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PET Recommendation Report 7

PET Imaging in Ovarian Cancer

M Prefontaine and C Walker-Dilks

Report Date: January 19, 2009

PET Recommendation Report 7 is comprised of 2 sections and is available on the CCO Web site (https://www.cancercare.on.ca)
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Section 1: Recommendations
Section 2: Evidentiary Base

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Citation (Vancouver Style): Prefontaine M, Walker-Dilks C. PET Imaging in ovarian cancer. Toronto (ON): Cancer Care Ontario; 2009 Jan 19. Program in Evidence-based Care PET Recommendation Report No.: 7.

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Recommendation Report – PET #7: Section 1

PET Imaging in Ovarian Cancer: Recommendations

M Prefontaine and C Walker-Dilks

Report Date: January 19, 2009

QUESTIONS

- What benefit to clinical management does positron emission tomography (PET) or positron emission tomography/computed tomography (PET/CT) contribute to the diagnosis or staging of ovarian cancer?
- What benefit to clinical management does PET or PET/CT contribute to the assessment of treatment response for ovarian cancer?
- What benefit to clinical management does PET or PET/CT contribute when recurrence of ovarian cancer is suspected but not proven?
- What benefit to clinical management does PET or PET/CT contribute to restaging at the time of documented recurrence for ovarian cancer?
- What is the role of PET when a solitary metastasis is identified at the time of recurrence and a metastectomy is being contemplated?

TARGET POPULATION

Patients with ovarian cancer.

INTENDED PURPOSE

- This recommendation report is primarily intended to guide the Ontario PET Steering Committee in their decision making concerning indications for the use of PET imaging.
- This recommendation report may also be useful in informing clinical decision making regarding the appropriate role of PET imaging and in guiding priorities for future PET imaging research.

RECOMMENDATIONS AND KEY EVIDENCE

These recommendations are based on an evidentiary foundation consisting of one recent high-quality systematic review from the U.S. Agency for Health Research and Quality (AHRQ) (1) that included primary study literature for the period from 2003 to March 2008.

Diagnosis/Staging

PET is not recommended in the diagnosis of ovarian cancer.
A recommendation cannot be made for or against the use of PET in the evaluation of asymptomatic ovarian mass due to insufficient evidence.
Three studies evaluated the diagnostic performance of fluorodeoxyglucose (FDG) PET or FDG-PET/CT in women presenting with a pelvic mass, most of whom had an elevated CA-125. In one study of 97 patients, PET/CT had a sensitivity of 100% and a specificity of 92% (Risum et al [2]). Castellucci et al (3) compared PET/CT with ultrasound (U/S) in 50 patients and showed sensitivities of 87% and 90%, respectively, and specificities of 100% and 61%, respectively. Kawahara et al (4) compared magnetic resonance imaging (MRI), PET and combined reading of MRI/PET and showed sensitivities of 91%, 78%, and 91%, respectively, and specificity of 87% for all three modalities. The ultimate diagnosis of complex ovarian masses rests on histopathology. Laparotomy, image guided biopsy, or cytology of ascites fluid cannot be safely omitted in patients with complex ovarian masses. PET imaging does not add significantly to the diagnostic evaluation of pelvic masses.

Qualifying Statement

- The Gynecology DSG feels the role of PET in asymptomatic mass should be the subject of further study. PET is not useful in symptomatic mass.

PET is not recommended for staging of ovarian cancer.
Four studies evaluated the staging performance of FDG PET or FDG PET/CT compared with conventional imaging modalities. Sixteen of 27 patients with surgical stage IIIC were upstaged to stage IV by PET/CT (Risum et al [2]). PET/CT correlated with surgical stage in 69% of cases, compared with 53% for CT (Castellucci et al [3]). PET correlated with surgical staging in 87% of cases, compared with 53% for CT (Yoshida et al [5]). In a study of 13 patients (Drieskens et al [6]), PET and CT results were concordant in 54/73 regions; 47 were correctly interpreted by both methods.

Qualifying Statement

- The staging of ovarian cancer is based on surgicopathological findings at laparotomy. Patients with occult extraperitoneal metastases seen on PET may also benefit from cytoreductive surgery. Stage migration based on PET should not affect adjuvant therapy and likely will not affect outcome.

