

Hernia in Women:

Why Laparoscopy May Be the Best Choice

2025.12.20



台灣疝氣醫學會



座長
葉啓娟 醫師



座長
李永進 副院長



講者
唐慈翊



現職

- 小港醫院 泌尿科 主治醫師

學歷

- 高雄醫學大學 臨床醫學研究所 博士班
- 國立台灣大學 解剖學暨細胞生物學研究所 碩士
- 高雄醫學大學 學士後醫學系 醫學士

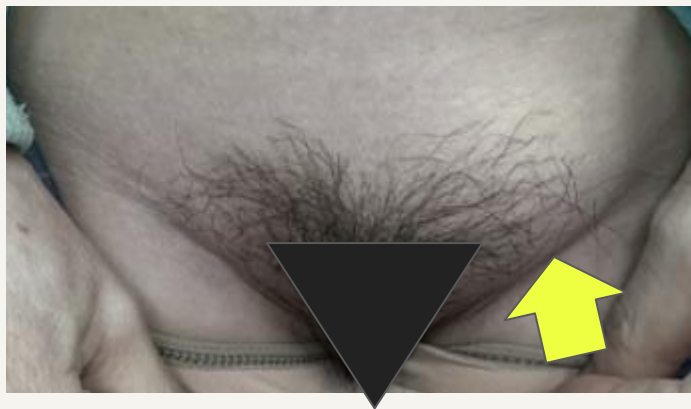
經歷

- 高雄醫學大學附設醫院 泌尿科住院醫師
- 高雄醫學大學附設醫院 不分科住院醫師
- 高雄醫學大學 解剖科 助教

34歲女性

左側腹股溝疝氣

興趣是衝浪



女生腹股溝疝氣 不等於 男生腹股溝疝氣



27%



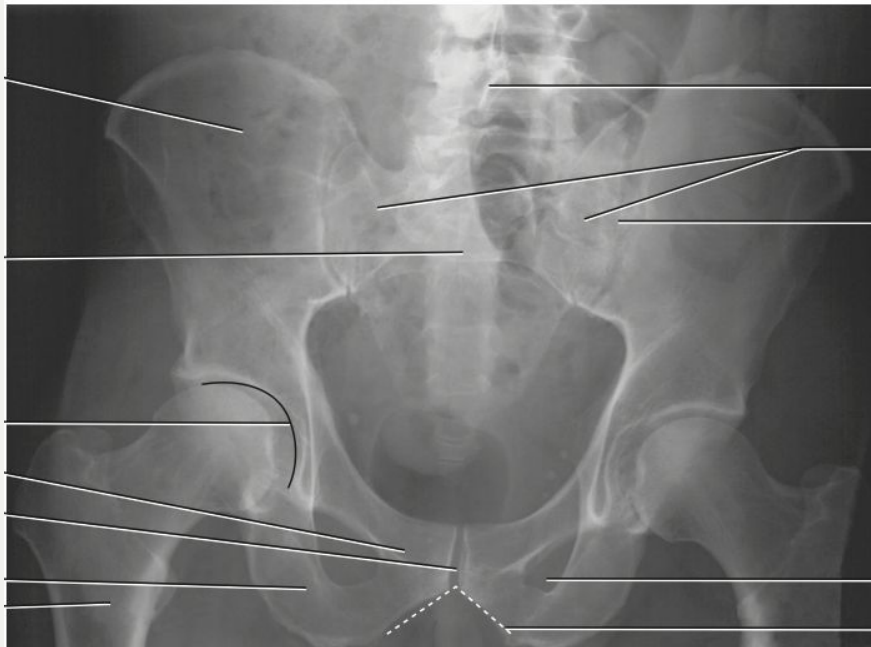
3%

Lifetime risk of developing a groin hernia:

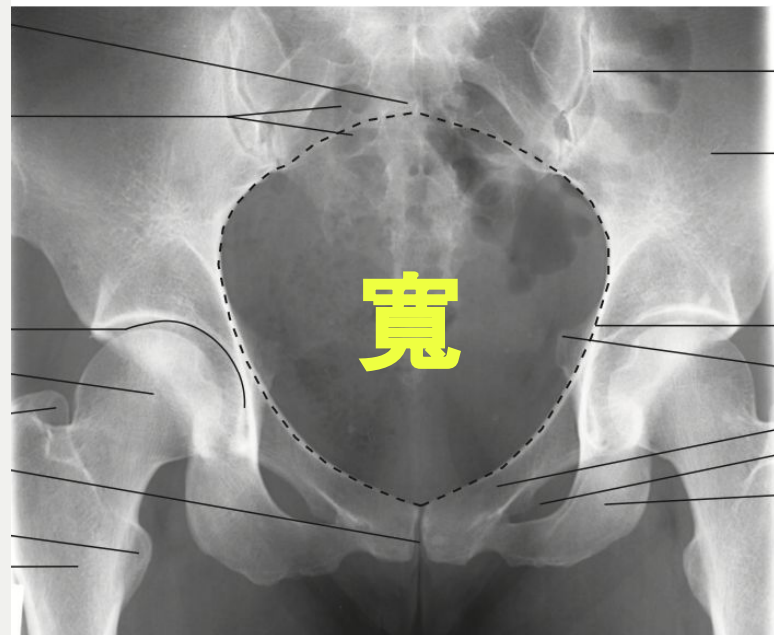
While less common, the pathology and risks in women are distinct and carry higher stakes.

