

# Ovarian Cancer

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# Ovarian cancer in QLD

- **Five patients with ovarian cancer per week in QLD.**
- **Two patients will be diagnosed in early stage (stage 1 or 2).**
- **Three patients will be diagnosed in advanced stage (stage 3 or 4).**

# Risk factors

**1.5% life time risk**

## **Risk factors:**

- **Reproductive history (incessant ovulation, infertility/treatment, endometriosis, ...)**
- **Genetic factors – BRCA1/2 (40% risk)**
- **History of breast cancer**

# Ovarian cancer types

- **Epithelial Ovarian Cancer ~ 90%**
- **Germ cell and sex cord-stromal tumours** (up to 10% of all ovarian tumours): Occur in younger women (20-ies), usually carry a very good prognosis.
- **Borderline tumours:** Fall short the criteria of cancer.

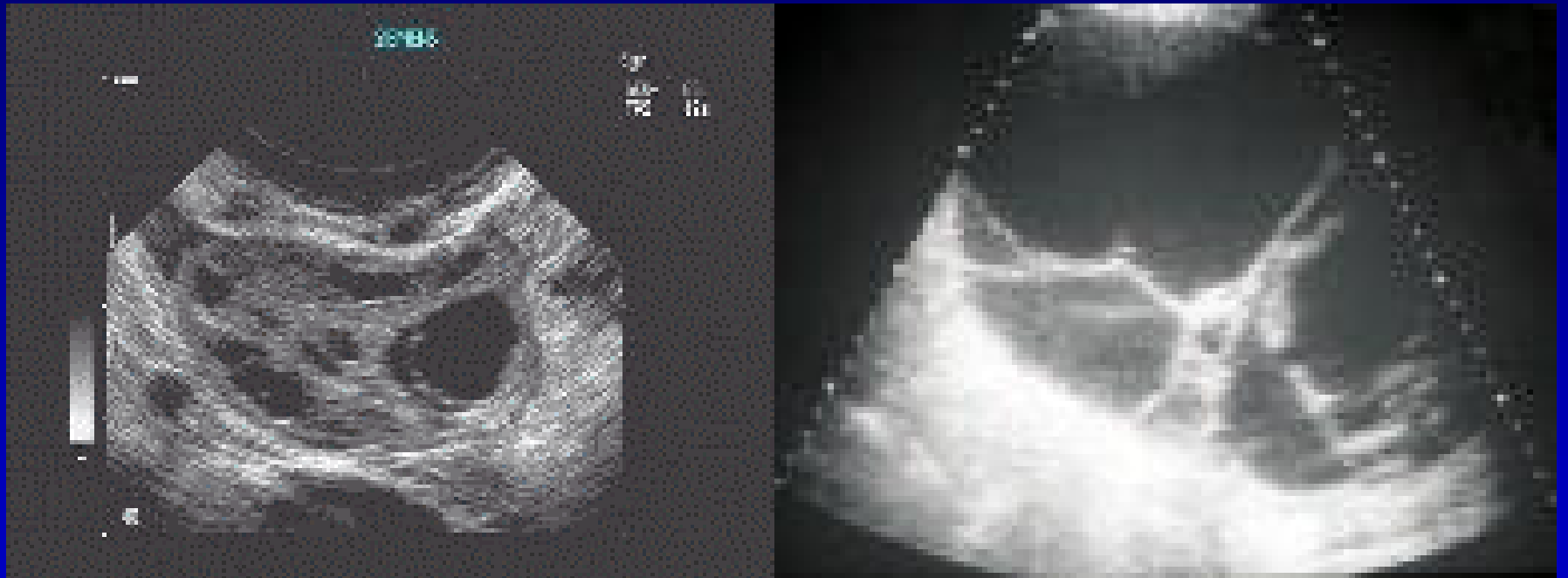
# Ovarian Cancer

- **Early ovarian cancer**
- **Advanced ovarian cancer**

# Early ovarian cancer

- Present with a pelvic mass
- Distinguish benign from malignancy !
  - Age
  - Features on ultrasound
  - CA125

