Surgical Management of Endometrial Cancer

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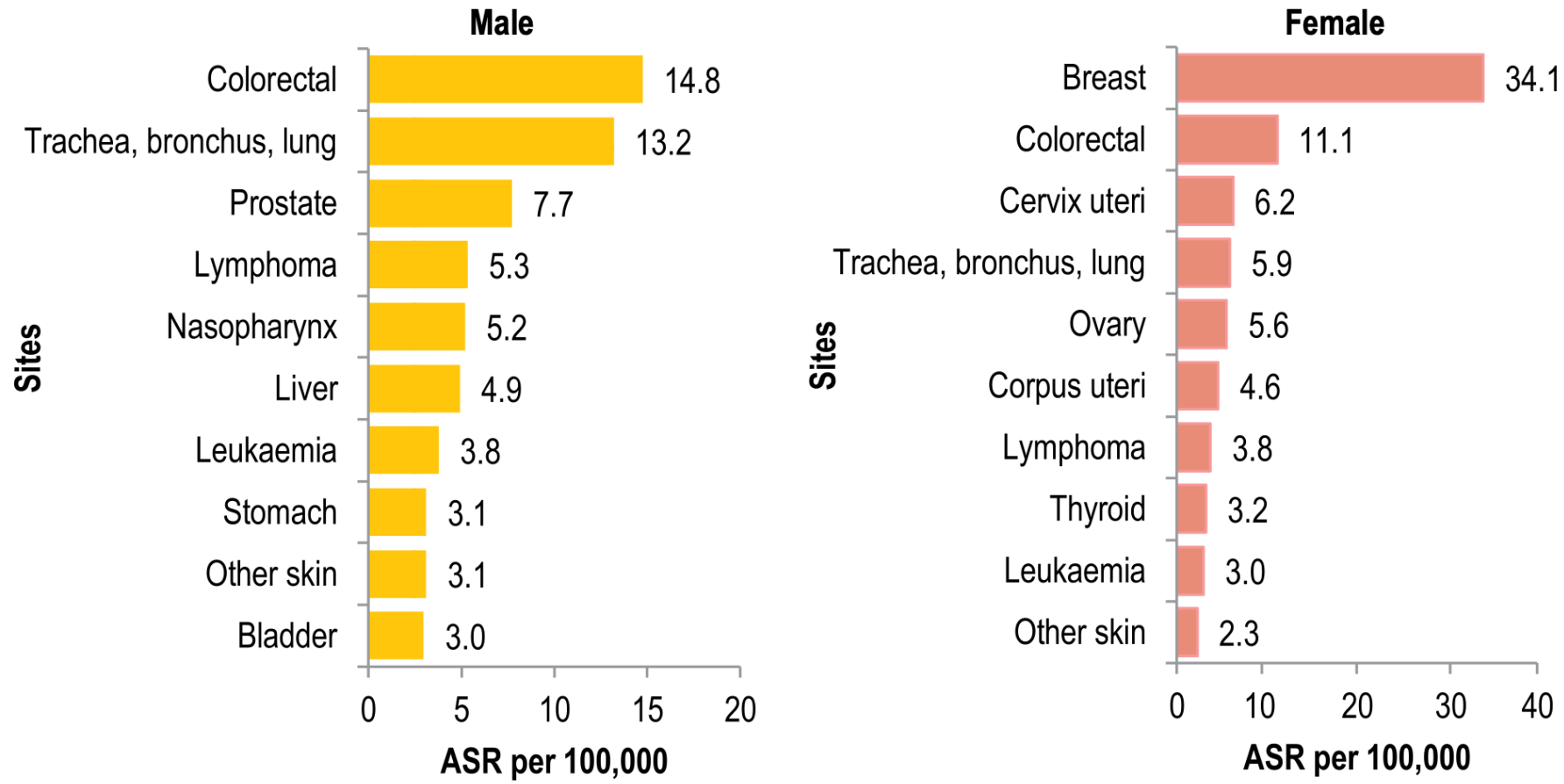
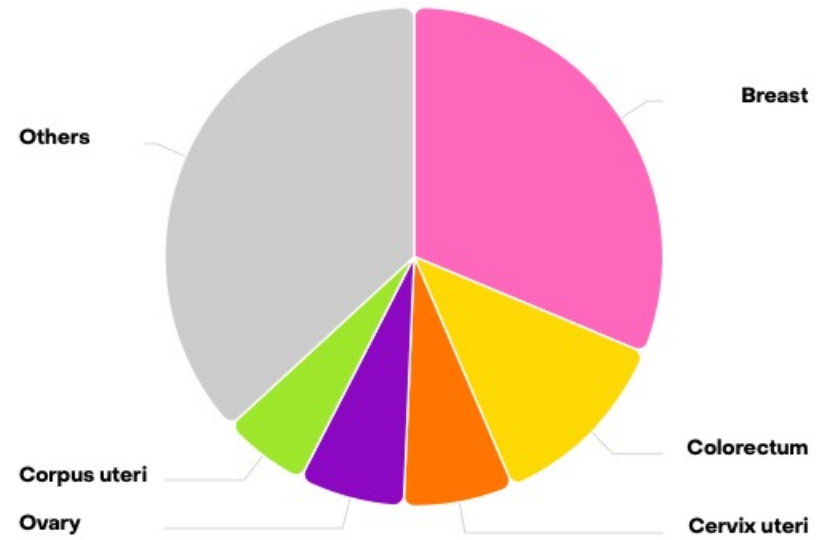


Figure 15. Age-standardised incidence rate for ten common cancers by sex, Malaysia, 2012-2016

