Welcome to the Spring 2015 issue of the Stanford Cancer Institute Clinical Research Newsletter! This quarterly publication is designed to inform our colleagues in the medical community about current clinical trials and research studies available at the NCI-designated Stanford Cancer Institute. Many of these trials provide access to novel therapies including novel “targeted” agents and immunotherapeutic options not available in the community.

As the leader of the Breast Oncology program, I am delighted to have the opportunity to introduce this issue, which showcases our multi-disciplinary programs in Urologic Oncology, Gynecologic Oncology, and Breast Oncology. Each of these programs offers cutting edge clinical trials for patients with tumors that can be challenging to treat with current routine care. Each program offers a multi-disciplinary tumor board so a team of experts can thoroughly review a patient’s record, imaging, and pathologic specimens to discuss all aspects of the patient’s condition. The review provides a comprehensive treatment recommendation.

This issue also profiles Stanford’s Clinical Cancer Genetics and Developmental Therapeutics programs. The Stanford Clinical Cancer Genetics Program, established in 2000, is committed to detecting personal and familial genetic risk for cancer before the disease is diagnosed and becomes difficult to treat. With this focus, the Program provides consultative expertise for referred patient diagnosis and management, and concentrates on clinical and translational research of inherited cancer syndromes, the incorporation of next-generation DNA sequencing technologies into genetic counseling and testing, and comprehensive cancer risk assessment and reduction for patients with hereditary cancer syndromes. The Developmental Therapeutics program is now under the direction of Dr. Shivaani Kummar, who recently joined the Stanford’s Division of Oncology as Professor of Medicine. Dr. Kummar formerly led the National Cancer Institute’s Developmental Therapeutics Clinic and Early Clinical Trials Development Program. Her research interests focus on developing novel therapies for cancer. She specializes in conducting pharmacokinetic and pharmacodynamic driven first-in-human trials tailored to make early, informed decisions regarding the suitability of novel molecular agents for further clinical investigation.

The Stanford Urologic Oncology Program features faculty with expertise in all aspects of the treatment of patients with cancers of the prostate, kidney, bladder, and testis. Care is tightly integrated with joint clinics and coordination between surgeons, medical oncologists, and radiation oncologists. This allows effective management of complex problems, with continuity in care along the entire course of the disease, from early diagnosis through management of advanced disease. Patients receive personalized, compassionate care with access to cutting edge clinical trials and state-of-the art surgical, medical, and radiation treatments.

The mission of the Stanford Women’s Cancer Center, home of the Gynecologic and Breast Oncology programs, is to provide the most excellent and comprehensive care for women with cancer. Both programs offer treatments and clinical trials that utilize combined modalities and include advanced imaging and surgical techniques. I am pleased to announce that Suleiman Massarweh, MD, has joined our Breast Program. Dr. Massarweh is a breast oncologist with interests in
endocrine therapy resistance and clinical trial design for new therapeutics. He will also direct our breast oncology clinical trial efforts.

We hope that you will consider a Stanford Cancer Institute clinical trial when you deem it appropriate to refer a patient to an academic medical facility. One of our many clinical trials may be the best treatment choice for your patient, especially for those with advanced stage disease, recurrent cancers, and cancers that are difficult to cure. We, in turn, will make every effort to deliver great care to your patient and keep you informed of the patient’s treatment and response.

Sincerely,

Mark Pegram, MD
Susy Yuan-Huey Hung Professor of Medical Oncology
Director, Stanford Breast Oncology Program
Associate Director, Clinical Research
Co-Director, Molecular Therapeutics Program
Stanford Cancer Institute
Breast Oncology Program
Leading-Edge Research, Treatment, Diagnostics, and Support Programs

As part of the Stanford Women’s Cancer Center, the Stanford Breast Oncology Program provides an array of innovative studies and treatment by a team of researchers and specialists whose expertise spans all breast cancer related disciplines and who test new treatments not yet available at other facilities. The Program conducts studies on a wide variety of promising new agents and procedures. Advanced imaging techniques, accelerated partial breast irradiation (APBI) including intra-operative radiation therapy (IORT), and 3D conformal radiation therapy are available.

The Stanford Breast Oncology Program is a national leader in the evaluation of targeted therapy of triple negative breast cancer, and is led by Director Mark Pegram, MD, Professor of Medicine (Oncology), renowned breast cancer research scholar and clinician, translational medicine leader, and Co-Leader of Molecular Therapeutics Program with Dr. Amato Giaccia. In addition, Frederick Dirbas, MD, Associate Professor of Surgery (General Surgery), is Co-Leader, Breast Cancer Clinical Research Group, and Physician Leader, Breast Cancer Clinical Care Program. Another renowned breast oncologist who sees patients as a part of this program is George Sledge, MD, Division Chief, Medical Oncology, and Professor of Medicine (Oncology).