# Ultrasound



**Solid and cystic, septation, irregularly shaped**

# Risk of Malignancy Index

Criteria	Scoring system
<b>Menopausal status (A)</b> <b>Premenopausal</b> <b>Postmenopausal</b>	<b>1</b> <b>3</b>
<b>Ultrasound features (B)</b> <b>Multiloculated</b> <b>Solid areas</b> <b>Bilateral</b> <b>Ascites</b> <b>Metastases</b>	<b>No feature = 0</b> <b>One feature = 1</b> <b>&gt;1 feature = 3</b>
<b>Serum CA 125 (C)</b>	<b>Absolute level</b>
<b>Risk of Malignancy Index (RMI) = A x B x C</b>	



# **Risk of Malignancy Index (RMI)**

- **If RMI >200**
  - **Sensitivity 85%**
  - **Specificity 97%**
- **Correctly selects 85% of ovarian cancers.**
- **Only 3% of referred cases will be benign.**

# Treatment of early ovarian cancer

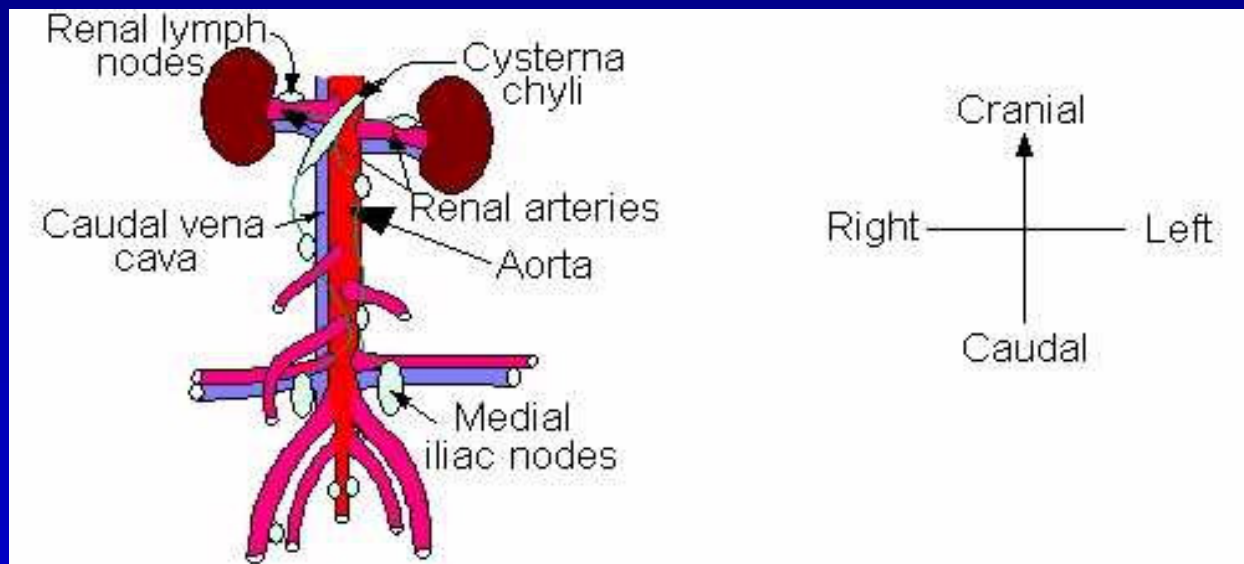
## STAGING IS PROGNOSTIC:

- TAH/BSO
- Pelvic and aortic lymph node dissection
- Omentectomy
- Washings
- Biopsies

*30% Upstaging =  
Occult cancer metastases*

# Prognosis of stage 1 ovarian cancer

**Survival of staged patients ~ 85% @ 5 years**



**Survival of unstaged patients ~ 70% @ 5 years**

# Postop. Chemotherapy

- All but selected patients have chemo.
- Selected patients are stage 1a/b, g, ...
- CA 125 < 30 U/mL

# Advanced Ovarian Cancer

## *SURGICAL CYTOREDUCTION IS ESSENTIAL:*

- Radical TAH & BSO, omentectomy, resection of parietal peritoneum, debulking of pelvic/aortic lymph nodes.
- Large & small bowel resections.
- Low rectal resection & end-to-end anastomosis.
- Splenectomy.

