

Hernia Mesh Repair Results in Significant Improvement in Quality of Life in 1,735 Patients at 5 Years

Beau Forester BA¹, Mikhail Attaar MD¹, Maya Lach, Sebastian Chirayil MA¹, Kristine Kuchta MS¹, Woody Denham MD¹, John Linn MD, Stephen Haggerty MD¹, JoAnn Carbray BS¹, Michael Ujiki MD¹

¹Minimally Invasive Surgery, NorthShore University HealthSystem, Evanston, IL



Introduction

- Inguinal hernia repair is one of the most common operations performed in the United States [1,2].
- Regardless of operative approach, the use of mesh is recommended in most situations primarily because of a lower recurrence rate compared to repairs performed without mesh [1,3-6].
- Some patients refuse the use of mesh due to a variety of reasons, but primarily due to the negative media coverage of mesh related to gynecological operations which have led to lawsuits [1].
- The purpose of this study is to report short and long-term postoperative quality of life outcomes at up to 5-years in patients following laparoscopic, open, or robotic inguinal hernia repair with mesh.

Methods

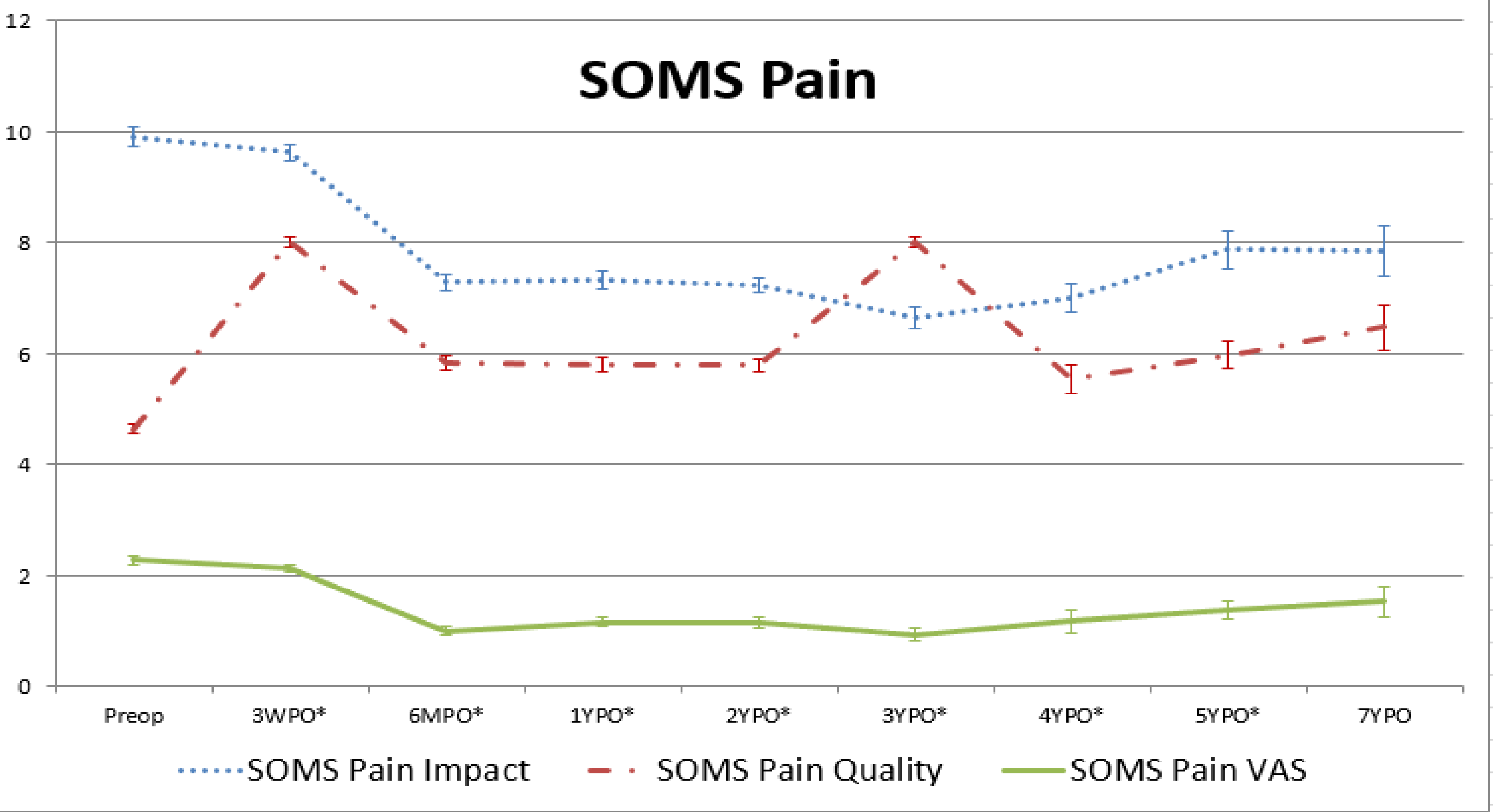
- Consecutive patients (n = 1735) from 2009-2020 undergoing laparoscopic, open, or robotic inguinal hernia repair at a single institution were identified from a prospectively maintained quality database.
- All surgeries were performed by one of four surgeons, using either a total extraperitoneal (TEP) or trans-abdominal preperitoneal (TAPP) approach.
- Quality of life (QoL) was measured using the Surgical Outcomes Measurement System (SOMS) and Carolinas Comfort Scale (CCS) surveys that were given pre-operatively and at 3 weeks, 6 months, 1 year, 2 years, 3 years, 4 years, 5 years, and 7 years postoperatively