Stanford Breast Oncology Research Breakthroughs
• Randomized DNA microarray technology enabled Stanford Cancer Center investigators to use miniscule quantities of tumor tissue to classify breast cancers on a genetic basis. Stanford scientists are developing genomic signatures to better classify tumors as low or high risk and thus more accurately match patients to the right treatment.
• The MagSweeper, an automated device developed at Stanford, isolates and purifies cancer cells from blood with higher capture rates and purity than had been previously possible with commercial technology. Used to study the genetic profiles of circulating cancer cells, this invention is the result of the collaboration of Stanford physicians and basic scientists.
• Cancer stem cell research analyzes and will ultimately target cancer stem cells. Working with breast cancer stem cells, Stanford scientists have found 186 genes that, together, predict the risk of recurrence in breast cancer patients.
• Evaluation of improved visualization techniques for finding cancers in dense breast tissue, including ultrasound elastography.
• National leader in evaluation of targeted therapy of triple negative breast cancer.
HIGHLIGHTS OF THE BREAST ONCOLOGY PROGRAM

• A multi-disciplinary tumor board that includes medical, radiation, and surgical oncologists, as well as dedicated breast radiologists, pathologists, cancer geneticists, nurses, social workers, and psychologists. This weekly tumor board of experts provides a thorough and collaborative review of patient records, radiographs, and pathology results, and discusses recommendations with the patient and family members on site.

• Advanced imaging capabilities, including non-contrast MRI.

• Accelerated, partial breast irradiation (APBI), including intra-operative radiation therapy (IORT) and 3D conformal radiation therapy.

• Poly (ADP-ribose) polymerase (PARP) inhibitors and immunotherapies.

• Breast reconstruction with innovative techniques, including transverse rectus abdominis myocutaneous (TRAM), deep inferior epigastric perforators (DIEP), and other specialized free-flaps that offer an alternative to patients who want options beyond implants.

• A wide array of supportive services, including help in overcoming sexual side effects and changes in body image; and collaborative programs with the Stanford Center for Integrative Medicine that explore the mind-body connection, combining complementary treatments such as meditation and acupuncture with traditional medical treatments.

CURRENT STUDIES INCLUDE

Neoadjuvant Therapy

• A Phase I Pharmacokinetic and Randomized Phase II Trial of Neoadjuvant Treatment with Anastrozole plus AZD0530 in Postmenopausal Patients with Hormone Receptor Positive Breast Cancer (BRSADJ0025)

• A Randomized, Multicenter, Open-Label, Phase III Trial Comparing Trastuzumab plus Pertuzumab plus a Taxane Following Anthracyclines Versus Trastuzumab Emtansine plus Pertuzumab Following Anthracyclines as Adjuvant Therapy in Patients with Operable Her2-Positive Primary Breast Cancer (BRSADJ0028)

• A Randomized, Multicenter, Open-Label Phase III Study to Evaluate the Efficacy and Safety of Trastuzumab Emtansine Versus Trastuzumab as Adjuvant Therapy for Patients with HER2-positive Primary Breast Cancer Who Have Residual Tumor Present Pathologically in the Breast or Axillary Lymph Nodes Following Preoperative Therapy (NSABPB50)

• A Phase III, Randomized Clinical Trial of Standard Adjuvant Endocrine Therapy +/- Chemotherapy in Patients with 1-3 Positive Nodes, Hormone Receptor-Positive and HER2-Negative Breast Cancer with Recurrence Score (RS) of 25 or Less. RxPONDER: A Clinical Trial Rx for Positive Node, Endocrine Responsive Breast Cancer (ECOGS1007)

Adjuvant Therapy

• A Phase II Study of Neratinib in Metastatic HER2 Non-amplified but HER2 Mutant Breast Cancer (BRS0033)

• A Phase 2, 2-Stage, 2-Cohort Study of BMN 673 Administered to Germline BRCA Mutation Subjects with Locally Advanced and/or Metastatic Breast Cancer (BRS0043)

• A Randomized, Phase 2 Study of the Efficacy and Tolerability of Veliparib (a PARP inhibitor) in Combination with Temozolomide or Veliparib in Combination with Carboplatin and Paclitaxel versus Placebo Plus Carboplatin and Paclitaxel in Subjects with BRCA1 or BRCA2 Mutation and Metastatic Breast Cancer (BRSMTS0017)

Metastatic

• A Single Arm, Open-Label, Phase 2 Study of MGAH22 (Fc-optimized Chimeric Anti-HER2 Monoclonal Antibody) in Patients with Relapsed or Refractory Advanced Breast Cancer Whose Tumors Express HER2 at the 2+ Level by Immunohistochemistry and Lack Evidence of HER2 Gene Amplification by FISH (BRS0024)

• A Phase II Study of Neratinib in Metastatic HER2 Non-amplified but HER2 Mutant Breast Cancer (BRS0033)

• A Phase 2, 2-Stage, 2-Cohort Study of BMN 673 Administered to Germline BRCA Mutation Subjects with Locally Advanced and/or Metastatic Breast Cancer (BRS0043)

• A Randomized, Phase 2 Study of the Efficacy and Tolerability of Veliparib (a PARP inhibitor) in Combination with Temozolomide or Veliparib in Combination with Carboplatin and Paclitaxel versus Placebo Plus Carboplatin and Paclitaxel in Subjects with BRCA1 or BRCA2 Mutation and Metastatic Breast Cancer (BRSMTS0017)
• A Multicenter Phase II Clinical Trial of PM01183 in BRCA1/2
  –Associated or Unselected Metastatic Breast Cancer
  (BRSMTS0022)

