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Quantum Leap: The Evolution of Hernia Repair, from Open, to Laparoscopic, to Robotic

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General Surgery
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• No Disclosures

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Objectives

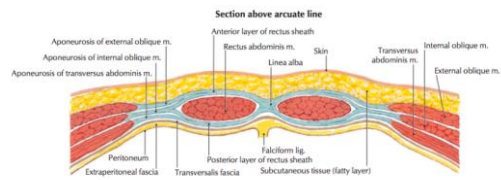
- Open hernia repair
- Laparoscopic hernia repair
- Why Robotic Hernia repair is better

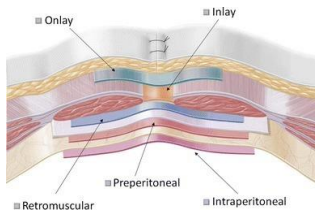
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Open Hernia Repair

- Advantages
 - Great Visualization
 - Tactile feedback
 - Meticulous dissection
 - Closure of defect
 - Mesh placement







Open Hernia Repair

- Disadvantages
 - Large incision
 - Pain
 - Surgical Site infection
 - Longer hospital stay and recovery

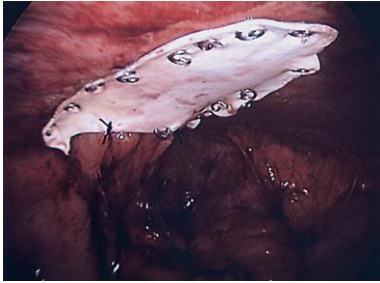


Laparoscopic Hernia Repair

- Advantages
 - Small incisions
 - Less Pain/Quicker Recovery/Less LOS
 - Less Surgical Site Infections
 - Easier Intraabdominal mesh placement







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Laparoscopic Hernia Repair

- Disadvantages
 - Sometimes difficult to close the defect
 - Intra-abdominal mesh placement
 - Expensive mesh and equipment
 - Non articulating instruments

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Robotic Hernia Repair

- Advantages
 - Best of both worlds!
 - Great 3D Visualization
 - Articulation of instruments
 - Meticulous dissection
 - Suturing
 - Closure of defect
 - Mesh placement
 - Small Incisions
 - Less Surgical site infections
 - Less Pain
 - Less Length of stay
 - Ergonomics



ACS Surgery News



BY KATH GRUBBS
 Editor, ACS Surgery News

The magazine has been acknowledging the burden of chronic surgery-related pain for a long time. It's a topic that has been on the cover of the magazine for years, and it's a topic that we continue to explore in depth. The magazine has been a platform for surgeons to share their experiences and to discuss the challenges they face. We've been working to raise awareness of this issue and to provide resources for surgeons to help them manage their pain. We've been working to create a community of support for surgeons who are struggling with pain. We've been working to provide information about the latest research and treatments for surgery-related pain. We've been working to provide information about the latest research and treatments for surgery-related pain. We've been working to provide information about the latest research and treatments for surgery-related pain.



Robotic Hernia Repair

- Advantages
 - Best of both worlds!
 - Great 3D Visualization
 - Articulation of instruments
 - Mesh placement
 - Small Incisions
 - Less Surgical site infections
 - Less Pain
 - Less Length of stay
 - Ergonomics
 - 4 Working hands/arms
 - Performing an open hernia repair by a laparoscopic approach



Robotic Hernia Repair

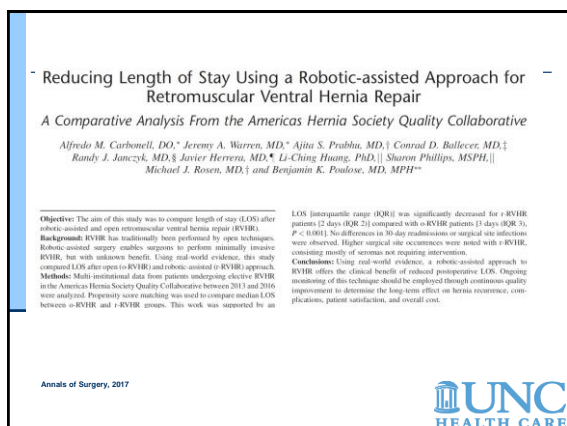
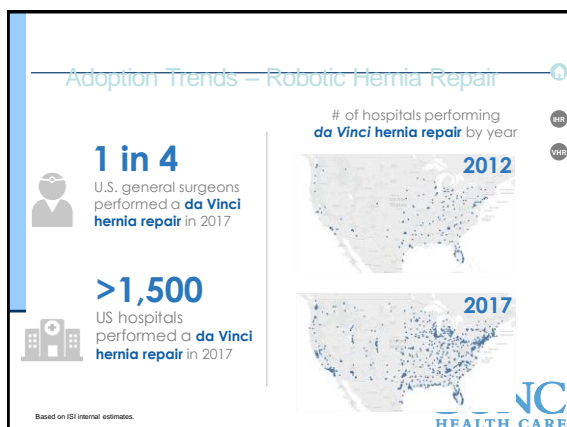
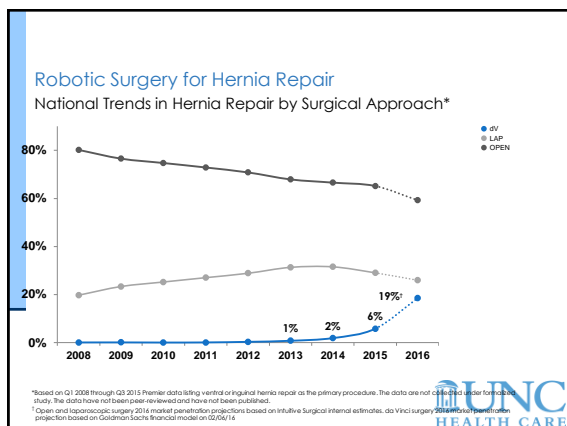
- Disadvantages
 - Longer OR times
 - Increased initial costs



