

Practice Patterns of Adult Reconstruction Fellowship Trained Surgeons: Current Trends and Evolution of Training From 1986 to 2022

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INTRODUCTION:

Surgical practice in total joint arthroplasty (TJA) is constantly evolving in response to new research, technology, economic factors, and patient characteristics. With increasing fellowship programs offering training in these newer technologies and techniques, it is unclear what impact this has on the future practice of surgeons. We aimed to assess current practice patterns and influential factors among fellowship-trained arthroplasty surgeons.

METHODS:

An electronic survey was sent to all currently practicing surgeons (n = 90) who had completed a high-volume adult reconstruction fellowship at a single tertiary academic center from 1986-2022. The survey consisted of 73 questions regarding surgeon and practice characteristics, case volumes for primary and revision total hip arthroplasty (THA), total knee arthroplasty (TKA) and unicompartmental knee arthroplasty (UKA), use of advanced technologies, choice of surgical approach and implant design, factors influencing their choices, and fellowship training characteristics. Data were tabulated and analyzed in REDCap software.

RESULTS:

Survey was completed by 53 (59%) surgeons. Twenty-four (46%) of respondents had been in practice for 0-5 years, 17 (32%) for 6-10 years, and 11 (21%) for 11-20 years. The majority of surgeons (28/52, 54%) practice at a center where 800-1000 TJAs are performed annually. Eighty-one percent performed at least 100 THAs and 77% performed at least 150 TKAs per year. Seventy percent of surgeons reported that revision TJA constituted 0-20% of their surgical practice, while the remaining 30% of surgeons performed revision TJA for 21-40% of their cases (**Fig. 1**). Direct Anterior (28/53, 53%) was the most commonly used approach for THA, with Posterior (22/53, 42%) being the second most common. Fellowship experience (57%) was the most influential factor on the choice of THA approach (**Fig. 2**), and 30% of surgeons have changed their preferred THA approach since beginning their practice. Just over half of the respondents (58%) stated that surgical approach for THA does not influence their implant choice. Fellowship experience was also the most influential factor on the choice of THA (64%) and TKA (57%) implant (**Fig. 3 & 4**). For those who have robots available at their center, 52% do not do any robotic THAs while 27% do >80% of their THAs robotically. In contrast, 64% of surgeons do >80% of their primary TKAs robotically and only 13% do no robotic TKAs even if they have a robot at their center (**Fig. 5**). Surgeons who do not perform robotic TKAs reduces to 6% if they had a robot available during fellowship training (34/53, 64%), while it remains at 50% for those not doing robotic THAs. Fifty-five percent of respondents perform between 1-20 UKAs annually, while 28% performed 21-50 each year, and within those who have robots available, 83% do this procedure robotically >80% of the time.

DISCUSSION AND CONCLUSION:

Fellowship experience was the most important factor in the choice of approach and implant for both THA and TKA in fellowship trained adult reconstruction surgeons. This denotes the considerable influence fellowship training has on shaping the future practice of their trainees. Fellowship programs should take this into consideration and allow their trainees exposure to various technologies and techniques, allowing them to come to an informed decision on their choices.

