Assessing Public Reported Perceptions of Hand Surgery Provided in the Office vs. an Ambulatory Surgery Center

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INTRODUCTION:

There is a growing body of literature supporting the efficacy, safety, and benefits of wide awake office-based low risk hand surgery. Procedures such as a carpal tunnel release are now, under the right clinical circumstances, being performed in the office-setting as opposed to a traditional operating room. While there is growing evidence supporting technique, procedure room setup, and cost analyses of office-based surgery, there is little investigation into the public perceptions of having surgery done in the office. Here we sought to evaluate public perceptions of undergoing low risk hand surgery in the office setting.

METHODS:

A prospective survey study was performed utilizing a 33-question, paid, survey distributed via a clinically, validated, public, online marketplace. After collecting baseline demographics, participants were queried regarding their perceptions of undergoing low risk hand surgery in their surgeon's office and divided into 3 cohorts: In-Office Surgery (IOS), No In-Office Surgery (NIOS), or No Preference (NP). Educational material was integrated into the survey providing comparisons of three possible surgery locations (Figure 1). We also provided specific procedural scenarios (trigger finger release, mucoid cyst removal, carpal tunnel syndrome, and a distal radius fracture) to better assess understanding and comfortability with office-based surgery. The data was then analyzed using t-test unpaired and chi square analyses were performed.

RESULTS:

There were 509 respondents to the survey. These were divided into three groups based on their initial answer to a question asking if the respondent would be open to low risk hand surgery in the office setting. There were 266 (52%) in the IOS group, 104 (20%) in the NIOS group, and 139 (27%) in the NP group. There were no statistically significant differences in respondent demographics across the study groups (Table 1). There was a statistically significant difference between those with a history of prior hand surgery or surgery at an ambulatory surgery center and those in the IOS group ($p<0.0001$). Only 50/104 in the NIOS group realized in-office surgery was a legitimate option compared to 239/266 in the IOS group ($p<0.0001$). After the brief education block (Figure 1), 50/139 NP group switched to agreement with in-office surgery. In terms or procedure specific questioning, the IOS group favored Trigger Finger Release (51%) and Mucoid Cyst Removal (65%) while 74% favored ambulatory surgery center with sedation for open treatment of a distal radius fracture (Table 2). The most influential factors determining surgical location were comfort during the procedure and total encounter time which was significant across groups ($p<0.0001$). Lastly, the IOS group overall favored the location of surgery be at the surgeon's discretion more so than the NIOS group ($p<0.0001$).

DISCUSSION AND CONCLUSION:

This study suggests that in-office, low risk, hand surgery has the opportunity to be well-received by the public. In this study cohort, approximately 79% of participants either agreed (52%) with in-office surgery or had no preference (27%) illustrating an opportunity for in-office surgery. It is clear that the public perceptions of in-office surgery are multifactorial, however, for certain low-risk procedures such as trigger finger release and mucoid cyst removal in the office it is a viable option in the eye of the public. More research is needed to better understand the public's perception of in-office hand surgery which will also further our ability to provide for our patients.

Education Table

	Surgery in the Clinic	Surgery without Sedation at a Surgery Center	Surgery with Sedation at a Surgery Center
Operating Room	⊘	✓	✓
Anesthesiologist Provider	⊘	⊘	✓
Patient is Awake	✓	✓	⊘
Will I Watch My Surgery?	✓	Surgeon Discretion	⊘
Local Anesthesia*	✓	✓	⊘
Do I need an IV?	⊘	⊘	✓
You can drive home	✓	✓	⊘
Estimated Total Time of Encounter	<30 Minutes	<2 Hours	<6 Hours
Feel Pain	⊘	⊘	⊘
Sterile Instruments	✓	✓	✓

**"Local Anesthesia" - a solution is injected into the hand or finger that blocks the sensation temporarily making the area feel "numb."

Now that you have read the above descriptions of the generic differences between undergoing surgery in the surgeon's office/clinic vs an outpatient surgery center with or without sedation please answer the following questions.