腹股溝疝氣解剖差異：女生骨盆較寬

Male Pelvis



Female Pelvis

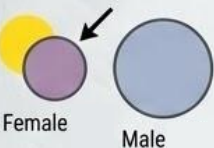


女性內環 更遠、更外側、更小；腹直肌 更寬

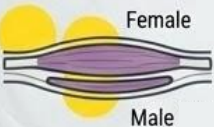
26 male, 24 female adult specimens



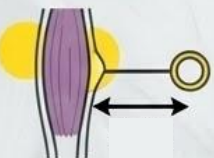
恥骨結節→內環:女遠



內環直徑大小:女小



腹直肌的寬度:女寬



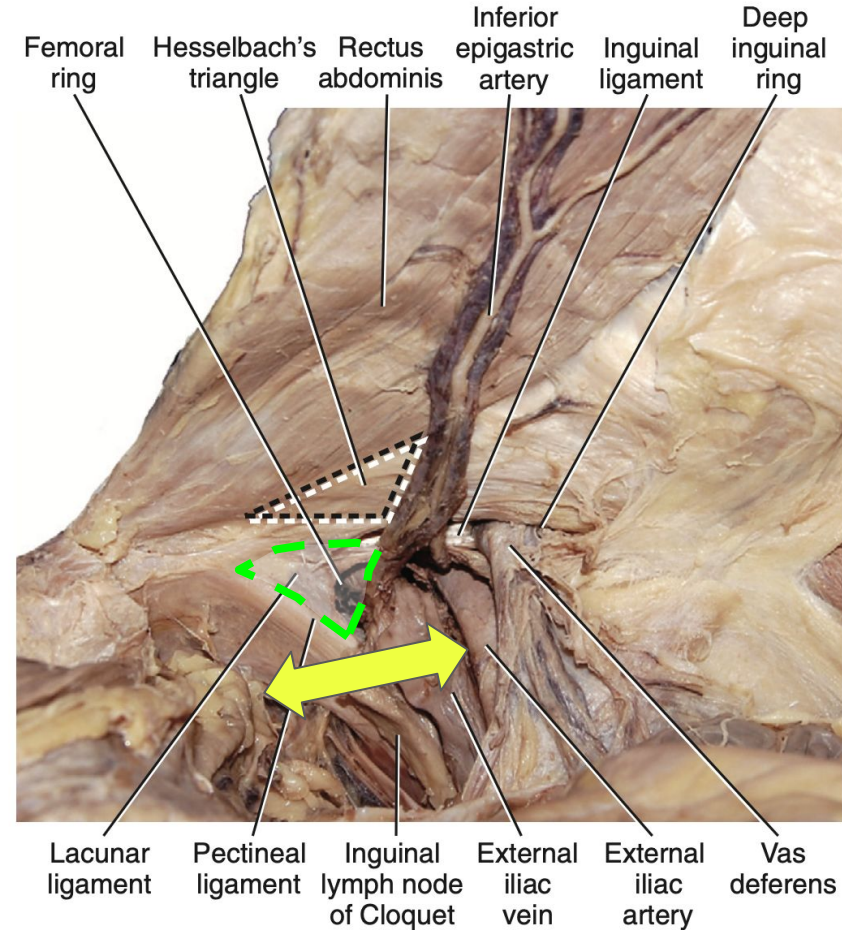
腹直肌內緣→內環距離:女遠

Table 1. Statistical evaluation of the anatomic variations between both sexes

	Average (males, females)		SD (males, females)		Significance of differences (t, p)	
Distance between pubic tubercle and internal ring	31.86	35.68	5.20	6.34	1.81	0.50 < p < 0.10
Diameter of internal ring	1.82	1.09	2.73*	0.46	1.32	p > 0.05
Width of rectus muscle	26.39	29.78	3.30	2.72	2.81	p < 0.01
Distance between rectus muscle and internal ring	26.18	29.30	6.94	5.31	1.32	p > 0.05

骨盆寬，股孔(Femoral canal)相對寬

- small (1-2cm), tough, fixed, non-expandable foramen
- surrounded by **rigid** structures
- most easily incarcerated/strangulated hernia type



Prospective evaluation of 6895 groin hernia repairs in women

A. Koch¹, A. Edwards⁴, S. Haapaniemi², P. Nordin³ and A. Kald¹

Departments of Surgery, ¹University of Linköping, Linköping, ²Vrinnevi Hospital, Norrköping and ³Östersund Hospital, Östersund, Sweden, and ⁴Surgical Directorate, Arrowe Park Hospital NHS Trust, Wirral, UK

Correspondence to: Dr A. Kald, Department of Surgery, University of Linköping, 58185 Linköping, Sweden (e-mail: anders.kald@lio.se)

Source: Swedish Hernia Register (1992-2003) | N=90,648

Study Population

6,895
Women
(8% of total)

83,753
Men
(92% of total)

Despite representing only 8% of repairs, women face disproportionately higher risks.

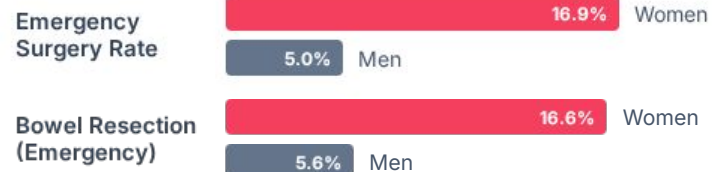
Femoral hernia in recurrent hernia

41.6%

of women re-operated for "recurrence" actually had a missed Femoral Hernia.

only **4.6%** in men.

Urgency & Severity




Anatomy: Femoral Hernia Prevalence




Femoral hernias account for **52.6%** of emergency repairs in women.

Danish Hernia Database: Higher Reoperation Rate in Women

Study Overview

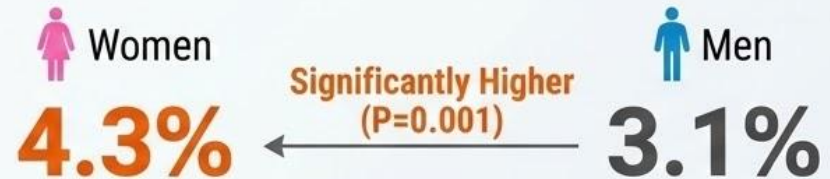
 Danish Hernia Database

 1998-2003; Mean follow-up:
5.5 years

 3,696 female inguinal
herniorrhaphies

Key Findings

Reoperation Rate



Femoral Hernia Prevalence



女性腹股溝疝氣之獨特

The NEW ENGLAND JOURNAL of MEDICINE

CLINICAL PRACTICE

Caren G. Solomon, M.D., M.P.H., *Editor*

Groin Hernias in Adults

Robert J. Fitzgibbons, Jr., M.D., and R. Armour Forse, M.D., Ph.D.

- 股疝機率高
- 股疝易嵌頓
- 女性疝氣較易到急診

- Femoral hernias occur more often in women than in men, are associated with much higher risk of strangulation, and can be difficult to distinguish from inguinal hernias; watchful waiting is not recommended in women.

34歲女性

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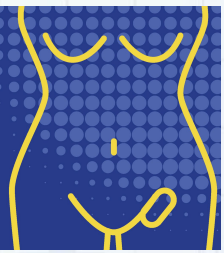
- 開放式修補
- 腹腔鏡手術




European Hernia Society (EHS) 2009

Inguinal hernia in women

Groin hernia
management




Conclusions

 Higher risk of recurrence after open inguinal hernia operation (**2C**).

 High proportion of recurrences are femoral hernias (**2C**).

 Females have increased risk of **chronic pain** after hernia surgery.

Recommendations

 Exclude femoral hernia in all female groin hernia cases (**Grade D**).

 Consider preperitoneal (endoscopic) approach for female hernia repair (**Grade D**).

Women are less likely to receive guideline-concordant treatment and also have lower satisfaction with surgical outcomes.

