

Modern Day Learning Curve- *Comparing the first 300 Direct Anterior to concomitant established Mini-posterior THAs*

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Disclosures

Consultant/Speaker

Medtronic

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Introduction

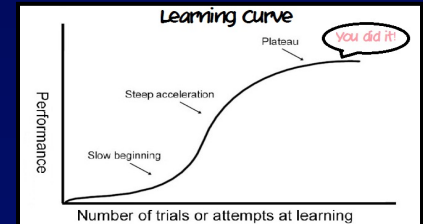


- The direct anterior hip approach has historically been associated with a steep learning curve.
- Its growing popularity has increased for patients and surgeons alike, even to the present day.
- Surgical training currently includes many options from web-based, video, cadaver training, teaching courses, and surgeon visitations.
- Modern day education, technology, and learning tools may shorten this learning curve.



Objective

- The purpose of this study is to evaluate the efficacy of an extensive modern-day training protocol on the first 300 direct anterior hip replacement cases to a matched group of concurrent traditional mini-posterior approach cases.



Methods



- Three-hundred consecutive direct anterior hip replacement cases were compared to a consecutive cohort of mini-posterior approach cases performed during the same time period.
- All procedures were performed by a single surgeon.
- Direct anterior training included online videos, two cadaver training courses, web-based learning modules, surgeon visitation, and reverse surgeon visitation for the first three cases.
- The anterior hip group was younger, 66 vs 70, and lower BMI 25 versus 29.
- Outcomes recorded included surgical time, ambulation distance day of surgery, pain with walking, pain at discharge.



Results

- There were no intraoperative complications in either group.
- The anterior hip cases took longer than the posterior, 103 vs 65 minutes ($p < 0.001$).
- The anterior hip operating room time peaked after the initial three cases with the reverse surgeon visitation.
- Then the anterior group times decreased, with the last third of cases averaging 40 minutes faster than the first third.
- Hematocrit values were similar in the two groups both before and after surgery ($p > 0.09$).



Results

- The anterior hip group walked farther, 321 vs 187 feet the day of surgery, and with less pain, 2.3 vs 3.3 ($p < 0.01$).
- At time of discharge, pain was also less 2.2 vs 2.9 ($p < 0.03$).
- At the first postoperative visit, fewer assist devices were used with the anterior hip approach ($p < 0.002$).
- There have been zero dislocations in the anterior approach group, and 2 in the posterior hip group to date.
- There have been no revisions in either cohort.



Discussion



- ✓ The historical learning curve associated with direct anterior hip replacement was reported to be steep.
- ✓ Modern day training and education can shorten the learning curve.
- ✓ There are many options currently available for learning and training prior to technique adoption.
- ✓ Thorough training can minimize the occurrence of reported complications in this early group.
- ✓ In particular, a reverse surgeon visitation reduces operating room time when learning is at its greatest, and surgeon operating time continues to decrease with experience.
- ✓ Even during this learning curve, with modern day training, direct anterior hip replacement patients ambulate greater distances, with less pain, with fewer complications compared to the surgeon's traditional approach.

