



AB078. SOH23ABS_061. Digital templating for THA planning: efficiency and accuracy improves with institutional familiarity

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Background: Pre-operative templating has become an important routine for many surgeons in planning for total hip arthroplasty (THA) surgery. Accurate THA templating reduces surgical time, increases precision, reduces the need for revision and reduces the overall complication rate.

Methods: Digital radiographs of 211 patients undergoing primary THA by a single surgeon were reviewed. Two separate sets of consecutive digitally templated radiographs 5 years apart (2017 and 2022) were reviewed and compared with regards to: accuracy of scaling ball (SB) placement templating. The interval was chosen to allow institutional familiarity with the templating system. The positioning of the SB was classified as ideal when positioned (I) between the legs, (II) indenting the skin and (III) in the groin, or non-ideal if the above were not achieved. Data collected from the theatre notes were compared with the saved templated values.

Results: Improved ideal placement ratio with the second series producing 70% ideal placement *vs.* 46.5%. Overall accuracy of Acetabular templating improved with 2nd series 77.3% (within 2 sizes) *vs.* 61.4% in the 1st series. Ideal placement of SB lead to an increase accuracy of acetabular templating with 83.1% compared to 63.1% in non-ideal positioned SB. The 2nd series also produced more accurate femoral component templating (exact size) with 34.5% to

27.7%.

Conclusions: Accurate SB positioning, with regards to coronal plane placement, improves the accuracy of both the acetabular and femoral components in digital templating. Ongoing education for all teams (orthopaedic, nursing, and radiographers) is essential to optimise pre-operative templating.

Keywords: Scaling ball (SB); digital templating; total hip arthroplasty (THA); institutional familiarity; ideal positioning

Acknowledgments

Funding: None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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doi: 10.21037/map-23-ab078

Cite this abstract as: Pretorius J, Baltrunaite J, O'Malley S, Murphy C. AB078. SOH23ABS_061. Digital templating for THA planning: efficiency and accuracy improves with institutional familiarity. *Mesentery Peritoneum* 2023;7:AB078.