• A Phase 1 Study of the Safety, Pharmacokinetics, and
  Pharmacodynamics of Escalating Oral Doses of the
  Glutaminase Inhibitor CB-839 in Patients with Advanced and/
  or Treatment-Refractory Solid Tumors (VAR0108)

• Randomized, Double-Blind, Placebo-Controlled Phase II Trial
  of Fulvestrant (Faslodex) plus Everolimus in Post-Menopausal
  Patients with Hormone-Receptor Positive Metastatic
  Breast Cancer Resistant to Aromatase Inhibitor Therapy
  (ECOGPRE0102)

• A Randomized Phase III Trial of the Value of Early Local
  Therapy for the Intact Primary Tumor in Patients with
  Metastatic Breast Cancer (ECOGE2108)

Surgery

• Impact of Breast Conservation Surgery on Surgical
  Outcomes and Cosmesis in Patients with Multiple Ipsilateral
  Breast Cancers (MIBC) (ECCOGZ11102)

• A Randomized Phase III Trial Evaluating the Role of Axillary
  Lymph Node Dissection in Breast Cancer Patients (ct1-3
  n1) Who Have Positive Sentinel Lymph Node Disease after
  Neoadjuvant Chemotherapy (ECOGA011202)

• A Randomized Phase III Trial of the Value of Early Local
  Therapy for the Intact Primary Tumor in Patients with
  Metastatic Breast Cancer (ECOGE2108)

Radiation Oncology

• Phase II Study to Investigate Concurrent Lapatinib and
  Radiotherapy in Locally Advanced or Locally Recurrent
  Breast Cancer and the Impact on Breast Cancer Stem Cells
  (BRS0027)

• A Randomized Phase III Clinical Trial Evaluating Post-
  Mastectomy Chestwall and Regional Nodal XRT and
  Post-Lumpectomy Regional Nodal XRT in Patients with
  Positive Axillary Nodes Before Neoadjuvant Chemotherapy
  Who Convert to Pathologically Negative Axillary Nodes After
  Neoadjuvant Chemotherapy (RTOG1304-NSABPBS1)

Imaging Protocols

• High Resolution 3D Diffusion-weighted Breast MRI (BRS0013)

• Magnetic Resonance Imaging of Breast Cancer (BRSONSTU0004)

• A Pilot Study to Assess the Utility of Indocyanine Green™ (IC-
  GREEN™) SPY Elite Imaging in the Mapping of Arm Draining
  Lymphatics and Nodes during Sentinel Node Resection with
  or without Axillary Dissection in Breast Cancer (BRS0022)

Biomarker & Molecular

• Immunohistochemical & Immunoblot Analysis of NIS (Na+/I-
  Symporter) in Archival and Frozen Human Tissue Samples
  (BRSNSTU0011)

• Analysis of Stromal Signatures in the Tumor Micro-
  environment of Breast Cancer and in Normal Breast Tissue
  with Serum Proteomic and Imaging Correlation (BRS0030)

• Detection of Circulating Free DNA in Patients with Solid
  Tumors (VAR0096)

Survivorship

• Pilot Phase I/II Investigational Study to Assess the Efficacy
  and Safety of Recombinant Hyaluronidase (rHUPH20) in the
  Treatment of Secondary Lymphedema Resulting from Local
  Management of Malignancy (BRS0032)

• Pilot Study to Investigate the Impact of Hypochlorite in the
  Prevention of Radiation Dermatitis (BRS0039)

• Evaluation of Method to Increase Vaginal Blood Flow in
  Women with Symptomatic Atrophic Vaginitis - A Proof of
  Concept Study (BRS0041)

• Brief Behavioral Intervention for Insomnia during
  Chemotherapy (BRS0042)

Observational

• Determining the Utility of Tattooing Axillary Lymph Nodes
  Undergoing Percutaneous Biopsy for Breast Cancer
  Staging (BRS0026)

• Prefrontal Cortex Abnormalities Associated with Breast
  Cancer Chemotherapy (BRS0002-COR)

• Impact of the Oncotype DX DCIS Score on Treatment
  Decision Making in Patients with Ductal Carcinoma In Situ
  (BRSONSTU0029)

• highlighted studies are Stanford investigator initiated
Established in 2000 as one of the first dedicated cancer genetics clinics on the West Coast, the Stanford Clinical Cancer Genetics Program is committed to detecting personal and familial genetic risk for cancer before the disease is diagnosed and becomes difficult to treat. With this focus, the Program provides consultative expertise for referred patient diagnosis and management, and concentrates on clinical and translational research of inherited cancer syndromes, the incorporation of next-generation DNA sequencing technologies into genetic counseling and testing, and comprehensive cancer risk assessment and reduction for patients with hereditary cancer syndromes. In addition, the Program provides educational outreach to health care professionals and the public.

