NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer

Your information

Name:	Christine Ang
Job title:	Consultant Gynaecological Oncologist
Organisation:	Northern Gynaecological Oncology Centre, Gateshead
Email address:	[redacted]@nhs.net
Professional organisation or society membership/affiliation:	General Medical Council, Royal College of Obstetricians and Gynaecologists, Royal College of Physicians and Surgeons (Glasgow), British Gynaecological Cancer Society
Nominated/ratified by (if applicable):	Click here to enter text.
Registration number (e.g. GMC, NMC, HCPC)	GMC 4186470

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

☑ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

Click here to enter text.

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology?	Expertise in the management of patients with advanced ovarian cancer, as well as track record in service development. Experience in day to day running of tertiary ovarian cancer service, and performing ultra-radical surgery for advanced stage ovarian cancer which makes up the bulk of my job. Expertise in guideline development, education and training at national level
	Have you used it or are you currently using it? – Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake? – Is this procedure/technology performed/used by clinicians in specialities other than your own? – If your specialty is involved in patient selection or referral to another specialty for this	Ultra-radical surgery is currently being performed in centres with the surgical expertise. Although some aspects of ultra-radical surgery are performed in other specialities, it rarely incorporates 4 quadrant multi-site operating as seen with ovarian cancer. Our specialty currently assess the suitability for ultra-radical surgery, and perform the procedure. For specific aspects which require a very skilled level of expertise (eg. Liver resection), surgery as a joint procedure is arranged. I am very experienced in upper abdominal surgery (diaphragmatic stripping/resection, splenectomy), peritonectomy, non-localised bowel resections, and perform theses procedures as part of my routine surgical practice.

	procedure/technology, please indicate your experience with it.	
2	– Please indicate your research experience relating to this procedure (please choose one or more if relevant):	I have done clinical research on this procedure involving patients or healthy volunteers. I have published this research. Other (please comment)
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design? Which of the following best describes the procedure (please choose one):	It is the current standard of care in centres with the surgical expertise, support from allied specialties and governance in place. Established practice and no longer new.
4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	Used as an addition to existing standard care. Centres without this expertise, will carry out joint procedures with allied specialities, however, the importance of this being carried out by trained Gynaecological Oncologists, is the understanding of the biology of the disease, and in the decision making process, rather than just the requirement of technical help.

Current management

5	Please describe the current standard of care that is used in the NHS.	Patients being offered either upfront surgery neoadjuvant chemotherapy depending on the disease distribution and the anticipated degree of surgical radicality required, patient fitness/wishes and the expertise of the team.

6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this? If so, how do these differ from the procedure/technology described in the briefing?	No.

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	In some patients, ultra-radical surgery is required to achieve complete cytoreduction, which is one of the single most important prognostic factors for survival. This translates to an improvement in both overall and progression free survival.
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	Patients with advanced stage ovarian cancer (Stage 3C and selected cases with stage 4) large volume disseminated disease, especially if the tumour is not chemo responsive (eg. Low grade serous cancer).
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system? Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	See above. Results in improved survival outcomes if complete cytoreduction can be achieved. Likely to lead to longer hospital stays, admissions to critical care etc, purely due to the nature of the intervention in this particular group of patients (often high risk, unfit, unwell etc)
10 - MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or about the same? (in terms of staff, equipment, care setting etc)	Possibly more due to need for admission to critical care, training for teams not currently offering ultra-radical surgery, prolonged theatre time required, prolonged hospital stay
11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	Will require more funding and resource with governance procedures in place
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	None

13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	1. Training in ultra-radical surgery 2. Support of allied specialties – specialised radiology and pathology, critical care, pre-assessment, dietetics 3. Governance structures

Safety and efficacy of the procedure/technology

14	What are the potential harms of the procedure/technology? Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence: Adverse events reported in the literature (if possible, please cite literature) Anecdotal adverse events (known from experience) Theoretical adverse events	Inadequate training and experience Increase in patient morbidity, prolonged hospital stay Risk of major complications 20% ultra-radical surgery vs 5% standard surgery; Infection VTE Bleeding Pleural effusions Anastomotic leaks Pancreatic leaks
15	Please list the key efficacy outcomes for this procedure/technology?	Overall and progression free survival, morbidity and mortality, quality of life
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	None if being undertaken by appropriately trained teams
17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	Potential controversy with the extent of surgery required to achieve complete cytoreduction

18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	Fewer than 10 specialist centres in the UK.

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work). Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.	The role of exploratory laparoscopy in surgical planning for ultra-radical surgery for ovarian cancer: a narrative review. Morotti M et al. Gynecol Pelvic Med 2021 https://dx.doi.org/10.21037/gpm-21-25 The NICE classification for 'Ultra-radical (extensive) surgery for advanced ovarian cancer' guidance does not meaningfully predict post-operative complications: a cohort study. Phillips A et al. BJOG 2019: 126:96-104 Ultra-radical (extensive) surgery versus standard surgery for the primary cytoreduction of advanced epithelial ovarian cance. Ang C et al. Cochrane Database Syst Rev 2011, Issue 4. Art. No.: CD007697. DOI: 10.1002/14651858.CD007697.pub2.
20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	Not aware of any

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	Approximately 80-100 patients a year with advance stage ovarian cancer would be suitable for ultra-radical surgery out of 600 new cancer referrals across all tumour sites

22	Are there any issues with the usability or practical aspects of the procedure/technology?	None identified
23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	None other than those already detailed above
24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	No
25	Please suggest potential audit criteria for this procedure/technology. If known, please describe: – Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured. – Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	Beneficial outcome measures: Overall and progression free survival Quality of life Adverse outcome measures: 30 and 60 day morbidity and mortality rates Readmission rates Return to theatre Time to chemotherapy
26	Is there any other data (published or otherwise) that you would like to share with the committee?	No

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	Vast experience in carrying out these procedures, I operate on the vast majority of patients with advanced stage ovarian cancer in the region. Track record of service development

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Choose an item.			
Choose an item.			
Choose an item.			

☑ I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**Christine Ang**
Dated:	**5.7.22**

NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer

Your information

Name:	Mr CR Selvasekar
Job title:	Colorectal and Peritoneal Surgeon, Associate Medical Director for Clinical services and specialist Surgery
Organisation:	The Christie NHS Foundation Trust
Email address:	[redacted]
Professional organisation or society membership/affiliation:	The Royal College of Surgeons of Edinburgh
Nominated/ratified by (if applicable):	The Royal College of Surgeons of Edinburgh
Registration number (e.g. GMC, NMC, HCPC)	4452474

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

Yes ☐ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

Click here to enter text.

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology?	I work at the Christie NHS Foundation Trust which is one of the two national centres offering cytoreductive surgery and heated intraperitoneal chemotherapy (HIPEC) for pseudomyxoma peritonei, appendix cancer and colorectal cancer with peritoneal metastasis. This highly specialised service has be fully functional since 2002. We are also a training centre recognised by the European society of surgical oncology for peritoneal surgery. Recently, working collaboratively with the gynaeoncologist, we have started offering cytoreductive surgery and HIPEC for serous ovarian cancers.
	Have you used it or are you currently using it? – Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake? – Is this procedure/technology performed/used by clinicians in specialities other than your own? – If your specialty is involved in patient selection or referral to another specialty for this	Yes, currently offering this service. Currently this service is offered in Basingstoke, Birmingham, Manchester and in Dundee. For ovarian cancer management it is offered in Norwich, London and Manchester. This is a regional service which needs to work on a hub and spoke model. Yes, apart from colorectal pathologies, this surgery is offered in serous ovarian cancers. Yes, as colorectal surgeons with experience for over 20 years, we are present at the peritoneal tumour service multidisciplinary meetings to support the gynae oncologist in patient selection and in the pre and post operative care of these patients

	procedure/technology, please indicate your experience with it.	
2	– Please indicate your research experience relating to this procedure (please choose one or more if relevant):	I have published this research. Indications and outcomes for repeat cytoreductive surgery and heated intra-peritoneal chemotherapy in peritoneal surface malignancy. Sutton PA, O'Dwyer ST, Barriuso J, Aziz O, Selvasekar CR, Renehan AG, Wilson MS.Surg Oncol. 2021 Sep;38:101572. Laparoscopic cytoreductive surgery and hyperthermic intraperitoneal chemotherapy for limited peritoneal metastasis. The PSOGI international collaborative registry. Arjona-Sanchez A, Aziz O, Passot G, Salti G, Esquivel J, Van der Speeten K, Piso P, Nedelcut DS, Sommariva A, Yonemura Y, Turaga K, Selvasekar CR, Rodriguez-Ortiz L, Sanchez-Hidalgo JM, Casado-Adam A, Rufian-Peña S, Briceño J, Glehen O.Eur J Surg Oncol. 2021 Jun;47(6):1420-1426. doi: 10.1016/j.ejso.2020.11.140. Epub 2020 Dec 2. Referral pathways and outcome of patients with colorectal peritoneal metastasis (CRPM). Larentzakis A, O'Dwyer ST, Becker J, Shuweihdi F, Aziz O, Selvasekar CR, Fulford P, Renehan AG, Wilson M.Eur J Surg Oncol. 2019 Dec;45(12):2310-2315. doi: 10.1016/j.ejso.2019.07.008. Epub 2019 Jul 4.
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design? Which of the following best describes the procedure (please choose one):	HIPEC is innovative and the surgery is radical but needs a team of specialist during surgery. Multidisciplinary meeting is the key in patient selection and in planning surgery. Auditing the results is important as this radical surgery has potential risks which needs to be explained and documented. A minor variation on an existing procedure, which is unlikely to alter the procedure's safety and efficacy.

4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	The ultraradical surgery is likely to replace in serous ovarian cancer and in suitable patients

Current management

5	Please describe the current standard of care that is used in the NHS.	Following systemic anticancer treatment, patients are offered cytoreductive surgery.
6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this? If so, how do these differ from the procedure/technology described in the briefing?	No

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	Improve the cancer specific and overall outcome
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	Serous ovarian cancer
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system? Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	Yes, Improved survival
10 - MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or about the same? (in terms of staff, equipment, care setting etc)	During the pilot study at the Christie in treating serous ovarian cancer, using patient level costing system, we have demonstrated the additional cost per procedure is between £1000-£1400. Mainly due to the consumables used for HIPEC
11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	Rest of the costs are the same. With the ongoing clinical research, we may be able to demonstrate less need for active surveillance which may reduce the cost in the medium to long term.
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	For HIPEC, the standard operating procedure needs to be robust to ensure the chemotherapy drug is safely administered and discarded at the end of the procedure

13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	Yes, there are European society of surgical oncology supported courses and we are in the process of developing a course in Manchester at the simulation centre using cadaver models.

Safety and efficacy of the procedure/technology

14 What are the potential harms of the procedure/technology?

Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence:

Adverse events reported in the literature (if possible, please cite literature)

Anecdotal adverse events (known from experience)

Theoretical adverse events

Decision making is the key, hence the importance of MDT. All specialist need to play a key part. Underestimating the volume of disease by the radiologist means the patient can have unnecessary surgery and not have the opportunity to have further systemic anti cancer treatment.

As these are highly complex surgery, the perioperative management including the use of critical care, dieticians, pain team, physio and other supportive care facility.

From the real time evidence from Christie where the data is collected regularly, we have a robust audit system, these are our complications.