# Meta Analysis @ ASCO 2001

- 81 cohorts included 6,848 patients, stage 3&4
- Prognostic impact of
  - Postoperative residual tumour
  - Platinum dose intensity
  - Platinum total dose
  - Age
  - Year of publication

Bristow et al., J Clin Oncol 2002

# Meta Analysis @ ASCO 2001

- Every 10% increase of residual tumour < 1 cm results in an increase of survival by 6.3%.
- Increase in platinum dose intensity improves survival by 0.8%.

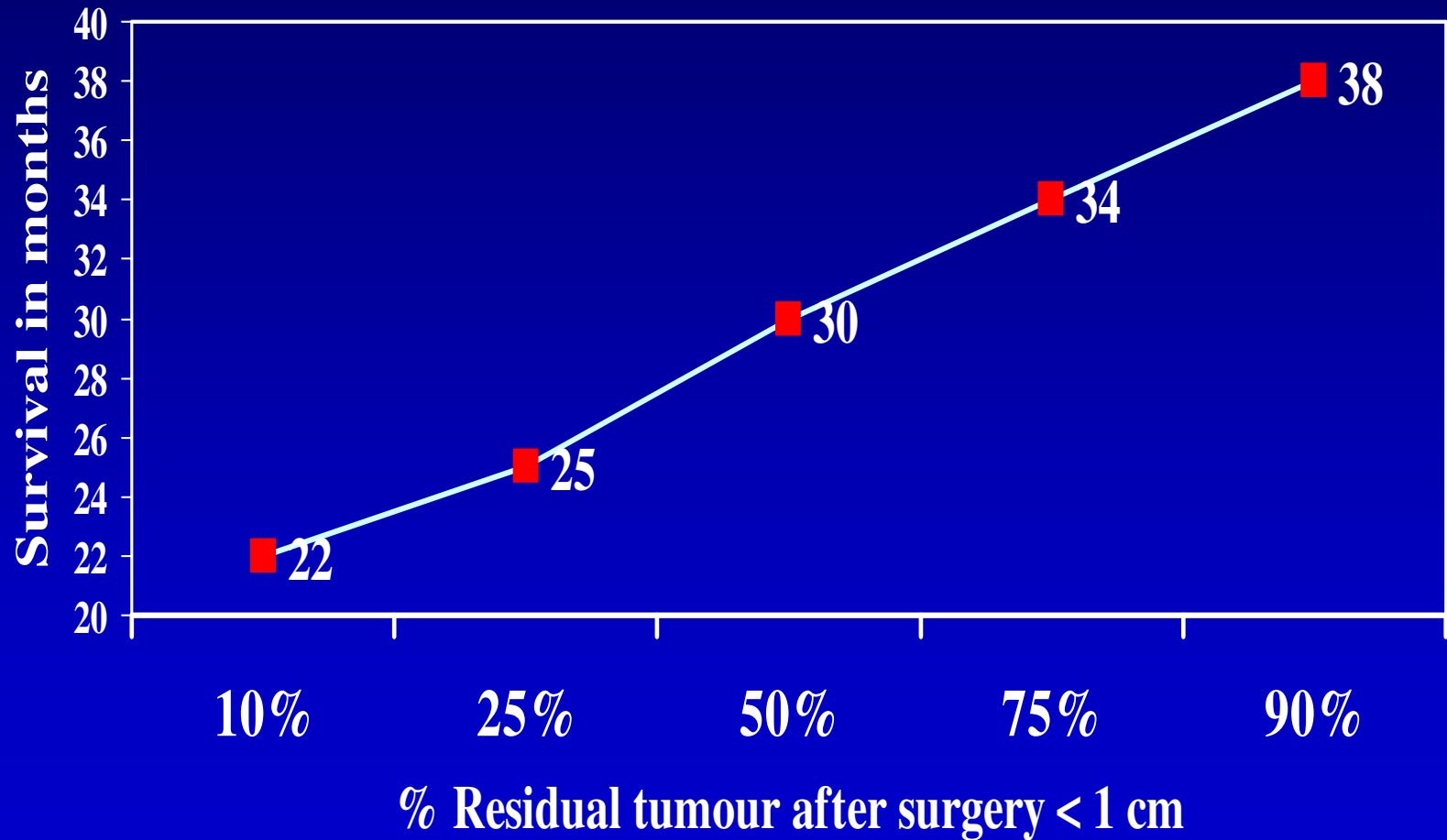
# Meta Analysis @ ASCO 2001

<b>% RT &lt; 1 cm</b>	<b>Median Survival*</b>
<b>&lt; 25%</b>	<b>22 months</b>
<b>&gt; 75%</b>	<b>34 months</b>