2898 cases from 2012-2016

Source: Malaysia National Cancer Registry Report 2012- 2016

Females



Total: 26 758

Rank	Cancer site	Number of cases	Percent
1st	Breast	8 371	31.3%
2nd	Colorectum	3 277	12.2%
3rd	Cervix uteri	1 913	7.1%
4th	Ovary	1 838	6.9%
5th	Corpus uteri	1 503	5.6%
-	Others	9 856	36.8%

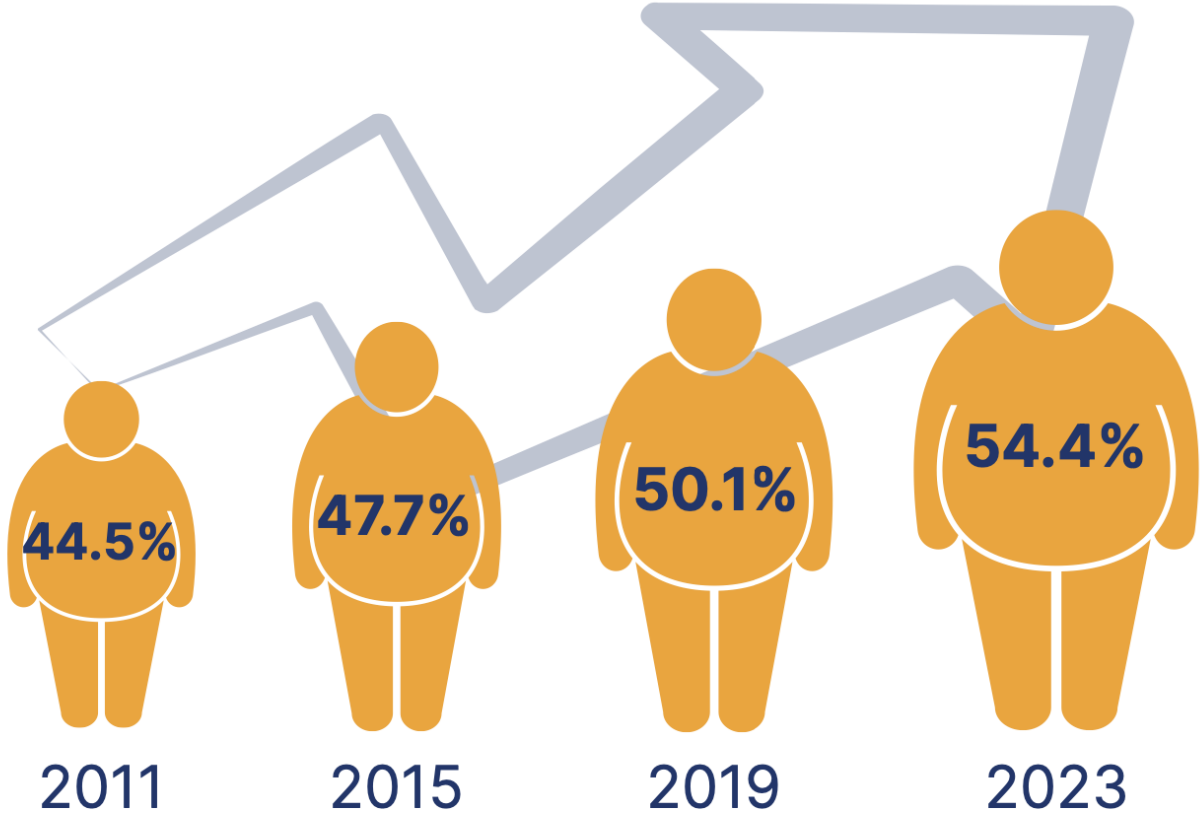
Number of new cases in 2022, females, all ages

Source: https://gco.iarc.who.int/media/globocan/factsheets/populations/458-malaysia-fact-sheet.pdf

We are getting fatter!

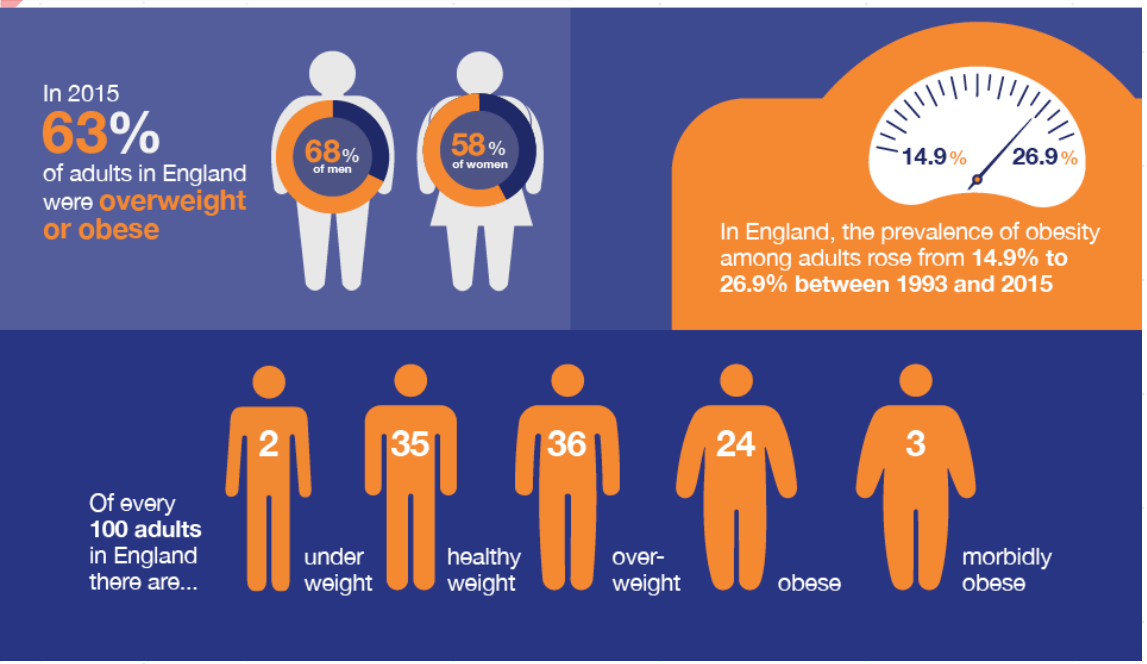
Trend in overweight & obesity among adults in Malaysia from 2011 to 2023