		Minor Complications*		Major Complications**		Peri-Operative (30 Day) Mortality		Peri-Operative (90 Day) Mortality	
	Cases	n	%	n	%	n	%	n	%
2011-2012	81	9	11.11%	18	22.22%	0	0.00%	0	0.00%
2012-2013	89	20	22.47%	12	13.48%	0	0.00%	0	0.00%
2013-2014	101	23	22.77%	17	16.83%	1	0.99%	1	0.99%
2014-2015	151	43	28.48%	16	10.60%	1	0.66%	1	0.66%
2015-2016	159	40	25.32%	31	19.62%	0	0.00%	2	1.26%
2016-2017	184	36	19.57%	27	14.67%	0	0.00%	2	1.09%
2017-2018	179	58	32.40%	13	7.26%	1	0.56%	1	0.56%
2018-2019	175	45	25.71%	28	16.00%	0	0.00%	1	0.57%
2019-2020	192	45	23.44%	23	11.98%	0	0.00%	1	0.52%
2020-2021	188	55	29.25%	26	13.82%	1	0.53%	1	0.53%
Total	**1,499**	**374**	**24.95%**	**211**	**14.08%**	**4**	**0.27%**	**10**	**0.67%**

15	Please list the key efficacy outcomes for this procedure/technology?	Improving the quality of life and cancer specific outcomes
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	There is no randomised controlled trial comparing upfront surgery versus surgery following neoadjuvant systemic anticancer treatment (SACT). SACT is also evolving and the need for surgery needs modification on regular basis. There is no evidence on the use of minimal access surgery in this setting.
17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	No. I would say, there is more evidence for using cytoreductive surgery and HIPEC in serous ovarian cancer than any other settting
18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	A minority of hospitals, but at least 10 in the UK (To start off with and review with time)

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work). Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.	**Cytoreductive surgery** and **HIPEC** in recurrent epithelial **ovarian cancer**: a prospective randomized phase III study. Spiliotis J, Halkia E, Lianos E, Kalantzi N, Grivas A, Efstathiou E, Giassas S.Ann Surg Oncol. 2015 May;22(5):1570-5. doi: 10.1245/s10434-014-4157-9. **Hyperthermic intraperitoneal chemotherapy (HIPEC)** and **cytoreductive surgery** (CRS) in **ovarian cancer**: A systematic review and meta-analysis. Huo YR, Richards A, Liauw W, Morris DL.Eur J Surg Oncol. 2015 Dec;41(12):1578-89. doi: 10.1016/j.ejso.2015.08.172. **Hyperthermic Intraperitoneal Chemotherapy** in **Ovarian Cancer**. van Driel WJ, Koole SN, Sikorska K, Schagen van Leeuwen JH, Schreuder HWR, Hermans RHM, de Hingh IHJT, van der Velden J, Arts HJ, Massuger LFAG, Aalbers AGJ, Verwaal VJ,

		Kieffer JM, Van de Vijver KK, van Tinteren H, Aaronson NK, Sonke GS.N Engl J Med. 2018 Jan 18;378(3):230-240. Diagnosis and Treatment of **Ovarian Cancer**. Orr B, Edwards RP.Hematol Oncol Clin North Am. 2018 Dec;32(6):943-964. Primary **cytoreductive surgery** with or without **hyperthermic intraperitoneal chemotherapy** (**HIPEC**) for FIGO stage III epithelial **ovarian cancer**: OVHIPEC-2, a phase III randomized clinical trial. Koole S, van Stein R, Sikorska K, Barton D, Perrin L, Brennan D, Zivanovic O, Mosgaard BJ, Fagotti A, Colombo PE, Sonke G, Driel WJV; OVHIPEC-2 Steering Committee and the Dutch OVHIPEC group.Int J Gynecol Cancer. 2020 Jun;30(6):888-892. The role of **cytoreductive surgery** and **HIPEC** in epithelial **ovarian cancer**. Halkia E, Spiliotis J.J BUON. 2015 May;20 Suppl 1:S12-28.PMID: 26051328 Review. Improved long-term results can be achieved in highly selected patients using **cytoreductive surgery** (CRS), in combination with intra-operative **hyperthermic** intra-peritoneal **chemotherapy** (**HIPEC**). Optimal **cytoreduction** of advanced **ovarian** … 1. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA: A Cancer Journal for Clinicians. 2018;68(6):394-424. 2. Griffiths CT. Surgical resection of tumor bulk in the primary treatment of ovarian carcinoma. Natl Cancer Inst Monogr. 1975;42:101-4. 3. Van Driel Willemien J, Koole SN, Sikorska K et al. Hyperthermic Intraperitoneal Chemotherapy in Ovarian Cancer, N Engl J Med 2018: 378:230-240
20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	Yes, OVIPEC 2 trial

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	500 approximately. NCIN data shows over 4000 primary ovarian cancer
22	Are there any issues with the usability or practical aspects of the procedure/technology?	Yes, there is a need for training for the anaesthetists, theatre team, HIPEC practitioners and perioperative team apart from the surgeons in ensuring patient safety is not compromised.
23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	We have been offering cytoreductive surgery and HIPEC at the Christie since 2002 and have started the pilot for ovarian cancer last year in a collaborative way.
24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	Yes, should these procedures be performed by single surgeons or by a group with specialist based on MDT recommendation
25	Please suggest potential audit criteria for this procedure/technology. If known, please describe: − Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured. − Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	Beneficial outcome measures: *Short to medium term goals:* 1. Competency of the surgeons and the surgical teams. 2. Short term post surgical complications (Bleeding, infection, anastomotic leak, stoma) 3. Cancer specific outcomes (Disease free and overall survival) Adverse outcome measures: Process issues, patient safety concerns

26	Is there any other data (published or otherwise) that you would like to share with the committee?	OVIPEC 1 study (Van Driel Willemien J, Koole SN, Sikorska K et al. Hyperthermic Intraperitoneal Chemotherapy in Ovarian Cancer, N Engl J Med 2018: 378:230-240)

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	This is an important area in surgery but needs to be offered in a robust multidisciplinary approach. The decision making and the surgery are important. The infrastructure in centres where this surgery is offered needs to be robust with good facility for interventional radiology and critical care. Training of surgeons and the surgical teams is important. Audit and governance needs to be robust.

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Indirect	I am not sure it is conflict of interest but am a practicing colorectal and peritoneal surgeons at a cancer centre offering radical ovarian cancer surgery and cytoreductive surgery and HIPEC for over 20 yrs.		
Choose an item.			
Choose an item.			

Yes☐ I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**Mr CR Selvasekar**
Dated:	**07/07/2022**

NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer

Your information

Name:	Mr Ioannis Kotsopoulos
Job title:	Consultant Gynaecological Oncology Surgeon
Organisation:	UCLH
Email address:	[redacted]
Professional organisation or society membership/affiliation:	BGCS, BSCCP, GMC 7468467
Nominated/ratified by (if applicable):	Click here to enter text.
Registration number (e.g. GMC, NMC, HCPC)	GMC 7468467

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

√ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

Click here to enter text.

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology? Have you used it or are you currently using it? − Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake? − Is this procedure/technology performed/used by clinicians in specialities other than your own? − If your specialty is involved in patient selection or referral to another specialty for this	**I regularly (around 25-35 / year – gross estimation) perform radical as well as ultra-radical surgery for advanced ovarian cancer in a busy tertiary hospital (UCLH), within a Gynaecological Oncology department.** **I have received extensive training on these procedure, including the formal RCOG Subspecialty training in Gynaecological Oncology.** **In my clinical/surgical practise I have specific interest on the surgical management of ovarian cancer (includinh ultra-radical surgery), as it is also evident by my leadership in a HIPEC business case at UCLH.** **I currently use radical and ultra-radical surgery for the treatment of patients with advance ovarian cancer.** - **This procedure is used in large Gynaecological Oncology centres in the UK that have the knowledge of the technique** - **Ultra-radical surgery in ovarian cancer is almost exclusively performed by clinicians in my subspecialty (Gynaecological Oncology)** - **I participate in the weekly Gynaecological Oncology MDM at UCLH, where patients suitable for ultra-radical cytoreduction are selected**

	procedure/technology, please indicate your experience with it.	
2	– Please indicate your research experience relating to this procedure (please choose one or more if relevant):	I have done bibliographic research on this procedure.**√ yes** I have done research on this procedure in laboratory settings (e.g. device-related research).**no** I have done clinical research on this procedure involving patients or healthy volunteers.**√Large scale (10 years), single centre, retrospective data collection and analysis on surgery in ovarian cancer, including changes from radical to ultra-radical surgery.+ Supervision of a BSc dissertation in ultra-radical surgery (survival outcomes of diaphragmatic surgery)** I have published this research. **Relevant publications under preparation (analysis/writing)** I have had no involvement in research on this procedure. Other (please comment)
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design? Which of the following best describes the procedure (please choose one):	**Current evidence supports maximal surgical effort to achieve complete cytoreduction to no visible disease, in the surgical treatment of patients diagnosed with advanced ovarian cancer. Therefore, from this perspective, and for well selected patients, ultra-radical surgery is the standard of care, waiting further stronger evidence on safety and efficacy.** **Established practice and no longer new.** √ (please see above) **Ultra-radical surgery has been for the treatment of adnvanced ovarian cancer for at least one decade.** ~~A minor variation on an existing procedure, which is unlikely to alter the procedure's safety and efficacy.~~ ~~Definitely novel and of uncertain safety and efficacy.~~ ~~The first in a new class of procedure.~~

4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	**It is currently the standard of care for specific group of patients (e.g those that due to disease dissemination, complete cytoreduction could only be achieved using ultra-radical surgery). However, more evidence is needed on the safety and efficacy of the procedure.**

Current management

5	Please describe the current standard of care that is used in the NHS.	**Maximal surgical effort, using ultra-radical surgery when indicated, to achieve complete cytoreduction to no visible residual disease.**
6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this? If so, how do these differ from the procedure/technology described in the briefing?	**No**

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	**Improved oncological outcome by achieving complete cytoreduction.**
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	**Yes. Patients with advanced ovarian cancer, that due to disease distribution (e.g on/in spleen, on the diaphragms, on the liver etc), would possibly benefit from ultra-radical surgery.**
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system? Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	**When ultra-radical surgery leads to complete cytoreduction, it is expected to lead to better oncological/survival outcome.** **However, the above conclusion is indirect, as there is currently no RCT to compare standard (radical) to ultra-radical surgery with survival being the primary end-point.**
10 - MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or about the same? (in terms of staff, equipment, care setting etc)	**Likely more, mainly due to increased rate of side-effects/complications, use of ITU beds and length of hospital stay.**
11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	**It is already part of the current surgical practice**
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	**Surgical equipment** **Surgical experience** **ITU bed availability**

13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	**Yes. Specific training in ultra-radical surgery for advanced ovarian cancer.** **In the UK, this is part of the formal RCOG Subspecialty Training in Gynaecological Oncology.**

Safety and efficacy of the procedure/technology

14	What are the potential harms of the procedure/technology? Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence: Adverse events reported in the literature (if possible, please cite literature) Anecdotal adverse events (known from experience) Theoretical adverse events	**Bowel Anastomostic leak** **Pneumonia** **Pulmonary Embolism** **Pneumothorax** **Reduced immune response (secondary to splenectomy)** **Weigh loss, reduced absorption (partial gastrectomy)**
15	Please list the key efficacy outcomes for this procedure/technology?	**Current evidence supports the use of ultra-radical surgery when is needed in order to achieve complete cytoreduction, as residual disease remains the main predictor for survival, irrespectively of the initial tumour burden. Therefore, ultra-radical surgery could lead to better oncological outcomes (increased survival) when leads to minimum/zero macroscopic residual.**
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	**A Cochare Database Systematic Review found low quality evidence comparing radical with ultra-radical surgery, based on only one non-randomised study. Therefore, authors were unable to reach definite conclusions.** *Ang C, Chan KK, Bryant A, Naik R, Dickinson HO. Ultra-radical (extensive) surgery versus standard surgery for the primary cytoreduction of advanced epithelial ovarian cancer. Cochrane Database Syst Rev. 2011 Apr 13;(4):CD007697. doi: 10.1002/14651858.CD007697.pub2. PMID: 21491400; PMCID: PMC4028614.*

		Application of ultra-radical surgery may involve multiple surgical procedures/organs resection during the operation. In a retrospective study, this was found to be correlated with major morbidity. *Phillips A, Sundar S, Singh K, Pounds R, Nevin J, Kehoe S, Balega J, Elattar A. The NICE classification for 'Ultra-radical (extensive) surgery for advanced ovarian cancer' guidance does not meaningfully predict postoperative complications: a cohort study. BJOG. 2019 Jan;126(1):96-104. doi: 10.1111/1471-0528.15423. Epub 2018 Sep 9. PMID: 30092615.*
17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	**Efficacy and safety should be assessed in RCT, or if not possible, in well designed non-randomised studies.** **Also, to the best of my knowledge, there is a lack of well designed studies to assess the cost-effectiveness of the procedure.**
18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	~~Most or all district general hospitals.~~ **A minority of hospitals, but at least 10 in the UK.** ~~Fewer than 10 specialist centres in the UK.~~ ~~Cannot predict at present.~~

