This issue of the Stanford Cancer Institute Clinical Research Newsletter is focused on our multi-disciplinary Women’s Cancer and Urologic Cancer Programs. Both programs provide comprehensive cancer services, employ cutting-edge technologies, offer weekly Tumor Boards and provide innovative clinical trials of new drugs, including targeted therapies and vaccines.

The new Stanford Women’s Cancer Center opened on June 27, 2011. Located on the first floor of 900 Blake Wilbur Drive, directly across from the main clinical Cancer Center, this unique facility combines the Breast Oncology and the Gynecologic Oncology Programs in a single clinic that provides optimal service and high-quality care to women who have these diseases. The Stanford Women’s Cancer Center staff consists of a closely coordinated team of experts focused on eliminating women’s cancer.

In addition to cancer treatment, supportive services—including social services, psychological counseling, nutritional counseling, sexual health, palliative care, integrative medicine and pastoral support—will be provided on a consultative basis. The new space will help to accelerate progress in discovering new treatments and in enhancing patient care.

The Stanford Breast Oncology 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 the triple negative breast cancer.

The Stanford Gynecologic Oncology Program offers treatments and clinical trials that combine modalities and include advanced surgical techniques. The Cooperative Ovarian Cancer Group (COGi), a national cooperative research group for innovative treatments in ovarian cancer, is based at Stanford. Our work with COGi allows us to offer patients with ovarian cancer novel drugs, vaccines and immunotherapies as we work to improve outcomes for this challenging disease.

The Stanford Urologic Cancer Program is developing better ways to detect and treat urologic cancers. The article on this program highlights the translational research activities of our physicians along with available clinical trials for bladder, kidney and prostate cancers.

We hope that when you deem it appropriate to refer a patient to an academic medical facility, you will consider the NCI-designated Stanford Cancer Institute for one of our more than 300 clinical trials, as well as for our multi-disciplinary programs including our new and enhanced Women’s Cancer Programs. We, in turn, will make every effort to deliver great care to your patient, keep you informed of the patient’s treatment and response and, if clinical trial treatment is not appropriate for your patient, return them to your care.

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Stanford Breast Oncology Program
Leading-Edge Treatment, Diagnostics, Research and Support Programs

The Stanford Breast Oncology Program provides an array of innovative treatments by a team of specialists and researchers whose expertise spans all breast cancer related disciplines and who test new treatments not yet available at other facilities.

HIGHLIGHTS OF THE BREAST CANCER 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.

STANFORD BREAST CANCER RESEARCH BREAKTHROUGHS
- DNA microarray technology that 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 that 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 that 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 the triple negative breast cancer.

STUDIES INCLUDE:
Neoadjuvant Therapy
- A Phase II Study of Gemcitabine, Carboplatin and Poly (ADP-Ribose) Polymerase (PARP) Inhibitor BSI-201 in the Neoadjuvant Treatment of Triple-Negative Breast Cancer (BRSMADJ0015)
- A Phase II Study of Gemcitabine, Carboplatin and Poly (ADP-Ribose) Polymerase (PARP) Inhibitor BSI-201 (Iniparib) in the Neoadjuvant Treatment of Triple-Negative or BRCA Mutation-Associated Breast Cancer (ECOGPS0103)
- A Randomized Phase III Trial of Neoadjuvant Therapy for Patients with Palpable and Operable HER2-Positive Breast Cancer Comparing the Combination of Trastuzumab Plus Lapatinib to Trastuzumab and to Lapatinib Administered with Weekly Paclitaxel Following AC Accompanied by Correlative Science Studies to Identify Predictors of Pathologic Complete Response (NSABPB41)

Adjuvant Therapy
- A Randomized Phase III Trial of Adjuvant Therapy Comparing Chemotherapy Alone (Six Cycles of Docetaxel Plus Cyclophosphamide or Four Cycles of Docetaxel Plus Cyclophosphamide Followed by Weekly Paclitaxel) to Chemotherapy Plus Trastuzumab in Women with Node-Positive or High-Risk Node-Negative HER2-Low Invasive Breast Cancer (NSABPB47)
- Z1071, A Phase II Study Evaluating the Role of Sentinel Lymph Node Surgery and Axillary Lymph Node Dissection Following Preoperative Chemotherapy in Women with Node Positive Breast Cancer (TO-4, N1-2, M0) at Initial Diagnosis (ECOGZ1071)

Metastatic
- Radioactive Iodide (131I) Treatment of 124I PET/CT Detected Breast Cancers (BRSMTS0012)
- An Open-Label, Expanded Access Protocol of BSI-201 in Combination with Gemcitabine/Carboplatin in Patients with ER-, PR-, and HER2-Negative Metastatic Breast Cancer (BRSMTS0016)
- Sleep, Circadian Hormonal Dysregulation and Breast Cancer Survival (BRSMADJ0013)