Table 1. Patient Characteristics	All
Total Patients	1735
Male [N(%)]	1551 (89.4)
Age at Surgery, years [Mean ± SD]	60 ± 15
BMI, kg/m ² [Mean ± SD]	26.0 ± 3.7
Obese [N(%)]	215 (12.4)
Smoking Status [N(%)]	
Never	1099 (63.3)
Former	535 (30.8)
Current	101 (5.8)
COPD [N(%)]	47 (2.7)
Emergent [N(%)]	4 (0.2)
Recurrent Hernia [N(%)]	226 (13.0)
Duration of Hernia, months [Median (Q1-Q3)]	90 (30-365)
Incarcerated [N(%)]	42 (2.4)
Strangulated [N(%)]	9 (0.5)
Obstruction [N(%)]	16 (0.9)

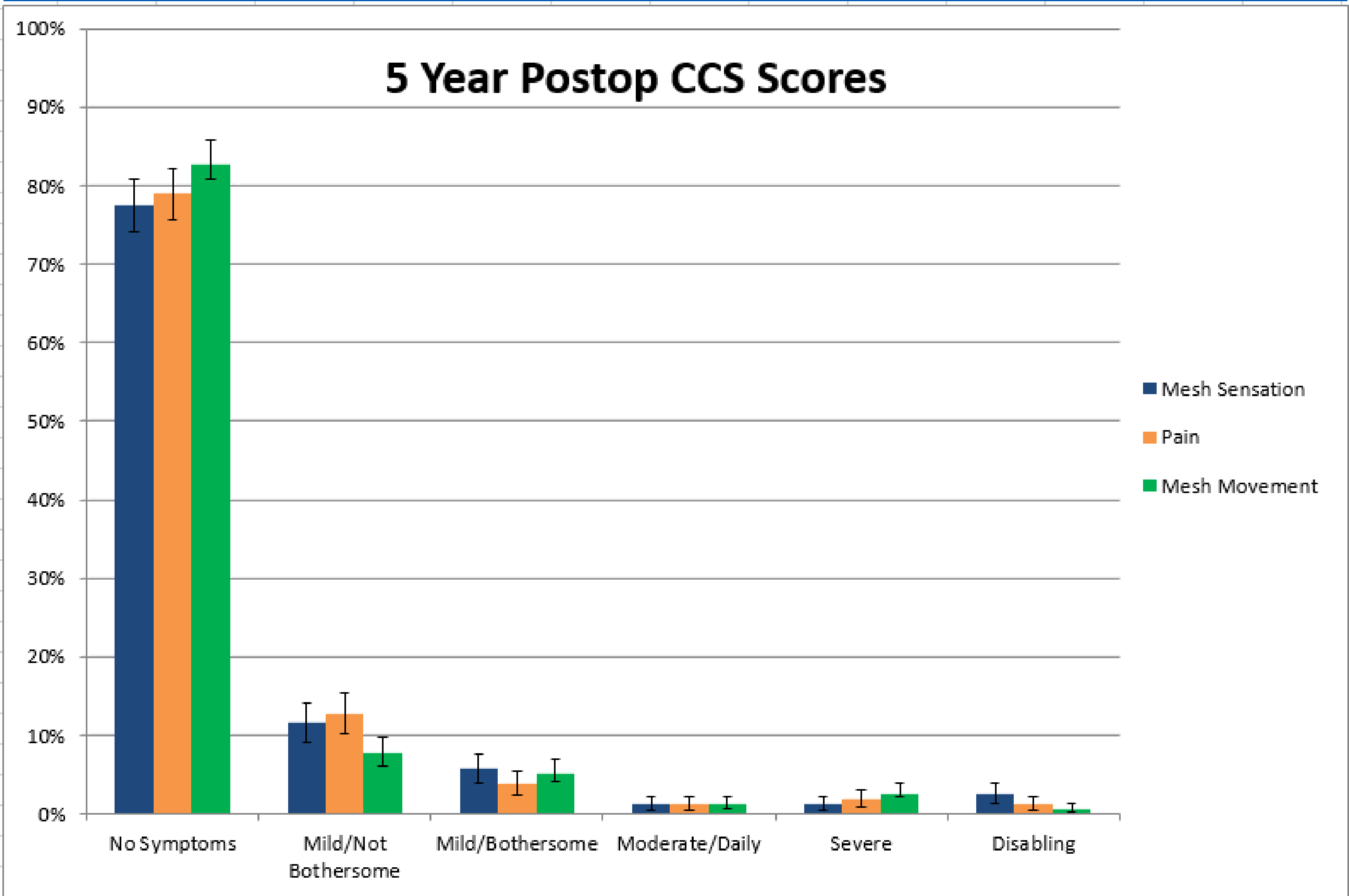
Results

Table 2. Surgical Characteristics	All
Hernia Laterality [N(%)]	
Left	494 (28.5)
Right	710 (40.9)
Bilateral	531 (30.6)
OR Time, minutes	
Unilateral	41 ± 27
Bilateral	53 ± 27
TEP [N (%)]	1501 (86.5)
Intraoperative complications [N (%)]	22 (1.3)

Table 3. Post-Operative Outcomes	All
Length of Stay, hours [Median (Q1-Q3)]	7 (6-8)
Pain Medication Stopped, days [Median (Q1-Q3)]	1 (0-2)
Return to ADL, days [Median (Q1-Q3)]	4 (2-7)
ED Visits with 30 Days [N(%)]	68 (3.9)
Readmission with 30 Days [N(%)]	18 (1.0)
Surgical Site Infection [N(%)]	6 (0.3)
Mesh Infection [N(%)]	1 (0.1)
Seroma [N(%)]	161 (9.3)
Hematoma [N(%)]	31 (1.8)
Followup, months [Median (Q1-Q3)]	6 (1-24)
Recurrence [N(%)]	36 (2.1)



Results



Discussion and Conclusions

- Inguinal hernia repair with mesh results in a low rate of complications.
- Few patients returned to the ED and fewer were readmitted. Only one patient developed a mesh infection and required mesh explantation.
- Our recurrence rate of 2.1% is comparable with similar studies.
- Short-term quality of life survey scores all improved from preoperative surveys.
