Factors that Affect the Return-to-Driving Timeline following Primary THA via the Anterior Approach

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INTRODUCTION:
The return-to-driving (RTD) timeline following primary total hip arthroplasty (pTHA) is a common patient concern. For the anterior surgical approach, current prospective literature is limited and does not consider individual patient factors.
METHODS:
182 patients who were undergoing elective pTHA via the anterior approach were prospectively enrolled. Subjects received daily text message surveys postoperatively to determine when they return RTD. Subjects also completed a preoperative interview and RTD survey encompassing demographics, operative factors, mobility status, patient-reported outcomes, and patient factors were collected. Parametric survival models were utilized to create 2 novel calculators for predicting RTD time.
RESULTS:
163 patients completed the study with a median age of 66 years (range 39 to 85) and 50.9% (n = 83) being female. The median RTD time was 15 days (interquartile range, 10.5 to 19 days) (Figure 1). On average, patients underpredicted their RTD time by 18%. Univariate analysis demonstrated preoperative factors that correlated with quicker RTD time included: male sex (4.1 days sooner), left laterality (3.0 days sooner), lower BMI (0.3 days sooner per unit), increased days of driving per week (1.3 days sooner per day), operate a vehicle for work (5.8 days sooner), and require daily driving (3.3 days sooner) ($p < 0.05$). Univariate analysis demonstrated postoperative factors that correlated with quicker RTD time included: no longer using assistive device at 2-week follow-up visit (6.5 days sooner), increased 6-week HOOS JR. score (0.15 days sooner per unit), increased 2-week PROMIS Physical score (0.35 days sooner per unit), increased 6-week PROMIS Physical score (0.33 days sooner per unit), did not drive on a highway (3.6 days sooner), did not completely stop narcotic consumption before driving (4.4 days sooner), and did not receive preoperative RTD instructions (3.3 days sooner) ($p < 0.05$). Multivariate analysis indicated multiple factors affecting RTD time including comorbidity status, laterality, previous contralateral THA, use of an assistive device preoperatively, use of an assistive device at 2-week follow-up visit, PROMIS Physical scores, PROMIS Mental scores, and HOOS JR. scores ($p < 0.05$).
DISCUSSION AND CONCLUSION:
Overall, patients undergoing primary THA via the anterior approach returned to driving on a timeline consistent with prior retrospective reports. Various patient-specific factors affect the return-to-driving time and can be utilized to develop a clinical calculator to provide individualized return-to-driving timelines.

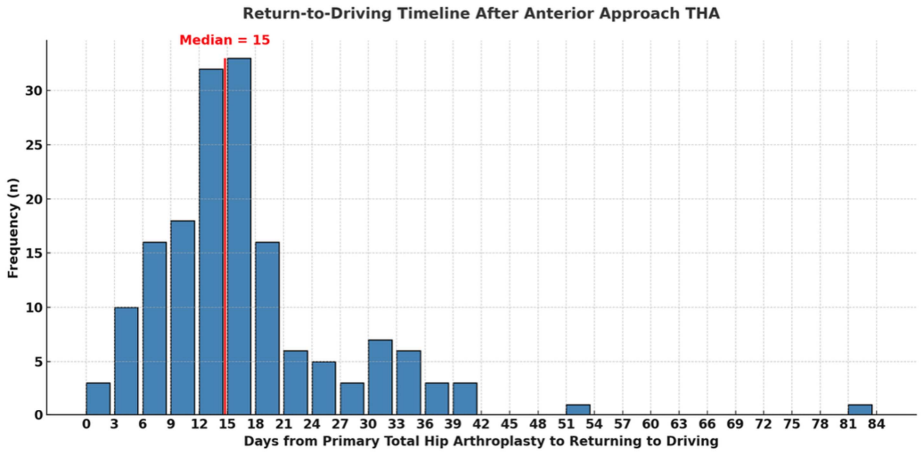

Figure 1. Return-to-driving timeline following primary total hip arthroplasty (THA) via the anterior approach