What is Robotic Surgery?







Transition from Laparoscopic Totally Extraperitoneal Inguinal
Hernia Repair to Robotic Transabdominal Preperitoneal
Hernia Repair: A Retrospective Review of a Single Surgeon's
Experience
Rene Yoon-Rae, Joon-Cheon, Seung-Hyun, Seung-Hyun, Seung-Hyun

Surgical Times - Lap TEP IHR vs. Robotic-Assisted TAPP IHR:

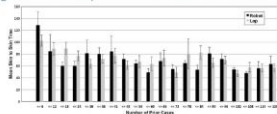


Fig. 1. Progression of operative time for Lap TEP and Robotic-Assisted TAPP IHR.

Author Comments:

- "There were **no significant differences between total surgical times**, with all cases in both groups averaging approximately **68 min** ($p = 0.9843$)"
- "The mean surgical time for the initial six R-TAPP procedures was 128.5 ± 22.97 min and decreased to 63.3 ± 13.38 min R-TAPP cases 115–118"
- "Comparison of surgical times for consecutive R-TAPP and L-TEP cases reveals **decreasing operative times with the completion of more cases.**"

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My Robotic Data*

- Cholecystectomy (including Single Site): 94
- Inguinal: 165
- Ventral: 56
- Colon: 10
- Paraesophageal: 9

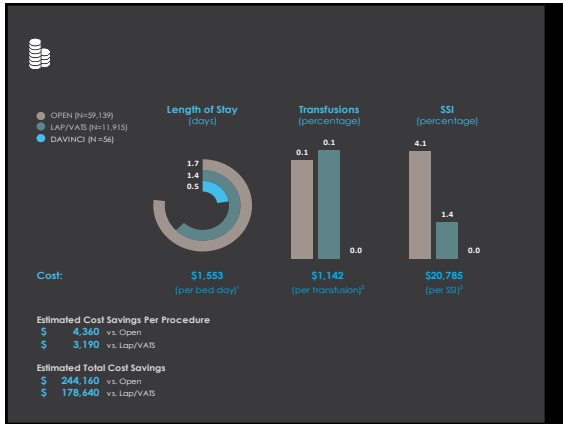
*as of Feb 2018



Inguinal Hernia Repair, 2017

FY17 CPT 49505, 49500 Charges for All Payors					
CPT and Attending Physician	All Payor Charges				
	Cases	Charge/Case	GRS/CASE	Off Charge/CASE	RSU Charge/CASE
CPT 49505 RPP INHERN INT REDUC +S	183	\$ 14,180	\$ 11,760	\$ 9,724	\$ 2,336
	70	\$ 13,200	\$ 10,200	\$ 8,603	\$ 1,410
	1	\$ 10,500	\$ 9,700	\$ 9,000	\$ 2,000
KIM, EDWARD HAN (14464)	80	\$ 15,204	\$ 12,212	\$ 10,210	\$ 2,007
	4	\$ 11,431	\$ 9,803	\$ 8,234	\$ 1,680
	10	\$ 18,100	\$ 16,801	\$ 12,710	\$ 3,110
CPT 49505 LAP RIG HERNIA REPAIR IN	640	\$ 22,402	\$ 20,213	\$ 17,365	\$ 2,818
	19	\$ 21,770	\$ 19,210	\$ 17,805	\$ 1,551
	81	\$ 23,408	\$ 21,231	\$ 17,777	\$ 3,453
KIM, EDWARD HAN (14464)	102	\$ 23,300	\$ 21,080	\$ 18,497	\$ 2,620
	11	\$ 22,701	\$ 20,586	\$ 18,881	\$ 3,100
	90	\$ 21,607	\$ 19,855	\$ 17,400	\$ 2,105
Grand Total	420	\$ 25,601	\$ 23,255	\$ 19,517	\$ 3,589
	123	\$ 15,341	\$ 13,472	\$ 11,120	\$ 2,350





Future of Robotic

- Form Factor will get smaller and more advanced
- Due to competition, instrumentation will get cheaper

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