Recurrence/Restaging

PET is not recommended for detecting recurrence or restaging patients not being considered for surgery.
A recommendation cannot be made for or against the use of PET for patients being considered for secondary cytoreduction due to insufficient evidence.
Several retrospective studies (Bristow et al [7], Garcia-Vellos et al [8], Kim et al [9], Pannu et al [10], Sebastian et al [11], Thrall et al [12]) and prospective studies (Bristow et al [13], Chung et al [14], Grisaru et al [15], Hauth et al [16], Murakami et al [17], Nanni et al [18], Picchio et al [19], Takehuma et al [20]) have correlated the findings of FDG-PET or FDG-PET/CT with histology or clinical follow-up. Most individual studies and pooled data showed statistically significant positive and negative likelihood ratios (LR) for identifying recurrent disease. Positive LR ranged from four to 22, with 95% CI crossing 1.0 for only one pooled set

of data (PET/CT versus histology/biopsy two retrospective studies [Bristow et al [7], Pannu et al [10]). Negative LR ranged from 0.10 to 0.36, with none of the 95% CIs crossing 1.0.

Qualifying Statements

- PET is relatively accurate in identifying recurrent ovarian cancer. The clinical impact on treatment decision making will vary depending on treatment philosophy. With a rising CA125, PET will confirm recurrent disease in many women with a normal physical examination and CT scan. Most clinicians do not recommend restarting chemotherapy with a rising marker and negative imaging. In the absence of data to support that restarting chemotherapy for a PET-only confirmation of recurrence improves survival or quality of life, the findings on PET may be of questionable benefit. Similarly, resuming treatment for a positive PET with a normal CA-125 has not been evaluated.
- There is no evidence to support PET for assessing suspected or diagnosed recurrence where surgery is not an option for treatment.
- PET may be useful in a subset of patients with recurrent ovarian cancer who appear to have an isolated mass on CT and are considered candidates for secondary cytoreductive surgery. The presence of multifocal disease on PET, which is more frequent, may change management away from surgery. Isolated disease on PET, which is less common, may support the recommendation for secondary debulking.

Funding

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Draft – Recommendation Report – PET #7: Section 2

PET Imaging in Ovarian Cancer: Evidentiary Base and Consensus Process

M Prefontaine and C Walker-Dilks

Report Date: January 19, 2009

QUESTIONS

- What benefit to clinical management does positron emission tomography (PET) or positron emission tomography/computed tomography (PET/CT) contribute to the diagnosis or staging of ovarian cancer?
- What benefit to clinical management does PET or PET/CT contribute to the assessment of treatment response for ovarian cancer?
- What benefit to clinical management does PET or PET/CT contribute when recurrence of ovarian cancer is suspected but not proven?
- What benefit to clinical management does PET or PET/CT contribute to restaging at the time of documented recurrence for ovarian cancer?
- What is the role of PET when a solitary metastasis is identified at the time of recurrence and a metastectomy is being contemplated?

INTRODUCTION

The Ontario PET Steering Committee made a special request to the Clinical Council of Cancer Care Ontario to co-lead the development of guidance regarding the clinical uses of PET imaging. The Program in Evidence-based Care (PEBC), working together with PEBC Disease Site Groups (DSGs), synthesized the clinical research and drafted recommendations for 10 disease sites. Recommendations for the use of PET in colorectal cancer, esophageal cancer, head and neck cancer, and melanoma were reviewed at a consensus meeting on 19 September 2008, and recommendations for the use of PET in brain, ovarian, cervical, testicular, small-cell lung, and pancreatic cancer were reviewed at a consensus meeting on 25 November 2008.

METHODS

Overview

In order to develop the recommendations and achieve consensus, a three-step methodology was undertaken.

Step 1 – Systematic review. A systematic review of the published literature was undertaken (see details below). This was conducted by one clinical lead author,

nominated by the PEBC Gynecology (GYN) DSG and a PEBC methodologist. The systematic review served as the evidentiary foundation for a set of draft recommendations developed by this team.

Step 2 – Consensus by the PEBC GYN DSG. The draft recommendations were refined during a DSG teleconference. The GYN DSG is comprised of gynecological, medical, and radiation oncologists and supported by a PEBC research methodologist.

Step 3 – Provincial PET imaging consensus meeting. The draft recommendations were vetted at a larger provincial PET imaging consensus meeting co-hosted by Cancer Care Ontario and the Provincial PET Steering Committee. The meeting was facilitated and supported by members of the PEBC team. Participants included representatives of the PEBC DSGs, other clinical experts in the areas of nuclear and diagnostic medicine, members of the Cancer Care Ontario clinical leadership team, and representatives from the Ontario PET Steering Committee and the Ontario Health Technology Assessment Committee.