**\* Half of patients alive**



# Survival and postoperative tumour

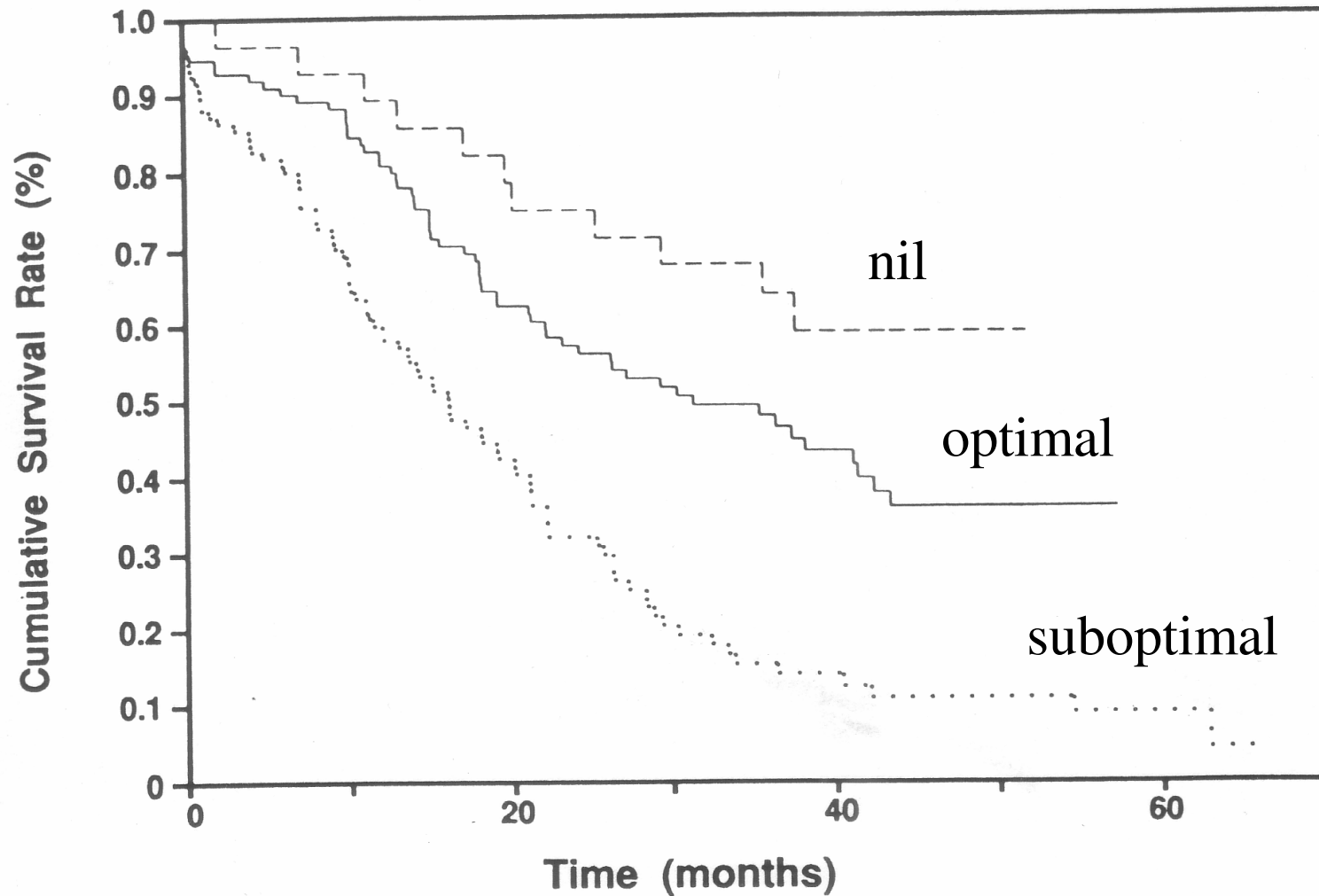