Guideline-discordant care among females undergoing groin hernia repair: the importance of sex as a biologic variable

A. P. Ehlers^{1,2} · J. R. Thumma¹ · R. Howard^{1,2} · G. H. Davidson³ · J. F. Waljee^{1,2} · J. B. Dimick^{1,2} · D. A. Telem^{1,2}

Michigan Surgical Quality Collaborative (MSQC)
2014/01/01 – 2019/09/24 elective surgery
Minimally-invasive hernia surgery (MIS) = 腹腔鏡
男: 21,504 人 (90.7%) 女: 2,219 人 (9.3%)
完成術後問卷 (decision regret): 4,325 人 (約 18%)

女性腹股溝疝氣：照護與滿意度落差



女性 MIS 使用率較低
(37% vs 男性 45%)



女性接受 MIS 的可能性較低 (aOR 0.88)



女性後悔率較高 (12.9% vs 8.5%)

但有兩類人較容易接受 MIS：

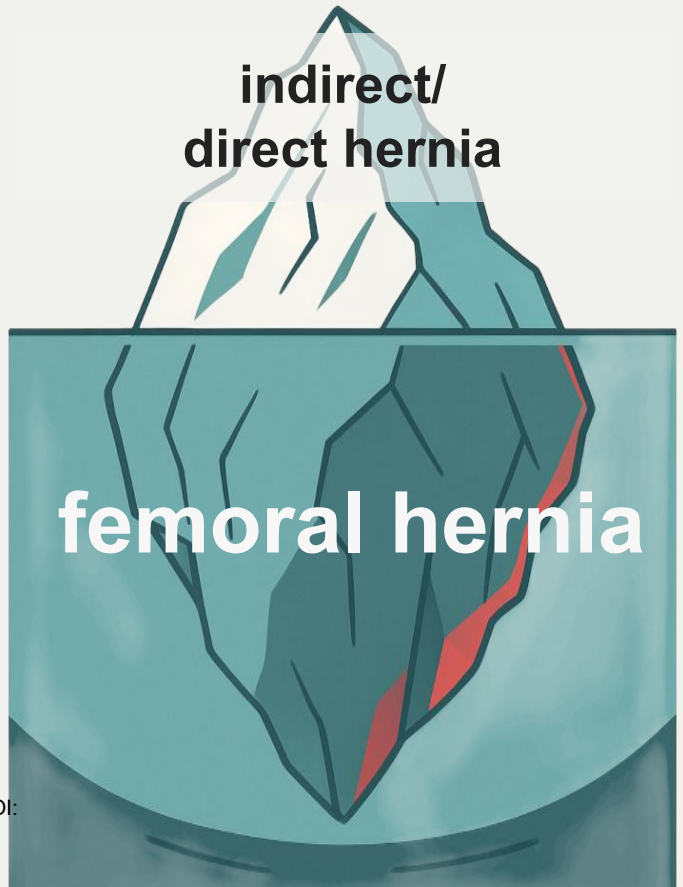
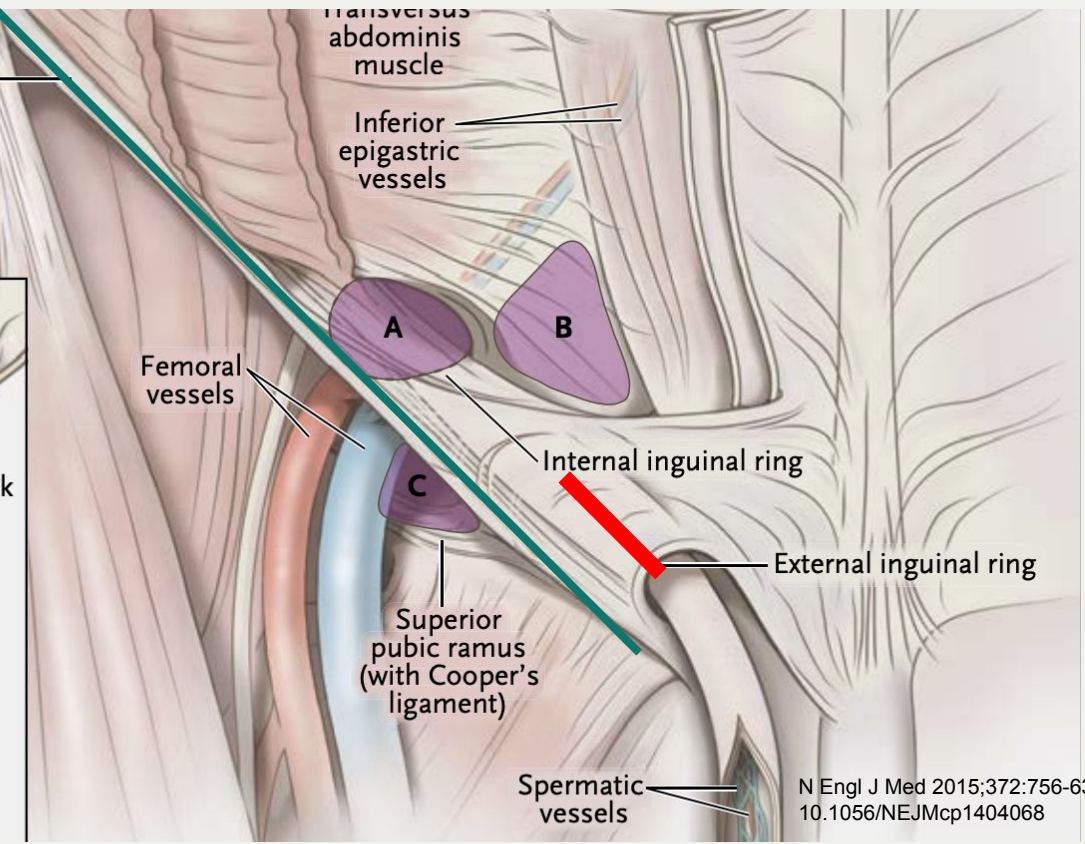


Bilateral hernia (aOR 4.91)



Teaching hospital (aOR 1.45)
Large hospitals (>300 床)

