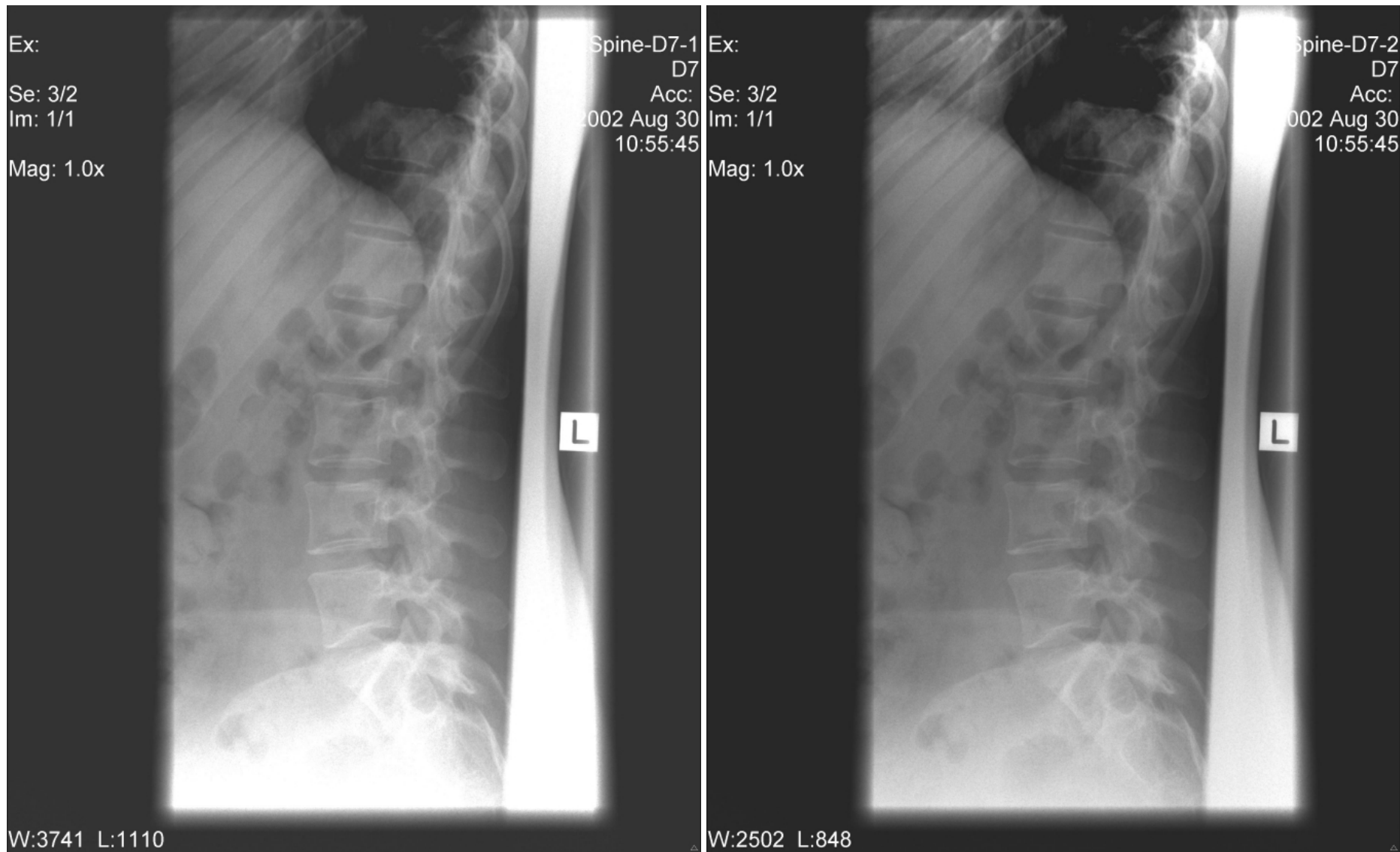


Figure 7.9 a. Comparison of lateral lumbar spine images: a. Original image; b. Curved wedge RCM applied

7.4 Factor Selection for Wedge RCMs

As with boomerang RCMs, factor selection for the wedge RCM is critical for appropriate display of the DR image. The height of the wedge profile will affect the extent to which the radiographic contrast is uniform over the desired region in the image.

A comparison of an original image and linear wedge RCMs applied to that image is shown in Figures 7.10a, b & c. Profile heights of the two RCMs are 1.5 and 3.0 for Figures 7.10b & c respectively. In this example, the radiographic contrast of the original image, Figure 7.10a, was optimised for the lower thoracic spine. The upper thoracic spine appears black at these settings of radiographic contrast and brightness. Figures 7.10b & c have wedge factors set the same, except for the profile height. Both these images have improved radiographic contrast for the entire thoracic spine compared to the original image. In the author's opinion, radiographic contrast is best optimised in Figure 7.10c.

