

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 visualizaon	Intravenous	0.4 mL -2.5mL, equipment-dependent	Recommend- ed: At least 45 min before procedure	Aer Calot triangle is exposed	Visible during surgery	Laparoscope or Handheld NIR camera	Reflux maneuver Visualize cysc duct
Colorectal Resection	Perfusion assessment	Intravenous	3 - 3.5 mL + 10 cc saline flush	Intraoperavely	30 – 60 sec aer injecon	Arterial & venous phase, min		Evaluate resection margin
Liver Segmentation	Visualize liver segments	Posive staining technique: inject in portal branch	0.025 – 0.25 mg/body (0.25 – 2.5 mg/10mL)	Prior to hepac dissecon	Several seconds aer injecon	Remains stable during surgery		Ultrasound-guided Portal branch puncture
		Negave staining technique: Intravenous	2.5 mg per body	Aer portal pedicle closure				Clamp liver segment
Liver Cancer	Visualization of primary & metastatic liver tumors	Intravenous	0.5 mg/kg	14 days preoperatively	Real time during hepatectomy	Remains stable during surgery	Laparoscope or Handheld NIR camera	Hepatocellular carcinoma shows cancerous fluorescence signals Metastatic tumors show rim fluorescence signals
Esophagectomy	Gastric conduit perfusion evaluation	Intravenous	3 mL + 10cc saline flush	Intraopera- tively	30-60 sec after injection	Arterial & venous phase: min		Evaluate perfusion of anastomotic margins
Ureter Localization	Visualization of ureters	Cystoscopic-guided retro- grade intraureteral ICG	2.5mg/mL 2mL per ureter	Prior to pelvic dissection	During pelvic dissecction	Remains stable during surgery	Laparoscope or handheld NIR camera	Ureteral catheter advanced or tip into orifice
Thyroidectomy	Visualization of parathyroid glands	Intravenous	0.2 – 1mL + 10cc saline flush	After thyroid gland dissection		Min	Open procedure	Check perfusión of parathyroid glands
Parathyroid- ectomy	Visualization of parathyroid adenomas	Intravenous	0,.2 - 1mL + 10cc saline flush	After identification of suspected parathyroid adenoma	30 sec			Adenoma identification
Colorectal & Gastrointestinal Carcinoma	Visualization of lymphatic drainage & SLN	Peritumoral area	0.5 – 1mL on each tumor quadrant	Preoperatively or intraopera- tively	Abdominal cavity visualized	Remains stable during surgery. Slowly diffuses through lymphatics	Laparoscope or handheld NIR camera	Esophageal LN mapping: create & inject into bleb to prevent too deep injection. Gastric LN mapping during gastrectomy: peritumoral injection 24 hrs prior for lymphadenectomy, intraoperative injection for SLN mapping
Lymphedema	Lymph vessel evaluation	Subcuta- neous into bilateral in- terdigit hand or foot	0.1 -0.2 mL (2.5 mg/mL)	At time of lymph vessel evaluation	Min after	Hrs	Handheld or on free arm NIR camera	
Cervical/ Endometrial Cancer	Visualize lymphatic drainage & SLN	Cervical submucosa and deep into stroma (1cc each)	1mL at quandrants 3 and 9 (2.5 mg/mL)	Prior to dissection & insertion of uterine manipulator	At start of procedure	Stable during surgery. Slowly diffuses through lymphatics	Laparoscope or handheld NIR camera	Total 4cc
Vulvar Cancer	Visualize lymphatic drainage & SLN	Peritumoral	1 mL	At start of procedure	Min after injection		Handheld NIR camera	
Breast Cancer	Visualization of lymphatic drainage & SLN	Subcutane- ous into peri- areolar re- gion in each quadrant	1 mL (2.5mg/mL)	At start of procedure	5-10 min after injection		Laparoscope or handheld NIR camera	
Immediate Breast Reconstruction	Mastectomy skin perfusion assessment	Intravenous	3 mL (2.5 mg/mL) + 10 cc saline flush	Before, during & after reconstruction	45 sec after injection	Arterial & venous phase, mins	Handheld or on free arm NIR camera	Adjunct to clinical assessment
Melanoma	Identification of SLN	Intradermal	0.1 -0.2 mL (2.5 mg/mL)	5 min prior to manipulation of skin site	Skin: immediate Node: 5 -10 min	Hrs	Handheld or on free arm NIR camera	Inject ICG prior to local anesthetic injection

NIR, near infrared; ICG, indocyanine green; LN, lymph node; SLN, sentinel lymph node; Min, minutes; Sec, seconds; Hrs, hours

DISCLAIMERS:

- The above dosage and timing information have been collated from worldwide surgeons expert in these procedures and is based on their recommendations and is not evidence-based.
- Doses are device-dependent.

- All dosages have been adjusted to the U.S. recommended dilution of 25mg of ICG in 10mL of sterile water.
- Approval for listed indications may vary according to country.

FOR ANY QUESTIONS ABOUT THE DOSING CHART, PLEASE CONTACT ISFGS AT ADMIN@ISFGS.ORG