The Stanford Clinical Cancer Genetics Program is led by James Ford, MD, Associate Professor of Medicine and Genetics, in the Division of Oncology. Faculty members include Allison Kurian, MD, MSc, Assistant Professor of Medicine and of Health Research and Policy, in the Divisions of Oncology and Epidemiology, who focuses on hereditary breast and ovarian cancers, and Uri Ladabaum, MD, MS, Professor of Medicine, in the Division of Gastroenterology, who focuses on hereditary GI cancers. Staff includes five full-time certified genetic counselors, a program manager, and a research assistant. Our three faculty are nationally recognized in their areas of cancer genetics and contribute regularly to writing guidelines for genetic testing and screening for organizations such as the National Cancer Center Network, American Society for Clinical Oncology, American Gastroenterologic Association, the International Hereditary Gastric Cancer Association, and others.

CANCER GENETICS RESEARCH
The Stanford Cancer Genetics Program seeks to pinpoint genetic risks for hereditary cancer, create personalized cancer prevention, screening, and treatment strategies, and apply advances in personalized genomics to cancer prevention and treatment.

Translational research features:

• Breakthroughs in techniques to sequence multiple genes at a time (multi-gene panels), and the interpretation and application of these tests in the clinic, which is beginning to provide answers for families who test negative for mutations in single, highly penetrant genes such as BRCA1/2 or TP53. This use of next-generation DNA sequencing, in the past too difficult or expensive, has become an available tool in the clinic, and our investigators are exploring its utility for genetic testing.

• Development of clinical protocols for the early detection and prevention of hereditary cancers. For example, the Program has a multi-disciplinary clinical protocol for genetic testing, screening, and prophylactic surgery for
Hereditary Diffuse Gastric Cancer caused by CDH1 mutations, and has become the primary referral center for this rare disorder in the US, allowing for the development of the Gastric Cancer Registry.

- Clinical trials and early adopters of breast MRI for early detection of breast cancer in women at high genetic risk.

- “Universal” screening of all colorectal and endometrial cancers diagnosed and surgically resected at Stanford for defects in DNA mismatch repair proteins and microsatellite instability associated with Lynch syndrome.

- Sequencing and detection of mutations in circulating tumor DNA in individual’s serum as a highly sensitive screen for early hereditary cancers.

- Major research efforts involving the study of individuals and families with hereditary breast cancer. For example, using the unique populations in California, the Program has modeled breast cancer genetic risk due to BRCA1/2 mutations across different racial/ethnic groups and tested these using collaborations with the Breast Cancer Family Registry (BCFR), and Hong Kong Breast Cancer Registry. Population-based studies are proceeding using multi-gene panels to determine the breast cancer risk associated with “moderate” penetrance gene mutations, such as those in the ATM, PALB2, CHEK2 and MRE11 genes.

- Creation of the “Decision Tool for Women with BRCA Mutations,” a decision analysis and outcomes tool to predict survival of women with BRCA1/2 mutations based on various screening and prophylaxis interventions. This instrument was built and translated into a publicly available user-friendly website that has quickly gained wide use among cancer genetics professionals and patients to inform their clinical management. (To access this site, please visit brcatool.stanford.edu)

- Translation of the Program’s laboratory expertise in DNA repair mechanisms into therapeutic trials of novel agents including poly (ADP-ribose) polymerase (PARP) inhibitors for triple-negative breast cancer, familial pancreatic cancers, and other tumors exhibiting genetic defects in DNA repair genes.

- Discovery of novel “DNA repair enhancing” drugs that may lead to strategies for cancer prevention in BRCA1 mutation carriers.

- Commitment to using advances in next-generation DNA sequencing to identify novel risk alleles and risk modifying variants in the germline of individuals and families with elevated cancer risk profiles. The Program has initiated numerous projects to sequence DNA, including whole genomes, from potentially informative families, as well as cohorts of patients to better define risk estimates based on identified SNPs.

- Application of genomics to tumor biology to provide a personalized approach to targeted therapeutics by profiling molecular alterations in metastatic, advanced cancers.

- A Molecular Tumor Board to provide consultation and expert opinion on tumor genomic findings, including those that may have a hereditary basis and familial implications for cancer risk.

CANCER GENETICS PROGRAM FEATURES

The Program sees over 1200 new patients each year. Many Program patients have a family history of cancer, including breast, ovarian, colorectal, gastric, pancreatic, endometrial, and others. More than half the patients are considered for genetic testing for Breast/Ovarian Cancer Syndrome (BRCA1 and BRCA2 genes) or Lynch Syndrome (hereditary colorectal cancer caused by mutations in DNA mismatch repair genes).

GENETIC COUNSELING AND TESTING SERVICES FOR THOSE WITH RISK OF INHERITED CANCER

- Risk Assessment. Encompasses a complete personal and family medical history, including risk for cancer as
well as possible predisposition for carrying a cancer gene. In individuals with a strong family cancer history, a major inherited cancer predisposition gene may be responsible. The characteristics of genetic cancers include:

1. diagnosis at an early age,
2. bilateral or multiple tumors, and 3) multiple generations affected on the same side of the family.