- S0500, A Randomized Phase III Trial to Test the Strategy of Changing Therapy versus Maintaining Therapy for Metastatic Breast Cancer Patients Who Have Elevated Circulating Tumor Cell Levels at First Follow-up Assessment (CRB) (ECOGS0500)

Radiation Oncology
- A Randomized Phase III Study of Conventional Whole Breast Irradiation (WBI) versus Partial Breast Irradiation (PBI) for Women with Stage 0, I, or II Breast Cancer (NSABPB39)

Genetics/High Risk
- Genetic & Pathological Studies of BRCA1/BRCA2: Associated Tumors & Blood Samples (BRSMUTU0020)

Imaging Protocols
- A Pilot Study to Determine Radioiodide Accumulation and Dosimetry in Breast Cancers Using 124I PET/CT (BRSMUTU0021)
- In-Vitro Detection of Breast Tissue Abnormality (BRSMUTU0014)
- Magnetic Resonance Imaging of Breast Cancer (BRSMUTU0004)
- A Prospective Study Evaluating Breast Density and the Role of Preoperative Mammography, Ultrasound, Elastography and Magnetic Resonance Imaging in the Detection of Breast Cancer (BRSMUTU0024)

Biomarker & Molecular
- Immunochemistry & Immunohistochemistry of NS (Nasal) Symporter in Archival and Frozen Human Tissue Samples (BRSMUTU0011)

Supportive Care
- Management of Insomnia in Breast Cancer Patients (BRSMUTU0017)
- Acupuncture for Sleep Disruption in Cancer Survivors (BRSMUTU0020)
- To Prospectively Evaluate the Potential for Simple, Effective Lymphedema Prophylaxis in Breast Cancer Survivors Who Show Early Evidence of High-risk Status (BRSMUTU0007)

Prevention
- Is Bone Health Being Neglected among Breast Cancer Survivors?: A Web-based Pilot Study (BRSMUTU0017)

• highlighted studies are Stanford investigator initiated
The Stanford Gynecologic Oncology Program offers expert treatment for patients with ovarian, cervical, endometrial and other cancers of the reproductive system. These physicians specialize in treating these types of cancers and have extensive expertise in handling the most complicated cases.

**Innovations and Features at the Stanford Gynecologic Oncology Program Include:**

- Multi-disciplinary Tumor Board that is comprised of gynecologic oncologists, radiation oncologists, diagnostic and interventional radiologists, pathologists, cancer geneticists and nurse specialists. In addition, the board also includes social workers and psychologists. This team of experts meets weekly and provides a thorough and collaborative review of patient records, radiographs and pathology results.
- Innovative treatments that combine modalities and include advanced surgical techniques and the most up-to-date chemotherapeutic agents. Examples are:
  - Optical cancer surgery involving the use of state-of-the-art techniques
  - Advanced minimally invasive surgery, including robotics
  - Use of the newest and experimental treatments, including Poly(ADP-ribose) polymerase (PARP) inhibitors and immunotherapies such as dendritic cell therapy and vaccines against ovarian cancer
- Intraoperative radiation therapy (IORT)
- Fertility-conserving surgery and advanced assisted reproductive technology to help maximize childbearing options.
- A wide array of supportive services, including help in overcoming the psychological issues, sexual side effects and changes in body image.

**Gynecologic Oncology Program Research Advances Cover an Array of Areas That Feature:**

- Isolation of ovarian cancer stem cells and the advancement of cell-based immunotherapy using dendritic cells. This research has been conducted through the Lacob Program for Gynecologic-Ovarian Cancer Research and Treatment.
- A program that is developing new methods for imaging ovarian cancer and studying biological markers that may improve detection. This research is particularly important since ovarian cancer seldom reveals itself through early symptoms.
- Evaluation of the ability of new agents to help overcome resistance in ovarian cancers that appear to originate in stem cell-like cancer cells.

**The Cooperative Ovarian Cancer Group (COG),** a national cooperative research group for innovative treatments in ovarian cancer that is based at Stanford. The purpose of the group is to accelerate the development of novel drugs, vaccines and immunotherapies for ovarian cancer. Stanford research focuses on intracellular signaling pathways, and a new way to classify ovarian tumors has emerged from these studies. Stanford investigators are also working to develop vaccines derived from tumor-associated antigens that might prevent disease relapse.

- Research related to novel chemotherapy and basic biologic mechanisms in uterine tumors. And, in cervical cancer, Stanford conducts studies of the mechanisms of HPV-induced malignancy and in new prevention and detection strategies.