The systematic review and companion recommendations are intended to promote evidence-based decisions in Ontario, Canada. The PEBC is supported by the Ontario Ministry of Health and Long-Term Care through Cancer Care Ontario. All work produced by the PEBC is editorially independent from its funding source.

SYSTEMATIC REVIEW

Literature Search

The PEBC was aware of a technology assessment being produced by the University of Alberta Evidence-based Practice Center for the U.S. Agency for Healthcare Research and Quality (AHRQ) evaluating the use of PET imaging in nine cancers (1) (referred to as the AHRQ review from this point forward). This review updated a previous AHRQ report produced by Duke University in 2004 (2). The Alberta update included individual primary studies dating from 2003 to March 2008 on six of the 10 cancer sites targeted by this project. Because the AHRQ review sufficiently covered the questions and methodologies of interest to this recommendation report, a draft of the AHRQ review was made available to the PEBC and its results were used for the evidentiary base.

Study Selection Criteria

All primary studies in the AHRQ review that addressed the questions of interest in this recommendation report (diagnosis, staging, treatment response, recurrence, and restaging) were included.

The inclusion criteria for primary studies included in the AHRQ review were:

- prospective or retrospective clinical study evaluating the use of FDG PET or FDG PET/CT in primary cancer;
- study not duplicated or superseded by a later study with the same purpose from the same institution;
- study reported numeric data on at least one objective outcome of interest for the key questions of the technology assessment (diagnostic performance, treatment decisions and management strategy, changes in therapy, patient-centred outcomes, and economic outcomes);
- study included ≥ 12 patients with the cancer of interest;
- study used a suitable reference standard (pathological confirmation and clinical follow-up) when appropriate.

Synthesizing the Evidence

In some cases where sufficient evidence existed, meta-analyses were included with pooled likelihood ratios. The AHRQ review included evidence tables that summarized the characteristics and results of each study according to the outcomes the study addressed. For diagnostic performance, the evidence tables recorded details on the source of the publication and the evidence grade, study design, patient characteristics, PET technical characteristics, criteria for interpretation, and results. In addition to the diagnostic performance of PET, the AHRQ review also sought to evaluate PET in terms of its impact on physician decision making approaches to diagnosis and management (referred to as diagnostic thinking) and its impact as part of a management strategy to improve patient-centred outcomes (referred to as management strategy). Full text and data extractions of the studies were provided to the clinical lead author to aid in the formulation of the recommendations. Telephone conferences and email correspondence between the clinical lead and the PEBC methodologist took place to clarify details and answer questions.

CONSENSUS

DSG Consensus Process

The clinical lead author wrote summaries of the key evidence, draft recommendations, and qualifying statements for the questions pertaining to diagnosis/staging, assessment of treatment response, and recurrence/restaging. The ensuing documents were circulated to all members of the GYN DSG and discussed during a teleconference. The recommendations that were generated during this process are referred to below as the DRAFT DSG Recommendations. The intent of these recommendations was to guide discussion at the consensus meeting.

Provincial Consensus Process

The consensus meeting on 25 November 2008 was conducted as follows:

- Presentations by each of the clinical lead authors on the DRAFT DSG recommendations and supporting evidence were made to the meeting participants.
- The recommendations were refined by the large group, and in some cases a revised recommendation was proposed resulting in a FINAL recommendation.
- The participants voted on the FINAL recommendations to indicate their extent of agreement on a scale from 1 to 7 (1 indicating strong agreement, 5 indicating no agreement or disagreement, and 7 indicating strong disagreement).

RESULTS

Literature Search Results

The AHRQ review results for ovarian cancer included 24 primary studies. Data from the evidence tables are summarized in Appendix 1. In addition to data for diagnostic performance, summaries of results for diagnostic thinking and management strategy are also presented where they apply. The key evidence is described below in an abbreviated fashion.

Key Evidence

Diagnosis/Staging

- Three studies evaluated the diagnostic performance of FDG-PET or FDG-PET/CT in women presenting with a pelvic mass, most of whom had an elevated CA-125. In one study of 97 patients, PET/CT had a sensitivity of 100% and a specificity of 92% (Risum et al [3]). Castellucci et al (4) compared PET/CT with U/S in 50 patients and showed sensitivities of 87% and 90%, respectively, and specificities of 100% and 61%, respectively. Kawahara et al (5) compared MRI, PET and combined reading of MRI/PET and showed sensitivities of 91%,

78%, and 91%, respectively, and specificity of 87% for all three modalities. The ultimate diagnosis of complex ovarian masses rests on histopathology. Laparotomy, image guided biopsy, or cytology of ascites fluid cannot be safely omitted in patients with complex ovarian masses. PET imaging does not add significantly to the diagnostic evaluation of pelvic masses.

