High Volume Intensive Training Course:

a New Paradigm for Video-Assisted Thoracoscopic Surgery Education

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Introduction

- Traditional attachments for Video-Assisted Thoracic Surgery (VATS) training may take up to many months
- Today, Ultra-High Volume Centers (UHVCs) perform very large numbers of operations
 - o The Shanghai Pulmonary Hospital (SPH) performed over 10,390 major lung resections in 2016
- > Can an UHVC provide effective training in Advanced VATS in a very short Intensive Training Course?

Method

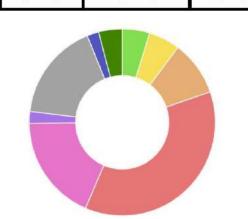
- From 2013 to 2016, the SPH conducted 2-Week VATS Training Courses for international thoracic surgeons
 - Daily clinical meetings and observations of operations (SPH performs 40-50 operations/day on average)
 - Course includes one full day animal wetlab taught by expert VATS faculty
- As of Dec 2016: 230 surgeons from around the world participated in this course
- An online survey preserving responder anonymity was completed by 156 attendees (67.8% response rate)



Results

1. The Participants





For how many years have you performed open thoracotomy for major lung resections?

Never	<1 year	1-3 years	3-5 years	5-10 years	10-20 years	>20 years
22	23	36	34	27	3	1
(15%)	(16%)	(25%)	(23%)	(18%)	(2%)	(1%)

For	For how many years have you performed VATS for major lung resections?									
Never	<1 year	o 1-3 years	9 3-5 years	5-10 years	10-20 years	>20 years				
	-	40	07			40				

How long has it been since you came to the Course in Shanghai?

<6 months	6-12 months	9 12-18 months	9 18-24 months	>24 months
64	34	19	10	9
(47%)	(25%)	(14%)	(7%)	(7%)

2. Experience at SPH

How many cases of Uniportal VATS did you observe?

0-10	10-20	0 20-30	30-50	>50
4	21	17	44	53
(3%)	(15%)	(12%)	(32%)	(38%)

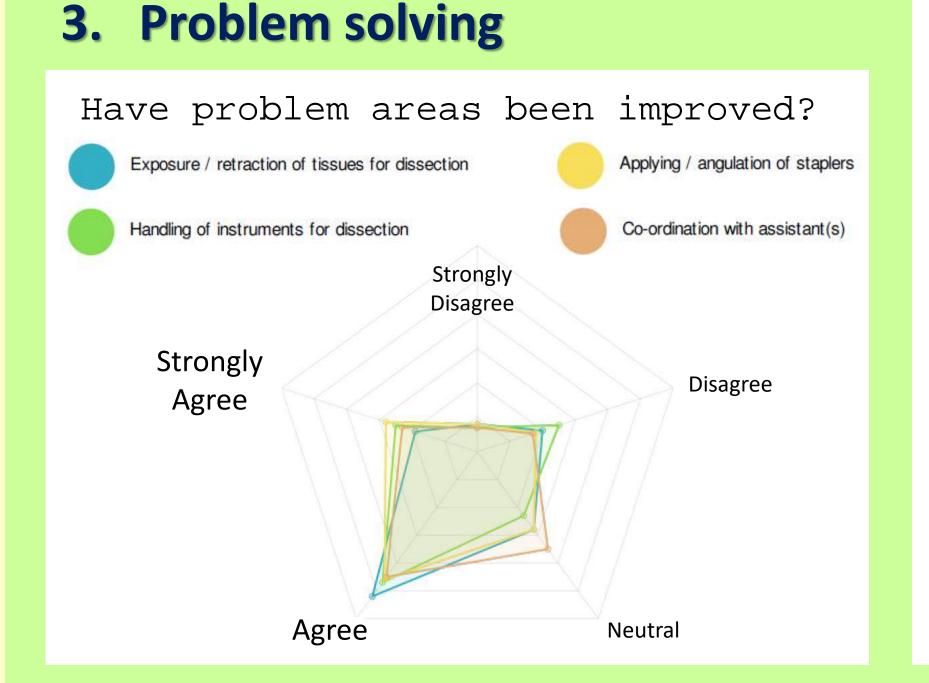
How many cases of Multi-portal VATS (2 or more ports) did you observe?

0-10	0 10-20	0 20-30	30-50	>50
81	36	8	10	5
(58%)	(26%)	(6%)	(7%)	(4%)

o 0-10 **o** 10-20 **o** 20-30 **o** 30-50 **o** >50

How many cases of Sub-xiphoid /sub-costal VATS did you observe?

