X-Ray Image-Guided Navigation for Hip Osteotomy
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Goals:
• Develop surgical workflow and software pipeline for X-ray navigation system used for periacetabular osteotomy (PAO) with in-image fiducials (BBs and FTRAC).
• Compare novel method with currently used, optical tracker-based method.

Significance:
• C-arm imagers more commonly available in hospitals, making X-ray-based navigation systems easier to install and use.
• Surgeons more accustomed to working with X-ray images than with optical trackers.

Results:
Novel method tested in cadaver study, and fiducial registration errors and transformation errors reported for both novel method and optical tracker-based method.
C-arm fluoroscopy at several angles.

Pose estimation and backprojection of segmented BBs.

3-D BB Locations w.r.t. FTRAC