開放式修補：視野受限、易漏診



N Engl J Med 2015;372:756-63. DOI: 10.1056/NEJMcp1404068

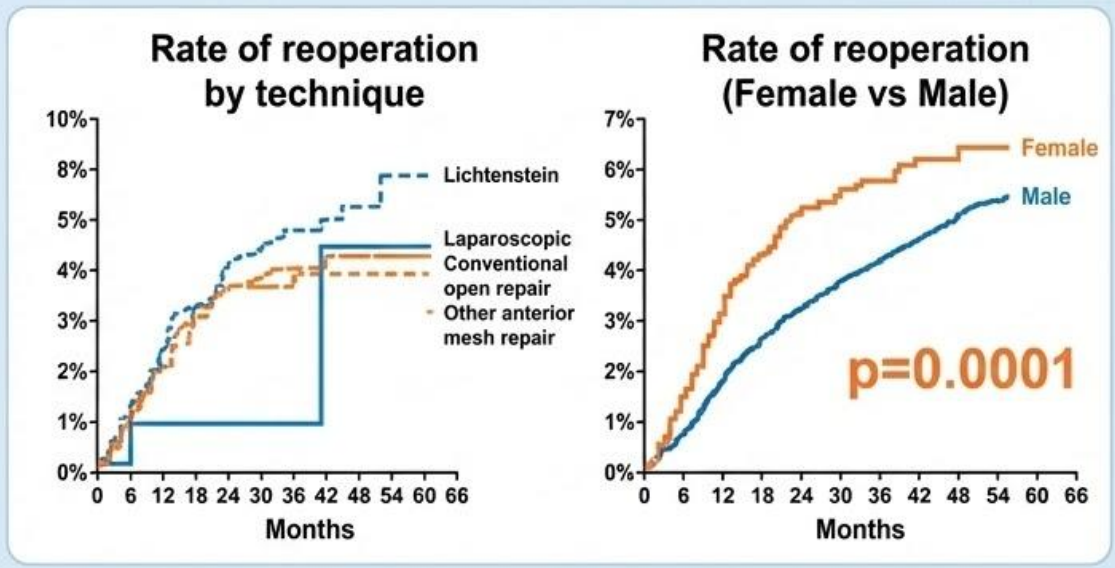
女性開放式腹股溝疝氣手術 較男性 更易復發



Morten Bay-Nielsen · Henrik Kehlet
Inguinal herniorrhaphy in women

- Danish Hernia Database: Prospective registry database;
- Retrospective cohort analysis; Observational study, 97% open repair
- Reoperation hernia type:

54% inguinal
42% femoral
4% other



Recurrence Rates After Repair of Inguinal Hernia in Women A Systematic Review

Line Schmidt, BSc; Stina Öberg, MD; Kristoffer Andresen, PhD; Jacob Rosenberg, DMSc



55 篇研究、43,870 女性，~ 2018/8; Follow up: 6 mo ~ 10 y
RCT, prospective cohort, retrospective cohort, registry studies

	Bona et al., ¹⁵ 2018	Burcharth et al., ¹⁹ 1983	Moreno-Egea, ¹⁶ 2014	Solhaug, ¹⁸ 1984	Zieren et al., ¹⁷ 1998
Random sequence generation (selection bias)	⊕	⊕	⊕	⊕	⊕
Allocation concealment (selection bias)	⊕	⊕	⊕	⊕	⊕
Blinding of participants and personnel (performance bias)	⊕	⊕	⊕	⊕	⊕
Blinding of outcome assessment (detection bias)	⊕	⊕	⊕	⊕	⊕
Incomplete outcome data (attrition bias)	⊕	⊕	⊕	⊕	⊕
Selective reporting (reporting bias)	⊕	⊕	⊕	⊕	⊕
Other bias	⊕	⊕	⊕	⊕	⊕



總復發率 = 2.6%

- 腹腔鏡 1.2% vs. 開放 4.9%;
- RCT 一致支持腹腔鏡手術 0.5%
- 再復發是股疝機率: 0% v.s 41–43%

開放式修補 女性 更易有慢性疼痛

Table 4. DEMOGRAPHICS AND SURGICAL FACTORS

		Surgical procedures	Pain (%)	Functional impairment (%)
Demographics				
Age group	18-40	179	39.7 (32.4-47.2)	11.2 (7.0-16.8)
	41-65	579	33.2 (29.36-37.2)	15.2 (12.4-18.4)
	65+	408	17.6 (14.1-21.7)	6.1 (4.0-8.9)
Operation for recurrence	No	969	27.7 (24.9-30.6)	10.9 (9.0-13.1)
	Yes	197	34.1 (27.4-41.1)	13.7 (9.2-19.3)
Gender	Male	1,073	28.0 (25.3-30.8)	11.0 (9.2-13.0)
	Female	93	37.6 (27.8-48.3)	16.1 (9.3-25.3)

Pain and Functional Impairment 1 Year After Inguinal Herniorrhaphy: A Nationwide Questionnaire Study

Morten Bay-Nielsen, MD,* Frederick M. Perkins, MD,† and Henrik Kehlet, PhD,* for the Danish Hernia Database



男性



Pain (%):
28.0 (25.3-30.8)



Functional impairment (%):
9.3 (7.8-10.8)

主要分析族群: 1,166 人 (回收率 80.8%)
回報有疼痛、寄出第 2 份問卷: 335 人
回收第 2 份問卷 (疼痛細節分析): 278 人 (回收率 83.0%)



女性



Pain (%):
37.6 (27.8-48.3)



Functional impairment (%):
12.2 (9.6-15.4)



Bay-Nielsen, M. Danish Hernia Database (2001). Pain and functional impairment 1 year after inguinal herniorrhaphy: a nationwide questionnaire study. *Annals of surgery*, 233(1), 1-7.

開放式修補 女性 更易有 疼痛相關的功能性損傷

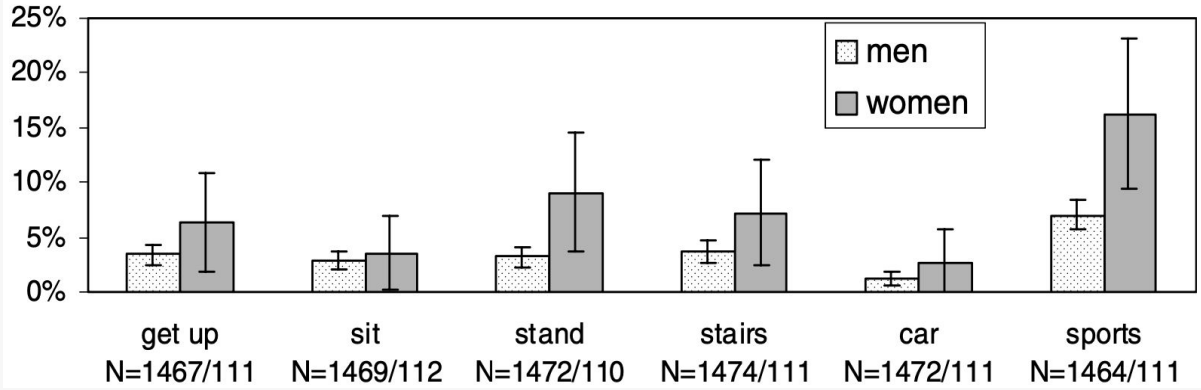


Long-term pain after inguinal hernia repair in a population-based cohort; risk factors and interference with daily activities

Maija-L. Kalliomäki ^{a,c,*}, Josefine Meyerson ^{a,b,e}, Ulf Gunnarsson ^{a,c},
Torsten Gordh ^{a,b,e}, Gabriel Sandblom ^{a,c,d}

- Swedish Hernia Register (SHR), 1998–2004, *Inguinal Pain Questionnaire (IPQ)*
- Female patients: 133 (7.6%), f/u 6 months to 7 years post-surgery
- Long-term Pain: **OR 1.16** (95% CI 0.76–1.79)
- Pain-Related Functional Impairment: **OR 3.05** (95% CI 1.63–5.60):
- Analgesic use: **19%** vs 6% (p < 0.006)