- Four studies evaluated the staging performance of FDG-PET or FDG-PET/CT compared with conventional imaging modalities. Sixteen of 27 patients with surgical stage IIIC were upstaged to stage IV by PET/CT (Risum et al [3]). PET/CT correlated with surgical stage in 69% of cases, compared with 53% for CT (Castellucci et al [4]). PET correlated with surgical staging in 87% of cases, compared with 53% for CT (Yoshida et al [6]). In a study of 13 patients (Drieskens et al [7]), PET and CT results were concordant in 54/73 regions; 47 were correctly interpreted by both methods.

Recurrence/Restaging

- Several retrospective studies (Bristow et al [8], Garcia-Vellos et al [9], Kim et al [10], Pannu et al [11], Sebastian et al [12], Thrall et al [13]) and prospective studies (Bristow et al [14], Chung et al [15], Grisaru et al [16], Hauth et al [17], Murakami et al [18], Nanni et al [19], Picchio et al [20], Takehuma et al [21]) have correlated the findings of FDG-PET or FDG-PET/CT with histology or clinical follow-up. Most individual studies and pooled data showed statistically significant positive and negative likelihood ratios (LR) for identifying recurrent disease. Positive LR ranged from 4 to 22, with 95% CI crossing 1.0 for only one pooled set of data (PET/CT vs histology/biopsy 2 retrospective studies [Bristow et al [8], Pannu et al [11]). Negative LR ranged from 0.10 to 0.36, with none of the 95% CIs crossing 1.0.

RECOMMENDATIONS
DIAGNOSIS/STAGING
Clinical Question
What benefit to clinical management does PET or PET/CT contribute to the diagnosis or staging of ovarian cancer?

DRAFT DSG Recommendation

PET is not recommended in the diagnosis of ovarian cancer.

Provincial Consensus Meeting Deliberations

During large group discussion, the value of PET in asymptomatic disease was questioned. Because there was no evidence on this topic, it was decided to add a recommendation addressing asymptomatic ovarian mass.

FINAL Recommendation Put to Vote

a) PET is not recommended in the diagnosis of ovarian cancer.

	1 – Strongly Agree		4 – Neither Agree nor Disagree			7 – Strongly Disagree		N/A
	1	2	3	4	5	6	7	
Total	13	8						

Votes = 21

FINAL Recommendation Put to Vote

b) A recommendation cannot be made for or against the use of PET in the evaluation of asymptomatic ovarian mass due to insufficient evidence.

	1 – Strongly Agree		4 – Neither Agree nor Disagree			7 – Strongly Disagree		N/A
	1	2	3	4	5	6	7	
Total	8	11	1	1				

Votes = 21

Qualifying Statement

- The Gynecology DSG feels the role of PET in asymptomatic mass should be the subject of further study. PET is not useful in symptomatic mass.

DRAFT DSG Recommendation

PET is not recommended for staging of ovarian cancer.

Provincial Consensus Meeting Deliberations

No major issues were raised during discussion of this recommendation.

FINAL Recommendation Put to Vote

PET is not recommended for staging of ovarian cancer.

	1 – Strongly Agree		4 – Neither Agree nor Disagree			7 – Strongly Disagree		N/A
	1	2	3	4	5	6	7	
Total	11	8	1		1			

Votes = 21

Qualifying Statements

- The staging of ovarian cancer is based on surgicopathological findings at laparotomy. Patients with occult extraperitoneal metastases seen on PET may also benefit from cytoreductive surgery. Stage migration based on PET should not affect adjuvant therapy and likely will not affect outcome.

ASSESSMENT OF TREATMENT RESPONSE

Clinical Question

What benefit to clinical management does PET or PET/CT contribute to the assessment of treatment response for ovarian cancer?

This question was not addressed in the ovarian evidence review.

RECURRENCE/RESTAGING

Clinical Question

What benefit to clinical management does PET or PET/CT contribute when recurrence of ovarian cancer is suspected but not proven? What benefit to clinical management does PET or PET/CT contribute to restaging at the time of documented recurrence for ovarian cancer?

DRAFT DSG Recommendation

a) PET is not recommended for detecting recurrence or restaging patients not being considered for surgery.

b) A recommendation cannot be made for or against the use of PET for patients being considered for secondary cytoreduction due to insufficient evidence.

