Intraductal papillary mucinous neoplasms (IPMN) are precursor lesions of ductal adenocarcinoma of the pancreas and one of the most common cystic entities in this organ. Branch and main duct types are further distinguished based on the tumor localization. An additional classification is based on the predominant architecture and immunohistochemical profile with four prognostic relevant subtypes, gastric, intestinal, pancreato-biliary and oncocytic. This review provides an overview about the malignant potential of the different subtypes and the prognosis of associated invasive tumors and gives recommendations for the pathological assessment of resection specimens with IPMNs.