Laparoscopic repair = protective factor OR 0.48 (95% CI 0.31–0.75)



慢性疼痛：女性開放式修補比腹腔鏡手術 更痛

Female 'groin' hernia: totally extraperitoneal (TEP) endoscopic repair seems the most appropriate treatment modality

N. Schouten · J. P. J. Burgmans · T. van Dalen · N. Smakman ·
G. J. Clevers · P. H. P. Davids · E. J. M. M. Verleisdonk ·
S. G. Elias · R. K. J. Simmermacher



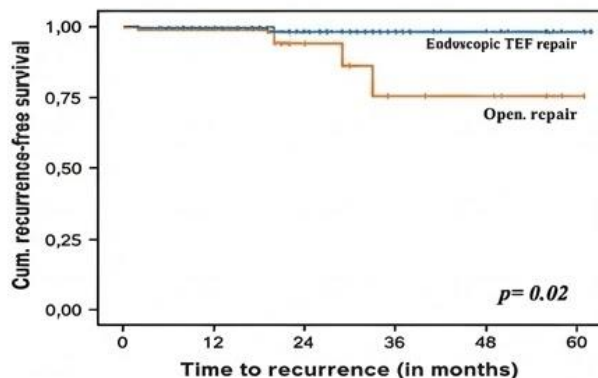
Retrospective cohort study;



183 groin hernias, 164 women. TEP 85%, open 15%



開放修補原因：不適合全麻、術者偏好、 >80 歲、既往腹部手術、病人希望硬膜外



No. of hernias at sick	TEP	Open
0	140	24
12	118	19
24	76	19
36	42	6
48	24	4
60	4	1

Fig. 1 Recurrences after TEP and open hernia repair



慢性疼痛 (VAS ≥ 4)



TEP : 6.4% (8/125)



Open : 21.7% (5/23)



$\rightarrow p=0.03$

女性是開放式疝氣修補 感染風險的獨立因子 (Level 2C)

- Herniated Registry 多變量分析 (大型歐洲疝氣資料庫)
- 在開放性手術中，女性發生傷口癒合問題的風險幾乎是男性的 **2 倍**

Parameter	p	Categories	OR estimate	95 % CI	
				Lower CL	Upper CL
Operation technique	<0.001	Laparoscopic versus open	0.318	0.230	0.439
ASA score	<0.001	II versus I	0.750	0.524	1.073
		III versus I	1.301	0.795	2.129
		IV versus I	4.226	1.579	11.311
Sex	<0.001	Male versus female	0.531	0.369	0.764
Primary operation	0.008	Yes versus no	0.601	0.412	0.876
Antibiotic prophylaxis	0.021	Yes versus no	0.706	0.525	0.949
Defect size	0.107	I (<1.5 cm) versus III (> 3 cm)	0.618	0.387	0.984
		II (1.5–3 cm) versus III (>3 cm)	0.789	0.574	1.085

歐洲疝氣協會指引 (2023)

女性為 嵌頓型疝氣 的
獨立危險因子

女性 為 慢性術後腹股
溝疼痛 的獨立危險因
子

女性為 復發 的獨立危
險因子

specialist hernia surgeon is recommended. Risk factors for hernia incarceration/strangulation include: **female** gender, femoral hernia and a history of hospitalization related to groin hernia. It is suggested that treatment of emergencies

0.5 to 6%. Chronic postoperative inguinal pain (CPIP) is defined as bothersome moderate pain impacting daily activities lasting at least 3 months postoperatively and decreasing over time. CPIP risk factors include: young age, **female** gender, high preoperative pain, early high postoperative pain, recurrent hernia and open repair. For CPIP the

Recurrent inguinal hernia

Risk factors for RIH with a high level of evidence include **female** gender,^{49–59} direct versus indirect IH,^{58, 59} annual IH repair volume of less than five cases⁶⁰ and limited surgical experience.^{56, 61–68} However, this last risk factor may be

開放式修補：只看到冰山一

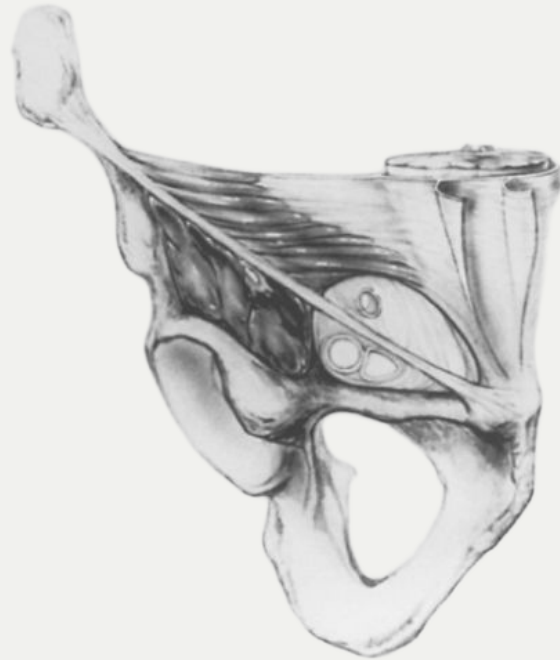
面 1. 忽略股疝

a. 嵌頓/腸壞死

2. 易復發

3. 易慢性疼痛

4. 易感染





CHAPTER 16 GROIN HERNIAS IN WOMEN

Provided expertise is available, it is suggested that women with groin hernias undergo laparo-endoscopic repair in order to decrease chronic pain risk and avoid missing a femoral hernia. Watchful waiting is suggested in pregnant women as groin swelling most often consists of self-limited round ligament varicosities. Timely mesh repair by a laparo-endoscopic approach is suggested for femoral hernias provided expertise is available.

RECOMMENDATIONS

STRONG: Provided that expertise is available, women with groin hernias are recommended to undergo laparo-endoscopic repair with mesh implantation.

Timely hernia repair is recommended in women with groin hernias.

Physicians should consider femoral hernia in the differential diagnosis of groin swelling in women.

WEAK: Watchful waiting is suggested in pregnant females with groin swelling.

It is suggested to avoid division of the round ligament in open repair. Division of the round ligament is optional in laparo-endoscopic repair, but should preferentially be performed proximal to the genital branch meeting at the fusion with the peritoneum.