Table 1: Demographics	In-Office Surgical n=266	No In-Office Surg n=104	No Preference n=139	p
Age	41.80±12.24	38.83±13.22	40.19±13.00	0.11
Gender				0.15
Female	124 (46.62%)	50 (48.08%)	49 (35.25%)	
Male	141 (53.01%)	54 (51.92%)	90 (64.75%)	
Prefer not to say	1 (0.38%)	0	0	
Race				0.20
American Indian or Alaskan	4 (1.50%)	0	2 (1.44%)	
Native				
Asian	20 (7.52%)	14 (13.46%)	18 (12.95%)	
Black or African American	24 (9.02%)	11 (10.58%)	9 (6.47%)	
Native Hawaiian or Pacific	0	0	1 (0.72%)	
Islander				
White or Caucasian	208 (78.20%)	78 (75.00%)	101 (72.66%)	
Other	10 (3.76%)	1 (0.96%)	8 (5.76%)	
Ethnicity				0.36
Hispanic or Latino	26 (9.77%)	7 (6.73%)	17 (12.23%)	
Not Hispanic or Latino	240 (90.23%)	97 (93.27%)	122 (87.77%)	
Education				0.24
Home school K-12	2 (0.75%)	0	1 (0.72%)	
High school, GED or equivalent	21 (7.89%)	15 (14.42%)	18 (12.95%)	
Some college	50 (18.80%)	22 (21.15%)	27 (19.42%)	
Associate's/Vocational degree	28 (10.53%)	15 (14.42%)	17 (12.23%)	
Bachelor's degree	116 (43.61%)	32 (30.77%)	63 (45.32%)	
Master's degree	42 (15.79%)	17 (16.35%)	11 (7.91%)	
Doctorate's degree	7 (2.63%)	3 (2.88%)	2 (1.44%)	
Annual Income				0.40
$0-24,999	44 (16.54%)	23 (22.12%)	36 (25.90%)	
$25,000-49,999	68 (25.56%)	32 (30.77%)	42 (30.22%)	
$50,000-74,999	69 (25.94%)	24 (23.08%)	33(23.74%)	
$75,000-99,999	46 (17.29%)	15 (14.42%)	18 (12.95%)	
$100,000-149,000	25 (9.40%)	5 (4.81%)	6 (4.32%)	
$150,000-199,999	10 (3.76%)	3 (2.88%)	3 (2.16%)	
$200,000+	4 (1.50%)	2 (1.92%)	1 (0.72%)	
Doctor visit per year	2.62±2.90	2.63±2.59	2.19±2.42	0.28
Healthcare Occupation	233 (87.59%)	93 (89.42%)	131 (94.24%)	
Previous hand surgery				0.06
No	214 (80.45%)	88 (84.62%)	118 (84.89%)	
Unsure	0	2 (1.92%)	3 (2.16%)	
Yes	52 (19.55%)	14 (13.46%)	18 (12.95%)	
Previous outpatient surgery				<.0001
No	139 (52.26%)	70 (67.31%)	81 (58.27%)	
Unsure	0	2 (1.92%)	10 (7.19%)	
Yes	127 (47.74%)	32 (30.77%)	48 (34.53%)	
Previous clinic surgery				0.20
No	216 (81.20%)	89 (85.58%)	123 (88.49%)	
Unsure	9 (3.38%)	3 (2.88%)	6 (4.32%)	
Yes	41 (15.41%)	12 (11.54%)	10 (7.19%)	
T/F: Surgery can be done in clinic? (True)	239 (89.85%)	50 (48.08%)	125 (89.93%)	<.0001

Table 2: Post Education Section	OK Clinic Surg n=266	No Clinic Surg n=104	No Pref n=139	p
Understanding of Surgery Location Types				<.001
Strongly agree	104 (39.10%)	31 (25.18%)	35 (25.18%)	
Somewhat agree	140 (52.63%)	52 (65.47%)	91 (65.47%)	
Neither agree/disagree	13 (4.89%)	12 (2.16%)	3 (2.16%)	
Somewhat disagree	4 (1.50%)	6 (5.76%)	8 (5.76%)	
Strongly disagree	5 (1.88%)	3 (1.44%)	2 (1.44%)	
Surgical sedation				<.0001
No preference	36 (13.53%)	11 (10.58%)	27 (19.42%)	
With	133 (50.00%)	77 (74.04%)	78 (56.12%)	
Without	97 (36.47%)	16 (15.38%)	34 (24.46%)	
Location should be at surgeon's discretion				<.0001
Strongly agree	129 (48.50%)	21 (20.19%)	60 (43.17%)	
Somewhat agree	119 (44.74%)	45 (43.27%)	58 (41.73%)	
Neither agree/disagree	11 (4.14%)	17 (16.35%)	15 (10.79%)	
Somewhat disagree	6 (2.26%)	14 (13.46%)	4 (2.88%)	
Strongly disagree	1 (0.38%)	7 (6.73%)	2 (1.44%)	
Surgical location/sedation preference for hand surgery				<.0001
Surgeon's office	117 (43.98%)	10 (9.62%)	39 (28.06%)	
Surgical center with sedation	89 (33.46%)	70 (67.31%)	66 (47.48%)	
Surgical center without sedation	60 (22.56%)	24 (23.08%)	34 (24.46%)	
Low Risk Surgery in Office?				<.0001
No	23 (8.65%)	70 (67.31%)	13 (9.35%)	
No preference	20 (7.52%)	12 (11.54%)	76 (54.68%)	
Yes	223 (83.83%)	22 (21.15%)	50 (35.97%)	
Trigger finger preference				<.0001
Surgeon's office	136 (51.13%)	20 (19.23%)	51 (36.69%)	
Surgical center with sedation	81 (30.45%)	56 (53.85%)	62 (44.60%)	
Surgical center without sedation	49 (18.42%)	28 (26.92%)	26 (18.71%)	
Ganglion/mucoid cyst preference				<.01
Surgeon's office	174 (65.41%)	44 (42.31%)	79 (56.83%)	
Surgical center with sedation	41 (15.41%)	32 (30.77%)	29 (20.86%)	
Surgical center without sedation	51 (19.17%)	28 (26.92%)	31 (22.30%)	
Carpal tunnel release preference				<.0001
Surgeon's office	85 (31.95%)	10 (9.62%)	35 (25.18%)	
Surgical center with sedation	120 (45.11%)	73 (70.19%)	76 (54.68%)	
Surgical center without sedation	61 (22.93%)	21 (20.19%)	28 (20.14%)	
Distal radius fracture preference				0.15
Surgeon's office	32 (12.03%)	7 (6.73%)	11 (7.91%)	
Surgical center with sedation	198 (74.44%)	86 (82.69%)	117 (84.17%)	
Surgical center without sedation	36 (13.53%)	11 (10.58%)	11 (7.91%)	
Most influential factor				<.001
Comfort during procedure	165 (62.03%)	69 (66.35%)	90 (64.75%)	
Total encounter time	58 (21.80%)	12 (11.54%)	21 (15.11%)	
Fear of being sedated	26 (9.77%)	12 (11.54%)	5 (3.60%)	
Requiring an IV	1 (0.38%)	1 (0.96%)	0	
No preference	10 (3.76%)	4 (3.85%)	20 (14.39%)	
Other	6 (2.26%)	6 (5.77%)	3 (2.16%)	
No awake surgery even if pain free	39 (14.66%)	38 (36.54%)	22 (15.83%)	<.0001