Provincial Consensus Meeting Deliberations

Some discussion occurred about the use of PET in the recurrence setting. At the present time, CA125 is used to determine recurrence. It is unknown whether detecting recurrent disease earlier will benefit the patient. In the future, this will likely change. As treatments change, PET may become part of the evaluative paradigm to help determine what is the best treatment and diagnostic workup. No modifications were made to the recommendations.

FINAL Recommendation Put to Vote

a) PET is not recommended for detecting recurrence or restaging patients not being considered for surgery.

	1 – Strongly Agree			5 – Neither Agree nor Disagree				9 – Strongly Disagree		N/A
	1	2	3	4	5	6	7	8	9	
Total	9	11								1

Votes = 21

FINAL Recommendation Put to Vote

b) A recommendation cannot be made for or against the use of PET for patients being considered for secondary cytoreduction due to insufficient evidence.

	1 – Strongly Agree			5 – Neither Agree nor Disagree				9 – Strongly Disagree		N/A
	1	2	3	4	5	6	7	8	9	
Total	9	10	1	1						

Votes = 21

Qualifying Statements

- PET is relatively accurate in identifying recurrent ovarian cancer. The clinical impact on treatment decision making will vary depending on treatment philosophy. With a rising CA125, PET will confirm recurrent disease in many women with a normal physical examination and CT scan. Most clinicians do not recommend restarting chemotherapy with a rising marker and negative imaging. In the absence of data to support that restarting chemotherapy for a PET-only confirmation of recurrence improves survival or quality of life, the findings on PET may be of questionable benefit. Similarly, resuming treatment for a positive PET with a normal CA-125 has not been evaluated.
- There is no evidence to support PET for assessing suspected or diagnosed recurrence where surgery is not an option for treatment.
- PET may be useful in a subset of patients with recurrent ovarian cancer who appear to have an isolated mass on CT and are considered candidates for secondary cytoreductive surgery. The presence of multifocal disease on PET, which is more frequent, may change management away from surgery. Isolated disease on PET, which is less common, may support the recommendation for secondary debulking.

Solitary Metastasis Identified at Time of Recurrence
Clinical Question
What is the role of PET when a solitary metastasis is identified at the time of recurrence and a metastectomy is being contemplated?

This question was not addressed in the ovarian evidence review.

FUTURE RESEARCH

Areas for future research were not discussed in the process of drafting these recommendations.

ACKNOWLEDGEMENTS

The GYN DSG would like to thank Dr. Michel Prefontaine for taking the lead in drafting this systematic review and Dr. Michael Fung Kee Fung for presenting the recommendations at the consensus meeting.

For a complete list of the Gynecology DSG members, please visit the CCO Web site at http://www.cancercare.on.ca/

Funding

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Appendix 1. PET for ovarian cancer: summary of the evidence from 2003 to March 2008.

OVARIAN Q1 - Diagnostic performance						
Citation (ref #)	Study design	PET imaging	Reference std	Sens	Spec	Evidence grade
Primary diagnosis						
Kawahara2004 (5)	Prospective	PET	Hist/bx	78%	86%	A
Risum2007 (3)	Prospective	PET/CT	Hist/bx	100%	92%	A
Staging						
Drieskens2003 (7)	Prospective	PET/CT	Hist/bx	66%	94%	B
Yoshida2004 (6)	Prospective	PET	Hist/bx	Inside pelvis 76% Outside pelvis 62%	Inside pelvis 82% Outside pelvis 98%	A
Primary diagnosis and staging						
Castellucci2007 (4)	Prospective	PET/CT	Hist/bx	87%	100%	A
Recurrence						
Bristow2003 (14)	Prospective	PET/CT	Hist/bx	83%	75%	A
Bristow2005 (8)	Retrospective	PET/CT	Hist/bx	77%	100%	C
Chung2007 (15)	Prospective	PET/CT	Hist/bx or clin fup	93%	97%	B
Garcia-Velloso2007 (9)	Retrospective	PET	Hist/bx or clin fup	86%	78%	C
Hauth2005 (17)	Prospective	PET/CT	Hist/bx or clin fup	100%	100%	C
Kim2007 (10)	Retrospective	PET/CT	Hist/bx or clin fup	73%	93%	C
Murakami2006 (18)	Prospective	PET	Hist/bx or clin fup	91%	100%	B
Nanni2005 (19)	Prospective	PET/CT	Hist/bx or clin fup	88%	71%	B
Pannu2004 (11)	Retrospective	PET/CT	Hist/bx	73%	40%	C
Sebastian2008 (12)	Retrospective	PET/CT	Hist/bx or clin fup	97%	80%	C
Takehuma2005 (21)	Prospective	PET	Hist/bx or clin fup	85%	100%	B
Thrall2007 (13)	Retrospective	PET/CT	Hist/bx or clin fup	95%	100%	C
Staging and recurrence						
Grisaru2004 (16)	Prospective	PET	Hist/bx or clin fup	92%	100%	B
Restaging						
Picchio2003 (20)	Prospective	PET	Hist/bx	82%	91%	B
Sironi2004 (22)	Prospective	PET/CT	Hist/bx	78%	75%	A