(Based on Body Mass Index (BMI): ≥ 25.0 kg/m^2)



Public Health England

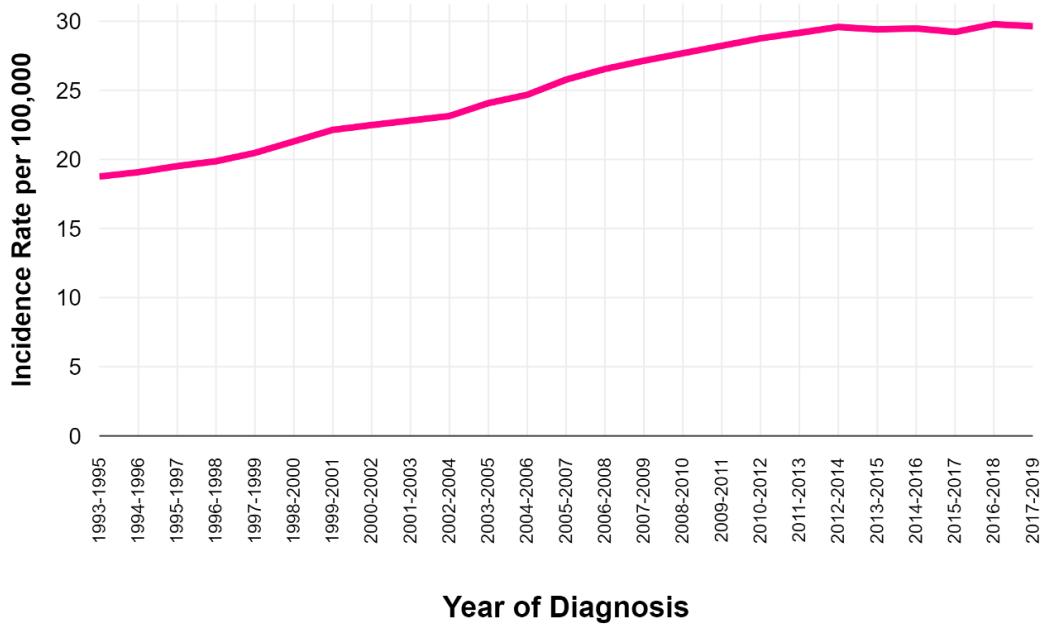
Healthmatters Scale of the problem



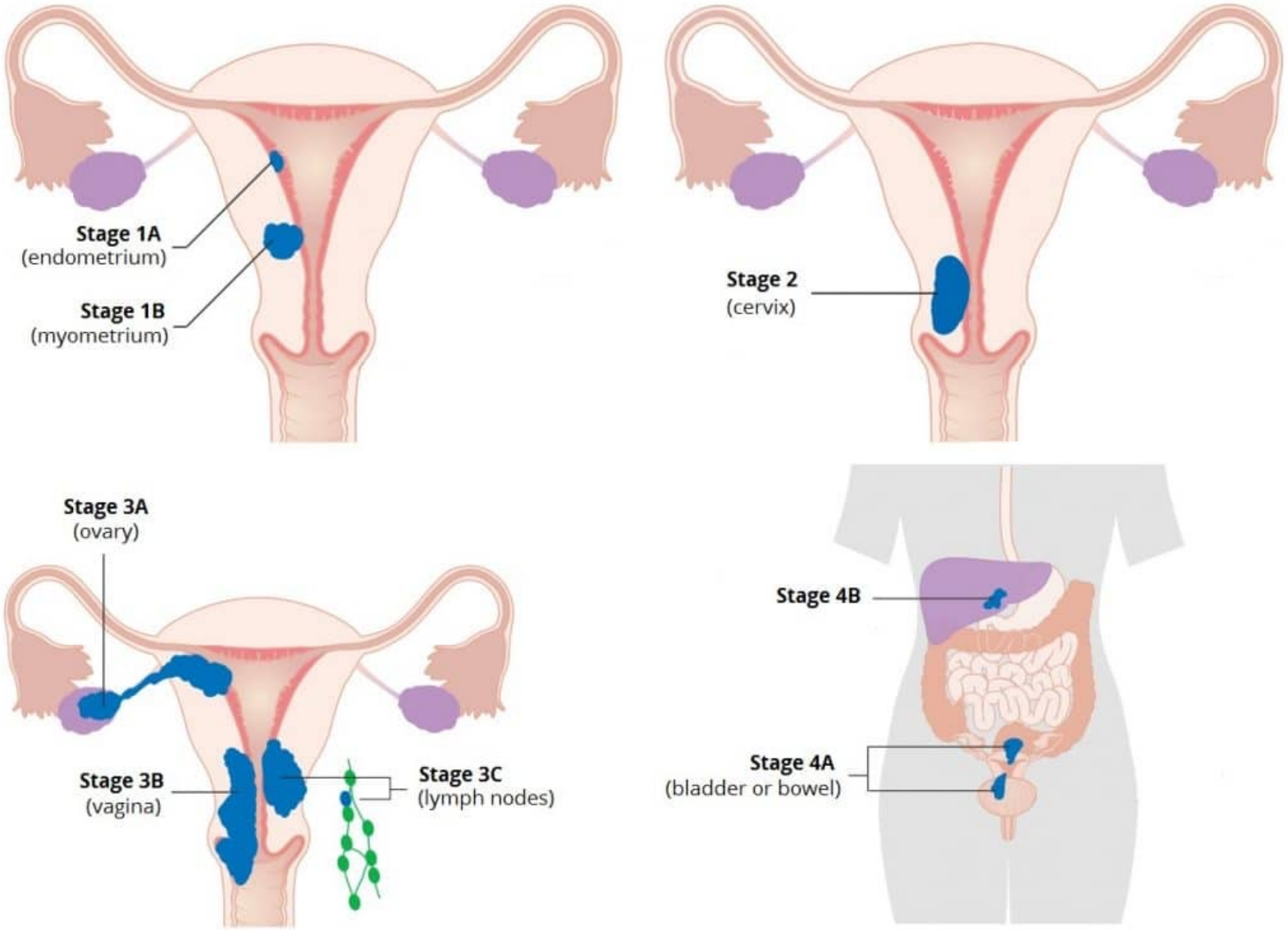
Uterine Cancer (C54-C55): 1993-2019

Average per Year European Age-Standardised Incidence Rates per 100,000 Females, UK

Gender	1993-1995	1994-1996	1995-1997	1996-1998	1997-1999	1998-2000	1999-2001	2000-2002	2001-2003	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2
Female	18.8	19.1	19.5	19.9	20.5	21.3	22.1	22.5	22.8	23.1	24.1	24.7	25.8	26.5	27.1	27.7	28



FIGO Classification



FIGO 2023

Table 1
2023 The International Federation of Gynecology and Obstetrics (FIGO) Staging of cancers of the endometrium[a,b] [1].

Stage	Description
Stage I	Confined to the uterine corpus and ovary[c]
IA	Disease limited to the endometrium OR non-aggressive histological type i.e. low-grade endometrioid, with invasion of less than half of myometrium with no or focal lymphovascular space involvement (LVSI) OR good prognosis disease
	IA1 Non-aggressive histological type limited to an endometrial polyp OR confined to the endometrium
	IA2 Non-aggressive histological types involving less than half of the myometrium with no or focal LVSI
	IA3 Low-grade endometrioid carcinomas limited to the uterus and ovary[c]
IB	Non-aggressive histological types with invasion of half or more of the myometrium, and with no or focal LVSI[d]
IC	Aggressive histological types[e] limited to a polyp or confined to the endometrium
Stage II	Invasion of cervical stroma without extrauterine extension OR with substantial LVSI OR aggressive histological types with myometrial invasion
IIA	Invasion of the cervical stroma of non-aggressive histological types
IIB	Substantial LVSI[d] of non-aggressive histological types