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work). Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help	**Nil additional to what could be found via a comprehensive literature search**

	us if you list any that you think are particularly important.	
20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	**To the best of my knowledge, there is currently no ongoing trial to compare standard (radical) to ultra-radical surgery.** **However, ongoing trials in ovarian cancer surgery, including TRUST study** (https://clinicaltrials.gov/ct2/show/NCT02828618)**, may include patients having ultra-radical surgery.**

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	**Approximately 30-40% of the ovarian cancer patients (very gross estimation)**
22	Are there any issues with the usability or practical aspects of the procedure/technology?	**The main possible issue is the lack of experience, training and surgical skills to perform ultra-radical surgery, as well as possible financial restrictions in a few NHS Trusts to support this procedure (e.g. cover the extra cost related to ICU beds, hospital stay, increased post-operative morbidity).**
23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	**Please see above answer.** **Additionally, possibly the lack of high quality evidence.**
24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	**Randomised controlled trial to compare standard (radical) to ultra-radical surgery, with primary end point the oncological/survical outcome, and secondary end points the morbidity/mortality and cost-effectiveness.** **If this is not possible, then there is a need for well designed non-randomised studies.**
25	Please suggest potential audit criteria for this procedure/technology. If known, please describe:	Beneficial outcome measures:

	− Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured. − Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	**Oncological/Survival outcome, as measured by progression free survival and overall survical** **Median/long term quality of life secondary to longer disease free period** **Long term cost-effectiveness** Adverse outcome measures: **Short and long term morbidity and mortality rates, measured within 1 and 3 months post-operatively.**
26	Is there any other data (published or otherwise) that you would like to share with the committee?	**Nil apart to what could be found via comprehensive literature review.**

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	**My personal opinion and experience supports current practise of application of ultra-radical surgery as part of the maximum surgical effort, in well selected patients, in order to achieve no macroscopically visible residual disease, in the treatment of patients with advanced ovarian cancer.**

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Indirect	Apart from NHS, I also practice surgery in the private sector, under contact/employment status. In private practice, an ultra-radical surgery may be performed as part of the treatment of patients with ovarian cancer. However, for this specific IP, and the comparison between standard (radical) and ultra-radical surgery, there is no direct financial benefit, therefore no bias towards one or other approach. From this persepective there is no conflict of interest.	**March 2022**	
Choose an item.			
Choose an item.			

√ I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**Mr Ioannis Kotsopoulos**
Dated:	**10/07/2022**

NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer

Your information

Name:	Mr Janos Balega
Job title:	Consultant Gynaecological Oncologist
Organisation:	Pan-Birmingham Gynaecological Cancer Centre (Sandwell and West Birmingham Hospitals NHS Trust)
Email address:	[redacted]
Professional organisation or society membership/affiliation:	GMC – 6110774; RCOG – Member; BGCS – Member; BMA – Member; ESGO - Member
Nominated/ratified by (if applicable):	Click here to enter text.
Registration number (e.g. GMC, NMC, HCPC)	GMC 6110774

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

☒ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

Click here to enter text.

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology?	I have been trained to perform the whole range (standard, radical, and ultra-radical) of ovarian cancer operations by expert surgical oncologists at The Royal Marsden Hospital and St Bartholomew's Hospital during my subspecialty training. After my appointment as a Consultant Gynaecological Oncologist, I have set up the ovarian cancer surgical programme in Birmingham in 2008, which has been a successful and safe initiative. I have been performing ovarian cancer operations as a Consultant Gynaecological Oncologist for the past 15 years, with good track record in terms of efficiency and safety. I have designed the governance framework for our programme and have maintained the prospective data collection as per NICE IPG470 (2013). Our Team published extensively on our ovarian cancer experience in peer-reviewed journals.
	Have you used it or are you currently using it? − Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake?	In Birmingham, ultra-radical surgery (when required) is the gold standard management. However, I am acutely aware of the current concerns with the training and uptake of ultra-radical ovarian cancer surgery in the UK. Currently, there are three tiers of gynaecological cancer centres in the UK with regards of uptake of ultra-radical ovarian cancer surgery: 1. Centres with established surgical programme, with more than one fully trained consultant gynaecological oncologists, with support from hepatobiliary surgeons, with an experienced ward team. These centres perform ultra-radical surgery on daily basis. 2. Centres with non-established programme but some experience and willingness to formalise an ultra-radical ovarian cancer surgical portfolio. 3. Centres with no existing experience in ultra-radical surgery. The British Gynaecological Cancer Society set up a joint training programme with the Peritoneal Malignancy Institute in Basingstoke, which was launched in 2021 with great success (I have

		supervised this initiative on behalf of BGCS). An Ovarian Cancer Mentorship Programme is also under development involving a panel of experts from the UK.
	− Is this procedure/technology performed/used by clinicians in specialities other than your own?	Cytoreductive surgery (or debulking) has been developed by pseudomyxoma surgeons and has been the gold standard of care for such patients for decades (in Basingstoke and Manchester, the two appointed centres in the UK). The similar surgical principles and techniques are also used to treat patients with advanced bowel cancer in a selected few centres in the UK.
	− If your specialty is involved in patient selection or referral to another specialty for this procedure/technology, please indicate your experience with it.	Ovarian cancer patients can only be managed and operated by trained gynaecological oncology specialists in the UK. However, joint working on complex cases with the hepatobiliary surgeons, colorectal surgeons is standard practice in the UK and worldwide.
2	− Please indicate your research experience relating to this procedure (please choose one or more if relevant):	YES. I have done bibliographic research on this procedure. ~~NO. I have done research on this procedure in laboratory settings (e.g. device-related research).~~ YES. I have done clinical research on this procedure involving patients or healthy volunteers. YES. I have published this research. ~~I have had no involvement in research on this procedure.~~ Other (please comment): I have led on the critical assessment of the Birmingham ovarian cancer data and the publication of eleven peer-reviewed papers. I have been local PI for the SCOQER-2 clinical trial and have participated in the data analysis and the writing up of the publications.
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design?	In leading cancer centres in the UK and worldwide, ultra-radical ovarian cancer surgery is the gold standard of management for patients with advanced ovarian cancer. For these centres, no change will be implemented but a formal guidance would serve as a regulatory/governance framework to ensure safe and transparent practice.

	Which of the following best describes the procedure (please choose one):	For those centres where ultra-radical (or even radical) ovarian cancer surgery is not routinely practiced, the guidance, again, would serve as a governance framework to ensure high standard and safe care for patients with ovarian cancer. YES. Established practice and no longer new. ~~A minor variation on an existing procedure, which is unlikely to alter the procedure's safety and efficacy.~~ ~~Definitely novel and of uncertain safety and efficacy.~~ ~~The first in a new class of procedure.~~
4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	The current standard of care according the NICE guidance #CG122 is to aim for removal of all visible disease during surgery. The means to achieve this and the rate of failure to achieve this are highly variable throughout the UK. The proposed ultra-radical approach would have the potential to improve the current standard of care by improving the rate of complete resection of disease, and, therefore the survival figures.

Current management

5	Please describe the current standard of care that is used in the NHS.	Whilst the national and international professional guidelines recommend to offer surgery (standard, radical, ultra-radical depending on disease distribution) for all medically fit patients with advanced ovarian cancer with the aim of complete removal of disease, the recent NHSE/BGCS Ovarian Cancer Feasibility Audit demonstrated great inequality in access to standard treatment (surgery + chemotherapy) in the UK. The standard of surgical care in the UK is variable from centre to centre, depending on personal philosophy, surgical skills, team ethos and support, organisational support, financial considerations. Patient selection is also variable, as patients with higher disease load are often not offered surgery. In the West Midlands, only 4 out of 10 patients will get standard treatment, i.e. the combination of surgery and chemotherapy. The quality of surgery, i.e. resection rate is

		also variable and has been identified as one of the reasons for poor outcomes in ovarian cancer care in the UK.
6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this? If so, how do these differ from the procedure/technology described in the briefing?	No.

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	According to the available evidence, complete surgical clearance is the most important prognostic factor for the survival of ovarian cancer patients, therefore, offering adequate surgery (that includes standard, radical, ultra-radical procedures) would improve outcomes (longer survival).
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	Extensive (ultra-radical) surgery is designed to address widespread disease distribution (high peritoneal carcinomatosis index or PCI). These patients without surgical resection have poor outcomes, with shorter progression-free and overall survival. Those patients who so far have not been offered surgery due to limited availability of surgical expertise locally will have the biggest impact on their prognosis by the implementation of ultra-radical surgery.
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system?	As the quality of surgery is the only prognostic factor influenceable by clinicians, the wider implementation of ultra-radical surgery in the UK practice will have the potential to improve cancer outcomes but only if the prerequisites for safe and expert execution of these operations are in place. This will require change in training, governance, funding, and potentially will lead to change in regional pathways by implementing a degree of centralisation of these operations.

	Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	So far, the evidence points toward improved survival associated with better surgical outcomes. The evidence did not show any long-term detrimental effect on QOL after extensive ovarian cancer operations (SOCQER2).
10 - MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or about the same? (in terms of staff, equipment, care setting etc)	This question is difficult to answer as a large proportion of ovarian cancer patients in the UK *do not get* any surgical treatment offered. Whilst surgical intervention is associated with one episode of significant investment in the patient's care, the reported cost of such surgeries (~$30K per case) should be compared with non-surgical treatment options such as maintenance therapies (~$12-18K/month).
11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	If all suitable ovarian cancer patients in the UK would receive adequate surgical care (which is not the case currently), the following impact on the resources would need to be considered: - Increased number of surgeons with adequate training in ovarian cancer surgery - Increased number of theatre lists - Increased number of postoperative enhanced care unit beds - Increased number of hospital beds
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	In centres where ultra-radical surgery is already the standard, no changes would be implemented. A national prospective audit should, however be established for quality assurance. Establishing a reasonable national tariff for ultra-radical ovarian cancer surgery would be essential for successful implementation of this programme. Those centres where ultra-radical ovarian cancer surgery is not available as a routine, the available options are: 1. To train the existing gynaecological oncologists to acquire the necessary skills to perform ultra-radical surgery and to establish a team to support ultra-radical surgery (hepatobiliary, colorectal, intensive care, ward) 2. To refer patients to expert centres where ultra-radical surgery is already established and performed efficiently and safely

13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	To acquire adequate surgical skills to perform ultra-radical surgery for ovarian cancer, intense surgical training would be necessary in established ovarian cancer surgical centres with subsequent mentoring.

Safety and efficacy of the procedure/technology

14	What are the potential harms of the procedure/technology? Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence: Adverse events reported in the literature (if possible, please cite literature) Anecdotal adverse events (known from experience) Theoretical adverse events	The recent trial SOCQER-2 found the following overall complication rates: 20%, 26%, and 52%, for standard (low surgical complexity score – SCS), radical (intermediate SCS), and ultra-radical (high SCS) surgery, respectively. The figures for grade 3 or higher complications were, 9%, 13%, and 25%, respectively. The mortality rate was not different in the three groups in this publication; the rate of fatal complications associated with high SCS operations is 1-4% in the international literature. The specific risks associated with ultra-radical ovarian cancer surgery are similar to the risks of cholecystectomy, partial diaphragm resection, splenectomy, liver resection, bowel resection, partial gastrectomy, distal pancreatectomy. From personal experience, there are no unique complications associated with ovarian cancer surgery other than the ones linked with the different procedures performed.
15	Please list the key efficacy outcomes for this procedure/technology?	The rate of complete macroscopic clearance is the most important outcome measure for these operations. The grade 3/4 morbidity and the mortality rates are also essential in assessing the efficacy.
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	In appropriately trained hands supported by a well-trained team, ultra-radical ovarian cancer surgery is safe and efficient. Concerns should be raised if surgeons with no robust training and without team support would start performing ultra-radical surgery, as it would potentially result in serious adverse events and complications. Robust national training and a system of accreditation should, therefore, be crucial in promoting a safe ultra-radical surgical practice in the UK.
17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	The surgical philosophy and skillset is variable amongst the gynaecological oncologists in the UK and this has impeded the wider uptake of ultra-radical surgery. Historically, the lack of adequate tariffs for ovarian cancer surgery also had a detrimental impact on the uptake of this technique. However, increasing number of UK centres has taken steps to implement such surgical practice during the past 10 years.