- Long-term quality of life results were similarly improved: CCS scores across all three domains at 5 years indicated that the majority of patients experienced either none or non-bothersome symptoms. At 5 years postoperatively all SOMS pain scores significantly improved from preoperative scores.
- Inguinal hernia repair with mesh results in a low recurrence rate and a low complication rate with significant improvement in health-related quality of life

References:

- The HerniaSurge Group (2018) International guidelines for groin hernia management. Hernia 22:1–165.
- Hammoud M, Gerken J (2020) 2 Inguinal Hernia. In: StatPearls. StatPearls Publishing, Treasure Island (FL)3.
- Simons MP, Aufenacker T, Bay-Nielsen M, Bouillot JL, Campanelli G, Conze J, de Lange D, Fortelny R, Heikkinen T, Kingsnorth A, Kukleta J, Morales-Conde S, Nordin P, Schumpelick V, Smedberg S, Smietanski M, Weber G, Miserez M (2009) 3 European Hernia Society guidelines on the treatment of inguinal hernia in adult patients. Hernia 13:343–403.
- Nakagawa M, Nagase T, Imai S, Fujimura N, Asagoe T, Kanai T (2013) 4 A randomized prospective trial comparing clinical outcomes 3 years after surgery by Marcy repair and Prolene Hernia System® repair for adult indirect inguinal hernia. Surg Today 43:1109–1115.
- Nordin P, Bartelmess P, Jansson C, Svensson C, Edlund G (2002) 5 Randomized trial of Lichtenstein versus Shouldice hernia repair in general surgical practice. Br J Surg 89:45–49.
- Shi Y, Su Z, Li L, Liu H, Jing C (2010) 6 Comparing the effects of Bassini versus tension-free hernioplasty: 3 years’ follow-up. Front Med China 4:463–468.