CHAPTER 16 GROIN HERNIAS IN WOMEN

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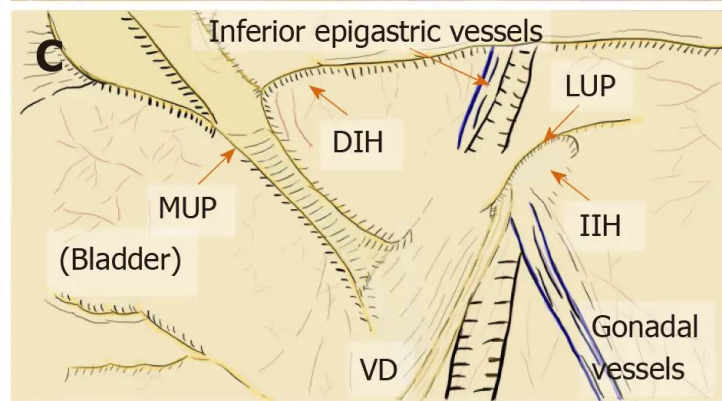
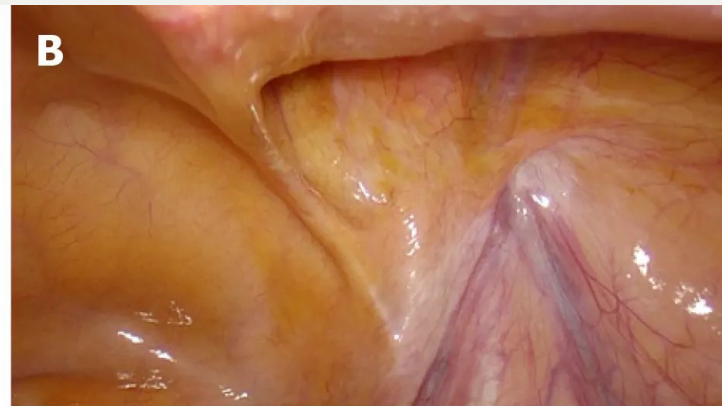
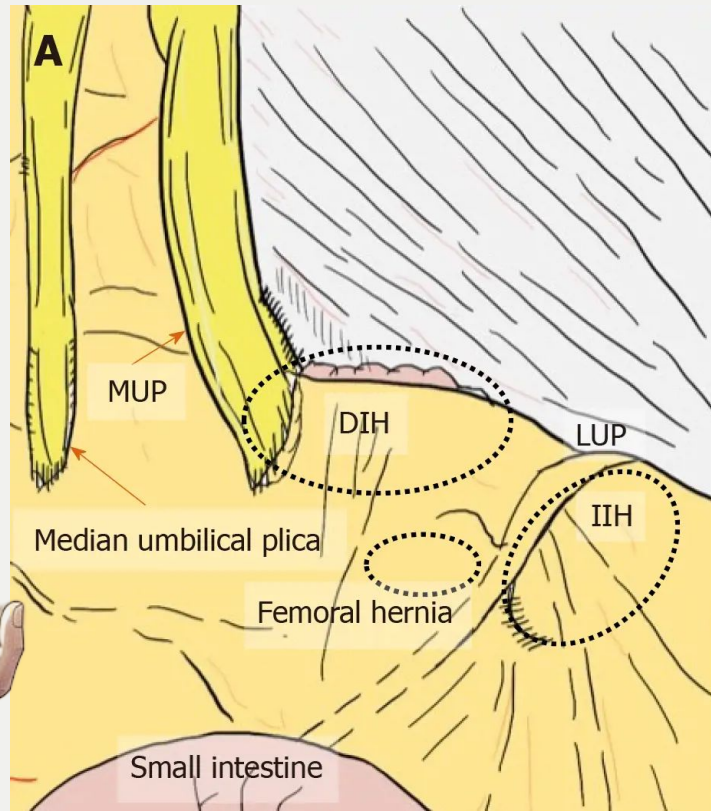
