



WORD THAT WILL
CHANGE YOUR LIFE.



CENTER THAT
UNDERSTANDS.

2011 Annual Oncology Report
Focus on Head and Neck Cancer



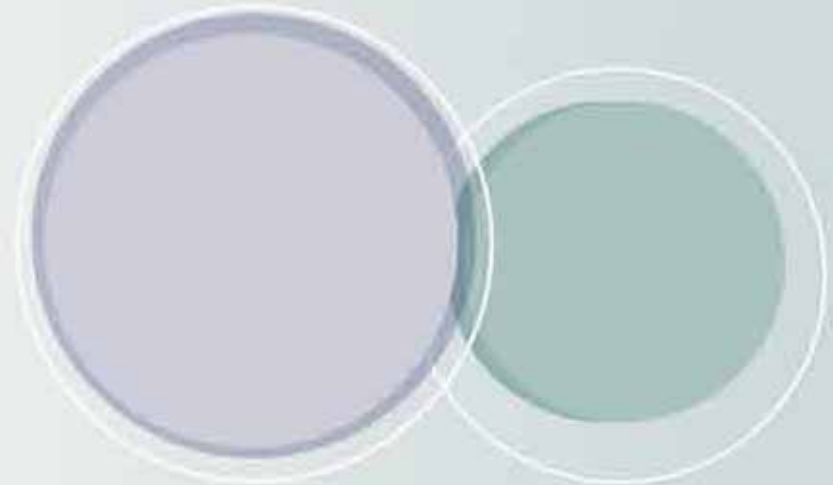
**Comprehensive
Cancer Center**
at SAINT JOSEPH HOSPITAL

A member of Sisters of Charity of Leavenworth Health System



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Richard B. Hesky, MD

*Chairman, Exempla Saint Joseph
Hospital Cancer Committee*

*Medical Director, Exempla Saint
Joseph Hospital Comprehensive
Cancer Center*

The Most Important Measure of Our Success

By far the most important measure of success for our cancer program this year is the high quality care we provide to our patients. This is proven by the increasing number of patients whom we have evaluated, treated, and, in many cases, cured, in our Medical Oncology department, Surgical Oncology department, Infusion Center, Breast Center, Inpatient Unit, Psychosocial Oncology department, and in our busiest department, Radiation Oncology. We are continually inspired by our patients and their families to strive to improve the scope, quality, safety, timelines and responsiveness of our service to the community.

The Focus of this Annual Report

The focus of this year's annual report is head and neck cancer treatment. This is a malignancy with which we have significant expertise in all aspects of care, as will be highlighted in this report, and is an example of the multidisciplinary care model that is our goal to provide for all patients whom we advise and treat. Our model is to provide, in one location, all of the diagnostic, therapeutic and supportive services that our patients and their families require and to deliver exemplary comprehensive and compassionate care to every patient, every time that we see them.



Accomplishments

In terms of program development, there are several accomplishments that we would like to highlight. The Care Clinic, a clinic specifically designed to counsel and screen women at increased risk for developing breast cancer, is staffed by medical oncology, our genetic counselor, our dietician and is supported by our Psychosocial Oncology department. This clinic has been open a little over a year and is viewed as a valuable resource by the patients who visit it and by the physicians who refer their patients to it. The SUCCESS Survivorship program also began this year. This program, for patients who have completed their oncologic treatment, provides detailed personalized plans for follow-up and for maintaining and improving their physical and psychological health. We are also in the process of starting a skin malignancy clinic.

In radiation therapy, the recruitment of a fellowship-trained brachytherapy specialist has allowed us to significantly expand the brachytherapy program. We also are in the process of developing a neuro-oncology program in concert with the Exempla Physicians Network Neurosurgery department.

Another significant accomplishment this year is that our breast program and our cancer programs were accredited by the National Accreditation Program for Breast Centers (NAPBC) and the American College of Surgeons (ACOS) respectively. These accreditations demonstrate both the quality and the clinical breadth of our cancer and breast care.

One Center, One Team That Understands

We believe we made significant strides this year in providing in one location all of the services that our patients and families require, and we are working for continued improvement in the coming year. Every day we are proving that we are "one center, one team that understands."

OUR MISSION, VISION, HISTORY & FUTURE

Exempla Saint Joseph Hospital Mission

To foster healing and health for the people and communities we serve.

Exempla Saint Joseph Hospital Vision

To provide the safest, most satisfying care with the best outcomes at the best value for the Denver community.

Comprehensive Cancer Center Mission

To foster healing and health for our patients, their families and the communities we serve by extending and improving the quality of life for our patients through a comprehensive cancer continuum, including prevention, detection, treatment, education and research.

Comprehensive Cancer Center Vision

Our vision is to become Best in the Nation for provision of comprehensive cancer care within a community cancer center.

