# INPLASY PROTOCOL

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**Support:** **None.**

**Review Stage at time of this submission:** **Preliminary searches.**

**Conflicts of interest:**
**None declared.**

# Radiological factors associated with residual disease after cytoreductive surgery for advanced ovarian cancer

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**Review question / Objective:** **Which radiological factors associated with incomplete cytoreduction (gross residual disease) after cytoreductive surgery (CRS) for advanced ovarian cancer?**
**Condition being studied:** **Findings of CT scan and discussion in the multidisciplinary tumor board meeting (MDO) are crucial to determine the therapeutic strategy for individual ovarian cancer patients. Preferably, patients undergo primary cytoreductive surgery (CRS) followed by adjuvant chemotherapy. However, when complete cytoreduction is not considered feasible, neoadjuvant chemotherapy followed by interval cytoreductive surgery and adjuvant chemotherapy is indicated. In patients with advanced stage epithelial ovarian cancer (EOC), maximal cytoreduction to no gross residual tumor (complete cytoreduction) is known to associated with the best overall survival.**

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 18 January 2023 and was last updated on 18 January 2023 (registration number INPLASY202310059).

## INTRODUCTION

**Review question / Objective:** **Which radiological factors associated with incomplete cytoreduction (gross residual disease) after cytoreductive surgery (CRS) for advanced ovarian cancer?**

**Rationale:** **Complete cytoreduction after cytoreductive surgery (CRS) is an important prognostic predictor in patients with primary advanced epithelial ovarian cancer. As a result, preoperative prediction of surgical outcome is clinically essential to**

guide treatment decisions such as primary CRS or neoadjuvant chemotherapy followed by interval CRS and patient counselling. Previous studies used CT scan features to identify patients for whom optimal CRS (residual disease <1 cm) is feasible. Currently, we are in pursuit of a complete CRS, therefore studies of factors associated with complete cytoreduction are warranted.

**Condition being studied:** Findings of CT scan and discussion in the multidisciplinary tumor board meeting (MDO) are crucial to determine the therapeutic strategy for individual ovarian cancer patients. Preferably, patients undergo primary cytoreductive surgery (CRS) followed by adjuvant chemotherapy. However, when complete cytoreduction is not considered feasible, neoadjuvant chemotherapy followed by interval cytoreductive surgery and adjuvant chemotherapy is indicated. In patients with advanced stage epithelial ovarian cancer (EOC), maximal cytoreduction to no gross residual tumor (complete cytoreduction) is known to associated with the best overall survival.

## METHODS

**Search strategy:** The search strategy included the following keywords: 'computed assisted tomography', 'interpretation', 'predictive value', 'surgical outcome', 'cytoreductive surgery', and 'ovary cancer'
The preliminary search was performed in 1st December 2022 in Embase, Medline, Web of science, Cochrane central register of controlled trials and Google scholar.

**Participant or population:** Advanced stage ovarian cancer (FIGO stage III-IV)) patients who underwent cytoreductive surgery for primary ovarian cancer (either primary or interval cytoreduction).

**Intervention:** Cytoreductive surgery for primary ovarian cancer (either primary or interval cytoreduction).

**Comparator:** Surgical outcome as any residual disease.

**Study designs to be included:** Original studies including randomized controlled trials, prospective or retrospective cohort study.

**Eligibility criteria:** English language study that reported CT scan factors that associated with residual tumor after cytoreductive surgery for primary advanced stage ovarian cancer.

**Information sources:** Electronic databases: Embase, Medline, Web of science, Cochrane central register of controlled trials and Google scholar. The reference lists of retrieved articles will be searched for possibly missed relevant studies.

**Main outcome(s):** CT parameters that were associated with residual tumor after CRS based on the literature.

**Quality assessment / Risk of bias analysis:** The quality and the risk of bias in the observational studies include in our study will be accessed independently by at least two authors based on the Newcastle-Ottawa Quality Assessment Scale.

**Strategy of data synthesis:** Studies published in English with adequate information, in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement will be included in the review.
At least two authors will independently screen the retrieved electronic citations for potentially eligible articles. Any disagreement between two authors will be resolved through discussion and arbitration by a third author The reference lists of retrieved articles will be searched for possibly missed relevant studies.
We include retrospective and prospective cohort studies as well as clinical trials that report CT-based radiological factors associated with complete cytoreduction in primary epithelial ovarian cancer. Studies published as conference abstracts, narrative review, editorials, letters and short communications will be excluded.

**Subgroup analysis:** None.

**Sensitivity analysis:** None.

**Language restriction:** English-language.

**Country(ies) involved:** The Netherlands and Thailand.

**Keywords:** CT scan, predictor, complete cytoreduction, ovarian cancer, surgical outcome.

**Contributions of each author:**

Author 1 - Malika Kengsakul - Initiation of the study design; Contribute to systematic searching. Perform the review of literature and data collections. Data analyses Write the original draft of the manuscript.
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Author 2 - Gatske Nieuwenhuyzen – de Boer - Initiation of the study designed. Contribute to systematic searching. Perform the review of literature and data collections. Data analyses. Write the original draft of the manuscript.
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