IIC	Aggressive histological types[e] with any myometrial involvement
Stage III	Local and/or regional spread of the tumour of any histological subtype
IIIA	Invasion of uterine serosa, adnexa, or both by direct extension or metastasis
	IIIA1 Spread to ovary or fallopian tube (except when meeting stage IA3 criteria)[c]
	IIIA2 Involvement of uterine subserosa or spread through the uterine serosa
IIIB	Metastasis or direct spread to the vagina and/or to the parametria or pelvic peritoneum
	IIIB1 Metastasis or direct spread to the vagina and/or the parametria
	IIIB2 Metastasis to the pelvic peritoneum
IIIC	Metastasis to the pelvic or para-aortic lymph nodes or both[f]
	IIIC1 Metastasis to the pelvic lymph nodes
	IIIC1i Micrometastasis
	IIICii Macrometastasis
	IIIC2 Metastasis to para-aortic lymph nodes up to the renal vessels, with or without metastasis to the pelvic lymph nodes
	IIIC2i Micrometastasis
	IIIC2ii Macrometastasis
Stage IV	Spread to the bladder mucosa and/or intestinal mucosa and/or distance metastasis
IVA	Invasion of the bladder mucosa and/or the intestinal/bowel mucosa
IVB	Abdominal peritoneal metastasis beyond the pelvis
IVC	Distant metastasis, including metastasis to any extra-or intra-abdominal lymph nodes above the renal vessels, lungs, liver, brain, or bone
FIGO endometrial cancer stage with molecular classification	
Stage description	**Molecular findings in patients with early endometrial cancer (Stages I and II after surgical staging)**
Stage IAmPOLEm	*POLEm* endometrial carcinoma, confined to the uterine corpus or with cervical extension, regardless of the degree of LVSI or histological type
Stage IICmp53abn	p53abn endometrial carcinoma confined to the uterine corpus with any myometrial invasion, with or without cervical invasion, and regardless of the degree of LVSI or histological type

