

Stanford



Gloria Hwang, MD

Clinical Associate Professor, Radiology

CLINICAL OFFICES

- **Interventional Radiology**

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ACADEMIC CONTACT INFORMATION

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Bio

CLINICAL FOCUS

- Cancer
- Radiology
- Interventional Radiology and Diagnostic Radiology

ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Radiology
- Member, Bio-X

ADMINISTRATIVE APPOINTMENTS

- Director of Clinical Performance Improvement, Department of Radiology, (2018- present)
- Associate Program Director, Department of Radiology, (2015- present)

HONORS AND AWARDS

- Magna Cum Laude, Harvard University (1996)
- Featured Abstract, SIR Annual Meeting (2001)
- Norman Blank Award for Excellence in Radiology, Stanford University (2001)
- Stanford University Medical Center Dept. of Surgery 90th Percentile Award, Stanford University (2002)
- RSNA/AUR/ARRS Introduction to Research Program Scholarship, RSNA/AUR/ARRS (2003)
- Molecular Biology for Imagers course scholarship, AUR (2005)
- Chief Resident, Dept. of Radiology, Stanford University (2004-2005)
- RSNA Roentgen Resident/Fellow Research Award, RSNA (2007)

PROFESSIONAL EDUCATION

- Board Certification: Interventional Radiology and Diagnostic Radiology, American Board of Radiology (2017)

- Fellowship: Stanford University Hospital (2008) CA
- Residency: Stanford University - Fellowship (2006) CA
- BA, Harvard College , Biochemical Sciences (1996)
- Medical Education: Stanford University School of Medicine (2001) CA
- Internship: Stanford Hospital and Clinics - Dept of Surgery (2002) CA
- Subspecialty Certificate, American Board of Radiology , Interventional Radiology (2010)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Interventional oncology, pancreatic interventions, image-guided gene therapy.

CLINICAL TRIALS

- Filter Initial & Long Term Evaluation After Placement and Retrieval Registry, Recruiting
- Pulmonary Embolism Response to Fragmentation, Embolectomy, & Catheter Thrombolysis: PERFECT, Recruiting
- A Phase 2b Study of Modified Vaccinia Virus to Treat Patients Advanced Liver Cancer Who Failed Sorafenib, Not Recruiting
- Acute Venous Thrombosis: Thrombus Removal With Adjunctive Catheter-Directed Thrombolysis, Not Recruiting
- ExAblate (MRgFUS) Treatment of Metastatic Bone Tumors for the Palliation of Pain, Not Recruiting
- HepaSphere/Quadrasphere Microspheres for Delivery of Doxorubicin for the Treatment of Hepatocellular Cancer, Not Recruiting
- Impact of C-arm CT in Decreased Renal Function Undergoing TACE for Tx of Hepato-Cellular Carcinoma, Not Recruiting
- Impact of C-arm CT in Patients With HCC Undergoing TACE: Optimal Imaging Guidance, Not Recruiting
- The GORE Viabahn Endoprosthesis for the Treatment of Venous Occlusions and Stenoses, Not Recruiting

Publications

PUBLICATIONS

- **The Role of Cone-Beam CT in Transcatheter Arterial Chemoembolization for Hepatocellular Carcinoma: A Systematic Review and Meta-analysis.** *Journal of vascular and interventional radiology*
Pung, L., Ahmad, M., Mueller, K., Rosenberg, J., Stave, C., Hwang, G. L., Shah, R., Kothary, N.
2017; 28 (3): 334-341
- **The Role of Dual-Phase Cone-Beam CT in Predicting Short-Term Response after Transarterial Chemoembolization for Hepatocellular Carcinoma.** *Journal of vascular and interventional radiology*
Müller, K., Datta, S., Gehrisch, S., Ahmad, M., Mohammed, M. A., Rosenberg, J., Hwang, G. L., Louie, J. D., Sze, D. Y., Kothary, N.
2017; 28 (2): 238-245
- **Production of Spherical Ablations Using Nonthermal Irreversible Electroporation: A Laboratory Investigation Using a Single Electrode and Grounding Pad.** *Journal of vascular and interventional radiology*
Sano, M. B., Fan, R. E., Hwang, G. L., Sonn, G. A., Xing, L.
2016; 27 (9): 1432-1440 e3
- **Methods for Improving the Curvature of Steerable Needles in Biological Tissue** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
Adebar, T. K., Greer, J. D., Laeseke, P. F., Hwang, G. L., Okamura, A. M.
2016; 63 (6): 1167-1177
- **Superselective Chemoembolization of HCC: Comparison of Short-term Safety and Efficacy between Drug-eluting LC Beads, QuadraSpheres, and Conventional Ethiodized Oil Emulsion.** *Radiology*
Duan, F., Wang, E. Q., Lam, M. G., Abdelmaksoud, M. H., Louie, J. D., Hwang, G. L., Kothary, N., Kuo, W. T., Hofmann, L. V., Sze, D. Y.
2016; 278 (2): 612-621

