

POstoperative Standardization of Care: The Implementation of Best Practice After Pancreatic Resection *a Nationwide Stepped-wedge Cluster Randomized Trial*

BACKGROUND Current guidelines on how to diagnose and manage postoperative pancreatic fistula are lacking. This is concerning, especially since complication management appears to be the most important factor in decreasing mortality after pancreatic resection.

Aim To evaluate if implementation of a best practice algorithm for postoperative care focusing on early detection and step-up management of postoperative pancreatic fistula results in a lower rate of major complications and death after pancreatic resection, as compared to current practice.

DESIGN This is a nationwide stepped-wedge, cluster randomized superiority trial. In this design all 17 participating centers cross over from current practice to best practice according to the algorithm, but are randomized to determine the exact order. At the end of the trial, all centers will have implemented the best practice algorithm.



COMPARISON Outcomes before and after cluster level education on postoperative care according to a best practice algorithm, focusing on early detection and step-up management of postoperative pancreatic fistula will be compared (i.e. current practice vs. best practice).

ALGORITHM The best practice algorithm is based on findings in Dutch observational cohort studies, comprehensive systematic literature analyses, an inventory in current guidelines on postoperative care and expert opinion. The proposed algorithm is validated in a multicenter cohort and consensus upon this algorithm is reached with pancreatic surgeons from all centers of the Dutch Pancreatic Cancer Group. The final algorithm is reviewed by the advisory committee of internationally respected experts in the field of pancreatology before implementation in this trial. The proposed best practice algorithm includes daily evaluation of vital parameters (i.e. heart rate, respiratory rate, body temperature), inflammatory parameters (i.e. C-Reactive Protein [CRP] and white blood count [WBC]), drain production including amylase content and a daily consult by a pancreatic surgeon. To avoid contamination, the exact content of the algorithm is not distributed amongst participating clinicians beforehand.

ENDPOINTS The primary endpoint is a composite of the most severe complications associated to pancreatic fistula (i.e. late postpancreatectomy bleeding, organ failure and death). Secondary endpoints include the individual components of the primary endpoint, other clinical outcomes, number of patients receiving adjuvant chemotherapy, healthcare resource utilization, and costs. Follow-up will be during index admission up to 90 days after index resection.