Table 2 Definition of prognostic risk groups

Risk group	Molecular classification unknown	Molecular classification known*†
Low	► Stage IA endometrioid + low-grade‡ + LVSI negative or focal	► Stage I–II ***POLEmut*** endometrial carcinoma, no residual disease ► Stage IA **MMRd/NSMP** endometrioid carcinoma + low-grade‡ + LVSI negative or focal
Intermediate	► Stage IB endometrioid + low-grade‡ + LVSI negative or focal ► Stage IA endometrioid + high-grade‡ + LVSI negative or focal ► Stage IA non-endometrioid (serous, clear cell, undifferentiared carcinoma, carcinosarcoma, mixed) without myometrial invasion	► Stage IB **MMRd/NSMP** endometrioid carcinoma + low-grade‡ + LVSI negative or focal ► Stage IA **MMRd/NSMP** endometrioid carcinoma + high-grade‡ + LVSI negative or focal ► Stage IA **p53abn** and/or non-endometrioid (serous, clear cell, undifferentiated carcinoma, carcinosarcoma, mixed) without myometrial invasion
High–intermediate	► Stage I endometrioid + substantial LVSI regardless of grade and depth of invasion ► Stage IB endometrioid high-grade‡ regardless of LVSI status ► Stage II	► Stage I **MMRd/NSMP** endometrioid carcinoma + substantial LVSI regardless of grade and depth of invasion ► Stage IB **MMRd/NSMP** endometrioid carcinoma high-grade‡ regardless of LVSI status ► Stage II **MMRd/NSMP** endometrioid carcinoma
High	► Stage III–IVA with no residual disease ► Stage I–IVA non-endometrioid (serous, clear cell, undifferentiated carcinoma, carcinosarcoma, mixed) with myometrial invasion, and with no residual disease	► Stage III–IVA **MMRd/NSMP** endometrioid carcinoma with no residual disease ► Stage I–IVA **p53abn** endometrial carcinoma with myometrial invasion, with no residual disease ► Stage I–IVA **NSMP/MMRd** serous, undifferentiated carcinoma, carcinosarcoma with myometrial invasion, with no residual disease
Advanced metastatic	► Stage III–IVA with residual disease ► Stage IVB	► Stage III–IVA with residual disease of any molecular type ► Stage IVB of any molecular type

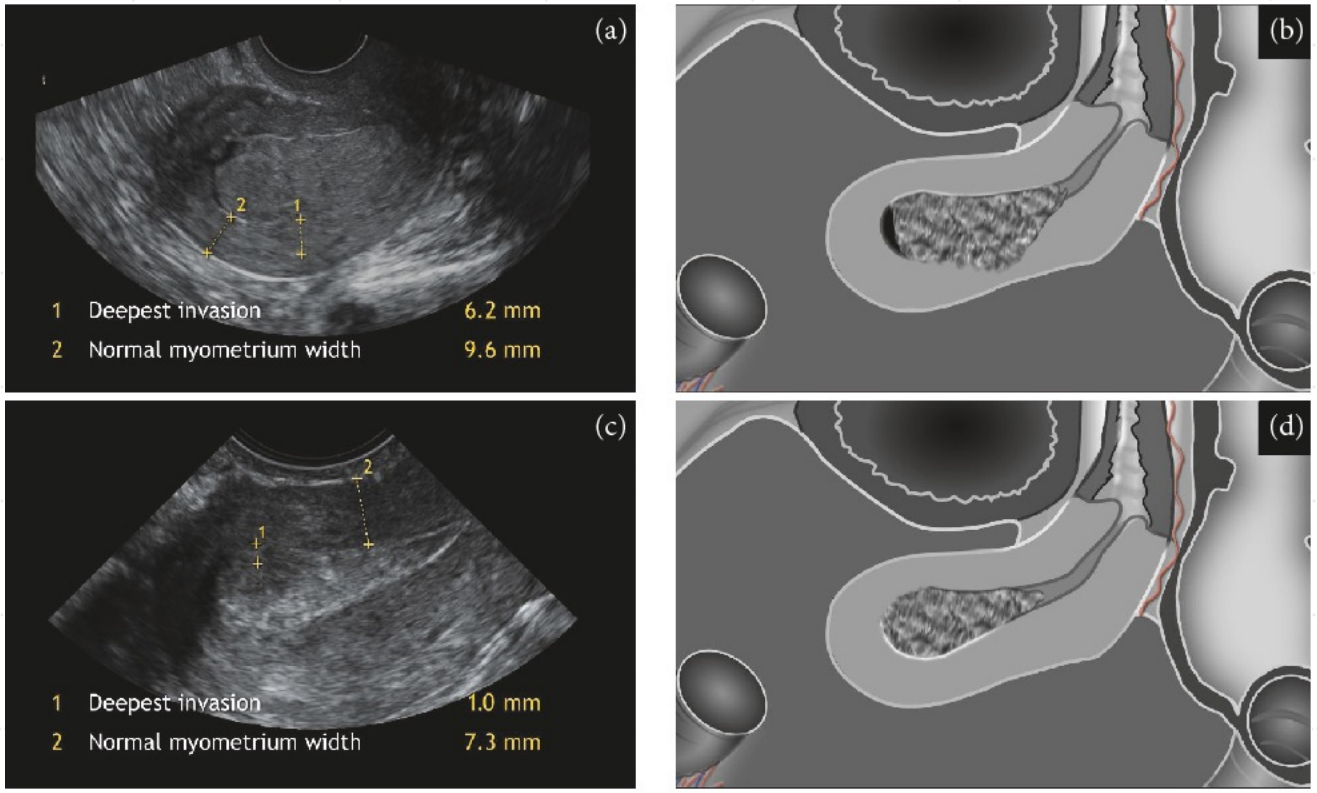
Preoperative information

- Histology
- Grade
- Stage – initial stage by imaging

- Hysteroscopic biopsy is preferred – directed.
- Missed lesions in blind biopsy – Pipelle or Curettage.

