DOSING AND TIMING CHART ON HOW TO USE INDOCYANINE GREEN (ICG) BY PROCEDURE

PROCEDURE	PURPOSE	INJECTION TYPE	USUAL DOSAGE	INJECTION TIME	FIRST ICG DETECTION	ICG DURATION	CAMERA REQUIREMENTS	NOTES
Cholecystectomy	Bile duct visualization	Intravenous	0.05 mg/kg or 2.5 mL	Recommended: At least 45 minutes before procedure	After Calot triangle is exposed	Remains visible during surgery	Laparoscope, near infrared (NIR) camera	Reflux maneuver. Visualize cystic duct
Colorectal Resection	Perfusion assessment	Intravenous	3 - 3.5 mL + 10 cc saline flush	Intraoperatively	30 - 60 seconds after injection	Arterial and venous phase, minutes	Laparoscope, or handheld near infrared (NIR) camera	Evaluate resection margin
Liver Segmentation	Visualize liver segments	Positive staining technique: injection into portal branch	0.025 - 0.25 mg/kg	Prior to hepatic dissection	Several seconds after injection	Remains stable during surgery	Laparoscope, or handheld near infrared (NIR) camera	Portal branch punctured under ultrasound-guidance
		Negative staining technique: Intravenous	2.5 mg/kg	Following closure of portal pedicle	Several seconds after injection	Remains stable during surgery	Laparoscope, or handheld near infrared (NIR) camera	Portal branch punctured under ultrasound-guidance
Liver Cancer	Visualization of primary and metastatic liver tumors	Intravenous	0.5 mg/kg + 10cc saline flush	2-7 days before surgery	Real time during hepatectomy procedures	Remains stable during surgery	Laparoscope, or handheld near infrared (NIR) camera	Hepatocellular carcinoma shows cancerous fluorescence signals. Metastatic tumors show rim fluorescence signals
			10mg/kg + 10 cc saline flush	24 hours before surgery				

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Esophagectomy	Gastric conduit perfusion evaluation	Intravenous	3 mL + 10cc saline flush	Intraoperatively	30-60 seconds after injection	Arterial and venous phase: minutes	Laparoscope, or handheld near infrared (NIR) camera	Evaluate perfusion of anastomotic margins
Ureter Localization	Visualization of ureters	Cystoscopic-guided retrograde intraureteral ICG	2.5mg/mL 2mL per ureter	Prior to Pelvic dissection	During pelvic dissection	Remains stable during surgery	Laparoscope, or handheld near infrared (NIR) camera	Ureteral catheter: advanced or tip into orifice
Thyroidectomy	Visualization of fluorescence of parathyroid glands	Intravenous	0.2 - 1 mL + 10cc saline flush	After thyroid gland dissection		Minutes	Open procedure	Check perfusion of parathyroid glands
Parathyroidectomy	Visualization of parathyroid adenomas	Intravenous	0.2 - 1 mL + 10cc saline flush	After identification of suspected parathyroid adenoma	30 seconds	Minutes	Open procedure	Adenoma identification
Colorectal and Gastrointestinal Carcinoma	Visualization of lymphatic drainage and sentinel lymph node	Peritumoral area	0.5 - 1mL on each tumor quadrant	Prior to surgery or intraoperative	Abdominal cavity visualized	Remains stable during surgery as it diffuses slowly through lymphatics	Laparoscope, or handheld near infrared (NIR) camera	
Endometriosis Excision	Proper differentiation of healthy tissues from fibrotic endometriotic nodules	Intravenous and local peritoneal at lesion site	0.25 - 0.3 mg/kg (1.25 mg/ml)	Intraoperatively	At least 5 minutes after injection	Remains stable during surgery	Laparoscope, or handheld near infrared (NIR) camera	

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Cervical/ Endometrial Cancer	Visualize lymphatic drainage and sentinel lymph node	Cervical submucosa and deep into stroma (1cc each)	1mL at 2 cervical quadrants (3 and 9) (2.5 mg/mL)	Prior to dissection and insertion of uterine manipulator	At start of procedure	Remains stable during surgery as it diffuses slowly through lymphatics	Laparoscope, or handheld near infrared (NIR) camera	Total 4cc
Vulvar Cancer	Visualize lymphatic drainage and sentinel lymph node	Peritumoral	1 mL	At start of procedure	Minutes after injection	Remains stable during surgery as it diffuses slowly through lymphatics	Handheld near infrared (NIR) camera	
Breast Cancer	Visualization of lymphatic drainage and sentinel lymph node	Subcutaneous into periareolar region in each quadrant	1 mL (2.5mg/mL)	At start of procedure	After 5-10 minutes after injection	Remains stable during surgery as it diffuses slowly through lymphatics	Laparoscope, or handheld near infrared (NIR) camera	
Immediate Breast Reconstruction	Mastectomy skin perfusion assessment	Intravenous	3 mL (2.5 mg/mL) + 10 cc saline flush	Before, during and after reconstruction	45 seconds after injection	Arterial and venous phase. Minutes	Handheld or on free arm near infrared (NIR) Camera	Use as adjunct to clinical assessment
Melanoma	Identification of sentinel lymph node	Intradermal	0.1 -0.2 mL (2.5 mg/mL)	5 minutes prior to manipulation of skin site	Skin: immediate Node: 5 -10 minutes	Hours	Handheld or on free arm near infrared (NIR) camera	inject ICG prio injection with local anesthetic
Lymphedema	Lymph vessels evaluation	Subcutaneous into the bilateral interdigit hand or foot	0.1 -0.2 mL (2.5 mg/mL)	At the time of lymph vessel evaluation	Minutes after	Hours	Handheld or on free arm near infrared (NIR) camera	

Note: the above dosage and timing information have been collated from surgeons expert in these procedures and is based on their recommendations and is not evidence-based. For any question about the dosing chart, please contact ISFGS @ admin@isfgs.org