18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	The gynaecological cancer care is already highly centralised with 30 gynaecological cancer centres in the United Kingdom. Should ultra-radical surgery become a mandatory skillset, presumably not all of these centres will be in position to establish this service, and, therefore, a degree of centralisation will need to be considered in the future. ~~Most or all district general hospitals.~~ A minority of hospitals, but at least 10 in the UK. ~~Fewer than 10 specialist centres in the UK.~~ ~~Cannot predict at present.~~

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work). Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.	Quality of life from cytoreductive surgery in advanced **ovarian cancer**: Investigating the association between disease burden and surgical complexity in the international, prospective, SOCQER-2 cohort study. Sundar S, Cummins C, Kumar S, Long J, Arora V, Balega J, Broadhead T, Duncan T, Edmondson R, Fotopoulou C, Glasspool R, Kolomainen D, Leeson S, Manchanda R, McNally O, Morrison J, Mukhopadhyay A, Paul J, Tidy J, Wood N.BJOG. 2022 Jun;129(7):1122-1132. doi: 10.1111/1471-0528.1 Improved survival after implementation of ultra-radical surgery in advanced epithelial **ovarian cancer**: Results from a tertiary referral center. Norppa N, Staff S, Helminen M, Auranen A, Saarelainen S.Gynecol Oncol. 2022 Jun;165(3):478-485. Optimal primary surgical treatment for advanced epithelial ovarian cancer. Elattar A, Bryant A, Winter-Roach BA, Hatem M, Naik R.Cochrane Database Syst Rev. 2011 Aug 10;2011(8):CD007565. doi: 10.1002/14651858.CD007565.pub2. Continuous improvement in primary Debulking surgery for advanced ovarian cancer: Do increased complete gross resection rates independently lead to increased progression-free and overall survival?

		Tseng JH, Cowan RA, Zhou Q, Iasonos A, Byrne M, Polcino T, Polen-De C, Gardner GJ, Sonoda Y, Zivanovic O, Abu-Rustum NR, Long Roche K, Chi DS.Gynecol Oncol. 2018 Oct;151(1):24-31. Randomized **trial** of primary debulking surgery versus neoadjuvant chemotherapy for advanced epithelial **ovarian cancer** (**SCORPION**-NCT01461850). Fagotti A, Ferrandina MG, Vizzielli G, Pasciuto T, Fanfani F, Gallotta V, Margariti PA, Chiantera V, Costantini B, Gueli Alletti S, Cosentino F, Scambia G.Int J Gynecol Cancer. 2020 Nov;30(11):1657-1664. Phase III randomised **clinical trial** comparing primary surgery versus neoadjuvant chemotherapy in advanced epithelial **ovarian cancer** with high tumour load (**SCORPION trial**): Final analysis of peri-operative outcome. Fagotti A, Ferrandina G, Vizzielli G, Fanfani F, Gallotta V, Chiantera V, Costantini B, Margariti PA, Gueli Alletti S, Cosentino F, Tortorella L, Scambia G.Eur J Cancer. 2016 May;59:22-33. Improved progression-free and overall survival in advanced **ovarian cancer** as a result of a change in surgical **paradigm**. **Chi DS**, Eisenhauer EL, Zivanovic O, Sonoda Y, Abu-Rustum NR, Levine DA, Guile MW, Bristow RE, Aghajanian C, Barakat RR.Gynecol Oncol. 2009 Jul;114(1):26-31. The NICE classification for 'Ultra-radical (extensive) surgery for advanced ovarian cancer' guidance does not meaningfully predict postoperative complications: a cohort study. Phillips A, Sundar S, Singh K, Pounds R, Nevin J, Kehoe S, **Balega J**, Elattar A.BJOG. 2019 Jan;126(1):96-104. Reporting 'Denominator' data is essential for benchmarking and quality standards in ovarian cancer. Phillips A, **Balega J**, Nevin J, Singh K, Elattar A, Kehoe S, Sundar S.Gynecol Oncol. 2017 Jul;146(1):94-100. Maximal cytoreduction in patients with FIGO stage IIIC to stage IV ovarian, fallopian, and peritoneal cancer in day-to-day practice: a Retrospective French Multicentric Study. Luyckx M, Leblanc E, Filleron T, Morice P, Darai E, Classe JM, Ferron G, Stoeckle E, Pomel C, Vinet B, Chereau E, Bergzoll C, Querleu D.Int J Gynecol Cancer. 2012 Oct;22(8):1337-43.

20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	Not as far as I am concerned. An important analysis of the SOCQER-2 clinical trial is underway and is being written up for publication.

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	Approximately 2500 patients would be eligible for such operation in ideal circumstances: - 7500 new ovarian cancer patients/year - 80% of them with advanced disease – 6000 patients/year - Aim: 70% to receive an operation: 4200 patients/year (KPI by BGCS) - 60% of these patients will require ultra-radical surgery: **2520** patients per year in the UK
22	Are there any issues with the usability or practical aspects of the procedure/technology?	Training to achieve expertise in ultra-radical surgery takes long and not all existing gynaecological oncologists would have the interest or skills to be adequately trained. Setting up the supporting system (establishing SLAs with likeminded hepatobiliary or colorectal surgeons) around the gynaecological oncology ovarian cancer surgeons is also labour intensive project and may not be possible everywhere. Evidence demonstrated that such complex operations are performed most efficiently and safely in large volume cancer centres. Consideration will need to be made as to whether centralise the care of patients requiring ultra-radical ovarian cancer surgery or to establish and train up further centres in the UK.
23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	Ultra-radical surgery is the standard treatment for suitable patients with ovarian cancer in my Trust, providing patients in Greater-Birmingham with state-of-art surgical care. To adopt the same surgical practice elsewhere, centres with no experience in ultra-radical surgery will need to identify gynaecological oncologists who are keen and able to undergo advance training. Otherwise, consideration should be made to establish supra-regional centres to provide ovarian cancer patients with excellent care. The lack of adequate tariff to remunerate the cancer centres for their ultra-radical surgical work is a potential barrier for regional centralisation or for establishing new centres.

24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	The consideration of comparing ultra-radical and not ultra-radical surgery is unethical in my opinion, as the aim of all ovarian cancer operations is the complete resection of disease (see NICE guidance #CG122). The means to achieve this is dependent on the disease distribution and not an arbitrary classification on the extent of surgery. However, establishing a national database for ovarian cancer surgery should be considered to enhance our understanding of the current practice in the UK. This would also serve as governance framework to ensure safety and efficiency in all centres performing these operations.
25	Please suggest potential audit criteria for this procedure/technology. If known, please describe: − Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured. − Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	A basic set of data should be collected by all centres performing ovarian cancer surgery. The main KPIs are the following: Beneficial outcome measures: - Percentage of patients operated - Complete macroscopic resection rate - Optimal resection rate (<1cm residual disease) - Rate of bowel resection - Rate of colostomy - Rate of splenectomy - Rate of diaphragm peritonectomy Adverse outcome measures: - Mortality rate - G3-4 adverse event rate - Anastomosis leakage rate - EBL - Hospital stay - Readmission rate Currently, NICE IPG470 procedure guidance mandates cancer centres to carry out prospective data collection for patients undergoing ovarian cancer surgery. I believe that this should be followed by all gynaecological oncology centres in the UK, and the results should be quarterly discussed in the M&M meetings, and should be available on the public domain for all centres.

		Alternatively, collecting and publishing the ESGO (European Society of Gynaecological Oncology) ovarian cancer dataset could be considered. ESGO has set the standards of excellent ovarian cancer care and has been auditing the participating centres.
26	Is there any other data (published or otherwise) that you would like to share with the committee?	No.

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	No.

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Choose an item.			
Choose an item.			
Choose an item.			

☒ I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**MR JANOS BALEGA**
Dated:	**18th July 2022**

NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer

Your information

Name:	Martha Quinn
Job title:	MacMillan Consultant Surgical Oncologist
Organisation:	NHS GGC
Email address:	[redacted]
Professional organisation or society membership/affiliation:	Royal College of Surgeons and Physicians of Glasgow
Nominated/ratified by (if applicable):	[redacted]
Registration number (e.g. GMC, NMC, HCPC)	6097186

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

☐ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

I give my consent

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology? Have you used it or are you currently using it? – Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake? – Is this procedure/technology performed/used by clinicians in specialities other than your own? – If your specialty is involved in patient selection or referral to another specialty for this	I have been working as a consultant surgical oncologist within the NHS since 2017. This was following a high volume pelvic exenteration fellowship in Royal Prince Alfred hospital, Sydney, Australia. My daily practice involves radical pelvic surgery for any tumours arising from pelvic structures, multivisceral resection for Sarcoma and cytoreductive surgery for gynaecological maliganancy. I am competent in total pelvic extenteration, pelvic side wall excision and bony sacral/ pubic bone excision. Inguinal and para-aortic lymphadenectomy and radical multivisceral resection (nephrectomy/splenectomy/distal pancreatectomy, abdominal wall excision, diaphragm stripping and resection). I provide constant consistent surgical support to the local gynae-oncology tertiary referral unit on a weekly basis and have pushed the boundaries of resection for these women. We now have one of the largest pelvic exenteration practices for gynaecological malignancy in the UK I work within the largest health board in Europe. We are using this technique on a weekly basis. There are multiple sites in England that also support ultraradical CRS for ovarian cancer and also in Ireland. This should be performed in units and by clinical teams that are trained in radical pelvic surgery and the management of subsequent complications. As a surgical oncologist I participate in fortnightly Surgical planning meetings with the Gynae oncology team. Through this forum we discuss the scans of patients being considered for complex resection.I undertake around 50 pelvic exenterations per year and around a further 80 complex pelvic resections. Pelvic exenteration would be regarded as excision of 3 consecutive pelvic

	procedure/technology, please indicate your experience with it.	compartments so should not include hysterectomy with enbloc anterior resection. I perform radical lymphadenectomy and diaphragm stripping and resections.
2	– Please indicate your research experience relating to this procedure (please choose one or more if relevant):	I have done bibliographic research on this procedure.
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design? Which of the following best describes the procedure (please choose one):	For many units this is a change from their current practice and will involve significant alterations to the treatment pathways for these patients. However there is good evidence that radical surgery for cervical and vaginal malignancies confers survival benefits. This has been published by the Sydney exenteration group. The same remains to be seen for ovarian cancer. There is an RCT by van der burger et al that determined a maximal attempt at complete cytoreduction resulted in improved survival outcomes but the optimal trial of lesser vs more surgery or surgery vs chemo would be difficult to uphold as one arm could be seen as withholding treatment. Definitely novel and of uncertain safety and efficacy. However it has been in use in larger volumes centres for serval years and there should be the option for UK centres to pool their retrospective data to try and draw some meaningful outcome to help in treatment decision making.
4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	Yes, it would replace current standard of care in many units. It is likely to prompt centralisation of service to units with a large tertiary surgical referral centre both for pelvic cancer and upper GI/ HPB malignancy

Current management

5	Please describe the current standard of care that is used in the NHS.	This varies throughout the country. Patients are sent to tertiary centres however these are often overwhelmed resulting in Women waiting for prolonged periods for surgery.
6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this? If so, how do these differ from the procedure/technology described in the briefing?	No

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	Complete reduction of disease burden with a reduction in the need for ongoing systemic chemotherapy
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	High grade serous ovarian cancer as they are less chemoresponsive
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system? Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	It is difficult to comment however the cost of systemic chemotherapy and immunotherapy are significant and these would need to weighed against a 2-3 week inpatient stay following complete CRS with 6 monthly/ 1 year scan follow up.
10 - MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or about the same? (in terms of staff, equipment, care setting etc)	It would be my expectation that this would result a reduction in cost compared to chemotherapy in combination with immunotherapy
11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	It may involve an initial increase in resource to allow upskilling of staff and sessional arrangements for multispeciality support however once established it should return to a similar level as the current standard of care.
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	A clinical team that are experienced in pelvic exenterative surgery, HPB surgery to support the gynae oncologists. HDU and ICU resource for post op care. There should be availability of Interventional radiology (in case nephrostomies required if ureteric injury), CT guided drainage facilities, TPN services and stoma care

13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	There needs to be significant investment in training of gynaecologists if they wish to keep this surgery in their speciality. This surgery would normally fall in the remit of colorectal training with a high volume fellowship in pelvic exenteration and CRS and HIPEC. This takes a period of 8- 10 years for a general trainee as a minimum. Subspec gynae oncology training is 2 years over general gynaecology and is whoefully inadequate for this type of procedure.