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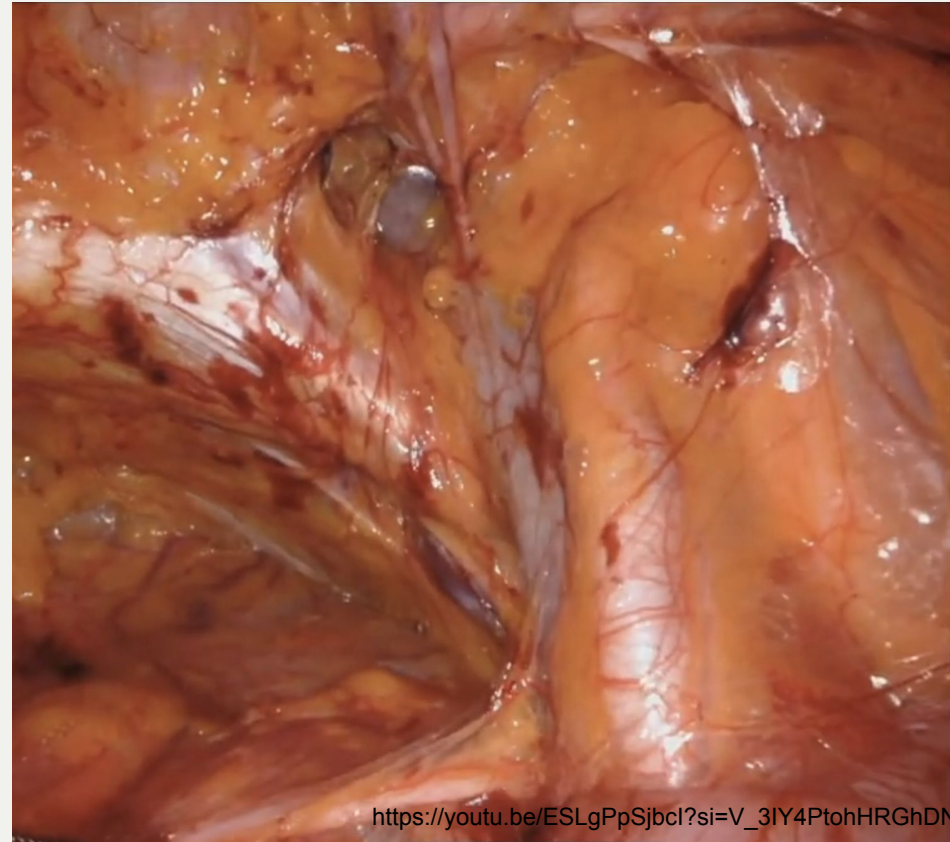
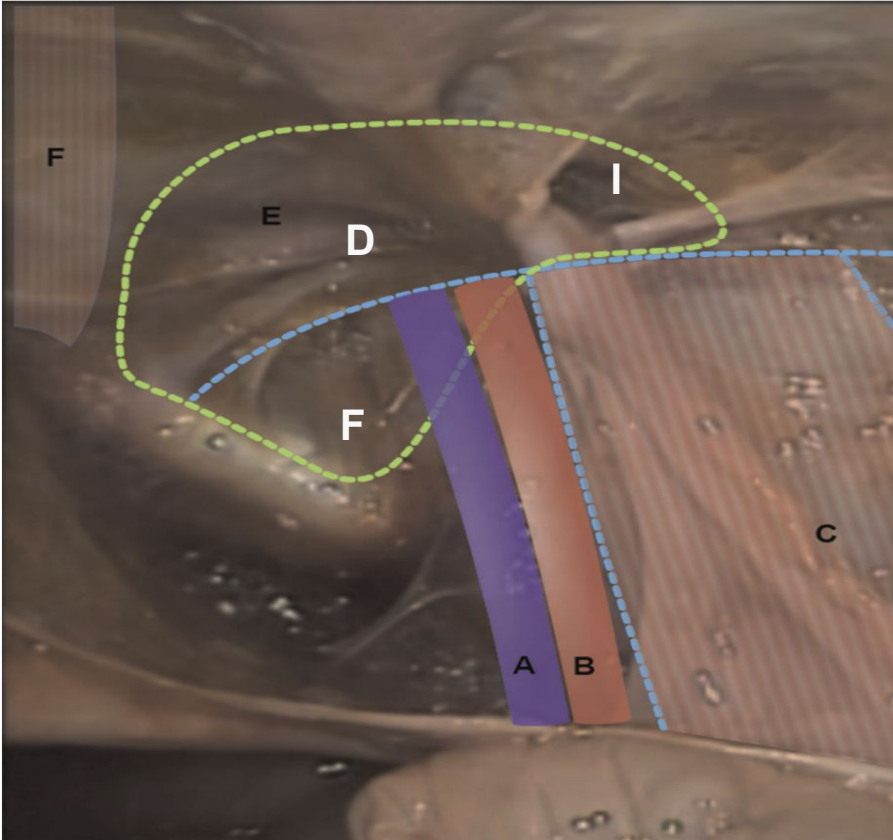
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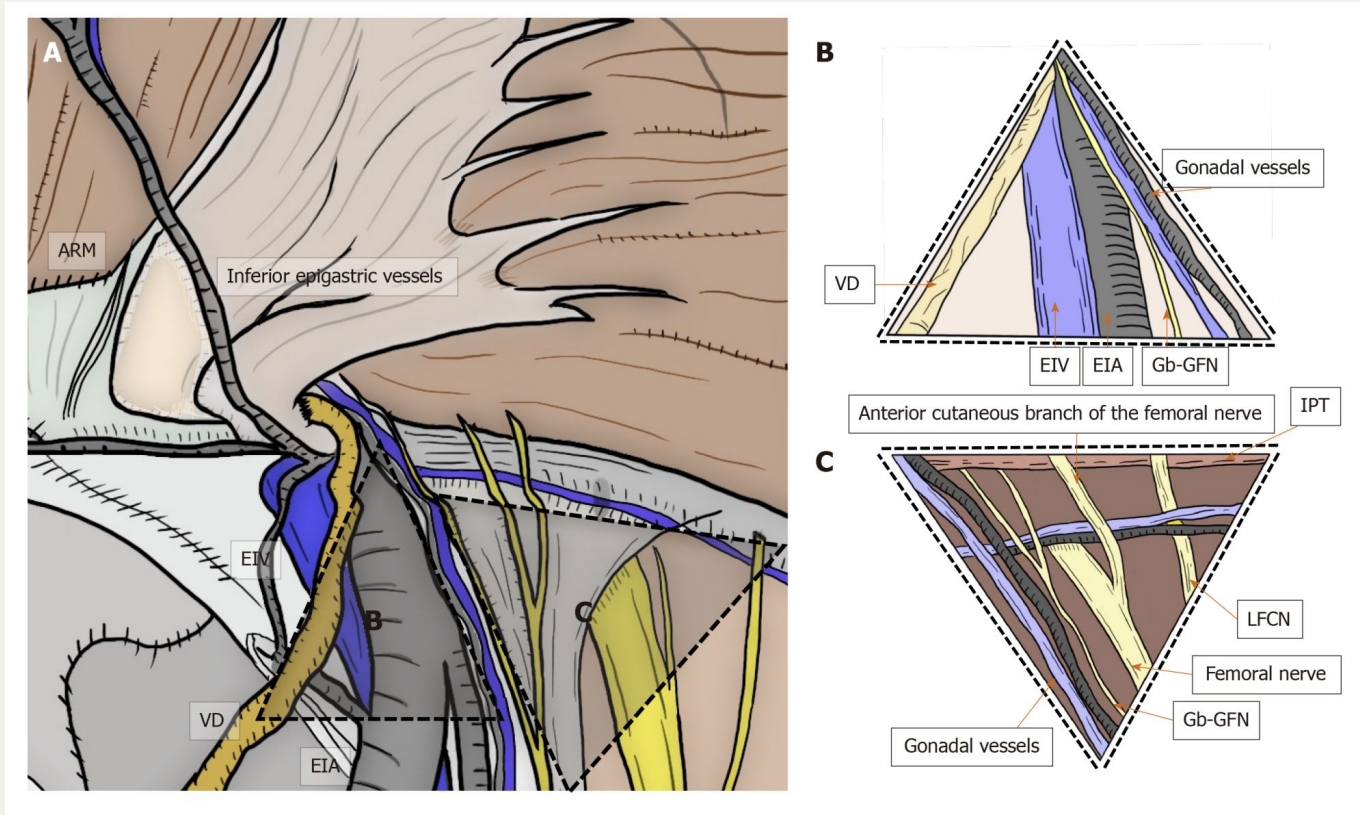
腹腔鏡：上帝視角 - 完整解剖視野、避免復發和疼痛



