Introduction/Background
Hyperthermic intraperitoneal chemotherapy (HIPEC) is increasingly used for patients with stage III ovarian cancer undergoing interval cytoreductive surgery (CRS). It is uncertain whether routine postoperative admission to an intensive care setting following CRS-HIPEC for ovarian cancer is necessary. We estimated the incidence of patients requiring critical care support and tried to identify patients in whom admission to an intensive care setting can be safely omitted.

Methodology
We analyzed 154 patients with primary ovarian cancer, who underwent CRS-HIPEC between 2007–2021 in two Dutch HIPEC-centers. Patients were routinely transferred to an Intensive Care Unit (ICU) or Post Anesthesia Care Unit (PACU). Patients requiring critical care support were identified by predefined criteria based on respiratory, circulatory, and metabolic parameters. Logistic regression analyses with backward selection were used to predict the need for critical care support in individual patients and the area-under-the-ROC-curve (AUC) of the model was estimated.

Results
Median ICU/PACU length of stay was 21 hours (IQR 19–29) and 38% of patients received postoperative critical care support, mainly consisting of hemodynamic interventions (37%). Independent predictors for critical care support are age, blood loss, norepinephrine dose during surgery, and peri-tonectomy extent (table 1). AUC of the model is 0.81 (95% CI 0.73–0.88). Using a 20% cut-off to define low-risk of critical care support, 37% of patients would be eligible to forego ICU/PACU admission.

Conclusion
Postoperative admission to an intensive care setting is not routinely required for ovarian cancer patients undergoing CRS-HIPEC. Following prospective validation, a decision tool based on pre- and intra-operative parameters can help to identify low-risk patients.