Imaging

- MRI– deep myometrial invasion, cervical stromal involvement, and lymph node metastasis
- TVS - deep myometrial and cervical stromal invasion
- CT Scan - metastatic disease
- PET Scan - metastatic disease



Surgical Management

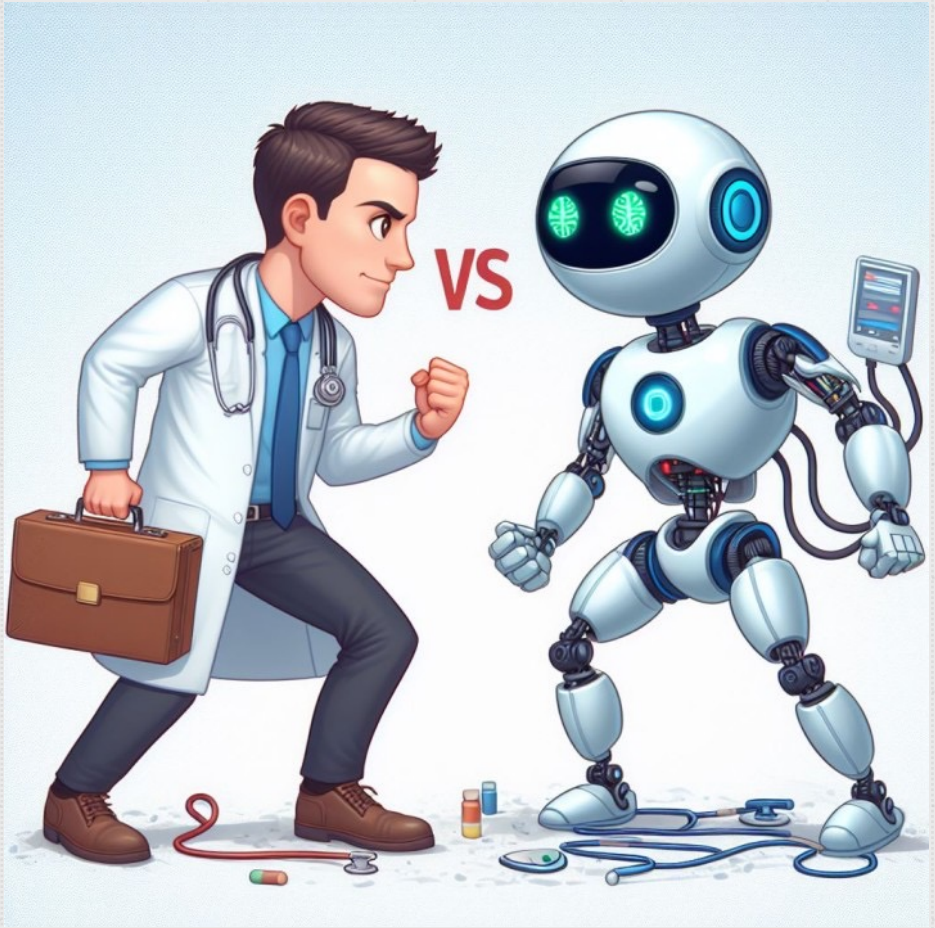
- Hysterectomy
  - Laparotomy
  - Laparoscopic
  - Robotic
  - Vaginal
- Lymph node
  - Systemic pelvic lymphadenectomy
  - Paraaortic
  - Sentinel
  - Non removal
- Advanced stage or recurrent disease – Primary CRS or NACT or Primary RT/CT

Apparently Uterine confined EC Stage 1-2

- Total hysterectomy with bilateral salpingo-oophorectomy without vaginal cuff resection
- Infracolic omentectomy should be performed in clinical stage I serous endometrial carcinoma, carcinosarcoma, and undifferentiated carcinoma. (6% occult metastasis)
- Laparoscopic approach is non inferior to Laparotomy.
- Robotic is not better than Laparoscopic

- LAP2 and LACE
- Minimally invasive surgery has Lower complications, shorter hospital stay, better QoL,
- Similar recurrence and OS
- Similar findings for patient with high-risk histology as well.

- Robotic Vs Laparoscopy
  - Similar DFS, OS, complications, morbidities
  - Robotic – longer operating time and higher cost.

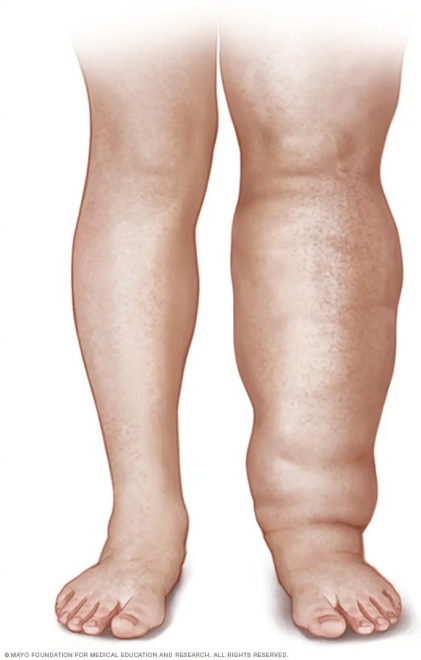


LAP2	LACE
Early Stage I and IIA	Stage IA
1696 TAH vs 920 TLH	353 TAH vs 407 TLH
Conversion rate 25.8%	6%
Shorter hospital stay and less severe morbidities	same
Recurrence 3 years 10.2% (TAH) VS 11.4% (TLH)	7.9%(TAH) VS 8.2% (TLH)
OS 5yr 89.8%	DFS 4.5yr 81.3% TAH VS 81.6% TLH OS no difference

Lymph node staging

- 1980s – pelvic and paraaortic LND was considered the standard of care.
- 2000s – ASTEC, Italian Study – LND in uterine confined EC
  - No overall benefit DFS, OS
  - Increase morbidity, operative complications in LND group.