- **Genetic Counseling.** Trained genetic counselors provide:
  - Education regarding cancer susceptibility, risk assessment, and genetic testing.
  - Non-directive assistance with decision making.
  - Support in identifying and coping with the psychological and social concerns related to an increased cancer risk.
  - Discussion of the familial implications of hereditary cancers.

- **Genetic Testing and Results.** If genetic testing is pursued, a second session will be scheduled to discuss results and plan management strategies. Genetic risks for other family members can be reassessed. Interpretation of genetic variants of unknown significance is provided.

- **Risk Reduction.** Depending on personal and family medical history, the type of cancer in question and any applicable genetic test results, the clinic’s genetic oncology specialists offer options and recommendations for surveillance, preventative treatments, screening tests, and procedures. Options may include intensive monitoring, medications, or surgery. If appropriate, participation in research protocols and clinical trials will be offered.

- **Psychological Support.** Genetic cancer risks pose complex personal and family issues. Coping with the diagnosis of cancer or the potential risk of cancer is a major psychological challenge. With this in mind, the clinic staff may arrange referrals to professional counseling services and support groups.

**CURRENT STUDIES INCLUDE**

**Multiple/ Variety**

- Tumor Genomic Profiling: A Personalized Medicine Approach (VAR0114)

**Breast Cancer**

- Measuring Real-World Breast Cancer Outcomes: The Oncoshare Project
- Developing a Decision Tool for Women with BRCA 1/2 Mutations
- Treatments and Outcomes of Women with BRCA1/2 Variants of Uncertain Significance
- Genetic & Pathological Studies of BRCA1/ BRCA2: Associated Tumors & Blood Samples (BRSNSTU0020)
- The Comparative Effectiveness of Emerging Diagnostic Technologies in Breast Cancer Care

**Gastrointestinal Cancer**

- Molecular Genetic and Pathological Studies of Colorectal Tumors and Blood Samples (COR0005)
- The Gastric Cancer Foundation: A Gastric Cancer Registry (GI0005)
- Clinical & Pathological Studies of Upper Gastrointestinal Carcinoma (GIUPR0001)

**Other**

- USC Norris Comprehensive Cancer Center and Stanford Cancer Institute Cancer Genetics Hereditary Cancer Panel Testing
- Genetic Studies of Blood and Tumor Samples from Patients with High Inherited Cancer Risk
- Stanford Cancer Genetics Database Study

*highlighted studies are Stanford investigator initiated*
The Stanford Gynecologic Oncology Program, which is part of the Stanford Women’s Cancer Center, offers treatments and clinical trials that utilize combined modalities and include advanced surgical techniques for ovarian, fallopian tube, cervical, endometrial, and other cancers of the female reproductive system.

The Program is led by Jonathan Berek, MD, MMS, Director of the Stanford Women’s Cancer Center, Chair of the Stanford Department of Obstetrics and Gynecology, and the Laurie Kraus Lacob Professor at Stanford School of Medicine; and, Oliver Dorigo, MD, PhD, Associate Professor of Obstetrics and Gynecology Oncology, and Director of the Gynecologic Oncology Division and the Stanford Gynecologic Oncology Clinical Care Program.

The mission of the Division of Gynecologic Oncology in partnership with Stanford Health Care is to provide the most excellent and comprehensive care for women with gynecologic cancer. The Program is committed to the development of novel therapeutic and diagnostic strategies that will improve the prognosis and quality of life for Stanford patients. The ultimate goal is to establish Gynecologic Oncology services at Stanford as one of the world’s leading institutions for the treatment of gynecologic cancer.

To accomplish this mission within the next few years, Dr. Dorigo and his colleagues are applying a multifaceted strategy. Their immediate plan is to rapidly expand Stanford Medical Center’s clinical services and to further develop the existing clinical and scientific activities. In addition, Dr. Amer Karam, MD, is the Director of Outreach and Robotic Surgery in Gynecologic Oncology at Stanford Health Care, and the Associate Chief of the Division of Gynecologic Oncology. He is currently working on further expanding the Gynecologic Oncology Program at outreach sites in Los Gatos, Santa Cruz, Salinas and the East Bay.

**INNOVATIVE RESEARCH PROGRAMS**

The research efforts in the Stanford Division of Gynecologic Oncology are focused on both basic and clinical science. Dr. Dorigo is directing the Mary Lake Polan Gynecologic Oncology Research Laboratory, which is studying novel immunotherapies for ovarian cancer. In addition, various clinical studies are conducted through the Laurie Kraus Lacob Program for Gynecologic Oncology and Ovarian Cancer Research and Treatment, and the Cooperative Ovarian Cancer Group (COGi). Based at Stanford, COGi, a national cooperative research group for specialized treatments in ovarian cancer, offers novel drugs, vaccines, and immunotherapies to patients treated in the Gynecologic Oncology Program. The goal is to improve outcomes for this challenging disease.