**Bristow et al.: J Clin Oncol 2002**

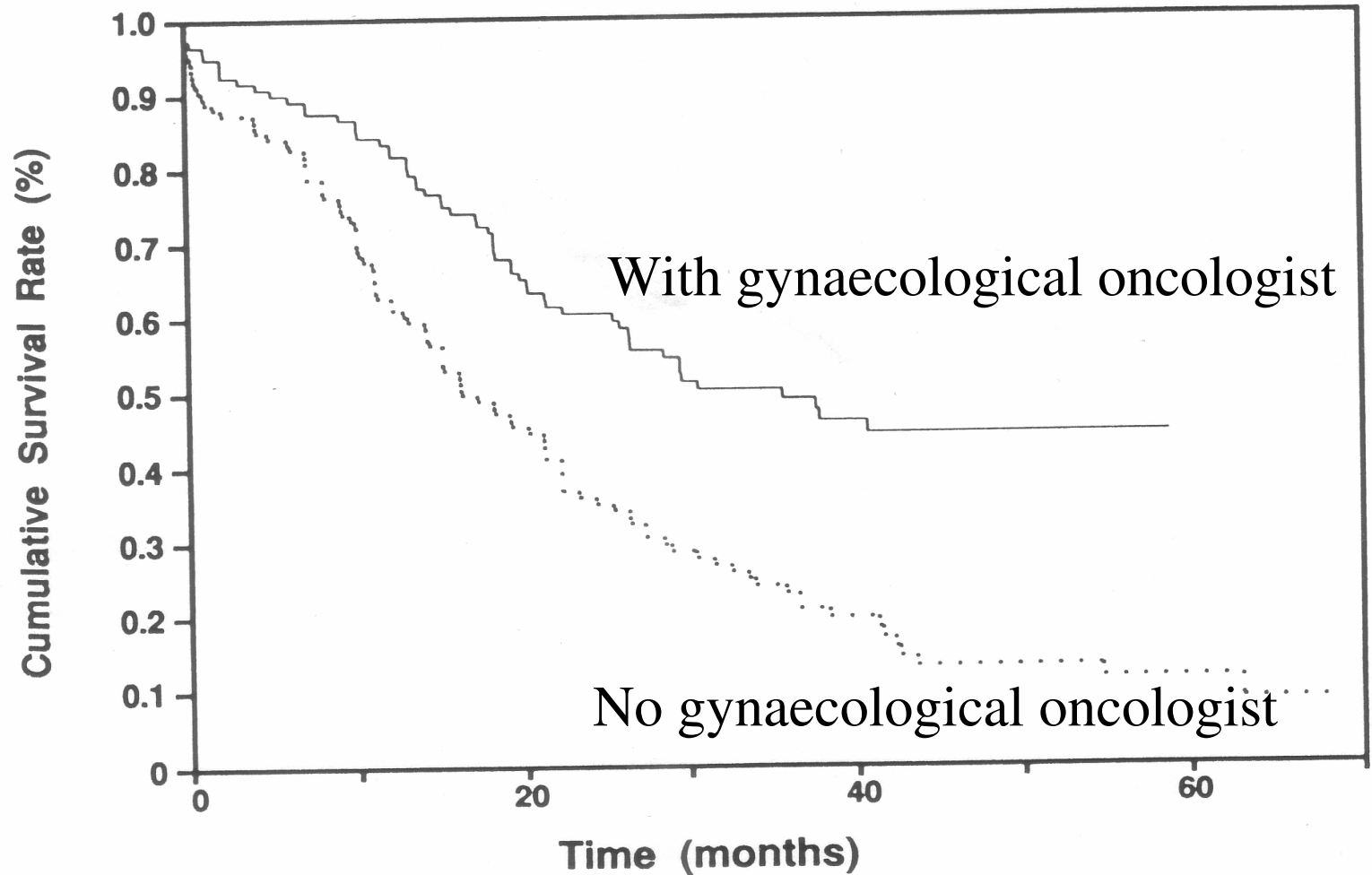
# Why is cytoreduction essential?