Safety and efficacy of the procedure/technology

14	What are the potential harms of the procedure/technology? Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence: Adverse events reported in the literature (if possible, please cite literature) Anecdotal adverse events (known from experience) Theoretical adverse events	The risks of the procedure are similar to those clearly documented for pelvic exenteration and CRS and HIPEC. Both these treatment modalities have been established within the surgical community for over a decade. The accepted rate of clavien dindo >3 complications is 30-35% with a 1-2% mortality. Major complications for CRS and HIPEC are similar to this. It should be anticipated that complication rates would be similar to that of CRS and HIPEC.
15	Please list the key efficacy outcomes for this procedure/technology?	Disease free survival, overall survival and re-admission rates with bowel obstruction.
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	There should be a clear plan to have this procedure centralised to avoid centres performing small number of cases ?year with poorer outcomes. It will function like pelvic exenteration/ HIPEC/ Pouch surgery where outcomes relate directly to operative volume.
17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	no
18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	Fewer than 10 specialist centres in the UK.

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work). Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.	Will send later
20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	TRUST trial- - running from Germany and part 3 is multicentre. Currently active but not recruiting. Still to report.

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	There are approx. 7500 ovarian cancer cases per year in the UK. Of these 60 % with have abdominal disease outside the pelvis and over the liver. This would equate to around 4500 patients per year that would be eligible for ultra-radical surgery.
22	Are there any issues with the usability or practical aspects of the procedure/technology?	No but it requires use of a team that regularly works together and upskilling of the theatre staff and anaesthetic team to deal with the potential intra-operative complications.

23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	The skill set of the base specialty and the availability of surgeons with an interest in surgical oncology/ pelvic oncology
24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	Ideally there should be a trail of standard surgery vs ultra-radical surgery however this has obvious ethical issues
25	Please suggest potential audit criteria for this procedure/technology. If known, please describe: − Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured. − Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	Beneficial outcome measures: Overall Survival Disease free survival Quality of life Hospital admission rates with obstructive symptoms Adverse outcome measures: 30 day mortality/ 90 day mortality Major complications- clavien-dindo 3 or above
26	Is there any other data (published or otherwise) that you would like to share with the committee?	no

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	no

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Choose an item.			
Choose an item.			
Choose an item.			

☐ I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**Martha Quinn**
Dated:	**11/0/2022**

NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer

Your information

Name:	Philip Andrew Rolland
Job title:	Consultant Gynaecological Oncologist
Organisation:	Gloucestershire Hospitals NHS Foundation Trust
Email address:	[redacted]
Professional organisation or society membership/affiliation:	British Gynaecological Cancer Society
Nominated/ratified by (if applicable):	BGCS
Registration number (e.g. GMC, NMC, HCPC)	GMC 4535225

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

☒ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

Click here to enter text.

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology? Have you used it or are you currently using it? – Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake? – Is this procedure/technology performed/used by clinicians in specialities other than your own? – If your specialty is involved in patient selection or referral to another specialty for this	I have been practicing ovarian cancer cytoreduction as a consultant gynaecological oncologist for 10 years in my current post and have undergone a surgical mentorship and specific training to upskill in this area. My caseload of these types of procedures is 2-3 a month of maximal surgical effort to achieve complete cytoreduction. What is achievable in terms of maximum surgical effort varies from centre to centre and depends on a services' working arrangements and availability of other specialties who support extended procedures; specifically upper GI, colorectal and hepatobiliary services. Therefore, as I work at a smaller centre my experience is of following paradigm within the limits of what we can provide locally safely, maintaining accurate and complete data sets including outcomes and morbidity and importantly identifying patients who will benefit from surgery above that which we can perform locally and ensuring that they are managed in other centres when needed.. The current paradigm recommended by the BGCS is maximum surgical effort (including extensive surgery where appropriate). COSD mandates the upload of data documenting residual disease at the end of surgery but these data are often incomplete as demonstrated by the national ovarian cancer audit. We know anecdotally that there is wide variation in paradigm followed and procedures performed but up until recently there was no instrument for measuring this clearly. The BGCS has however developed QIPs - benchmarking standards in the care of ovarian cancer patients including surgery which will be required by the RCOG for all training centres. This covers about two thirds of the gynaeoncology centres in England and will require a structured operation note to be written, facilitating future analysis. These data could be used to measure centres against service specifications for commissioning – an ovarian cancer specification has been slowly moving through specialist commissioning previously and would be the natural instrument for designating centres if that were needed. The main issue with ovarian cancer is our lack of a

	procedure/technology, please indicate your experience with it.	test, radiological or other, which can accurately determine the extent of surgery which will be necessary in any given case. There is also new evidence that extensive surgery in the frail may be counterproductive and so patient selection tools have a new importance. Similar procedures are performed by the few surgeons specialising in peritoneal malignancies secondary to colorectal type cancers. The main centre for this work is Basingstoke in England and the BGCS has worked closely with the team there – led by Tom Cecil – to set up a cytoreductive fellowship which gynaeoncology trainees can attend for 3 months to acquire enhanced skills. Currently patients should be selected for surgery by gynaecology specialist MDTs which is something I am routinely involved in. Some innovative pilot projects have been proposed whereby a superregional ovarian cancer MDTs select patients for surgery but there are several logistical issues including patient pathways, capacity and the concept of one group of surgeons with the highest skill levels recommending another group of surgeons perform surgery they may not be comfortable with locally without a means to redirect those patients to higher level services due to capacity issues.
2	− Please indicate your research experience relating to this procedure (please choose one or more if relevant):	I have done bibliographic research on this procedure as part of my DM thesis 2008 (Nottingham – PhD level quality assured higher degree) on ovarian cancer in part reviewing this as an independent prognostic factor along with molecular criteria. I have had no involvement in research on this procedure : due to de facto lack of surgical equipoise amongst those who have upskilled to perform these procedures, there have been no multi centred RCTs in the UK to recruit to. Other (please comment): I am a contributor to the BGCS ovarian cancer guideline 2017
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design? Which of the following best describes the procedure (please choose one):	As eluded to above, the evidence base for zero residuum at the end of surgery as an independent factor predicting the best prognosis is not in doubt but evidence linking increased surgical effort vs. less surgical effort to achieve this is less clear. Therefore there is variation in approach and motivation to adopt this practice depending on local support but there has been a shift from many practitioners being sceptical about its benefit to an acceptance that it is the paradigm to aspire to and it is mandated as a training goal in subspecialty trainees' RCOG curriculum. My summary is that it is the standard of care but one which is difficult to achieve and so uptake is variable because there are few levers to mandate it and the evidence has traditionally been seen as not strong enough to adopt a didactic approach. Established practice and no longer new. (but it is not one operation and is a philosophy of operating and so a spectrum of uptake deoending on ability to deliver)

4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	An addition to standard care but one the need for which can only be assessed accurately intraoperatively. Some patients will require non 'radical' operations and others very extensive ones depending on the findings at laparotomy.

Current management

5	Please describe the current standard of care that is used in the NHS.	Surgery to include laparotomy, total hysterectomy, removal of both ovaries and tubes as a minimum and thereafter the removal of all visible cancer deposits regardless of which site they are deposited within the abdomen and pelvis - potentially requiring extensive procedures and unpredictably because of the inability of imaging or laparoscopy to predict / identify subcentimetre deposits in all areas . Areas considered unresectable by all centres change with time as skills develop.
6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this? If so, how do these differ from the procedure/technology described in the briefing?	The use of laparoscopy to debulk selected patients has been trailed. HIPEC for ovarian cancer is being evaluated Laparoscopy is a keyhole approach achieving the same aims of complete cytoreduction with the potential to achieve faster patient recovery but it is unclear how radical a procedure might be safely carried out this way and the patient selection criteria is unlikely to include those who clearly need extensive surgery. HIPEC is an adjunct to cytoreductive surgery rather than a replacement but given the specialised resources required, if it became the standard of care for these cases it would lead to a round of centralisation or variation in practice.

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	Achieving zero residual places patients in a group with many month's worth of survival advantage over those who have >1cm residuum. There is a group of patients who it is felt may even be cured (traditionally we haven't talked about this) if all the disease is resected, they are HRD positive and then receive maintenance PARPI. Patients who have all disease resected are the group of patients who become eligible for consideration of secondary surgery later if the disease recurs. With the mushrooming of personalised medicine, the longer patients live, the longer they live now. Up until recently there had been few improvements in medical treatments for ovarian cancer in the last 40 years but now they are coming thick and fast.
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	Patients who are fit, motivated and whose scans show no technical reasons why cytoreductive surgery should not be complete.
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system? Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	Possibly. If the quality of surgery is benchmarked and commissioned it may need to be centralised. Because the need for extensive surgery can only be predicted at operation, this would mean ALL ovarian cancer surgeries being allocated to designated sites with the ability to consistently demonstrate that they perform the extensive elements of this procedure within acceptable safety limits and with superior oncological outcomes. Improved oncological outcomes only.
10 – MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or about the same? (in terms of staff, equipment, care setting etc)	More. This procedure often groups to an HRG which grossly underestimates the costs involved with the maximum average remuneration currently being about 7K. There is a private practice code used by Basingstoke (as an index centre which is referred to) which is the closest approximation to what we do surgically and which is based on a 'black bag' exercise - this references the costs at 50K. Therefore the costs of this procedure are currently being absorbed by organisations, but without a similar OPCS code and tariff setting to the Basingstoke service, services will often find it difficult to develop best practice through business planning; this accounts at least for some of the variation in adoption of the practice. Do you have the ability to allocate a whole day in theatre to one case or do you need to do two such cases due to local resources? This is a very real issue. When two cases are scheduled, almost by definition one will not be able to receive maximal surgical effort.

11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	To do this properly would requires at least 30K per patient in my estimation. Approximately 7000 new cases present per year and 3/4 would be advanced stage benefiting from this type of surgery = 5250. Only 50% of these are currently having any surgery - 2635 If perhaps 50% of ovarian cancer surgeries are not having extensive surgery due to financial variance of 23K, this represents a gap in funding of 23K x 1312 = 30M per year ; which is money for increased theatre capacity, increased ITU, increased number of surgeons (buddy operating) and some increases in training an equipment. These costs would fall after best practice were established and the tariff could reduce. The outcomes for ovarian cancer patients in the UK are worse than benchmarked countries with similar registries and healthcare systems and it is accepted that variation in access to maximal effort surgery is one important way in how we differ from these countries and is likely partially responsible for this observation. While we have made some progress over the last decade, the impact of the pandemic has pushed this backwards and services need realistic and urgent support if patients are going to achieve maximum benefit from expensive follow on oncological treatments such a Bevacizumab and Olaparib.
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	Access to preassessment and prehab. Access to ITU beds. Access to surgical equipment including table mounted retractor systems, advanced energy devices, adequate surgical time (4hrs minimum). A second consultant surgeon. An adequate electronic health record to support audit and M+M review. Access to stoma siting. 7-10 days ward stay. Access to anaesthetic / frailty reviews pre op.
13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	Yes – a minimum of completing the RCOG SST curriculum if likely to be operating in conjunction with a general surgeon on these cases and more higher-level training and caseload either within the centre a surgeon is working at within appropriate governance arrangements and / or via fellowships (e.g. BGCS ovarian cancer mentorship programme, Basingstoke fellowship). A surgeon should always operate within the limit of their capabilities and be insightful as to what they are and maintain and peer review their accurate and honest data to achieve this – as per GMC duties of a doctor.

