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Junior Resident "Key Indicator" Cases: a Method for Tracking Junior Resident Operative Readiness

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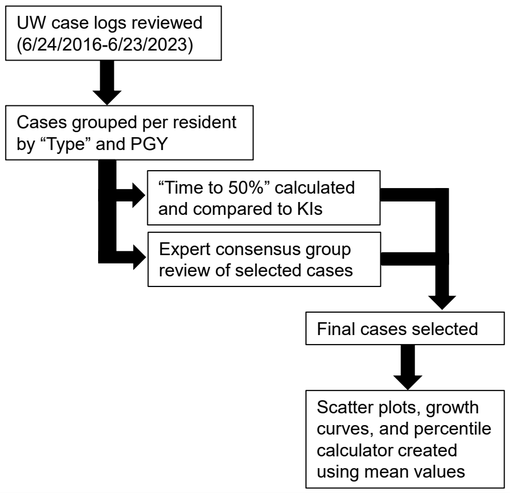
Introduction

While otolaryngology resident evaluation is transitioning to a competency-based approach[1-3], tracking of key indicator cases is still necessary to ensure adequate opportunities to develop key surgical skills[4,5]. The existing key indicators (KI) are more representative of resident operative experience in post graduate year (PGY) 4 and 5[6,7]. This raises the question; how can trainees and leadership ensure that junior residents have the opportunity to develop early surgical skills that will facilitate success with KI cases? This study evaluates and proposes a group of Junior Key Indicator (JKI) cases that can fill this gap.

Methods



Results

Case logs of 18 residents (32,830 cases) were analyzed. 28 of 94 case types were identified as potential JKIs. Analysis of qualitative and quantitative criteria resulted in 6 JKI case types with adequate volume, sub-specialty representation, and expert consensus: myringotomy/tympanostomy; tonsillectomy/adenoidectomy; tracheostomy; rigid laryngoscopy w/wo biopsy; endoscopic sinus surgery; and repair complex laceration.

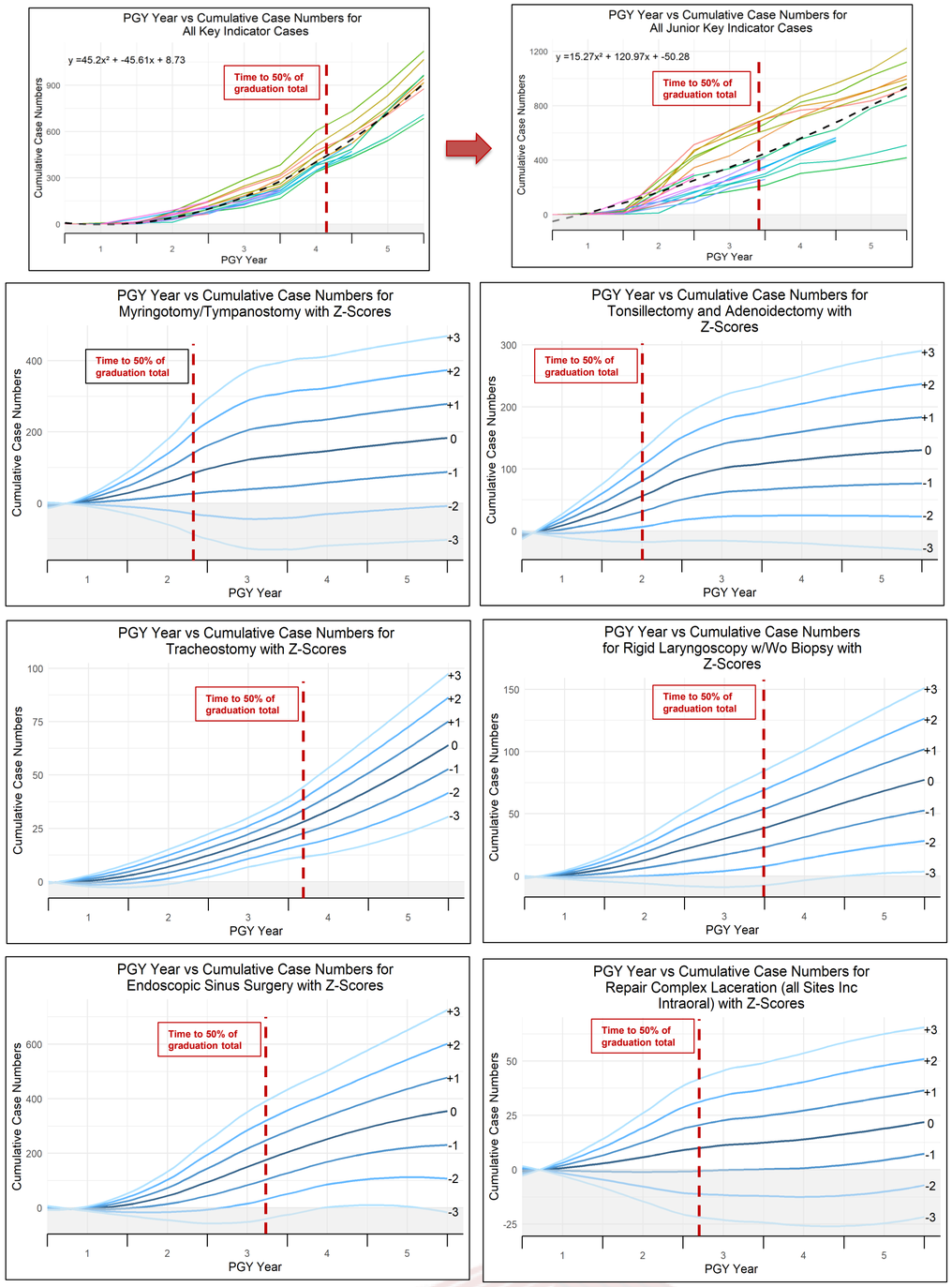


Figure 1

Growth curves for proposed selection of Junior Key Indicators which can be used to ensure junior residents have opportunities to build skills needed for Key Indicator cases

	Time to 50% (years)	Effect size (years)	Mean Cases per Resident	p-value
All Junior Key Indicators	2.91	0.74	827	**0.03**
Head and Neck				
Tracheostomy	3.36	0.29	64	0.0532
Otology				
Myringotomy/tympanostomy	1.82	1.83	182	**0.0000**
Facial Plastics				
Repair complex laceration	2.27	1.38	21	**0.0172**
General/Peds				
Endoscopic sinus surgery	2.74	0.91	353	**0.0001**
Tonsillectomy/adenoidectomy	1.54	2.11	131	**0.0000**
Rigid laryngoscopy w/wo biopsy	3.07	0.58	76	0.0958

Table 1

Comparison of "time (years) to 50%" of total cases between Kis and proposed JKIs using independent t-test. Time to 50% of all Key Indicators was 3.65 years.

Discussion

To achieve competency for independent practice in the KIs, adequate opportunity to build skills early in residency is necessary. Development of a quantitative framework supports a stepwise approach to graduated operative autonomy. Using quantitative and qualitative methods to select the group of JKIs, expert experience with teaching residents helps contextualize the historical data describing the typical progression of operative experiences. Single institution data ensures that models created are relevant for the nuances of the individual program.

Conclusions

A subset of cases that are key for building early operative skills has been identified. A set of interactive models were developed to evaluate junior resident experience with these JKIs. This study proposes a set of JKIs and presents these graphical and quantitative assessment tools.

References

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