- **Percutaneous Cryoablation for Successful Treatment of a Persistent Urine Leak after Robotic-Assisted Partial Nephrectomy.** *Journal of vascular and interventional radiology*
Ward, T. J., Ahmed, O., Chung, B. I., Sze, D. Y., Hwang, G. L.
2015; 26 (12): 1867-1870
- **Periprocedural Patient Care** *RADIOGRAPHICS*
Kohi, M. P., Fidelman, N., Behr, S., Taylor, A. G., Kolli, K., Conrad, M., Hwang, G., Weinstein, S.
2015; 35 (6): 1766-1778
- **Emergent Salvage Direct Intrahepatic Portocaval Shunt Procedure for Acute Variceal Hemorrhage** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Ward, T. J., Techasith, T., Louie, J. D., Hwang, G. L., Hofmann, L. V., Sze, D. Y.
2015; 26 (6): 829-834
- **Development of a High-Throughput Molecular Imaging-Based Orthotopic Hepatocellular Carcinoma Model.** *Cureus*
Hwang, G. L., van den Bosch, M. A., Kim, Y. I., Katzenberg, R., Willmann, J. K., Paulmurugan, R., Gambhir, S. S., Hofmann, L.
2015; 7 (6)
- **Classification of Hypervascular Liver Lesions Based on Hepatic Artery and Portal Vein Blood Supply Coefficients Calculated from Triphasic CT Scans** *JOURNAL OF DIGITAL IMAGING*
Boas, F. E., Kamaya, A., Do, B., Desser, T. S., Beaulieu, C. F., Vasanawala, S. S., Hwang, G. L., Sze, D. Y.
2015; 28 (2): 213-223
- **Optimal imaging surveillance schedules after liver-directed therapy for hepatocellular carcinoma.** *Journal of vascular and interventional radiology*
Boas, F. E., Do, B., Louie, J. D., Kothary, N., Hwang, G. L., Kuo, W. T., Hovsepian, D. M., Kantrowitz, M., Sze, D. Y.
2015; 26 (1): 69-73
- **Immune correlates of talactoferrin alfa in biopsied tumor of relapsed/refractory metastatic non-small cell lung cancer patients.** *Immunopharmacology and immunotoxicology*
Riess, J. W., Bhattacharya, N., Blenman, K. R., Neal, J. W., Hwang, G., Pultar, P., San-Pedro Salcedo, M., Engleman, E., Lee, P. P., Malik, R., Wakelee, H. A.
2014; 36 (2): 182-186
- **Real-Time 3D Curved Needle Segmentation Using Combined B-Mode and Power Doppler Ultrasound** *17th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*
Greer, J. D., Adebar, T. K., Hwang, G. L., Okamura, A. M.
SPRINGER-VERLAG BERLIN.2014: 381-388
- **Applying a Structured Innovation Process to Interventional Radiology: A Single-Center Experience** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Sista, A. K., Hwang, G. L., Hovsepian, D. M., Sze, D. Y., Kuo, W. T., Kothary, N., Louie, J. D., Yamada, K., Hong, R., Dhanani, R., Brinton, T. J., Krummel, T. M., Makower, et al
2012; 23 (4): 488-494
- **Yttrium-90 Radioembolization of Renal Cell Carcinoma Metastatic to the Liver** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Abdelmaksoud, M. H., Louie, J. D., Hwang, G. L., Kothary, N., Minor, D. R., Sze, D. Y.
2012; 23 (3): 323-330
- **Transarterial Chemoembolization for Hepatocellular Carcinomas in Watershed Segments: Utility of C-Arm Computed Tomography for Treatment Planning** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Abdelmaksoud, M. H., Louie, J. D., Hwang, G. L., Sze, D. Y., Hofmann, L. V., Kothary, N.
2012; 23 (2): 281-283
- **Percutaneous Cholecystostomy for Acute Cholecystitis: Ten-Year Experience** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Joseph, T., Unver, K., Hwang, G. L., Rosenberg, J., Sze, D. Y., Hashimi, S., Kothary, N., Louie, J. D., Kuo, W. T., Hofmann, L. V., Hovsepian, D. M.
2012; 23 (1): 83-88
- **Imaging Guidance with C-arm CT: Prospective Evaluation of Its Impact on Patient Radiation Exposure during Transhepatic Arterial Chemoembolization** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Kothary, N., Abdelmaksoud, M. H., Tognolini, A., Fahrig, R., Rosenberg, J., Hovsepian, D. M., Ganguly, A., Louie, J. D., Kuo, W. T., Hwang, G. L., Holzer, A., Sze, D. Y., Hofmann, et al
2011; 22 (11): 1535-1544