**Studies Include:**

**Ovarian/Peritoneal/Fallopian**

- A Randomized, Open-Label Phase IIb Trial of Maintenance Therapy with a MUC1 Dendritic Cell Vaccine (CVac) for Epithelial Ovarian Cancer Patients in First or Second Remission (GYNOVA0012)
- A Phase III Randomized trial of chemotherapy alone or with a PARP inhibitor (olaparib) in advanced ovarian cancer (GYNOVA0014)
- A Randomized Controlled Trial using Novel Markers to Predict Malignancy in Elevated-Risk Women (Novel Markers Trial/NMT) (GYNOVA0015)
- A Phase III Randomized Controlled Clinical Trial of Carboplatin and Paclitaxel Alone or in Combination with Bevacizumab (NSC #704865, IND #1921) followed by Bevacizumab and Secondary Cytoreduction Surgery in Platinum-Sensitive, Recurrent Ovarian, Peritoneal Primary and Fallopian Tube Cancer (GYNOVA0021)
- A Phase III, Randomized, Double-Blind Trial of Weekly Paclitaxel Plus AMG 386 or Placebo in Women with Recurrent Partially Platinum Sensitive or Resistant Epithelial Ovarian, Primary Peritoneal or Fallopian Tube Cancers (GYNOF00038)
- Phase III Randomized Study of Bevacizumab in Combination with Intravenous versus Intraperitoneal Chemotherapy in Patients with Stage II or III Ovarian Epithelial, Fallopian Tube, or Primary Peritoneal Carcinoma (GYGO2252)
- A Phase II Randomized, Double-Blind Trial of a Polyvalent Vaccine-KLH Conjugate (NSC 749833) + OPT-821 versus OPT-821 in Patients with Epithelial Ovarian, Fallopian Tube, or Peritoneal Cancer Who Are in Second or Third Complete Remission (GYG0255)
- A Randomized Phase III Trial of Every-3-Weeks Paclitaxel Versus Dose Dense Weekly Paclitaxel in Combination with Carboplatin with or without Concurrent and Consolidation Bevacizumab (NSC #704865, IND #7921) in the Treatment of Primary Stage III or IV Epithelial Ovarian, Peritoneal or Fallopian Tube Cancer (GYG0263)

**Endometrial**

- A Randomized Trial of Pelvic Irradiation with or without Concurrent Weekly Cisplatin in Patient with Pelvic Only Recurrence of Carcinoma of the Uterine Corpus (GOG0238)
- A Phase III Trial of Pelvic Radiation Therapy Versus Vaginal Brachytherapy Followed by Paclitaxel/Carboplatin Chemotherapy in Patients with High Risk, Early Stage Endometrial Carcinoma (GYGO249)
- A Randomized Phase III Trial of Cisplatin and Tumor Volume Directed Irradiation Followed by Carboplatin and Paclitaxel vs. Carboplatin and Paclitaxel for Optimally Debulked, Advanced Endometrial Carcinoma (GYGO258)
- A Randomized Phase III Trial of Paclitaxel Plus Carboplatin versus Ifosfamide Plus Paclitaxel in Chemotherapy-Naive Patients with Newly Diagnosed Stage I-V, Persistent or Recurrent Carcinosarcoma (Mixed Mesodermal Tumors) of the Uterus (GYGO261)

**Cervical**

- A Randomized Phase III Trial of Cisplatin plus Paclitaxel with and without NCI-Supplied Bevacizumab (NSC #704865, IND #7921) versus the Non-Platinum Doublet, Topotecan Plus Paclitaxel, with and without NCI Supplied Bevacizumab, in Stage IVB, Recurrent or Persistent Carcinoma of the Cervix (GYGO240)

**Supportive**

- Overcoming Obstacles to Clinical Trials Enrollment through a Navigator Program (GYNO001)

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**Highlighted Studies are Stanford Investigator-Initiated**
The Stanford Urologic Oncology Program offers treatment expertise in handling the most complicated cases and cutting-edge research for patients with cancers of the prostate, kidney, bladder and testis. Care among specialists is tightly integrated, with joint clinics that give patients access to sequential same-day appointments with medical, surgical and radiation oncologists.

**STANFORD UROLOGIC ONCOLOGY PROGRAM FEATURES:**
- State-of-the-art cancer treatments, including:
  - Minimally invasive surgery and robotic surgery for prostate, bladder and kidney cancer
  - Neobladder reconstruction for patients requiring bladder removal for bladder cancer
  - 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
  - Cryoablation for kidney cancer
- A multidisciplinary tumor board that consists of medical, surgical and radiation oncologists, as well as radiologists, pathologists and nurses. This team of experts thoroughly reviews patient records, imaging and pathologic specimens and provides a comprehensive treatment recommendation.
- Monthly urologic cancer support group meetings that offer lectures on state-of-the-art treatments, available clinical trials and other patient care issues, and which concludes with an interactive panel discussion between the physicians and patients.

**STANFORD BREAKTHROUGHS USED IN UROLOGIC CANCER RESEARCH**
Stanford has made scientific advances that support urologic cancer research. 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 that 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.
- Stanford is on the forefront of 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 visualization 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.