**RESEARCH PROGRAMS INCLUDE**

- Isolation of ovarian cancer stem cells and the development of stem-cell directed immunotherapy using monoclonal antibodies.
Gynecologic Oncology Program, continued

- Understanding the role of the immune system in ovarian cancer to better develop novel therapies.
- Refined methods for imaging ovarian cancer and studying biological markers that may improve detection—a program that is particularly important because ovarian cancer seldom reveals itself through early symptoms.
- Characterization of intracellular signaling pathways revealing new ways to classify ovarian tumors.
- Evaluation of the ability of therapeutic agents to help overcome chemotherapy resistance in ovarian cancers that appear to originate in stem cell-like cancer cells.
- Development of novel chemotherapies and investigations of fundamental biologic mechanisms of uterine tumors.

SPECIAL CLINICAL PROGRAMS

- Multi-disciplinary Tumor Board. The Stanford Gynecologic Tumor Board includes gynecologic oncologists, radiologists, pathologists, nuclear medicine specialists, and nurse specialists. The weekly Tumor Board allows Stanford experts to provide a thorough and collaborative review of patient records, radiographs, and pathology results. Stanford is implementing videoconferencing to provide remote online access to Gynecologic Oncology Tumor Board discussion.
- Innovative treatments that combine modalities, including advanced surgical techniques and the most up-to-date chemotherapeutic agents.
  - Optimal cancer surgery involving the use of state-of-the-art techniques.
  - Advanced robotic surgery and other minimally invasive surgical techniques.
  - Use of leading-edge experimental treatments, including PARP inhibitors, anti-angiogenic therapies, and immunotherapies.
  - Intraoperative radiation therapy (IORT).
- Fertility-conserving surgery and advanced assisted reproductive technology to help maximize childbearing options.
- A wide array of supportive services, focusing on psychological issues, sexual side effects, and changes in body image.
- The Stanford Survivorship Program, which offers unique supportive services for patients who have completed their treatment including surgery, radiation and chemotherapy.

CURRENT STUDIES INCLUDE

Ovarian/Peritoneal/Fallopian

- A Phase I, Open-Label, Multicentre Study to Assess the Safety, Tolerability, Pharmacokinetics and Preliminary Anti-tumour Activity of Ascending Doses of AZD5363 under Adaptable Dosing Schedules in Patients with Advanced Solid Malignancies (VAR0112)
- A Randomized Phase II/III Study to Assess the Efficacy of Trametinib (GSK 1120212) in Patients with Recurrent or Progressive Low-Grade Serous Ovarian Cancer or Peritoneal Cancer (GOG0281)
- A Phase III Randomized Double-Blind Trial of Maintenance with Niraparib Versus Placebo in Patients with Platinum Sensitive Ovarian Cancer (GYNOVA0029)
- A Phase 1b Dose Escalation Study of OMP-54F28 in Combination with Paclitaxel and Carboplatin in Patients with Recurrent Platinum-Sensitive Ovarian Cancer (GYNOVA0030)

Endometrial

- A Randomized Phase II/III Study of Paclitaxel/Carboplatin/Metformin (NSC#91485) versus Paclitaxel/Carboplatin/Placebo As Initial Therapy for Measurable Stage III OR IVA, Stage IVB, or Recurrent Endometrial Cancer (GOG0286B)

Cervical

- Phase I Pilot Study to Evaluate the Prognostic Value of Perfusion CT for Primary Cervical Cancer (GYNCVX0003)

Survivorship

- Phase I Pilot Study Evaluating Vaginal Dilator Use and Toxicity Following Vaginal Brachytherapy (GYN0005)

For more information on Gynecologic Oncology studies, contact: GynOncResearch@stanford.edu

• highlighted studies are Stanford investigator initiated
Developmental Therapeutics
Phase 1 and 2 Studies for Multiple Cancers

Stanford Cancer Center’s Developmental Therapeutics (DT) Program, led by its new director Shivaani Kummar, MD, offers Phase 1 and 2 clinical trials using novel therapeutics. Other faculty participating in this effort include Drs. Heather Wakelee and Joel Neal (lung cancers), A. Dimitrios Colevas (head and neck cancers), George Fisher and Pamela Kunz (GI cancers), Mark Pegram and Melinda Telli (breast cancers), Sunil Reddy (melanoma), Ranjana Advani and Holbrook Kohrt (lymphomas), and Branimir I. Sikic.

DT Program Director Dr. Kummar recently joined the Stanford Division of Oncology as Professor of Medicine. She formerly led the National Cancer Institute’s Developmental Therapeutics Clinic and Early Clinical Trials Development Program. Dr. Kummar’s research interests focus on developing novel therapies for cancer. She specializes in conducting pharmacokinetic and pharmacodynamic driven first-in-human trials tailored to make early, informed decisions regarding the suitability of novel molecular agents for further clinical investigation. Her studies integrate genomics and laboratory correlates into early phase trials. Dr. Kummar is interested in alternate trial designs to facilitate rational drug selection based on human data and to help expedite drug development timelines. She has published numerous articles in medical journals and serves on a number of national and international scientific committees.

As a translational clinical studies program, Developmental Therapeutics brings together outstanding physicians with internationally regarded scientists to develop novel therapies and diagnostic modalities that utilize cutting-edge science and technologies. This research focuses on early clinical studies, investigator-initiated trials, the development of analytic approaches to enhancing the discovery of drugs and targets, and the analysis of clinical trials.

Below is a sampling of currently available Phase 1 studies.

