A NOVEL APPROACH TO TEACHING FLUOROSCOPIC NEUROANATOMY AND SPINE INJECTION SKILLS

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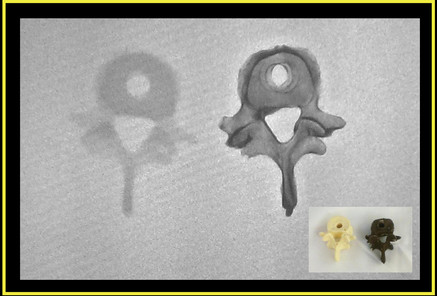
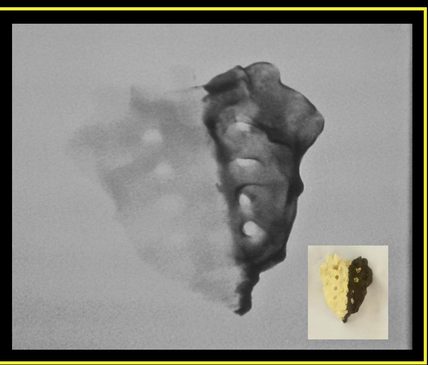
Introduction

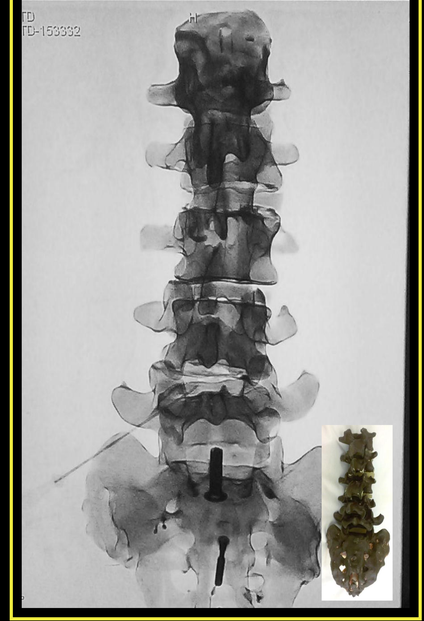
Learning and understanding fluoroscopic neuroanatomy and acquiring the skills to safely perform spine injections is an essential part of training for many radiology, neurology, neurosurgery, anesthesia, and physical medicine and rehabilitation residents. Unfortunately there are no inexpensive and easily accessible models available to simulate and teach this essential skill. Thus, much of the teaching and learning is done while the patient is on the fluoroscopy table using the “See one, do one, teach one” method.

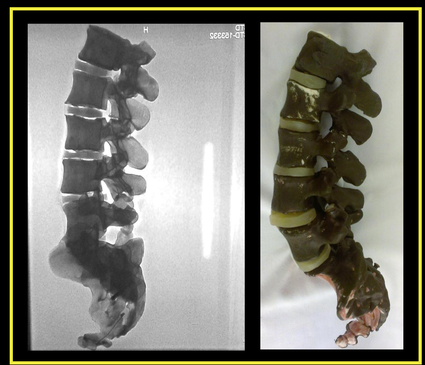
Materials / Methods

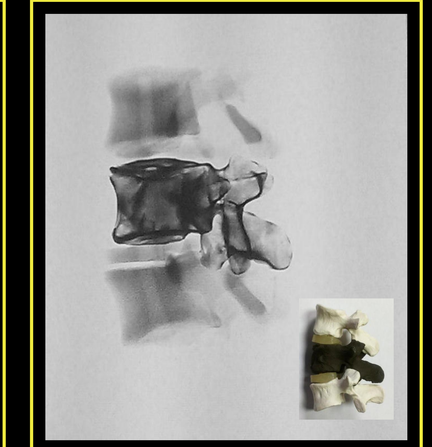
We present a novel cost effective approach to making a fluoroscopic simulator using a plastic spine model coated with a metallic adhesive. The adhesive was painted on the deconstructed plastic spine model and allowed to dried overnight. The model was then reassembled and wrapped in a gel foam pillow to simulate placement of the needle in an actual patient.











Results

Although the plastic non-coated model was radiopaque we found it difficult to visualize smaller structures such as facet joints under fluoroscopy. Coating the plastic spine model with our metallic adhesive allowed for improved visualization of the plastic model under fluoroscopy. Improving visualization of smaller structures like facet joints allows the plastic model to become a useful tool for simulating and training residents to perform more advanced procedures like facet injections and nerve root blocks.

Conclusion

We were able to transform an inexpensive plastic model of the lumbar spine into a useful neuroanatomy fluoroscopic simulator device that can be used to teach fluoroscopic neuroanatomy and spine injection skills without subjecting patients to multiple needle placement attempts and unnecessary radiation.

References

None.