- **In Vitro Design and Characterization of the Nonviral Gene Delivery Vector Iopamidol, Protamine, Ethiodized Oil Reagent** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Higgins, L. J., Hwang, G. L., Rosenberg, J., Katzenberg, R. H., Kothary, N., Sze, D. Y., Hofmann, L. V.
2011; 22 (10): 1457-1463
- **Embolization of Parasitized Extrahepatic Arteries to Reestablish Intrahepatic Arterial Supply to Tumors before Yttrium-90 Radioembolization** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Abdelmaksoud, M. H., Louie, J. D., Kothary, N., Hwang, G. L., Kuo, W. T., Hofmann, L. V., Hovsepian, D. M., Sze, D. Y.
2011; 22 (10): 1355-1362
- **Consolidation of Hepatic Arterial Inflow by Embolization of Variant Hepatic Arteries in Preparation for Yttrium-90 Radioembolization** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Abdelmaksoud, M. H., Louie, J. D., Kothary, N., Hwang, G. L., Kuo, W. T., Hofmann, L. V., Hovsepian, D. M., Sze, D. Y.
2011; 22 (10): 1364-1372
- **Photothermal Ablation with the Excimer Laser Sheath Technique for Embedded Inferior Vena Cava Filter Removal: Initial Results from a Prospective Study** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Kuo, W. T., Odegaard, J. I., Louie, J. D., Sze, D. Y., Unver, K., Kothary, N., Rosenberg, J. K., Hovsepian, D. M., Hwang, G. L., Hofmann, L. V.
2011; 22 (6): 813-823
- **Intrahepatic Collateral Supply to the Previously Embolized Right Gastric Artery: A Potential Pitfall for Nontarget Radioembolization** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Meer, A. B., Louie, J. D., Abdelmaksoud, M. H., Kothary, N., Hovsepian, D. M., Hofmann, L. V., Kuo, W. T., Hwang, G. L., Sze, D. Y.
2011; 22 (4): 575-577
- **Common Iliac Vein Stenosis and Risk of Symptomatic Pulmonary Embolism: An Inverse Correlation** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Chan, K. T., Popat, R. A., Sze, D. Y., Kuo, W. T., Kothary, N., Louie, J. D., Hovsepian, D. M., Hwang, G. L., Hofmann, L. V.
2011; 22 (2): 133-141
- **C-arm Computed Tomography for Hepatic Interventions: A Practical Guide** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Tognolini, A., Louie, J., Hwang, G., Hofmann, L., Sze, D., Kothary, N.
2010; 21 (12): 1817-1823
- **Renewing Focus on Resident Education: Increased Responsibility and Ownership in Interventional Radiology Rotations Improves the Educational Experience** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Kothary, N., Ghatan, C. E., Hwang, G. L., Kuo, W. T., Louie, J. D., Sze, D. Y., Hovsepian, D. M., Desser, T. S., Hofmann, L. V.
2010; 21 (11): 1697-1702
- **Development of New Hepaticocentric Collateral Pathways after Hepatic Arterial Skeletonization in Preparation for Yttrium-90 Radioembolization** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Abdelmaksoud, M. H., Hwang, G. L., Louie, J. D., Kothary, N., Hofmann, L. V., Kuo, W. T., Hovsepian, D. M., Sze, D. Y.
2010; 21 (9): 1385-1395
- **Computed Tomography-Guided Percutaneous Needle Biopsy of Indeterminate Pulmonary Pathology: Efficacy of Obtaining a Diagnostic Sample in Immunocompetent and Immunocompromised Patients** *CLINICAL LUNG CANCER*
Kothary, N., Bartos, J. A., Hwang, G. L., Dua, R., Kuo, W. T., Hofmann, L. V.
2010; 11 (4): 251-256
- **Utility of C-arm CT in Patients with Hepatocellular Carcinoma undergoing Transhepatic Arterial Chemoembolization** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*
Tognolini, A., Louie, J. D., Hwang, G. L., Hofmann, L. V., Sze, D. Y., Kothary, N.
2010; 21 (3): 339-347
- **High-risk Retrieval of Adherent and Chronically Implanted IVC Filters: Techniques for Removal and Management of Thrombotic Complications** *34th Annual Conference of the Society-of-Interventional-Radiology*
Kuo, W. T., Tong, R. T., Hwang, G. L., Louie, J. D., Lebowitz, E. A., Sze, D. Y., Hofmann, L. V.
ELSEVIER SCIENCE INC.2009: 1548-56
- **Incorporating Cone-beam CT into the Treatment Planning for Yttrium-90 Radioembolization** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*

