The “Seldinger” Screw Technique: An Adjunct in Percutaneous Pelvic and Acetabular Fixation

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Purpose: Percutaneous fracture fixation utilizing cannulated screw systems is a common fixation method in pelvic and acetabular surgery. However, the intramedullary corridors are narrow while accurate passage of the guidewire is challenging. Changing the wire direction or exchanging for a new wire is difficult without losing the entry point. We present a new technique, which maintains “crucial” entry point, facilitating exchange of guidewire and alteration of trajectory. This study aims to show that this technique reliably preserves entry point, providing a useful adjunct to the surgeon's armamentarium.

Methods: After placing a guidewire in the correct entry point, a short screw is passed over the guidewire to secure the entry point. The screw length chosen is one that will allow a few threads to cross the entry point and access the screw cannulation at the skin surface. Another guidewire is then introduced into a corrected path, then with removal of the “Seldinger-screw,” the full-length screw is inserted along the ideal trajectory. Our prospective single-surgeon case series records the use of this technique and whether the entry point was preserved allowing exchange of wires.

Results: In 32 patients, in all cases this technique allowed safe exchange of guidewires without loss of the entry point, thereby assisting safe screw passage, demonstrating reproducibility and reliability at preserving entry point.

Conclusion: Our case series demonstrates this tool is a useful technique when performing percutaneous fixation. In each patient it allowed preservation of the entry point for exchange of guidewire and alteration of trajectory.