Safety and efficacy of the procedure/technology

14	What are the potential harms of the procedure/technology? Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence: Adverse events reported in the literature (if possible, please cite literature) Anecdotal adverse events (known from experience) Theoretical adverse events	There are significant risks of morbidity and sometimes mortality associated with cytoreductive surgery. There is the risk of under operating, over operating, not operating at all – i.e. poor patient selection. Because this is not one operation but a combination of surgeries determined at any given laparotomy, it is not possible to produce an exhaustive list with evidence without an extensive review of the literature which should form part of the formal review. In brief:- There are general risks of surgery including death. There is the risk that the patient does not recover sufficiently from surgery to be able to continue chemotherapy (and thereby will derive little benefit from surgery). There is the risk of abandonment – i.e open and close because the extent of the disease has been underestimated. Feared but rare risks include anastomotic leaks from the bowel, ureteric leaks and fistulae, chylous ascites, injury to the retrohepatic veins, bile duct injury, devascularisation of the foregut, liver ischaemia, catastrophic bleeding leading to death and short gut syndrome
15	Please list the key efficacy outcomes for this procedure/technology?	Overall survival. Progression free survival. Treatment completion rates. Residual disease (PCI pre and post-surgery). Mortality rates. Morbidity rates. Dataset completion rates.
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	There is a risk that surgeons without sufficient skill and resources may feel pressurised into performing procedures that are beyond their personal and organisational capabilities which could lead to harm. Therefore, sufficient operational delivery network arrangements need to be in place to support safe upskilling where necessary and onward referral for equality of access where not. Ideally centres would be commissioned / designated.
17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	There has always been controversy due to the evidence base being dependent largely on inevitably selected retrospective case series reviews often in single centres of excellence. A lack of the highest quality of evidence has been used by some to question the paradigm. They argue that it is not the quality of the surgery but the biology of the disease which determines the ability of a surgeon to get to zero disease and so the prognosis is ‘baked in’. This is a difficult area because the effort required to upskill is only undertaken by those who have assessed the evidence differently- the counter argument becoming that surgeons without the talent to do more complex surgery use the lack of highest quality evidence to support their inferior surgery. This is much less the case than previously as despite the lack of RCTs and the majority of surgeons in England now accept that is one is operating at all it should be with the aim not just

		of identifying easily removed disease but with the aim to remove more difficult disease. What is difficult and dangerous for one surgeon is easy and safe for another,
18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	A minority of hospitals, but at least 10 in the UK.

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work). Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.	https://www.bgcs.org.uk/wp-content/uploads/2021/12/Joint-statement-Version-1.9_NJW_final.pdf https://www.bgcs.org.uk/wp-content/uploads/2021/07/BGCS-Ovarian-Guidelines-2017.pdf https://www.esgo.org/media/2020/03/Article-QI-OC-ijgc-2020-updated.pdf https://pubmed.ncbi.nlm.nih.gov/30811909/ https://pubmed.ncbi.nlm.nih.gov/34638501/ https://pubmed.ncbi.nlm.nih.gov/31420412/ https://pubmed.ncbi.nlm.nih.gov/33028623/ https://pubmed.ncbi.nlm.nih.gov/30907434/ https://www.sciencedirect.com/science/article/pii/S0090825820323842

		https://onlinelibrary.wiley.com/doi/pdfdirect/10.1002/jso.26385 https://pubmed.ncbi.nlm.nih.gov/35455723/ https://pubmed.ncbi.nlm.nih.gov/32234934/
20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	https://clinicaltrials.gov/ct2/show/NCT02828618 https://pubmed.ncbi.nlm.nih.gov/32690591/

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	A very rough estimate would be about 2500 in England
22	Are there any issues with the usability or practical aspects of the procedure/technology?	N/A
23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	Resources specifically: Theatre time, ITU, availability of surgical support, training and support, governance and data collection arrangements, costs of equipment, lack of highest-level evidence base
24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	Unlikely to be ethically possible as the point of surgical equipoise has passed, and this would require surgeons with the skills to undertake this surgery to consider that their current paradigm

		may be erroneous and be prepared to randomise their patients to a level of completeness of surgery bellow their skill level to achieve.
25	Please suggest potential audit criteria for this procedure/technology. If known, please describe: − Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured. − Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	Beneficial outcome measures: Early – within a month Compliance with QIPs Percentage of patients with ovarian cancer diagnosis undergoing surgery PCI pre and post surgery 0 and < 1cm residual rates Operation time (minutes) Length of stay (days) Time from surgery to next chemo (weeks) Late - months to years Progression free survival (median months) Overall survival (% 3 and 5 year and median months) Adverse outcome measures: Early – within a month Mortality and morbidity as per Clavien Dindo Where large bowel resection is performed – stoma rates and anastomotic leak rates

		>1cm residual rates 'Open and close' rates Interval debulking after 4th, 5th or 6th cycle rates Late Quality of life measures
26	Is there any other data (published or otherwise) that you would like to share with the committee?	We are entering conference season and I can provide an updated list of recent trial reports, abstracts and new trials in set up or which have started recruiting soon.

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	I am of the strong opinion that the use of words such as 'radical' and 'ultra' are not neutral, are polarising and divisive. They are in my opinion best retired as they are not technical enough terms and suggest surgical adventurism and hubris. Better is to describe the concept as maximal surgical effort to achieve no residual disease. For instance removing part of the liver may be 'radical' for a gynaecologist but completely routine and somewhat dull for a liver surgeon.

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Choose an item.	None		
Choose an item.			
Choose an item.			

I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**Click here to enter text. Philip Andrew Rolland**
Dated:	**Click here to enter text. 30/06/2022**

NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer

Your information

Name:	Christina Fotopoulou
Job title:	Professor of Gynaecological Cancer Surgery, Consultant Gynaecologic Oncologist
Organisation:	Imperial College London, Faculty of Medicine and Imperial College NHS Trust
Email address:	[redacted]
Professional organisation or society membership/affiliation:	General Medical Council (GMC), British Gynaecological Cancer Society (BGCS), European Society of Gynaecological Oncology (ESGO)
Nominated/ratified by (if applicable):	BGCS
Registration number (e.g. GMC, NMC, HCPC)	7203385 GMC number

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

☒ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

Click here to enter text.

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology? Have you used it or are you currently using it? – Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake? – Is this procedure/technology performed/used by clinicians in specialities other than your own? – If your specialty is involved in patient selection or referral to another specialty for this	I am of the national and international Key Opinion Leaders for cytoreductive, maximal effort surgery (eg. Ultraradical surgery) for advanced and relapsed ovarian cancer. I am a full time NHS consultant in one of the largest tertiary referral gynaecological cancer centres in the UK (Imperial College NHS Trust, West London Gynae Cancer Centre) and hold a Chair for Gynaecological Cancer Surgery at Imperial College London. We perform approximately 1000 gynecological cancer surgeries per year with approx. 250-300 cases of surgery for primarily advanced or relapsed ovarian cancer that include ultraradical surgical techniques. I receive second opinion requests from numerous other cancer centres in the UK for my surgical expertise. I also have served as the Chair of the guidelines committees of the British Gynaecological Cancer Society (BGCS) and of ESGO (European Society of Gynaecologic Oncology) and have developed the treatment guidelines for ovarian cancer in the UK and Europe (see references below). I am also the Gynaecological Oncology Subspecialty Training Programme Supervisor (STPS) at Hammersmith Hospital, West London Gynaecological Cancer Centre. - All UK cancer centres apply ultraradical surgical techniques for advanced ovarian cancer, in order to clear completely a disease that is almost always peritoneally disseminated and involves the entire peritoneal cavity (see presentation). Some centres apply the technique

	procedure/technology, please indicate your experience with it.	more than others, due to differences in training, infrastructure and above all theatre space, and financial support. - Yes, cytoreductive surgery with ultraradical techniques is being used by the colorectal surgical oncologists for tumor clearance of peritoneally disseminated colorectal and gastric malignancies and for the treatment of pseudomyxoma peritonei - We don't refer as gynaecoligical oncologists to other specialists for this procedure; this is in the remit and expertise and curriculum of the gynaecological oncologists to perform either alone or in collaboration with other specialists when necessary, but the gynaecological oncologists are always the leading surgeons.
2	– Please indicate your research experience relating to this procedure (please choose one or more if relevant):	I have done bibliographic research on this procedure (yes) I have done research on this procedure in laboratory settings (e.g. device-related research). (yes) I have done clinical research on this procedure involving patients (yes) I have published this research (yes) I have extensively published and researched at translational and clinical level on the procedure. See power point presentation addressing related evidence. (pubmed: Fotopoulou + ovarian cancer surgery 113 findings)
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design? Which of the following best describes the procedure (please choose one):	Maximal effort surgery for advanced and relapsed ovarian cancer applying ultraradical techniques is the standard of care in all national and international guidelines for the treatment of this disease in order to achieve complete tumor clearance and so best survival outcomes. It has been shown in numerous studies that suboptimal surgery leaving bulky residual disease in the patient has actually worse outcome often than no surgery at all and should therefore be avoided. (* Newly diagnosed and relapsed epithelial ovarian carcinoma: **ESMO** Clinical Practice Guidelines for diagnosis, treatment and follow-up. Ledermann JA, Raja FA, Fotopoulou C, Gonzalez-Martin A, Colombo N, Sessa C; ESMO Guidelines Working Group.Ann Oncol. 2013 Oct;24 Suppl 6:vi24-32. doi: 10.1093/annonc/mdt333.

		*. British Gynaecological Cancer Society (**BGCS**) epithelial ovarian/fallopian tube/primary peritoneal cancer guidelines: recommendations for practice. Fotopoulou C, Hall M, Cruickshank D, Gabra H, Ganesan R, Hughes C, Kehoe S, Ledermann J, Morrison J, Naik R, Rolland P, Sundar S.Eur J Obstet Gynecol Reprod Biol. 2017 Jun;213:123-139. doi: 10.1016/j.ejogrb.2017.04.016. Epub 2017 Apr 18. *European Society of Gynaecologic Oncology Quality Indicators for Advanced Ovarian Cancer Surgery. Querleu D, Planchamp F, Chiva L, Fotopoulou C, Barton D, Cibula D, Aletti G, Carinelli S, Creutzberg C, Davidson B, Harter P, Lundvall L, Marth C, Morice P, Rafii A, Ray-Coquard I, Rockall A, Sessa C, van der Zee A, Vergote I, du Bois A.Int J Gynecol Cancer. 2016 Sep;26(7):1354-63. doi: 10.1097/IGC.0000000000000767.PMID: 27648648 **Established practice and no longer new.**
4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	See above comment. Maximal effort surgery for advanced and relapsed ovarian cancer is now standard of care. This maximal effort surgery applies ultaradical techniques. Only comment that needs to be addressed is that the term “ultarardical surgery” is not a commonly used term in the gynae oncology community and guidelines internationally. We use the term “cytoreductive surgery for ovarian cancer”. Moreover, the definition of “ultraradical surgery’ by NICE appears arbitrary, since, as shown in the attached presentation, some of the procedures named have hardly ever been used in ovarian cancer surgery, its not clear where NICE has adopted them from. Characteristically NICE states, that: “Extensive or ultra-radical surgery for advanced ovarian cancer is a development and extension of standard (radical) surgery. The precise differences between these procedures are not well defined, but some typical features of ultra-radical surgery include:

		stripping of the diaphragm (comment: yes indeed very commonly used around 60%, see attached presentation) extensive stripping of the peritoneum (comment: yes indeed very commonly used around 80%, see attached presentation) multiple resections of the bowel (excluding localised colonic resection) (comment: in ovarian cancer our guidelines clearly state to avoid more than 2 bowel resections and only in rare cases we will perform 3 bowel resections) liver resection (comment: true liver resections are very rare in advanced ovarian cancer surgery; ie less than 5%; however what is very common are liver capsule resections, where only superficial tumors are removed and stripped without liver parenchyma being resected) partial gastrectomy (comment: this is only very rarely performed in ovarian cancer surgery) cholecystectomy (comment: only rarely performed, rate of cholecystectomy in advanced ovarian cancer is less than 2%) splenectomy (comment: yes indeed commonly used around 20% of advanced ovarian cancers will need a splenectomy due to disease in or at the spleen, see attached presentation) The typical surgical procedures for advanced ovarian cancer surgery are listed in the attached presentation based on level I, high quality prospective randomised phase III trials.

Current management

5	Please describe the current standard of care that is used in the NHS.	Maximal effort surgery for advanced and relapsed ovarian cancer applying ultraradical techniques is the standard of care in all national and international guidelines for the treatment of this disease in order to achieve complete tumor clearance and so best survival outcomes. It has been shown in numerous studies that suboptimal surgery leaving bulky residual disease in the patient has actually worse outcome often than no surgery at all and should therefore be avoided. This is being reflected in all national and international guidelines (listed above)
6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this? If so, how do these differ from the procedure/technology described in the briefing?	None competing.