- GOG 33
  - Overall stage I – 9% pelvic and 6% Para-aortic LN mets
  - <50% myometrial invasion - 3%
  - No myometrial invasion - <1%
- In another trial by Kim et al
  - 425 patients – stage 1, grade 1 and 2
  - 6% nodal mets – standard pathologic evaluation and ultrastaging.



Kim CH, Khoury-Collado F, Barber EL, Soslow RA, Makker V, Leitao MM Jr, Sonoda Y, Alektiar KM, Barakat RR, Abu-Rustum NR. Sentinel lymph node mapping with pathologic ultrastaging: a valuable tool for assessing nodal metastasis in low-grade endometrial cancer with superficial myoinvasion. Gynecol Oncol.

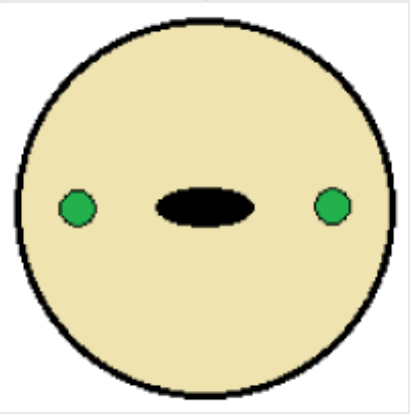
Sentinel Lymph node Mapping

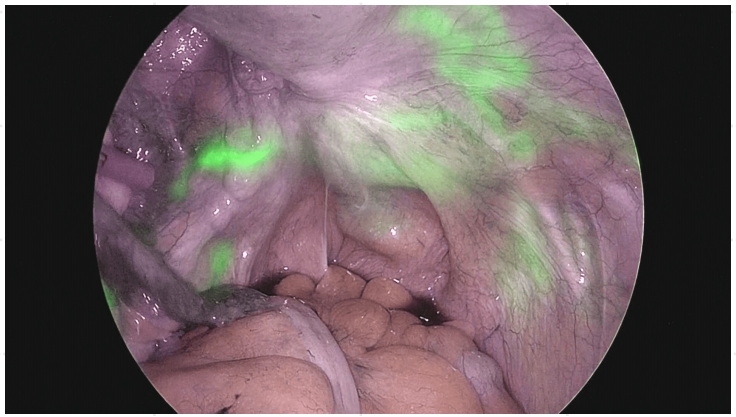
- Alternative to LND
- If done according to protocol and principles – highly sensitive.
  - FIRES trial – All histology and grade: SLN then PLND +/- PAND
  - sensitivity of 97.2% and negative predictive value of 99.6%
- SHREC Trial – FIGO I-II, high risk EC
  - Sensitivity 98% and negative predictive value 99.5%

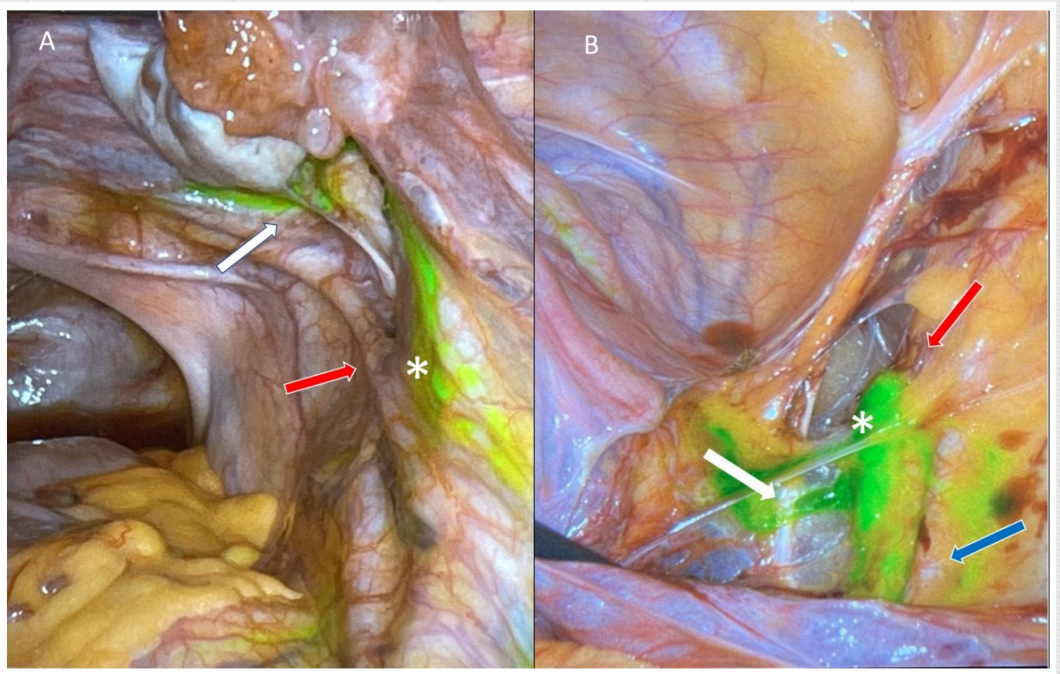
- Adopted by European ESGO-ESTRO-ESP , BGCS, American NCCN.
- Low/intermediate- omit or consider SLN
- High-intermediate/high risk – SLN instead of LND

Sentinel Lymph node Mapping Technique

- 2 or 4 mls of Indocyanine Green (ICG)
- Reinjection if not visualized
- Side- specific systematic lymphadenectomy should be performed in high–intermediate- risk/high- risk patients if sentinel lymph node is not detected on either pelvic side.
- Pathologic ultrastaging of sentinel lymph nodes is recommended.