- **Immediate reduction of tumour mass (improvement of bowel function, diet);**
- **Chemotherapy is more effective if tumour volume is small (perfusion).**

# Postoperative residual tumour



# Training of the Surgeon



# Training of the surgeon

**Table III** Multivariate analysis on 451 patients (95% confidence intervals)

<i>Factor</i>	<i>Adjusted relative hazard</i>	<i>Improvement of model fit</i>	<i>Adverse factor</i>
Stage I + II III + IV	2.90 (1.69–4.75)	$P < 0.001$	Stage III + IV
Age per 10 year period	1.28 (1.15–1.42)	$P < 0.001$	Increasing age
Complete tumour clearance Achieved Not achieved	2.16 (1.16–4.00)	$P < 0.001$	Presence of residual disease
Tumour grade I II + III	1.76 (1.22–2.55)	$P = 0.003$	Grade II or III
Residual disease <2 cm >2 cm	1.54 (1.14–2.09)	$P = 0.002$	>2 cm
Surgeon Gynaecologist General surgeon	1.34 (1.05–1.71)	$P = 0.022$	General surgeon

# NHMRC Guidelines 2004



Clinical practice guidelines  
for the management of women  
with epithelial ovarian cancer



Approved by  
Australian Government  
National Health and Medical Research Council

**“Survival for women with ovarian cancer has been shown to be improved when the initial surgery has been done by a gynaecological oncologist. The surgical care of women with ovarian cancer is best directed, whenever possible, by a gynaecological oncologist.”**

# Gynaecological Oncologist

- **Specialist O&G plus 3 years training in pelvic surgery; exam;**
- **Re-certification every 3 years;**
- **Spend at least 66% of time in gynaecological oncology.**

# The Team

- **Gynaecological Oncologist**
- **GP (diagnosis, referral, coordination of care)**
- **Gynaecologist**
- **General surgeon (inadvertent encounter)**
- **Pathologist**
- **Nurse specialist**



# Action #1

- Arrange imaging (US, CT);
  - Never allow drainage of a cyst;
- Take CA125, CA19.9 and CEA;
- Consider age.
- If unsure >> RMI (200 cut-off)

# Action #2

Contact either

- Gynaecological Oncologist
- Gynaecologist
- Medical Oncologist

# The Team



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**A. Dunn**

**I. Korman**

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**B. Mullins**

**M. Slancar**

**A. Obermair**

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