一次搞定，不留後患



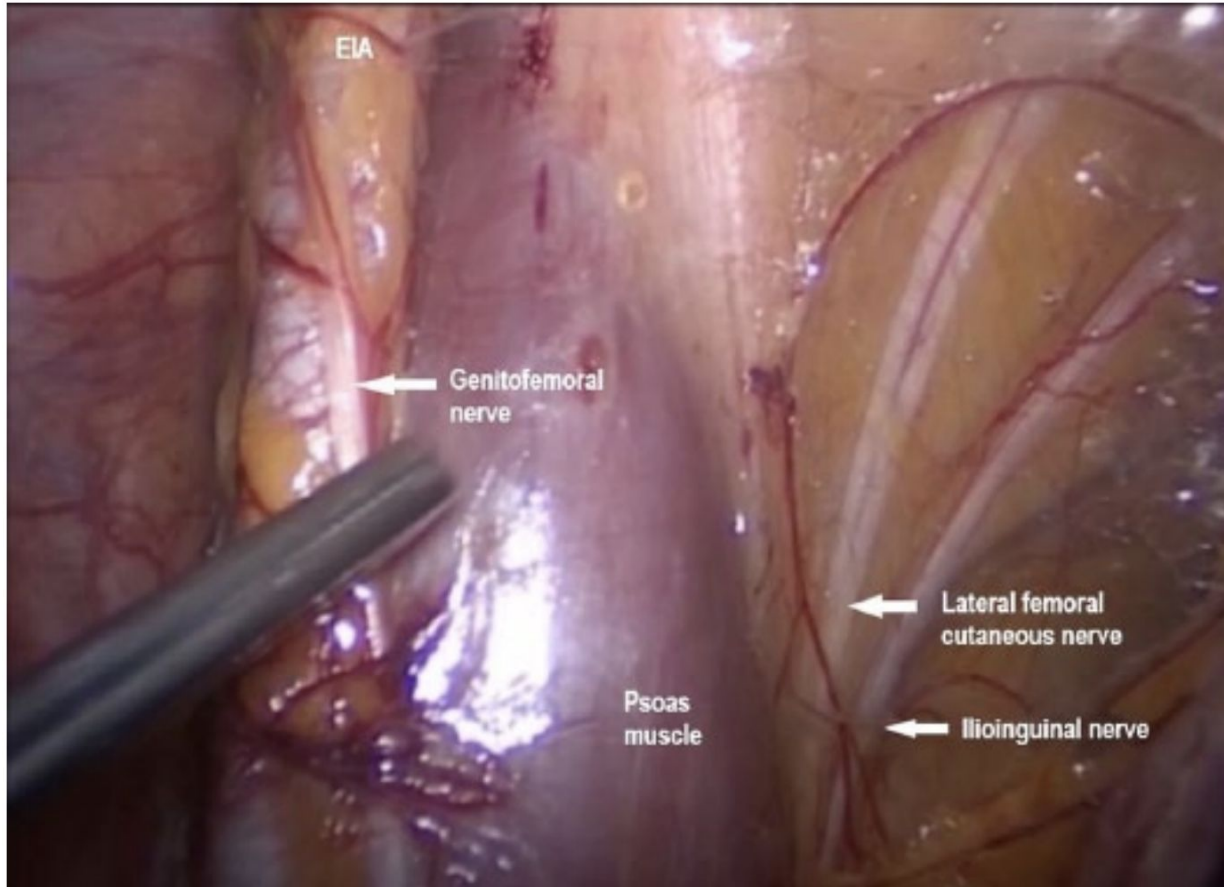
看清神經，減少慢性疼痛



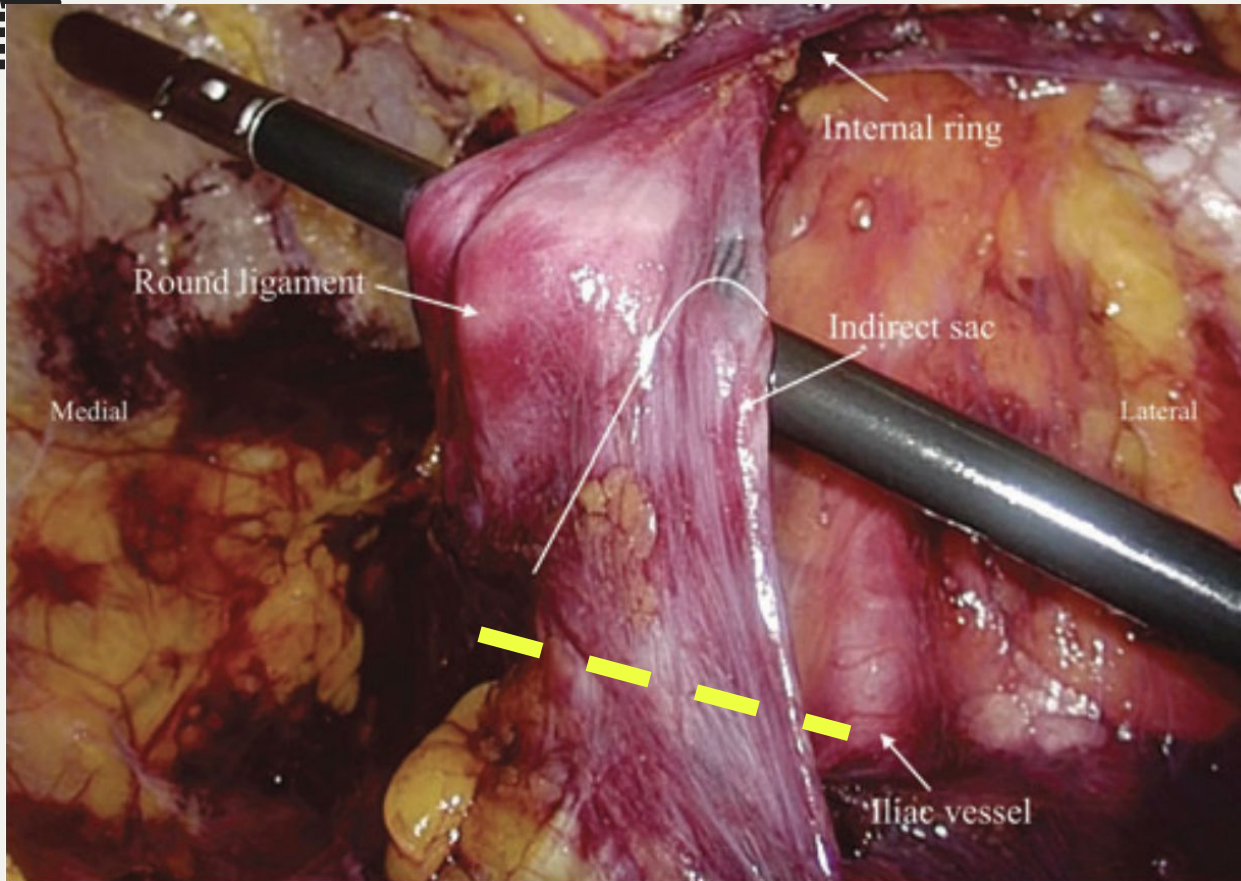
Laparoscopic evaluation of female pelvic neuroanatomy and autonomic plexuses in terms of gynecologic perspective

Journal of Endometriosis and Pelvic Pain Disorders
1-6
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Ahmet Kale¹, Gulfem Basol¹, Taner U



多項研究顯示切斷圓韌帶並 **不會** 造成後續子宮脫



Liu et al., Hernia, 2022.
Zhou et al., Asian J Surg, 2023.
Zhong et al., Hernia, 2024

女性腹股溝疝氣：來者不“疝”

EHS 2019



🛡️ 強烈建議 (STRONG)

- ☑️ 1. 若有足夠手術專業能力，女性腹股溝疝氣應優先接受腹腔鏡網膜修補手術
- ☑️ 2. 女性腹股溝疝氣應盡早手術修補 (timely repair)
- ☑️ 3. 醫師在女性腹股溝腫脹的鑑別診斷中，必須考慮股疝

❓ 較弱建議 (WEAK)

- ❓ 對於孕婦的腹股溝腫脹，建議進行觀察等待 (watchful waiting)
- ❓ 建議在開放式手術中避免切斷圓韌帶。
- ❓ 在腹腔鏡修補中，圓韌帶的處理屬選擇性，但應在靠近與腹膜會合處的生殖支近端進行切除 (若必要)。

34歲女性

左側腹股溝疝氣 興趣是衝浪

手術最佳選擇



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網膜修補手

術