Louie, J. D., Kothary, N., Kuo, W. T., Hwang, G. L., Hofmann, L. V., Goris, M. L., Iagaru, A. H., Sze, D. Y.
2009; 20 (5): 606-613

● **Bidirectionally Adjustable TIPS Reduction by Parallel Stent and Stent-Graft Deployment** *JOURNAL OF VASCULAR AND INTERVENTIONAL RADIOLOGY*

Sze, D. Y., Hwang, G. L., Kao, J. S., Frisoli, J. K., Kee, S. T., Razavi, M. K., Ahmed, A.
2008; 19 (11): 1653-1658

● **Role of image-guided vascular intervention in therapeutic angiogenesis translational research.** *Expert review of cardiovascular therapy*

Hwang, G. L., Patel, T. H., Hofmann, L. V.
2007; 5 (5): 903-915

● **Recurrent lymphoma of the lung - Computed tomography appearance** *JOURNAL OF COMPUTER ASSISTED TOMOGRAPHY*

Hwang, G. L., Leung, A. N., Zinck, S. E., Berry, G. J.
2005; 29 (2): 228-230

● **Abdominal myomectomy versus uterine fibroid embolization in the treatment of symptomatic uterine leiomyomas** *AMERICAN JOURNAL OF ROENTGENOLOGY*

Razavi, M. K., Hwang, G., Jahed, A., Modanloo, S., Chen, B.
2003; 180 (6): 1571-1575

● **Chronic expanding hematoma of the thorax** *AMERICAN JOURNAL OF ROENTGENOLOGY*

Hwang, G. L., Moffatt, S. D., Mitchell, J. D., Leung, A. N.
2003; 180 (4): 1182-1183

● **Angiographic classification of ovarian artery-to-uterine artery anastomoses: Initial observations in uterine fibroid embolization** *RADIOLOGY*

Razavi, M. K., Wolanske, K. A., Hwang, G. L., Sze, D. Y., Kee, S. T., Dake, M. D.
2002; 224 (3): 707-712