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	Advanced ovarian cancer patients who are operated tumorfree despite their multifocally, peritoneally disseminated disease have a significantly higher OS and PFS compared to patients who have residual postoperative disease in situ after suboptimal surgery. Since more than 80% of ovarian cancer patients will present in stage III and IV disease that is being defined as tumor dissemination outside the pelvis, they need equally multiviscerally resection techniques to have the entire tumor cleared. These techniques are summarised under the term cytoreductive surgery, which is more commonly used as the term ultraradical surgery which is misleading in some points (see point 4). Numerous studies have shown the oncologic and surgical safety of cytoreductive (ie ultraradical surgery) in advanced ovarian cancer (see attached presentation)
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	Yes, only fit patients with operable disease without distant parenchymatous metastases (such as lung, brain, bone metatsatses) are eligible for this surgery. Since aim of surgery for ovarian cancer is complete/ optimal tumor clearance, patients who have inoperable distant metastatic disease should not undergo such surgery unless for palliation.
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system? Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	Yes, patients who have their whole disease cleared will have longer remission rates and better survival. This means they will need less treatment for relapsed disease, will not need palliation and symptom control due to high disease burden and will be able to not only live longer but also go back to their normal lives and work. They also will need less invasive chemotherapy in the future etc.
10 – MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or	Suboptimal surgery for advanced ovarian cancer has been shown to be associated with significantly inferior patients' outcome and should be avoided/ not performed as per all national and international guidelines. The costs and effort and energy for any suboptimal, not maximal effort surgery should be avoided since they are not associated with any survival and oncologic benefit.

	about the same? (in terms of staff, equipment, care setting etc)	
11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	Gynae oncology centres who perform advanced ovarian cancer cytoreductive surgery should have adequate governance and financial support to be able to safely provide care.
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	✓ ITU support ✓ Blood bank resources ✓ Ward bed availability ✓ Theatre time ✓ Health insurance regulations ✓ Financial resources/ funding ✓ Infrastructural expertise and training ✓ Psychooncological/clinical nurse specialist support ✓ Postoperative rehabilitation/ recovalescence homes
13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	Yes, this is the Gyanecological oncology specialist training as reflected by the RCOG curriculum.

Safety and efficacy of the procedure/technology

14	What are the potential harms of the procedure/technology?	There are surgical risks in this procedure, like in any procedure. The surgical morbidity and mortality profile for primary and relapsed disease has been listed in the attached presentation (slides 12, 13, 24).

	Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence: Adverse events reported in the literature (if possible, please cite literature) Anecdotal adverse events (known from experience) Theoretical adverse events	
15	Please list the key efficacy outcomes for this procedure/technology?	Reduction of tumor burden, reduction of postopetative residual disease, increase of progression free- and overall survival .
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	This procedure should not be performed by non specialised teams within inadequate infrastructural settings.
17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	Yes, like with any cancer treatment, there is the opposite approach/ tradition to only palliate/ give minimal/ suboptimal treatment since usually these patients wont be cured despite all our efforts. However by operating them at an optimal level, they live longer, have longer remission, will need less treatments and will be able to have good quality of life.
18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	Only in dedicated gyanecological oncology accredited cancer centres in the country which have adequate infrastructural support.

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work).	Please see attached presentation for most relevant evidence

	Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.	
20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	Regarding the timing of surgery (ie before or after chemotherapy) there is the multicentre prospectively randomised phase III TRUST trial; ClinicalTrials.gov Identifier: NCT02828618 (see attached presentation), which has finished recruiting and will report outcomes in 2024.

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	8000 newly diagnosed ovarian cancer per year in the UK 80% of them will be in stage III and IV and theoretically eligible for cytoreductive surgery. However, approx. 20% of these 80% will be too frail/ elderly/ have distant metastatic inoperable disease, so would not qualify for cytoreductive surgery with ultraradical techniques
22	Are there any issues with the usability or practical aspects of the procedure/technology?	Yes, in order to safely perform this procedure, centres need adequate theatre and ward space, financial support, blood bank and intensive care support.
23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	See above
24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	Timing of surgery ie before or after chemotherapy is currently being evaluated. Also impact of HIPEC is being addressed in some clinical trials. However regardless of the chemotherapy type and timing, ultraradical cytoreductive techniques are required to clear the disease.

25	Please suggest potential audit criteria for this procedure/technology. If known, please describe: – Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured. – Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	Beneficial outcome measures: Improved survival (OS&PFS), improved QoL, improved response to novel targeted agents such as PARP- inhibitors. Data see attached presentation. Adverse outcome measures: well defined surgical morbidity profile. Procedure has been proven safe and feasible when performed within expert specialist teams and centres (see attached presentation)
26	Is there any other data (published or otherwise) that you would like to share with the committee?	As addressed above, the actual definition and term of ultraradical surgery by NICE should be revised/ rephrased to cytoreductive surgery to be aligned with international literature and guidelines.

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	It will be detrimental for the outcome, survival and journey of patients with advanced ovarian cancer if NICE and the UK authorities will not support this procedure.

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Choose an item.	None for this procedure		
Choose an item.			
Choose an item.			

☒ I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**Christina Fotopoulou**
Dated:	**29.07.2022**

NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer

Your information

Name:	Professor Sadaf Ghaem-Maghami
Job title:	Professor of surgical Gynaecological oncology
Organisation:	Imperial College, London
Email address:	s.ghaem-maghami@imperial.ac.uk
Professional organisation or society membership/affiliation:	RCOG, Bitish Gynaecological Cancer Society, BSCCP, British Society of Immunology, European Association for cancer Research
Nominated/ratified by (if applicable):	British Gynaecological Cancer Society
Registration number (e.g. GMC, NMC, HCPC)	3468115

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

☒ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

Click here to enter text.

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology?	I am a practising surgical gynaecological oncologist and perform these procedures regularly
	Have you used it or are you currently using it? − Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake?	The procedure is used in many of specialist Gynaecological cancer centres (tertiary referral centres).
	− Is this procedure/technology performed/used by clinicians in specialities other than your own? − If your specialty is involved in patient selection or referral to another specialty for this	Not normally, although other specialists may be invited to help perform a specific part of the procedure. Occasionally inadvertently patient may be operated on by a non-gynaecological oncologist but generally these ae rare cases and often minimal surgery is performed at that stage

	procedure/technology, please indicate your experience with it.	
2	– Please indicate your research experience relating to this procedure (please choose one or more if relevant):	I have done bibliographic research on this procedure. Yes I have done research on this procedure in laboratory settings (e.g. device-related research). Yes I have done clinical research on this procedure involving patients or healthy volunteers. Yes I have published this research. Yes I have had no involvement in research on this procedure. Other (please comment)
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design? Which of the following best describes the procedure (please choose one):	Established practice and no longer new. yes A minor variation on an existing procedure, which is unlikely to alter the procedure's safety and efficacy. Definitely novel and of uncertain safety and efficacy. The first in a new class of procedure.
4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	Would be the standard of care

Current management

5	Please describe the current standard of care that is used in the NHS.	Many centres aim to remove all macroscopic disease in surgery of advanced ovarian cancer. The ability to complete this task may be limited by surgical expertise and hence not achieved in all cases. There is also the question of doing this procedure upfront versus after neoadjuvant chemotherapy. Both are currently accepted as the standard of care.
6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this? If so, how do these differ from the procedure/technology described in the briefing?	No. Various standard devices may be used to perform surgery but ultimately the aim is to remove all visible disease.

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	Evidence for better disease free and overall survival from the cancer
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	Patients with BRCA gene mutation. One could argue that younger patients are better able to tolerate this procedure and hence more likely to benefit but with good optimisation and post-operative support any woman could benefit as long as they are fit to undergo the procedure.
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system? Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	Improved survival outcomes for the patients
10 - MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or about the same? (in terms of staff, equipment, care setting etc)	Likely to cost more initially at least.
11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	Theatre time, anaesthetic and surgical time, post operative care more complex. Potentially marginally longer stay in hospital. Resources for drugs and tests postoperatively.
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	Expert surgeons, anaesthetists, nurses and allied health professionals to support the patients before and after the procedure. Generally, means more training for staff.

13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	Main issue is surgical training and expertise.

Safety and efficacy of the procedure/technology

14	What are the potential harms of the procedure/technology? Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence: Adverse events reported in the literature (if possible, please cite literature) Anecdotal adverse events (known from experience) Theoretical adverse events	Operative complications- broadly Damage to other organs Bowel anastomotic leak Infections Pneumothorax Thrombosis Bleeding Return to theatre Death Anaesthetic complications Quality of life not shown to be worse in the long term for patients undergoing this procedure
15	Please list the key efficacy outcomes for this procedure/technology?	Short and long term disease free and overall survival
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	The issue always is timing of the surgery and also prediction of whether complete macroscopic debulking is going to be possible in each patient. 30 day morbidity and mortality

17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	Safety and complication rates
18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	Most or all district general hospitals. A minority of hospitals, but at least 10 in the UK. Fewer than 10 specialist centres in the UK. Yes Cannot predict at present.

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work). Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.	Quality of life from cytoreductive surgery in advanced **ovarian cancer**: Investigating the association between disease burden and surgical complexity in the international, prospective, SOCQER-2 cohort study. Sundar S, Cummins C, Kumar S, Long J, Arora V, Balega J, Broadhead T, Duncan T, Edmondson R, Fotopoulou C, Glasspool R, Kolomainen D, Leeson S, Manchanda R, McNally O, Morrison J, Mukhopadhyay A, Paul J, Tidy J, Wood N. Published The use of biomarkers to stratify surgical care in women with ovarian cancer: Scientific Impact Paper No. 69 March 2022: Scientific Impact Paper No. 69 May 2022. Phelps DL, Borley JV, Brown R, Takáts Z, Ghaem-Maghami S; Royal College of Obstetricians and Gynaecologists.BJOG. 2022 Apr 18. doi: 10.1111/1471-0528.17142. Online ahead of print
20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	Results of the TRUST Trial are awaited. This looked at upfront versus delayed (after neoadjuvant chemotherapy) radical surgery. These data will not be available for another 2-3 years or so.

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	In the UK around 7500 women are diagnosed with ovarian cancer every year. Around 75% of these women would present at a late stage and if fit will require extensive surgery.
22	Are there any issues with the usability or practical aspects of the procedure/technology?	Main issue is expertise, capacity, resources.
23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	Resources, costs, staff expertise, potentially late diagnosis when patients are too unfit to undergo this procedure.
24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	The question of whether to do this procedure upfront or after neoadjuvant chemotherapy remains unanswered.
25	Please suggest potential audit criteria for this procedure/technology. If known, please describe: – Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured.	Beneficial outcome measures: Disease free survival Overall survival Quality of life, improved in the long term Adverse outcome measures:

	– Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	Potential quality of life short term Postoperative morbidity Post-operative mortality
26	Is there any other data (published or otherwise) that you would like to share with the committee?	

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Direct - financial	GSK funded symposium on endometrial cancer, speaker	**March 2022**	**March 2022**
Direct - financial	GOG expert meeting on treatment of gynaecological cancers	**April 2022**	**April 2022**
Non-financial professional	**BGCS Honorary treasurer for 3 years and council member for 6 years**	**July 2016**	**July 2022**

☒ I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**Sadaf Ghaem-Maghami**
Dated:	**13/07/2022**

NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: **IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer**

Your information

Name:	SAURABH PHADNIS
Job title:	CONSULTANT GYNAECOLOGICAL ONCOLOGY SURGEON
Organisation:	BARTS HEALTH NHS TRUST, ROYAL LONDON HOSPITAL
Email address:	[redacted]
Professional organisation or society membership/affiliation:	ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS
Nominated/ratified by (if applicable):	Click here to enter text.
Registration number (e.g. GMC, NMC, HCPC)	5208882

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

☑ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

Click here to enter text.

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology? Have you used it or are you currently using it? – Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake? – Is this procedure/technology performed/used by clinicians in specialities other than your own? – If your specialty is involved in patient selection or referral to another specialty for this procedure/technology, please indicate your experience with it.	I am familiar with the above procedure. I am a subspeciality accredited Gynaecological Oncology Surgeon with a special interest in Cytoreduction surgery for Advanced stage ovarian cancer. On an average, I am doing this procedure at least once a week. There is wide variation nationwide with regards to access to ultraradical surgery for advanced stage ovarian cancer as not all Gynaecological Cancer Centres offer this procedure. Ultraradical surgery has a role in metastatic colorectal cancer. Our Centre has an ethos of offering ultra radical surgery at presentation.