	• • •	10 20	0 20 00	9 00 00	9 > 30	
	106	26	6	1	1	
	(76%)	(19%)	(4%)	(1%)	(1%)	
_						
Ho	w many d	ifferent surg	geons did y	ou observ	e operating	g?
	,	•	, ,			_



4. Effect of High Volume Intensive Training Course

Approximately how many lobectomies are performed by you personally every year?

Approximately what percentage of the lobectomies performed by you personally are done by VATS?

When performing VATS lobectomy, how many ports do you most commonly use?

Approximately what is the average time you require to complete a VATS lobectomy (skin-to-skin)?

Approximately what percentage of your VATS lobectomy operations require conversion to open thoracotomy?

Before

• <50</td> • 50-100 • 100-200 • 200-500 • 500-1000 • > 1000 91 45 7 3 0

(5%) (2%) (0%) (0%)

0%	0-10%	<u> </u>	25-50%	50-75 %	6 75-90%	>90%
27 (18%)	19 (13%)	15 (10%)	19 (13%)	26 (18%)	22 (15%)	18 (12%)

Never performed VATS



After

200-500

100-200

500-1000

(15%)

4 ports



p = 0.063

p = 0.441

12 (8%)	40 (27%)	62 (42%)	7 (5%)	(0%)	14 (10%)	75 (55%)	33 (24%)
				p < 0.0	01		

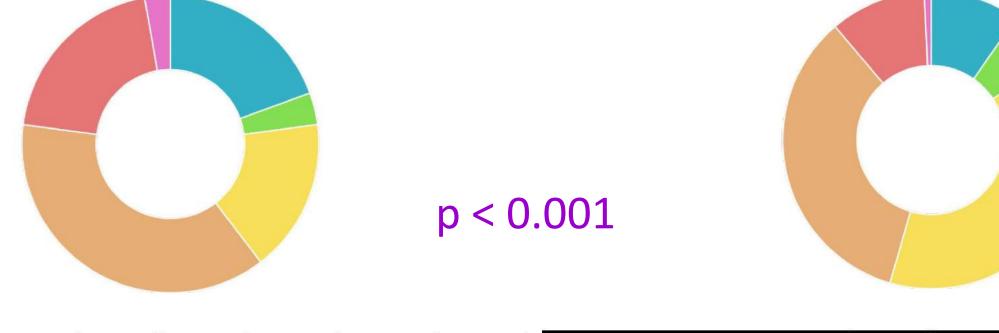
>4 ports

4 ports

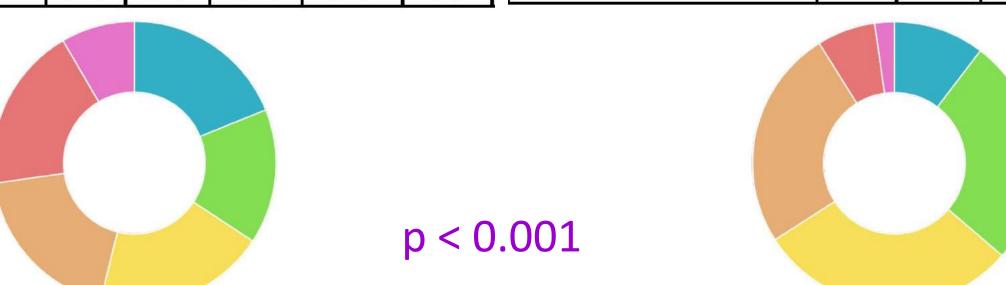
Never performed VATS	<90	90-120	120-180	180-240	>240
lobectomy	minutes	minutes	minutes	minutes	minutes
28	5	24	54	29	4
(19%)	(3%)	(17%)	(38%)	(20%)	(3%)

 Never performed VATS lobectomy 	<90 minutes	90-120 minutes	120-180minutes	180-240 minutes	>240 minutes
13	8	52	46	14	1
(10%)	(6%)	(39%)	(34%)	(10%)	(1%)

ports



Never performed VATS lobectomy	<2%	<u> </u>	5-10%	10-25 %	>25%	 Never performed VATS lobectomy 	0 <2%	2-5 %	5-10%	10-25 %	>
27 (19%)	22 (15%)	28 (20%)	27 (19%)	27 (19%)	12 (8%)	14 (10%)	35 (26%)	40 (30%)	34 (25%)	9 (7%)	(2%
*											



Conclusion