**PHASE 1 STUDIES**

**Multiple Solid Tumor Sites**

- A Phase I Study of the Safety, Tolerability, Pharmacokinetics and Immunoregulatory Activity of BMS-663513 (Anti-CD137) in Subjects with Advanced and/or Metastatic Solid Tumors (VAR0071)
- A Phase 1 Study of Recombinant Human IL15 (rhIL15) in Adults with Advanced Solid Tumors: Melanoma, Renal Cell, Non-Small Cell Lung and Head and Neck Cancer (VAR0093)
- Phase 1, First-in-Human, Dose-Escalation Study to Evaluate the Safety, Tolerability, and Pharmacokinetics of X-396 in Patients with Advanced Solid Tumors (VAR0098)
The Stanford Urologic Oncology Program features faculty with expertise in all aspects of the treatment of patients with cancers of the prostate, kidney, bladder, and testis. Care is tightly integrated with joint clinics and coordination between surgeons, medical oncologists, and radiation oncologists. This allows effective management of complex problems, with continuity in care along the entire course of the disease, from early diagnosis through management of advanced disease. Patients receive personalized, compassionate care with access to cutting edge clinical trials and state-of-the-art surgical, medical, and radiation treatments.

The Program is led by Eila Skinner, MD, Chair of the Department of Urology and Thomas A. Stamey Research Professor of Urology, Stanford University Medical Center, and Sandy Srinivas, MD, Associate Professor of Medicine (Oncology), Stanford University Medical Center. Dr. Skinner is a nationally known expert in urologic oncology with a special focus on the surgical management of bladder cancer and urinary tract reconstruction. Dr. Srinivas is a nationally known medical oncologist who is a panel member of the National Comprehensive Cancer Network and has research interests in prostate, renal, testis, and bladder cancer. The team includes five urologic surgeons, three dedicated medical oncologists, two radiation oncologists who treat only urologic cancers, and a large support team of nurses, physician extenders, and research coordinators.

**Stanford Breakthroughs In Urologic Oncology Research**
Stanford has made scientific advances that support urologic cancer research. Some of these innovations include:
DNA microarray technology that has enabled investigators to use miniscule quantities of tumor tissue to genetically classify urologic cancers. Stanford scientists are identifying genomic signatures to better classify tumors as low or high risk, which may allow for improved recommendations regarding treatment.

The MagSweeper, an automated device developed at Stanford, isolates and purifies cancer cells from blood with higher capture rates and purity. Used to study the genetic profiles of circulating cancer cells, this invention is the result of the collaboration between Stanford physicians and basic scientists.

Leading-edge cancer stem cell research. Working with bladder cancer stem cells, Stanford scientists and clinicians will be targeting stem cells as a novel treatment for bladder cancer.

Evaluation of improved imaging techniques for early detection and evaluation of response to therapeutics.

Important discoveries in the hedgehog signaling pathway in solid tumors, which have led to novel investigational treatments for prostate cancer.

Multiple breakthroughs in radiation therapy techniques applied to the treatment of prostate cancer dating back to the first linear accelerators, and including the development of IMRT and the CyberKnife.

**STANFORD UROLOGIC ONCOLOGY PROGRAM FEATURES**

The Urologic Oncology Program includes a highly skilled team of individuals who exclusively focus on this area of oncology. The surgical team is adept at managing the most challenging minimally invasive and open cases. The medical team is highly experienced in treating urologic cancers and is using some of the most exciting and cutting edge treatments available.

The team meets twice monthly in a multi-disciplinary tumor board that consists of medical, surgical, and radiation oncologists, as well as radiologists, pathologists, nurse coordinators, PAs, and research staff. This team of experts thoroughly reviews patient records, imaging, and pathologic specimens, discusses all aspects of the patient’s condition, and provides a comprehensive treatment recommendation.

Highlights of the state-of-the-art treatments for urologic cancers currently available at Stanford include:

- An individualized, risk-adapted strategy for treatment of early bladder, kidney, and prostate cancer to optimize the outcome for each patient.
- Management of complex patients with urinary tract malignancies, including providing chemotherapy and surgery for the very elderly, those with other significant medical problems, and those who have had prior treatment such as pelvic radiation or chemotherapy. This includes management of some of the most challenging cases in the field.
- Minimally invasive laparoscopic and robotic surgery for prostate, bladder, and kidney cancer. The surgical team has extensive experience with these surgeries and outstanding outcomes. This includes nerve-sparing prostatectomy and cystectomy and complex partial nephrectomy.
- Urinary tract reconstruction with continent diversion and neobladder construction for many patients who require bladder removal for bladder cancer. The team has one of the largest experiences in the country in continent urinary diversion, and evaluates each cystectomy patient for the appropriateness of urinary reconstruction.
- Advanced imaging capabilities using new tracers for the detection of early and advanced disease.
- Immunotherapies such as Provenge for castration-resistant prostate cancer and high dose interleukin-2 for advanced renal cell carcinoma.
- Clinical trials with novel therapeutics for early and advanced stage cancers of all types, including new biologic therapies.
- Focal therapy such as percutaneous cryoablation for small kidney cancers.
- Urologic cancer support group that holds monthly meetings offering lectures on state-of-the-art treatments,
available clinical trials, and other patient care issues, and that conclude with an interactive panel discussion between the physicians and patients.