Incorrect orientation of the RCM over the anatomy will result in enhancement of an inappropriate region of anatomy. The most probable effect will be that the dynamic range of the image will be further extended, resulting in greater difficulty in displaying the image. An example of incorrect orientation of a wedge RCM on the image in Figure 7.10a is shown in Figure 7.11. In this example, the wedge RCM was not rotated 180°. Increased optical density differences exist between the upper and lower thoracic spine compared to that in the original image (Figure 7.10a) and the correctly applied RCM images in Figure 7.10b & c.

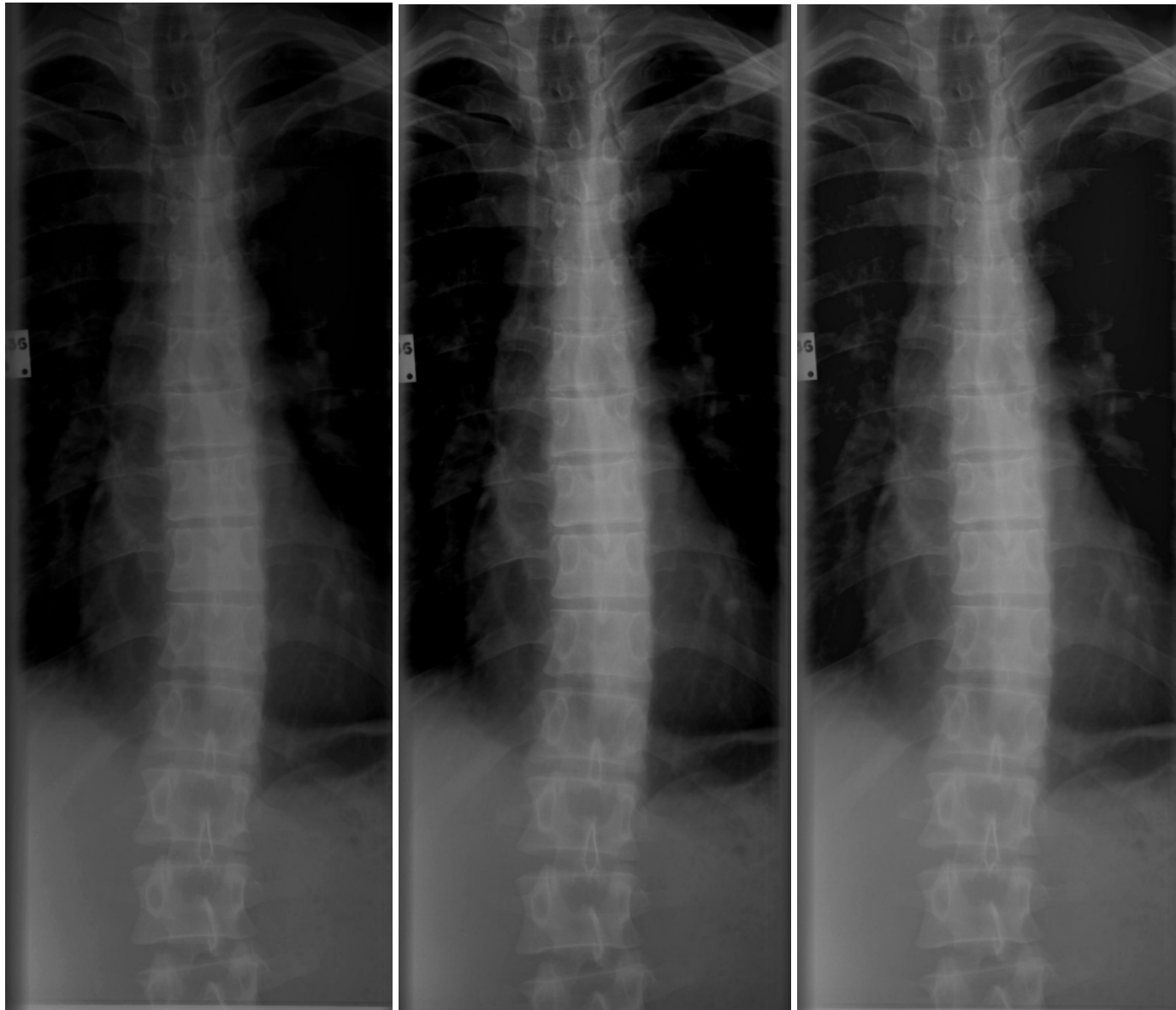


Figure 7.10 Comparison of linear wedge RCM: a. Original image; b. Wedge height = 1.5; c. Wedge height = 3.0



Figure 7.11 Incorrect orientation of a linear wedge RCM

An example of incorrect selection of RCM shape is shown in Figure 7.12. The facial bones image in Figure 7.12a has had a narrow linear wedge RCM applied over the soft-tissue region of the face. Abrupt radiographic contrast changes have resulted across that area of anatomy, visualised as a high level of optical density in the lips and anterior teeth. In comparison, the image in Figure 7.12b has had a curved wedge RCM applied. The transition across the area of anatomy where the RCM has been applied is not as evident as that in Figure 7.12a.