OPPORTUNISTIC SALPINGECTOMY (OS)

WHAT IS OPPORTUNISTIC SALPINGECTOMY?

OS is the removal of the fallopian tubes whenever the opportunity arises during another pelvic or abdominal surgical procedure for the purpose of ovarian cancer risk reduction

WHY SHOULD WOMEN CONSIDER OS?

Current evidence suggests OS is safe, technically easy to do, adds minimal OR time, and reduces the risk for developing high grade serous ovarian cancer (the most common and lethal form of ovarian cancer) by 80%

HOW CAN I DETERMINE IF THE PATIENT IS ELIGIBLE FOR OS?

Does the patient still have their fallopian tubes?

2

Does the patient have interest in or plans for a future pregnancy?

Clearly outline that salpingectomy is a sterilization procedure and will prevent any future pregnancy. Anyone who is uncertain about their desire for a future pregnancy is not eligible for OS (or- should not be consented for OS – or should not be offered OS).

3 Determine whether the patient may be at a higher than average risk for ovarian cancer.

- Ask the patient if they have ever been told they have a BRCA or other pathogenic variant that increases their risk for ovarian cancer
- Ask the patient if they have any family members with ovarian cancer? If so, they may be eligible for genetic screening prior to undergoing OS.¹
- People with BRCA or other pathogenic variants that increase the risk for ovarian cancer are recommended to see a gynecologic oncologist to discuss alternative risk reduction strategies (e.g. bilateral salpingooophorectomy)

BASELINE DATA FOR COMPLICATIONS

Bleeding

There is no evidence to suggest an increased risk of bleeding when performing OS during another surgical procedure.

- Large population-based studies of OS during gynecologic surgery in Canada and the US observed NO difference in the risk of blood transfusions after hysterectomy alone compared to hysterectomy with OS^{2,3}.
- A Cochrane meta-analysis found no difference in the estimated blood loss of hysterectomy alone compared to hysterectomy with OS ⁴.

Ureteric Injury or Ovarian Injury

There is no evidence to suggest an increased risk of ureteric or ovarian injury when performing OS.

• A population-based study in BC, Canada evaluated the rate of abdominal or pelvic organ injury during salpingectomy as a single procure and found < 5 of 7434 (0.07%) patients had an organ injury during the procedure (unpublished data).

Need for Re-Operation

There is no evidence that OS increases the likelihood of return to OR.

- Data from BC observed < 5 cases of OR return in 7434 patients who had bilateral salpingectomy for sterilization (unpublished data).
- Another study in BC comparing patients who underwent OS during C-section with those who underwent tubal ligation during a C-section showed no difference in the risk of re-operation between the 2 groups⁵.

Intraoperative Considerations

- A Cochrane meta-analysis showed no difference in conversion from laparoscopic to open surgery between women having hysterectomy alone and hysterectomy with OS.4
- During elective laparoscopic cholecystectomy, 32 out of 105 patients had an additional port placed or had an additional surgical instrument used (30.5%)⁶.

Additional Procedural Time (Range 0 - 16 mins)

 Additional procedural time for OS at the time of hysterectomy is reported in the literature between 0-16 minutes^{2, 4}.

