

Knowing your options for liver resection can lead to

FASTER RECOVERY. LESS TIME IN THE HOSPITAL.

Let's look at two patient experiences. One has minimally invasive laparoscopic surgery. The other has traditional open surgery.

LAPAROSCOPIC LIVER RESECTION



OPEN LIVER RESECTION



AVERAGE LENGTH OF HOSPITAL STAY¹⁻¹³

7.1 DAYS

in the hospital for the laparoscopic patient

11.2 DAYS

in the hospital for the open patient

36.6% LESS TIME

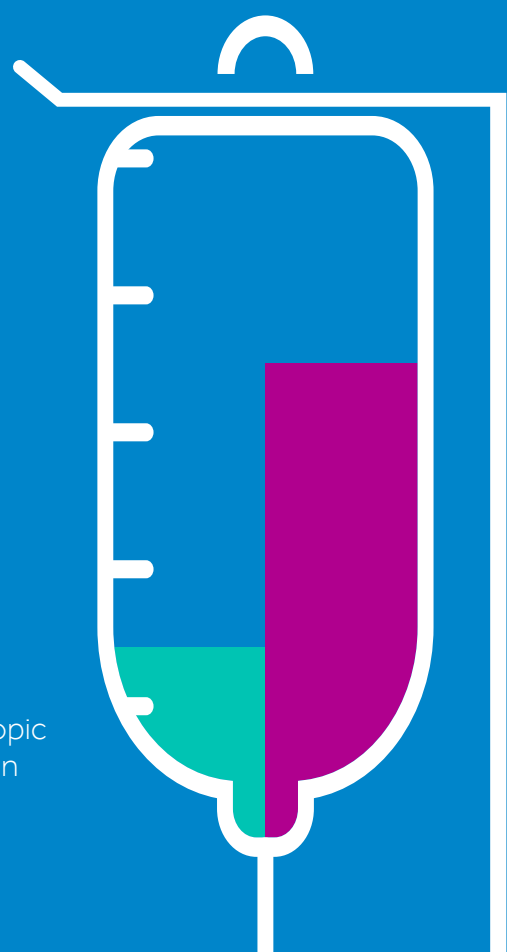
in the hospital compared to open liver resections — or **nearly 4 extra days** before an open patient is able to return home.



BLOOD LOSS^{1,5,7,9-11,14,15}

475 mL on average for the open procedure

194 mL on average for laparoscopic liver resection



SURGICAL SITE INFECTION¹²

1% for a laparoscopic liver resection

2.8% for open liver resections



36% lower rate of surgical site infection on average

Plus, compared to open liver resections, the minimally invasive procedure is associated with:

FEWER POSTOPERATIVE COMPLICATIONS^{1,10,12,16}

LOWER RATES OF MORTALITY¹⁷

FASTER TIME TO FIRST MOBILIZATION⁸

LOWER POSTOPERATIVE COSTS^{7,18}

Which experience would you want ?

For more information about the benefits of minimally invasive surgery, visit aboutmis.com

- Cannon RM, Scoggins CR, Callender GG, Quillo A, McMasters KM, Martin RC 2nd. Financial comparison of laparoscopic versus open hepatic resection using deviation-based cost modeling. *Ann Surg Oncol*. 2013;20(9):2887-2892.
- Kawaguchi Y, Otsuka Y, Kaneko H, et al. Comparisons of financial and short-term outcomes between laparoscopic and open hepatectomy: benefits for patients and open hepatectomy: benefits for patients and hospitals. *Surg Today*. 2015. Online publication ahead of print. doi: 10.1007/s00595-015-1189-0
- Kim H, Suh KS, Lee KW, Yi NJ, et al. Long-term outcome of laparoscopic versus open liver resection for hepatocellular carcinoma: a case-controlled study with propensity score matching. *Surg Endosc*. 2014;28(3):950-960.
- López-Ben S, Palacios O, Codina-Barreras A, et al. Pure laparoscopic liver resection reduces surgical site infections and hospital stay. Results of a case-matched control study in 50 patients. *Langenbecks Arch Surg*. 2014;399(3):307-314.
- Medbery RL, Chadid TS, Sweeney JF, et al. Laparoscopic vs open right hepatectomy: a value-based analysis. *J Am Coll Surg*. 2014;218(5):929-939.
- Shin YC, Jang JY, Kang MJ, et al. Comparison of laparoscopic versus open left-sided hepatectomy for intrahepatic duct stones. *Surg Endosc*. 2015. Online publication ahead of print.
- Slim A, Garancini M, Di Sandro S, et al. Laparoscopic versus open liver surgery: a single center analysis of post-operative in-hospital and post-discharge results. *Langenbecks Arch Surg*. 2012;397(8):1305-1311.
- Wang XT, Wang HG, Duan WD, et al. Pure laparoscopic versus open liver resection for primary liver carcinoma in elderly patients: A single-center, case-matched study. *Medicine (Baltimore)*. 2015;94(43):e1854.
- Xiao L, Xiang LJ, Li JW, Chen J, Fan YD, Zheng SG. Laparoscopic versus open liver resection for hepatocellular carcinoma in posterosuperior segments. *Surg Endosc*. 2015;29(10):2994-3001.
- Luo L, Zou H, Yao Y, Huang X. Laparoscopic versus open hepatectomy for hepatocellular carcinoma: short- and long-term outcomes comparison. *Int J Clin Exp Med*. 2015;8(10):18772-18778.
- Zhang Y, Chen XM, Sun DL. Comparison of laparoscopic versus open left lateral segmentectomy. *Int J Clin Exp Med*. 2015;8(1):904-909.
- Ai JH, Li JW, Chen J, Bie P, Wang SG, Zheng SG. Feasibility and safety of laparoscopic liver resection for hepatocellular carcinoma with a tumor size of 5-10 cm. *PLoS One*. 2013;8(8):e72328.
- Hu BS, Chen K, Tan HM, Ding XM, Tan JW. Comparison of laparoscopic vs open liver lobectomy (segmentectomy) for hepatocellular carcinoma. *World J Gastroenterol*. 2011;17(42):4725-4728.
- Iwahashi S, Shimada M, Utsunomiya T, et al. Laparoscopic hepatic resection for metastatic liver tumor of colorectal cancer: comparative analysis of short- and long-term results. *Surg Endosc*. 2014;28(1):80-84.
- Slakey DP, Simms E, Drew B, Yazdi F, Roberts B. Complications of liver resection: laparoscopic versus open procedures. *JLS*. 2013;17(1):46-55.
- Kim SJ, Jung HK, Lee DS, Yun SS, Kim HJ. The comparison of oncologic and clinical outcomes of laparoscopic liver resection for hepatocellular carcinoma. *Ann Surg Treat Res*. 2014;86(2):61-67.
- Parks KR, Kuo YH, Davis JM, O'Brien B, Hagopian EJ. Laparoscopic versus open liver resection: a meta-analysis of long-term outcome. *HPB (Oxford)*. 2014;16(2):109-118.
- Limongelli P, Vitiello C, Belli A, et al. Costs of laparoscopic and open liver and pancreatic resection: a systematic review. *World J Gastroenterol*. 2014;20(46):17595-17602.