Abbreviations: bx, biopsy; clin, clinical; CT, computed tomography; fup, follow up; Hist, histology; PET, positron emission tomography; Sens, sensitivity; Spec, specificity; std, standard.

Meta-analysis: Studies evaluating dx performance with purpose of detecting recurrence.
Imaging: PET
Design: Prospective
Reference standard: Histology/biopsy or clinical follow-up

2 studies: Murakami et al (18), Takekuma et al (21)
Pooled +LR = 22.4
Pooled –LR = 0.13

Imaging: PET/CT
Design: Prospective
Reference standard: Any reference standard
4 studies: Bristow et al (14), Chung et al (15), Hauth et al (17), Nanni et al (19)
Pooled +LR = 6.97
Pooled –LR = 0.12

Imaging: PET/CT
Design: Retrospective
Reference standard: Any reference standard
5 studies: Bristow et al (8), Kim et al (10), Pannu et al (11), Sebastian et al (12), Thrall et al (13)
Pooled +LR = 6.02
Pooled –LR = 0.19

OVARIAN Q2 - Diagnostic thinking					
Citation (ref #)	Study design	PET imaging	Purpose of PET	Management decision	Evidence grade
Chung2007 (15)	Prospective	PET/CT	Recurrence	Rx strategy changed for 19/77 pts (25%): -11 pts w/o clin symptoms or abnormal CA-125 changed from surveillance to chemo. -8 pts with increased CA-125 had negative PET/CT, so add'l dx tests were cancelled.	B
Mangili2007 (23)	Retrospective	PET/CT	Restaging	Rx strategy changed for 14/32 pts (44%): From surveillance to Rx or further dx (6 pts: surgery 3, dx 2, chemo 1). Rx modality changed (8 pts: surgery to chemo 3, dx surgery to chemo 3, chemo to surgery 1, chemo to add'l dx 1).	C
Simcock2006 (24)	Prospective	PET/CT	Restaging	High impact on mgmt in 32/56 pts (57%): -7 pts from surveillance to Rx -6 pts from active Rx to surveillance -6 pts from surgery to chemo -4 pts from biopsy to Rx -8 pts changed between various Rx modalities -1 pt from Rx to biopsy	B

Soussan2008 (25)	Prospective	PET/CT	Restaging	Dx changed by PET in 16/29 pts (52%): -11 upstaged -4 downstaged -1 different disease dist'n Rx strategy changed in 10/29 pts (34%): -6 pts from surveillance to chemo -2 pts had add'l Rx modality to care plan -1 from chemo to surveillance	A
Thrall2007 (13)	Retrospective	PET/CT	Recurrence	Rx strategy changed in 14/39 pts (36%): -4 pts from Rx to palliative -10 pts assisted with Rx modality plan. In pts with no clin symptoms and normal CA-125, PET detected 3 recurrences. Negative PET allowed cancellation of 2nd look laparotomy in 4 surveillance pts.	C

Abbreviations: -ve, negative; +ve, positive; CT, computed tomography; dx, diagnosis; mgmt, management; PET, positron emission tomography; pts, patients; Rx, treatment.

OVARIAN Q3 – Management strategy					
Citation (ref #)	Study design	PET imaging	Purpose of PET	Patient centred outcomes and prognosis	Evidence grade
Kim2004 (26)	Retrospective	PET	Primary diagnosis and staging	Comparison groups: PET (25 pts), 2nd look laparotomy (SLL) (30 pts). Progression-free interval: PET 28.8 mo vs. SLL 30.6 mo (not sig) Disease-free interval with –ve test: PET 40.5 mo vs. SLL 58.6 mo (not sig) Disease-free interval with +ve test: PET 23.7 mo vs. SLL 26.2 mo (not sig)	C

Abbreviations: -ve, negative; +ve, positive; mo, months; PET, positron emission tomography; pts, patients; sig, significant.