Ovarian Preservation

- Can be considered in young, pre menopausal patient
- Low risk EC- stage 1A, Grade 1
- Pre-op Imaging – MRI, US, Tumour markers
- MDT and patient decision.

Safety of Ovarian Preservation in Premenopausal Women With Endometrial Cancer

Authors: Jason D. Wright, Adam M. Buck, Monjri Shah, William M. Burke, Peter B. Schiff, and Thomas J. Herzog | AUTHORS INFO & AFFILIATIONS

Publication: Journal of Clinical Oncology • Volume 27, Number 8 • https://doi.org/10.1200/JCO.2008.19.8150

Ovarian preservation had no effect on either cancer-specific (hazard ratio [HR] = 0.58; 95% CI, 0.14 to 2.44) or overall (HR = 0.68; 95% CI, 0.34 to 1.35) survival.
The findings were unchanged when women who received pelvic radiotherapy were excluded.

	Oophorectomy			Ovarian Preservation		
Stage	No. of Patients	5-Year Survival (%)	95% CI	No. of Patients	5-Year Survival (%)	95% CI
IA	1,536	98	97 to 99	258	98	96 to 100
IB	1,200	96	95 to 97	132	100	95 to 100
IC	131	89	83 to 96	12	86	63 to 100

Fertility Sparing Treatment
Uterine preservation

- Patient selection is important
- Early stage, low grade, non-metastatic
- Fertility potential- Age, ovarian reserve, weight, comorbidities (PCOS, metabolic syndrome), genetic mutation (Lynch syndrome)
- MDT- Oncologist, Gynae pathologist, Gynae oncologist, Radiologist, Fertility specialist and Patient.

Uterine Preservation

- Preferably hysteroscopic biopsy + Resection
- Medroxyprogesterone acetate (400–600 mg/day) or megestrol acetate (160–320 mg/day) is the recommended treatment +/- LNG-IUS
- Monitor response 3 and 6 months – hysteroscopic biopsy and imaging (MRI)
- Discuss Hysterectomy and BSO after completion of family
- Combination therapy is more effective.

Advanced stage III-IV

- Surgical tumour debulking.
- Overt stage III-IV
  - Maximal cytoreduction should be considered only if macroscopic complete resection is feasible with acceptable morbidity.
  - Primary systemic therapy if surgery is not feasible, followed by surgery if good response.
- Unresectable locally advanced disease
  - Definitive radiotherapy or Consider neoadjuvant systemic therapy followed by resection.
- Residual disease- RT or CT or both

Role of surgery in Recurrent disease

- considered for surgery only if it is anticipated that complete resection of macroscopic disease can be achieved with a reasonable morbidity profile.
- For locoregional recurrence, the preferred primary therapy should be EBRT ± chemotherapy with brachytherapy.
- Palliative surgery can be performed to alleviate symptoms (eg, bleeding, fistula, bowel obstruction)
- Pelvic exenteration can be considered in pelvic relapse in those who had received RT.

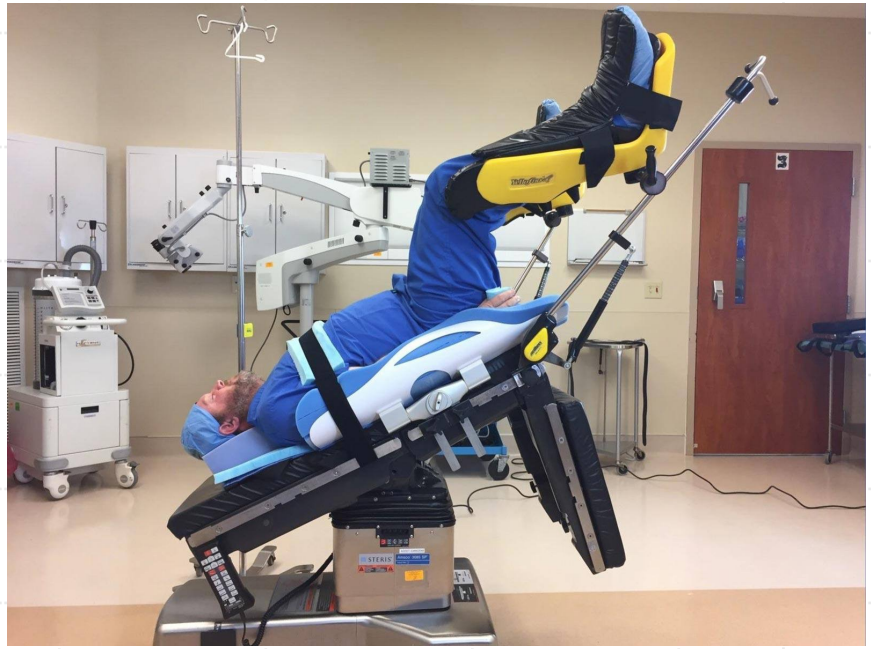
Surgical Challenges

- Co-morbidities– metabolic syndrome, obesity, cardiac, OSA
- Surgical site infections
- Thromboembolism

- Pre-operative evaluation
  - Anaesthetic review – Airway, CVS, Glucose
  - Dietician, nutritionist, sports medicine, Physio.

- Intraoperative
  - Surgical position- pressure points, injury joint, nerves etc
  - Instrument

- Post operative
  - Thromboembolism
  - Infection
  - Respiratory complications, Glycemic control
  - Delay recovery– delay treatment



Thank you