Back in 2014, Walter Pearsall noticed some blood when he coughed, but he had not experienced any other symptoms or indications that something serious might be wrong. His wife immediately brought him to the local ED where they ran tests and ultimately gave him devastating news, in front of his wife and some of his children, that he had lung cancer and most likely would not survive. He stayed in his local hospital for ten days and the team there confirmed his diagnosis as stage IIIA non-small cell lung cancer (NSCLC) and recommended surgery, but told Walter they would need to remove some of his ribs in order to access the area.

With that knowledge, his wife Lethie suggested they get a second opinion and they soon found themselves in the hands of the Thoracic Oncology team at Smilow Cancer Hospital. The Yale team determined that he was not in fact a candidate for surgery due to several factors including extensive arterial involvement. Walter and Lethie soon met with Anne Chiang, MD, PhD, Associate Professor of Medicine (Medical Oncology) and Chief Network Officer and Deputy Chief Medical Officer of the Smilow Cancer Network. Dr. Chiang specializes in lung cancer treatment, and offered Walter another option that did not require invasive surgery, or a death sentence; a combination of chemotherapy and radiation delivered over five months. For Walter and his wife, this news, and Dr. Chiang, were a blessing. The Interventional Oncology Program team performed a bronchial artery embolization to stop the bleeding that Walter was experiencing so he could begin this curative treatment option.

“We are fortunate that we have a terrific multidisciplinary team that meets weekly to discuss our patients. That way, we can determine very quickly what the best combination of surgery, radiation, or systemic therapy is, and other specialty services that enable us to administer these treatments safely and with little side effects,” commented Dr. Chiang. “Today, we would add immunotherapy to the regimen we offered Mr. Pearsall, which shows how quickly the field is advancing. He is now beyond five years out from treatment and free of disease.”
When cancer kills, it’s usually because the tumor has spread, or metastasized. Understanding how metastasis works could open new ways to get malignancies under control. But the process is fantastically complex—more than any one discipline of science can encompass.

To tackle the problem of metastasis, Andre Levchenko, PhD, the John C. Malone Professor of Bioengineering and Director of the Yale Systems Biology Institute at Yale West Campus, connects researchers working in such different areas that they would not ordinarily even cross paths. “This very interdisciplinary approach started paying off pretty quickly in new and unconventional approaches.”

To leave their tissue of origin and adopt what Dr. Levchenko calls the “more adventurous lifestyle of invading the surrounding tissue,” cancer cells have to overcome a series of hurdles. The cells first have to stop multiplying, then inner workings prioritizing “go” over “grow.” They must push their way into the circulation, travel, then exit to set up camp in a new place. All the while, they must evade destruction by the immune system and cancer drugs.

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Dr. Chiang is the best doctor there is. She saved my life, and I’m not sure where I would be without that second opinion, but it doesn’t matter because I am here, thanks to my family and the wonderful team at Smilow.