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## Pancreas-Preserving Total Duodenectomy

### Key Words

Duodenectomy, pancreas-preserving  
Pancreatectomy  
Whipple operation  
Familial adenomatous polyposis  
Duodenal tumors  
Duodenum

### Abstract

The concept of operations to be 'as resective as necessary and as organ-preserving as possible' has led to the novel technique of resection of the entire duodenum, with complete preservation of the head of the pancreas, as a better alternative to the classic pancreaticoduodenectomy. This operation requires meticulous technique and precise knowledge of pancreatic and peripancreatic anatomy. Indications include benign or premalignant conditions confined to the duodenal mucosa, usually familial adenomatous polyposis. When appropriately performed, pancreas-preserving total duodenectomy leads to shorter operative time, requires less and safer anastomoses, and optimizes postoperative endoscopic surveillance. The available long-term results are encouraging.

### Introduction

During the last decade, pancreatic resection has been performed with ever-decreasing perioperative morbidity and mortality at centers with extensive experience [1]. As surgeons have become more familiar with pancreatic and peripancreatic anatomy, this new understanding has led to novel procedures. Pylorus-preserving pancreaticoduodenectomy, first performed by Waugh in 1944, was reintroduced by Traverso and Longmire in 1978, and now has become common practice for both benign and malignant conditions of the head of the pancreas, comparing very well as a cancer operation with its classic counterpart of distal gastrectomy [2]. Technical expertise and the concept of operations to be 'as resective as necessary and as organ-preserving as possible' have led to newer procedures such as the spleen-preserving distal pancreatectomy, local resection of the ampulla for benign ampullary neoplasms [3], duodenum-preserving resection of the

head of the pancreas [4] and, more recently, segmental pancreatic resection or 'central pancreatectomy' [5, 6].

The pancreas-preserving total duodenectomy (PPTD), first described by Chung et al. [7] in 1995 and which involves complete resection of the duodenum with preservation of the entire head of the pancreas, is one such organ-preserving resection potentially applicable to selected patients with mucosal diseases of the duodenum as an alternative to pancreaticoduodenectomy. Since October 1996, we have performed PPTD in 4 patients. Others [8] have also used the term 'pancreas-preserving duodenectomy', but a complete duodenectomy was not performed and resection involved only the third and fourth portions of the duodenum distal to the ampulla. PPTD is a challenging procedure requiring meticulous and refined surgical technique and very thorough and detailed knowledge of the peripancreatic anatomy. When performed appropriately and for the right indications, PPTD offers many advantages to the more classical pancreaticodu-