**STUDIES INCLUDE:**

**Bladder**
- A Phase II Study of Pazopanib in Combination with Weekly Paclitaxel in Refractory Urothelial Cancer (BLDR0010)

**Kidney**
- Evaluating Sunitinib Therapy in Renal Cell Carcinoma Using F-18 FDG PET/CT and DCE MRI (RENAL0013)
- Treatment of Refractory Metastatic Renal Cell Carcinoma with Bevacizumab and RAD001 (RENAL0016)
- A Randomized, Double-Blind, Placebo-Controlled Phase III Study to Evaluate the Efficacy and Safety of Pazopanib as Adjuvant Therapy for Subjects with Localized or Locally Advanced RCC Following Nephrectomy (RENAL0021)
- An Open-Label, Randomized, Multi-Center, Phase III Study to Compare the Safety and Efficacy of TKI258 versus Sorafenib in Patients with Metastatic Renal Cell Carcinoma after Failure of Anti-Angiogenic (VEGF-Targeted and mTOR Inhibitor) Therapies (RENAL0022)

**Prostate**
- Microarray Analysis of Gene Expression in Prostate Tissues (A Cancer Taxonomy Based on Gene Expression Patterns) (PROS0009)
- Quality of Life Following Radical Prostatectomy (PROS0012)
- A Phase I Study Evaluating the Efficacy and Safety of Pazopanib in Combination with Bevacizumab and RAD001 in Castration-resistant Prostate Cancer (PROS0028)
- A Phase II Study Evaluating the Efficacy and Safety of Tacrolimus, an mTOR Inhibitor, to Reverse Androgen Insensitivity in Patients with Castration-resistant Prostate Cancer (PROS0033)
- Phase II Study of Imatinib in Patients with Metastatic Castration-Resistant Prostate Cancer (PROS0037)
- A Randomized Phase II Study of Sunitinib/Gemcitabine or Placebo/Gemcitabine in Subjects with Metastatic Renal Cell Carcinoma and/or Castration-Resistant Prostate Cancer (PROS0040)
- A Multinational Phase 3, Randomized, Double-Blind, Placebo-Controlled Efficacy and Safety Study of Oral MDV3100 in Chemotherapy-Naïve Patients with Progressive Metastatic Prostate Cancer Who Have Failed Androgen Deprivation Therapy (PROS0041)
- A Randomized Phase II Study to Assess the Activity of TivoVax (MVA-5T4) Plus Docetaxel versus Docetaxel Alone in Subjects with Progressive Hormone Refractory Prostate Cancer (PROS0042)
- An Open Label Study of Atrasentan, a Dual TGF-beta Receptor Type 1 and Type 2 Inhibitor, in Subjects with Metastatic Castration-Resistant Prostate Cancer Who Have Progressed after Taxane-Based Chemotherapy (PROS0043)
- A Phase II Trial of Sunitinib/Gemcitabine or Placebo/Gemcitabine in Subjects with Metastatic Renal Cell Carcinoma and/or Castration-Resistant Prostate Cancer (PROS0040)
Stanford Cancer Center’s Developmental Therapeutics Program, led by Branimir I. Sikic, MD, offers early-phase clinical trials using novel therapeutics. Phase I studies are aimed at advanced cancers. Below is a sampling of currently available Phase I studies.

PHASE 1 STUDIES – MULTIPLE SITES

Any Site
- A Phase I Dose Escalation Study to Evaluate the Safety and Tolerability of HGS1029 (AEG40826•2HCl) in Patients with Advanced Solid Tumors (VAR0031)
- Open-Label Study for an Exploration of Tumor Accumulation and Safety and Tolerability of the 18F Labeled PET/CT (Positron Emission Tomography / Computed Tomography) Tracer BAY 94-9392 Following a Single Intravenous Administration of 300 MBq (Corresponding to <= 100 mg Total Quantity) in Patients with Prostate Cancer or Other Malignant Tumors (VAR0057)

Skin Cancer
- Basal Cell Carcinoma
  - A Phase I Study of IPI-926 in Patients with Advanced and/or Metastatic Solid Tumor Malignancies (SKIN0005)

Hematologic Cancers
- Chronic Lymphocytic Leukemia (CLL)
- B-Cell Non-Hodgkin Lymphoma (NHL)
  - A Phase I Study to Investigate the Safety and Clinical Activity of CAL-101 in Combination with Bendamustine and Rituximab in Patients with Relapsed or Refractory Indolent B-cell Non-Hodgkin’s Lymphoma or Chronic Lymphocytic Leukemia (HEM0017)

RESOURCES:
- Clinical Trials Recruitment Specialist
  650.498.7061
- Referral Center
  650.498.6000
- Clinical Trials Web Search Engine
  cancer.stanford.edu/trials