2	– Please indicate your research experience relating to this procedure (please choose one or more if relevant):	I have done bibliographic research on this procedure. I have done research on this procedure in laboratory settings (e.g. device-related research). I have done clinical research on this procedure involving patients or healthy volunteers. I have published this research. I have had no involvement in research on this procedure. Other (please comment)
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design? Which of the following best describes the procedure (please choose one):	The benefit of Ultraradical approach to achieve complete cytoreduction has been established in research and practice (internationally). We know that this improves disease free survival and overall survival. ✓ Established practice and no longer new. A minor variation on an existing procedure, which is unlikely to alter the procedure's safety and efficacy. Definitely novel and of uncertain safety and efficacy. The first in a new class of procedure.
4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	This should be established as standard of care

Current management

5	Please describe the current standard of care that is used in the NHS.	Neoadjuvant chemotherapy with interval cytoreduction surgery after 3 cycles in the current standard of care.
6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this? If so, how do these differ from the procedure/technology described in the briefing?	no

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	This will improve the disease free survival and overall survival for patients wih advanced sage ovarian cancer.
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	Stage 3 and 4 epithelial ovarian cancer
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system? Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	Adoption of this procedure as standard of care will help improve survival outcomes in women with advanced stage ovarian cancer
10 - MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or about the same? (in terms of staff, equipment, care setting etc)	
11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	Multidisciplinary approach between Gyanecologcial oncology surgeons, Colorectal surgeons, Urology Surgeons and Hepatobiliary Surgeons. Access to ITU and perioperative care.

13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	Yes, this procedure should be performed by subspeciality trained surgeons

Safety and efficacy of the procedure/technology

14	What are the potential harms of the procedure/technology? Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence: Adverse events reported in the literature (if possible, please cite literature) Anecdotal adverse events (known from experience) Theoretical adverse events	Risk of significant morbidity (Clavien Dindo 1-3 complication) is approximately 10-15% wheres as risk of mortality is up to 3%.
15	Please list the key efficacy outcomes for this procedure/technology?	1. Resection status 2. 30 day morbidity and mortality
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	Resection of cardiophrenic lymph nodes has uncertain significance
17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	Acceptability as standard procedure will be controversial due to limitations of skills.
18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	Most or all district general hospitals. A minority of hospitals, but at least 10 in the UK. ✓ Fewer than 10 specialist centres in the UK.

		Cannot predict at present.

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work). Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.	1. Llueca A, Serra A, Climent MT, Segarra B, Maazouzi Y, Soriano M, Escrig J; on behalf MUAPOS Working Group. Outcome quality standards in advanced ovarian cancer surgery. World J Surg Oncol. 2020 Nov 25;18(1):309. doi: 10.1186/s12957-020-02064-7. Erratum in: World J Surg Oncol. 2020 Dec 7;18(1):323. 2. Laios A, Gryparis A, DeJong D, Hutson R, Theophilou G, Leach C. Predicting complete cytoreduction for advanced ovarian cancer patients using nearest-neighbor models. J Ovarian Res. 2020 Sep 29;13(1):117. doi: 10.1186/s13048-020-00700-0. PMID: 32993745; PMCID: PMC7526140. 3. Hall M, Savvatis K, Nixon K, Kyrgiou M, Hariharan K, Padwick M, Owens O, Cunnea P, Campbell J, Farthing A, Stumpfle R, Vazquez I, Watson N, Krell J, Gabra H, Rustin G, Fotopoulou C. Maximal-Effort Cytoreductive Surgery for Ovarian Cancer Patients with a High Tumor Burden: Variations in Practice and Impact on Outcome. Ann Surg Oncol. 2019 Sep;26(9):2943-2951. doi: 10.1245/s10434-019-07516-3. Epub 2019 Jun 26. PMID: 31243666; PMCID: PMC6682567.
20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	TRUST Trial

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	>1000 each year
22	Are there any issues with the usability or practical aspects of the procedure/technology?	no

23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	No, it is an accepted practice in many cancer centres
24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	no
25	Please suggest potential audit criteria for this procedure/technology. If known, please describe: – Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured. – Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	Beneficial outcome measures: quality of life measures including psychological, Resection status, disease-free survival, overall survival Adverse outcome measures:30 day morbidity and mortality
26	Is there any other data (published or otherwise) that you would like to share with the committee?	no

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Choose an item.			
Choose an item.			
Choose an item.			

☑ I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**SAURABH PHADNIS** S. Phadnis
Dated:	**30.06.2022**

NICE National Institute for Health and Care Excellence

Professional Expert Questionnaire

Technology/Procedure name & indication: IP964/2 Ultra-radical (extensive) surgery for advanced ovarian cancer

Your information

Name:	Stephen Dobbs
Job title:	Dr
Organisation:	Belfast City Hospital
Email address:	[redacted]
Professional organisation or society membership/affiliation:	British Gynaecological Cancer Society
Nominated/ratified by (if applicable):	BGCS
Registration number (e.g. GMC, NMC, HCPC)	3247963

How NICE will use this information: the advice and views given in this questionnaire will form part of the information used by NICE and its advisory committees to develop guidance or a medtech innovation briefing on this procedure/technology. Information may be disclosed to third parties in accordance with the Freedom of Information Act 2000 and the Data Protection Act 2018, complying with data sharing guidance issued by the Information Commissioner's Office. Your advice and views represent your individual opinion and not that of your employer, professional society or a consensus view. Your name, job title, organisation and your responses, along with your declared interests will also be published online on the NICE website as part of the process of public consultation on the draft guidance, except in circumstances but not limited to, where comments are considered voluminous, or publication would be unlawful or inappropriate.

For more information about how we process your data please see our privacy notice.

x☐ I give my consent for the information in this questionnaire to be used and may be published on the NICE website as outlined above. If consent is NOT given, please state reasons below:

Click here to enter text.

Please answer the following questions as fully as possible to provide further information about the procedure/technology and/or your experience.

Please note that questions 10 and 11 are applicable to the Medical Technologies Evaluation Programme (MTEP). We are requesting you to complete these sections as future guidance may also be produced under their work programme.

1	Please describe your level of experience with the procedure/technology, for example: Are you familiar with the procedure/technology? Have you used it or are you currently using it? – Do you know how widely this procedure/technology is used in the NHS or what is the likely speed of uptake? – Is this procedure/technology performed/used by clinicians in specialities other than your own? – If your specialty is involved in patient selection or referral to another specialty for this procedure/technology, please indicate your experience with it.	I am familiar with the procedures for ultra radical surgery and I perform these procedures on patients with advanced ovarian cancer Yes – in surgical management of advanced ovarian cancer Techniques used within cancer centres in UK Often in conjunction with other surgical specialities (colorectal/upper GI surgery/hepato-biliary surgery) Patient are carefully selected following discussion at MDT

2	– Please indicate your research experience relating to this procedure (please choose one or more if relevant):	I have done bibliographic research on this procedure. Other (please comment)
3	How innovative is this procedure/technology, compared to the current standard of care? Is it a minor variation or a novel approach/concept/design? Which of the following best describes the procedure (please choose one):	In many centres this is the standard of care although not in every cancer centre Established practice and no longer new.
4	Does this procedure/technology have the potential to replace current standard care or would it be used as an addition to existing standard care?	Yes –could/should be standard of care for surgical management of advanced ovarian cancer

Current management

5	Please describe the current standard of care that is used in the NHS.	Surgical cytoreduction. Aim to achieve complete cytoreduction (R0) but not always achieved in combination with chemotherapy.
6	Are you aware of any other competing or alternative procedure/technology available to the NHS which have a similar function/mode of action to this?	No

	If so, how do these differ from the procedure/technology described in the briefing?	

Potential patient benefits and impact on the health system

7	What do you consider to be the potential benefits to patients from using this procedure/technology?	Increased overall survival and increased progression free survival
8	Are there any groups of patients who would particularly benefit from using this procedure/technology?	Patients undergoing surgery for Stage III/IV ovarian cancer
9	Does this procedure/technology have the potential to change the current pathway or clinical outcomes to benefit the healthcare system? Could it lead, for example, to improved outcomes, fewer hospital visits or less invasive treatment?	YES May lead to altered post operative pathway
10 - MTEP	Considering the care pathway as a whole, including initial capital and possible future costs avoided, is the procedure/technology likely to cost more or less than current standard care, or about the same? (in terms of staff, equipment, care setting etc)	More
11 - MTEP	What do you consider to be the resource impact from adopting this procedure/technology (is it likely to cost more or less than standard care, or about same-in terms of staff, equipment, and care setting)?	Increased complexity in theatre
12	What clinical facilities (or changes to existing facilities) are needed to do this procedure/technology safely?	Investment in training, theatre time and staff

13	Is any specific training needed in order to use the procedure/technology with respect to efficacy or safety?	Yes –extensive training in all forms of abdominal surgery

Safety and efficacy of the procedure/technology

14	What are the potential harms of the procedure/technology? Please list any adverse events and potential risks (even if uncommon) and, if possible, estimate their incidence: Adverse events reported in the literature (if possible, please cite literature) Anecdotal adverse events (known from experience) Theoretical adverse events	Increased post operative complications Estimated 20% major complication rate
15	Please list the key efficacy outcomes for this procedure/technology?	Improved 5 yr overall survival
16	Please list any uncertainties or concerns about the efficacy and safety of this procedure/?	Complications, skill mix of surgeon
17	Is there controversy, or important uncertainty, about any aspect of the procedure/technology?	Who performs surgery and when
18	If it is safe and efficacious, in your opinion, will this procedure be carried out in (please choose one):	Most or all district general hospitals. - NO A minority of hospitals, but at least 10 in the UK.-YES Fewer than 10 specialist centres in the UK.-No

		Cannot predict at present.

Abstracts and ongoing studies

19	Please list any abstracts or conference proceedings that you are aware of that have been recently presented / published on this procedure/technology (this can include your own work). Please note that NICE will do a comprehensive literature search; we are only asking you for any very recent abstracts or conference proceedings which might not be found using standard literature searches. You do not need to supply a comprehensive reference list but it will help us if you list any that you think are particularly important.	
20	Are there any major trials or registries of this procedure/technology currently in progress? If so, please list.	TRUST trial (NCT02828618)

Other considerations

21	Approximately how many people each year would be eligible for an intervention with this procedure/technology, (give either as an estimated number, or a proportion of the target population)?	Approx 2000 patients per year could benefit from ultra radical surgery within the UK
22	Are there any issues with the usability or practical aspects of the procedure/technology?	No

23	Are you aware of any issues which would prevent (or have prevented) this procedure/technology being adopted in your organisation or across the wider NHS?	Funding issues
24	Is there any research that you feel would be needed to address uncertainties in the evidence base?	Evidence to support primary ultra radical surgery
25	Please suggest potential audit criteria for this procedure/technology. If known, please describe: − Beneficial outcome measures. These should include short- and long-term clinical outcomes, quality-of-life measures and patient-related outcomes. Please suggest the most appropriate method of measurement for each and the timescales over which these should be measured. − Adverse outcome measures. These should include early and late complications. Please state the post procedure timescales over which these should be measured:	Beneficial outcome measures: 5 year survival Progression free survival Quality of Life Adverse outcome measures: Complication rates Hospital stay
26	Is there any other data (published or otherwise) that you would like to share with the committee?	

Further comments

26	Please add any further comments on your particular experiences or knowledge of the procedure/technology,	nil

NICE National Institute for Health and Care Excellence

Declarations of interests

Please state any potential conflicts of interest relevant to the procedure/technology (or competitor technologies) on which you are providing advice, or any involvements in disputes or complaints, in the previous **12 months** or likely to exist in the future. Please use the NICE policy on declaring and managing interests as a guide when declaring any interests. Further advice can be obtained from the NICE team.

Type of interest *	Description of interest	Relevant dates	
		Interest arose	Interest ceased
Choose an item.			
Choose an item.			
Choose an item.			

☐ I confirm that the information provided above is complete and correct. I acknowledge that any changes in these declarations during the course of my work with NICE, must be notified to NICE as soon as practicable and no later than 28 days after the interest arises. I am aware that if I do not make full, accurate and timely declarations then my advice may be excluded from being considered by the NICE committee.

Please note, all declarations of interest will be made publicly available on the NICE website.

Print name:	**Stephen Dobbs**
Dated:	**01/07/2022**