References

- 1.Kwon JS, Tinker AV, Hanley GE, et al. BRCA mutation testing for first-degree relatives of women with high-grade serous ovarian cancer. *Gynecol Oncol.* 2019;152(3):459-464. doi:10.1016/j.ygyno.2018.10.014
- 2. McAlpine JN, Hanley GE, Woo MM, et al. Opportunistic salpingectomy: uptake, risks, and complications of a regional initiative for ovarian cancer prevention. *Am J Obstet Gynecol*. 2014;210(5):471.e1-471.e4711. doi:10.1016/j.ajog.2014.01.003
- 3. Hanley GE, McAlpine JN, Pearce CL, Miller D. The performance and safety of bilateral salpingectomy for ovarian cancer prevention in the United States. *Am J Obstet Gynecol*. 2017;216(3):270.e1–270.e9. doi:10.1016/j.ajog.2016.10.035
- 4. van Lieshout LAM, Steenbeek MP, De Hullu JA, et al. Hysterectomy with opportunistic salpingectomy versus hysterectomy alone. *Cochrane Database Syst Rev.* 2019;8(8):CD012858. Published 2019 Aug 28. doi:10.1002/14651858.CD012858.pub2
- 5. Rufin KGA, do Valle HA, McAlpine JN, Elwood C, Hanley GE. Complications after opportunistic salpingectomy compared with tubal ligation at cesarean section: a retrospective cohort study. *Fertil Steril.* 2024;121(3):531–539.
- doi:10.1016/j.fertnstert.2023.11.031 6.Tomasch G, Lemmerer M, Oswald S, et al. Prophylactic salpingectomy for prevention of ovarian cancer at the time of elective laparoscopic cholecystectomy. *Br J Surg*. 2020;107(5):519-524. doi:10.1002/bjs.11419
- 7.Morelli M, Venturella R, Mocciaro R, et al. Prophylactic salpingectomy in premenopausal low-risk women for ovarian cancer: primum non nocere. *Gynecologic oncology*. Jun 2013;129(3):448-51. doi:10.1016/j.ygyno.2013.03.023
- 8. Venturella R, Morelli M, Lico D, et al. Wide excision of soft tissues adjacent to the ovary and fallopian tube does not impair the ovarian reserve in women undergoing prophylactic bilateral salpingectomy: results from a randomized, controlled trial. *Fertility and sterility*. Nov 2015;104(5):1332–9. doi:10.1016/j.fertnstert.2015.08.004
- 9.Naaman Y, Hazan Y, Gillor M, et al. Does the addition of salpingectomy or fimbriectomy to hysterectomy in premenopausal patients compromise ovarian reserve? A prospective study. European journal of obstetrics, gynecology, and reproductive biology. Mar 2017;210:270-274. doi:10.1016/j.ejogrb.2016.12.025 10. Tehranian A, Zangbar RH, Aghajani F, Sepidarkish M, Rafiei S, Esfidani T. Effects of salpingectomy during abdominal hysterectomy on ovarian reserve: a randomized controlled trial. Gynecol Surg. 2017;14(1):17. doi:10.1186/s10397-017-1019-z 11. Venturella R, Lico D, Borelli M, et al. 3 to 5 Years Later: Long-term Effects of Prophylactic Bilateral Salpingectomy on Ovarian Function. *Journal of minimally* invasive gynecology. Jan 01 2017;24(1):145-150. doi:10.1016/j.jmig.2016.08.833 12. Hanley GE, Kwon JS, McAlpine JN, Huntsman DG, Finlayson SJ, Miller D. Examining indicators of early menopause following opportunistic salpingectomy: a cohort study from British Columbia, Canada. American journal of obstetrics and *gynecology*. Aug 2020;223(2):221 e1-221 e11. doi:10.1016/j.ajog.2020.02.005 13.Collins E, Strandell A, Granåsen G, Idahl A. Menopausal symptoms and surgical complications after opportunistic bilateral salpingectomy, a register-based cohort study. Am J Obstet Gynecol. 2019;220(1):85.e1-85.e10. doi:10.1016/j.ajog.2018.10.016
- During elective laparoscopic cholecystectomy, average additional time for OS was 13 minutes (range 4-45)⁶.
- Unpublished data from BC during colorectal surgery group reports a mean additional OR time of 4 minutes to perform OS.

Hormone Function

Some women are concerned that removing the fallopian tubes could lead to early menopause if the blood flow to the ovaries is disrupted. This has NOT yet been supported in the literature examining ovarian function following OS.

- Multiple studies examining ovarian sonographic parameters and hormonal assays after salpingectomy have found no increase in risk of ovarian injury⁷⁻¹¹.
- Evaluation of patients in BC showed no difference in time to initiation of HRT or to first physician visit for menopausal symptoms in women who underwent OS compared to those who did not¹².
- One Swedish registry study reported more menopausal symptoms among women who underwent hysterectomy with OS 1 year after the surgery compared to those who had hysterectomy alone (relative risk=1.33 (95%CI 1.04-1.69), but age-atmenopause was not reported ¹³.

FINAL THOUGHTS

OS is a prophylactic procedure, when performing it please:

1 - Do not incur any additional risk to the patient for the procedure. Abort if there are pelvic adhesions or it appears otherwise technically unsafe.

2 - Do not alter your surgical approach to the primary procedure in order to remove fallopian tubes.

3 - Make an effort to not open additional instruments (i.e. monopolar, clips and Endoloops can be used in place of bipolar instruments)