In a survey given to a sample of our scientists, we asked about their motivation to do investigation in cancer. “A desire to help people,” was their most common response followed closely by “Improving people’s lives through research and patient care.” Cancer research ranges from the sub-molecular level to studying whole populations and results in incremental new knowledge. Scientists persist not only because of a steady stream of important discoveries; rather, they stay with their research through fast and slow days – or months, because they know persistence is the only way we will help people with cancer.

Advanced pancreatic cancer is a very difficult disease, and newer therapies are essential

J. Marc Pipas, MD, director of the GI Oncology program at NCCC reports positive results on recent participation in a multicenter, randomized trial for patients with pancreatic cancer who have progressed through initial treatment. The study looked at the new drug ruxolitinib, with or without another chemotherapy drug called capcitabine. More than 5% of all the patients on this national study were enrolled at NCCC.

Initial analysis of patients in the study, which represented 50% of the randomized population, revealed six month survival in the ruxolitinib arm was 42% vs. 31% for placebo. Durable tumor responses were only observed in patients receiving ruxolitinib, and the ruxolitinib treated patients achieved a significant improvement in body weight relative to placebo.

These early data suggest that ruxolitinib is an active therapy in pancreatic cancer and plans are underway for a larger study to pave the way for possible approval of the drug for pancreatic cancer.

This is an important development for the treatment of this difficult disease and was made possible, in part, by the efforts of the GI oncology team and study participants at the NCCC.
Konstantin Dragnev, MD, is a thoracic oncologist involved in bidirectional research—from research bench to bedside and back. His view, from both laboratory and clinical perspectives, is not unique at Norris Cotton Cancer Center where involving providers in the research projects is very valuable. Dr. Dragnev says it leads to better outcomes for patients too. “The entire care team also includes the research nurses, coordinators, and the investigators. The patients on trials are followed more closely and they have many more interactions with their care team. For us, that means we get to know these patients even better. I talk with them about existing treatments, the progress in treating their disease, and I can provide more hope.”

Dr. Dragnev was recently honored with a national award by The Schwartz Center for Compassionate Care for his empathy and care in relationships with patients.

Several studies have shown that liver surgery is more dangerous in patients who have steatosis (fatty liver), a condition that is present in about half of patients undergoing surgery to remove liver tumors. Dr. Barth reasoned that placing patients on a low-calorie, low-fat diet prior to surgery might decrease the fat content of the liver and make surgery safer. When he compared 51 patients who were placed on a diet for one week prior to surgery with 60 control patients who did not diet, he and pathologist Arieph Suriawinata, MD found that there was 40 percent less steatosis seen in the livers of the patients who were on the diet. Furthermore, patients who had significantly less blood loss during surgery. This was the first time that anyone had proven using histologic evidence that a short-coue diet could decrease liver fat content.

Dr. Barth has now opened a prospective study to confirm these findings. Patients are being randomized to receive or not receive the dietary intervention prior to liver surgery, and clinical outcomes and liver fat content are being measured. So far, 20 patients have been accrued to the study at Dartmouth. It is also open at the Universities of Vermont and Massachusetts as part of the New England Oncology Network collaboration.

In a separate study, Dr. Barth with researchers Matthew Pallone, PhD and Keith Paulsen, PhD both at the Thayer School of Engineering, and Steve Poplack, MD in Radiology have developed a method which may enable surgeons to more accurately perform lumpectomies for breast cancer. With screening mammography, it is common to detect breast cancers before they can be felt in the breast. To perform a lumpectomy, the tumor must be localized. The current standard of care involves placing a wire into these tumors prior to surgery using mammographic guidance. Followed by an operative procedure where the cancer is removed by taking out the tissue around the wire. This wire localization technique is sub-optimal because it requires an invasive pre-operative procedure to place the wire and it does not give the surgeon any information about the shape of the tumor in the breast. As a result, about a third of patients are found to have tumor at the edge of their lumpectomy specimen and have to return to the operating room for additional surgery.

Dr. Barth and his colleagues have developed a new technique for localizing breast cancer at the time of lumpectomy. The patient’s first step is an MRI. The MRI is our most accurate method for identifying the shape and location of cancer in the breast. However, the position of the breast is slightly different due to body and arm position at the time of MRI compared to during surgery. Using an optical scanner to image the breast at the time of surgery, an algorithm is used to transform the 3D image into a 2-D picture revealing the exact position and shape of the tumor in the breast. When using this “3-D tracker technology,” the surgeon places a probe on the breast surface to identify the MRI-defined edges of the tumor. In a pilot study of 18 patients who had palpable breast cancer, this 3-D tracker technology for localizing the breast cancer was highly accurate. In the last seven patients studied, the average distance between the palpated tumor edge and the image-defined edge was only 4 millimeters. Dr. Barth and colleagues have applied for funding to compare this new optical MBIR optical scan imaging method to wire localization in a prospective randomized trial of patients with non-palpable breast cancer.

A Trial Isn’t Convenient for My Patient, Now What?

After 37 years working directly with people on clinical trials in drug development, Lionel Lewis, MD is emphatic when he says in his Welsh accent, “Study participants on trials have got superb care. They are followed constantly by my entire team.”

Constantly? How does that work for study participants who live a distance from our Cancer Center base in Lebanon, NH? All of that travel could be expensive or inconvenient.

Dr. Lewis explains that constant monitoring is often necessary in his phase one clinical trials and when it is, funding may be supplied for study participants’ travel and lodging. “The care team makes sure they are comfortable at one of our local hotels and that the study participants are able to get here for their treatments.”

Currently, Dr. Lewis is enrolling patients in his trials F3142 and F3143 (listed here) to further development of pharmaceuticals that will help treat patients with Non-Hodgkin’s lymphoma.

We invite everyone to the Norris Cotton Cancer Center
BREAST CANCER
NEW INFORMATION NIGHT
Highlights From Our Research
Heart-Sparing Radiation Therapy
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Obesity and Cancer
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Thursday, October 17
5-7 pm
Norris Cotton Cancer Center at DHMC Lebanon, NH
Rubin Building Auditorium E&F
For more information call 603-653-9000

Dr. Leslie Demars is the Principal Investigator for The Gynecologic Oncology Group (GOG) at the Norris Cotton Cancer Center. GOG is a non-profit organization focusing on women’s pelvic malignancies, which receives support from the National Cancer Institute (NCI) of the National Institutes for Health (NIH). The mission of GOG is promoting excellence in the quality and integrity of clinical and basic scientific research in the field of Gynecologic malignancies. Dr. Demars focuses on cancer treatment, colposcopy, the familial cancer program, gynecologic laser surgery, gynecologic oncology, gynecology, and laparoscopy, as well as minimally invasive laparoscopic and robotic surgical techniques. NCCC currently has ten GOG clinical trials actively enrolling participants who are diagnosed with various malignancies including ovarian, fallopian tube, peritoneal, carcinosarcoma, and cervical cancers.

National Trials Leslie DeMars, MD

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Utilizing advanced technology and 3-D tracker technology, Dr. Dragnev has developed a method which may enable surgeons to more accurately perform lumpectomies for breast cancer.

Breast Surgery, When Less is More

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