**CURRENT STUDIES INCLUDE**

**Bladder**
- Optical Imaging of Bladder Cancer with Molecular Contrast Agents (BLDR0014)
- A Phase III Surgical Trial to Evaluate the Benefit of a Standard versus an Extended Pelvic Lymphadenectomy Performed at Time of Radical Cystectomy for Muscle Invasive Urothelial Cancer (ECOGS1011)

**Kidney**
- Pilot Study of Local Tumor Irradiation with Autologous T-Cell Infusion for Metastatic Renal Cell Carcinoma (RENAL0027)
- A Phase II Trial to Evaluate the Efficacy of AZD6094 (HMPL-504) in Patients with Papillary Renal Cell Carcinoma (PRCC) (RENAL0032)
- A Randomized Phase II Trial of Sunitinib/Gemcitabine or Sunitinib in Advanced Renal Cell Carcinoma with Sarcomatoid Features (ECOGE1808)
- A Phase 3, Randomized, Open-Label Study of Nivolumab Combined with Ipilimumab Versus Sunitinib Monotherapy in Subjects with Previously Untreated, Advanced or Metastatic Renal Cell Carcinoma (RENAL0033)
- A Phase II Study of Alternative Sunitinib Scheduling in Patients with Metastatic Renal Cell Carcinoma (mRCC) (RENAL0031) (SOON TO OPEN)
- A Phase 2 Randomized, Double-Blind Study of Dalantercept plus Axitinib Compared to Placebo plus Axitinib in Patients with Advanced Renal Cell Carcinoma (RENAL0030)
- Adjuvant Axitinib Treatment of Renal Cancer: A Randomized Double-Blind Phase 3 Study of Adjuvant Axitinib vs. Placebo in Subjects at High Risk of Recurrent RCC (RENAL0029) (SOON TO OPEN)

**Prostate**
- Quality of Life Following Radical Prostatectomy (PROS0012)
- Transrectal Photoacoustic Imaging of the Prostate (PROS0044)
- Photoacoustic Imaging (PAI) of the Prostate: A Clinical Feasibility Study (PROS0046)
- A Phase I Study Evaluating the Efficacy and Safety of Sodium Selenite in Combination with Palliative Radiation Therapy in Patients with Metastatic Castration-resistant Prostate Cancer (PROS0047)
- A Pilot Clinical Trial Using BR55 Ultrasound Contrast Agent in the Assessment of Prostate Cancer by Molecular Imaging of VEGFR2 (PROS0058)
- A Multicenter, Randomized, Double-Blind, Placebo-Controlled, Phase III Study of ARN-509 in Men with Non-Metastatic (M0) Castration-Resistant Prostate Cancer (PROS0060)
- A Randomized Open-Label Phase IIa Study Evaluating Quantified Bone Scan Response following Treatment with Radium-223 Dichloride Alone or in Combination with Abiraterone Acetate or Enzalutamide in Subjects with Castration-Resistant Prostate Cancer (CRPC) who have Bone Metastases (PROS0064) (SOON TO OPEN)
- A Phase III Trial of Short Term Androgen Deprivation with Pelvic Lymph Node or Prostate Bed Only Radiotherapy (SPPORT) in Prostate Cancer Patients with a Rising PSA after Radical Prostatectomy (RTOG0534)

**Germ Cell**
- Randomized Phase II Trial of Paclitaxel, Ifosfamide and Cisplatin (TIP) vs. Bleomycin, Etoposide and Cisplatin (BEP) for Patients with Previously Untreated Intermediate- and Poor-Risk Germ Cell Tumors (GCT0001)

- **Highlighted studies are Stanford investigator initiated**
Extending Care to the South Bay
Opening Summer 2015

Project Overview
The Stanford Cancer Center is expanding its facilities to partner with the community and to support the growing need for specialized outpatient cancer care in the South Bay. Coordinated cancer care, including diagnostic, treatment and support services, will be available under one roof at the four-story, 70,000-square-foot building.

The Stanford South Bay Cancer Center will be located in the heart of Silicon Valley off of Los Gatos Boulevard in San Jose, 21 miles from the main Stanford campus. Personalized, coordinated cancer care will be delivered by Stanford and University Healthcare Alliance (UHA) physicians. UHA is a physician network and medical foundation partnered with Stanford Health Care.

Construction is currently underway on the interior of the building. The facility is scheduled to open for patient care in summer 2015.

Location Features
- Four-story, 70,000-square foot building
- Coordinated cancer care under one roof including diagnostic, treatment and support services
- Soothing interior design and neutral color pallet inspired by nature
- Quiet lounge areas to support patient needs
- Clinics, Radiation Oncology, Infusion Therapy, Diagnostic Imaging, Operating Rooms, Pharmacy and Laboratory
- Library and Family Resource Center
- Convenient parking
- Café
Introducing the new SCI clinical trials search mobile app

- **Search** for trials by browsing cancer conditions or simply by entering keywords.
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