History of Exempla Saint Joseph Hospital

More than 135 years ago, Exempla Saint Joseph Hospital was established in Denver as the first private hospital in Colorado. Today, Exempla Saint Joseph Hospital is one of the most respected hospitals in Denver and remains a Catholic health care facility in the tradition of the Sisters of Charity of Leavenworth, Kansas. It continues as the largest private teaching hospital in Denver and is committed to serving our patients with high quality care. The hospital provides a tradition of caring that includes compassionate caregivers, stellar clinical expertise and the most advanced technology available.

Future of Exempla Saint Joseph Hospital



Exempla Saint Joseph Hospital is building on our legacy of nearly 140 years of health and healing in our community, as well as on the highest levels of excellence in care we provide every day. The

Heritage Project will revitalize our downtown Denver campus and create the newest, most modern hospital in Colorado. Our new facility will open in late 2014 and ensure the best in quality, affordable health care for our community for generations to come.



COMMISSION ON CANCER'S FIVE ELEMENTS AND 2011 CANCER PROGRAM GOALS

Commission on Cancer's Five Elements

The goals of the Exempla Saint Joseph Hospital Comprehensive Cancer Center include adhering to the Commission on Cancer's (CoC) five elements of a CoC-accredited cancer program:

1. The clinical services provide state-of-the-art pre-treatment evaluation, staging, treatment and clinical follow-up for cancer patients seen at the facility for primary, secondary, tertiary or quaternary care.
2. The cancer committee leads the program through setting goals, monitoring activity, evaluating patient outcomes and improving care.
3. The cancer conferences provide a forum for patient consultation and contribute to physician education.
4. The quality improvement program is the mechanism for evaluating and improving patient outcomes.
5. The cancer registry and database is the basis for monitoring the quality of care.

In addition to adhering to the five elements of a CoC-accredited cancer program, the Exempla Saint Joseph Hospital Comprehensive Cancer Center developed and met program-specific goals in 2011 in the following categories.

Multidisciplinary Care

The Comprehensive Cancer Center team believes in a multidisciplinary approach to care. We provide leadership, assessment, planning, evaluation and improvement of all cancer-related services offered to our patients and their families. The multidisciplinary Cancer Committee includes physicians from surgery, medical oncology, radiation oncology, diagnostic radiology and pathology. Allied health members include representatives from hospital administration, nursing, case management, quality development, cancer registry, cancer services and psychotherapy.

New Program Development and Expansion

- Skin Cancer Treatment Program - Shawn Young, MD
- Neuro-Oncology Clinic - Mark Watts, MD
- SUCCESS Survivorship Program – Jana Lomax, PsyD
- CARES High Risk Breast Cancer Screening Program – Alice Luknic, MD, Mary Jane LaRoche, NP and team
- Express Mammogram Program
- Palliative and Hospice Care Program in partnership with Kaiser Permanente
- Brachytherapy Low Dose Rate Prostate Program
- Brachytherapy Program Expansion – Brandon Patton, MD, Brachytherapy Fellowship Trained Radiation Oncologist
- Provenge Program for treatment of advanced stage prostate cancer patients

Accreditations and Certifications

- American College of Surgeons
- American College of Radiology (ACR) Breast Imaging Center of Excellence
- American College of Radiology Breast Ultrasound
- American College of Radiology Stereotactic Breast Biopsy Imaging Services
- American College of Radiology Breast Ultrasound Imaging Services
- American College of Radiology Mammographic Imaging Services
- National Accreditation Program for Breast Centers
- U.S. Department of Health & Human Services Certified Mammography Facility



COMMISSION ON CANCER'S FIVE ELEMENTS AND 2011 CANCER PROGRAM GOALS, *continued*

Quality Improvement

- A multidisciplinary team of physicians, nurses and pharmacists established chemotherapy protocols and checklists and new workflows in order to improve the efficacy and timeliness of chemotherapy delivery.
- Chemotherapy orders were standardized for physician order entry.
- A safety program for patient and associate safety, utilizing patient lifts, was implemented during 2011.
- A "sepsis nursing surveillance" process was established in the Inpatient Oncology department.
- An oncology multidisciplinary team was established to improve the quality of life and efficacy of patient care. New pain assessments by disease sites were developed and introduced for use throughout the oncology patient population. Associates were educated on new workflows and pain protocols.
- Stage III ovarian cancer patient Gynecology Oncology Group (GOG) data was reviewed and compared to National Comprehensive Cancer Network (NCCN) guidelines and prognostic indicators to ensure best practices were met in the care of patients.
- Breast Cancer Registry data was assessed and compared to National Comprehensive Cancer Network (NCCN) guidelines and prognostic indicators to ensure best practices were met in the care of patients. Sentinel lymph node and breast axilla lymph node dissection practices were reviewed to ensure best practices with national guidelines were met.
- A pharmacy task force was established to focus on patient and staff safety and compliance with ONS and 2005 JCAHO recommendation for mixing vincas in 50cc mini-bags for chemotherapy administration.
- ePrescribing was implemented throughout the Comprehensive Cancer Center during 2011.


Patient Advisory Council

The Exempla Saint Joseph Hospital Comprehensive Cancer Center's Patient Advisory Council was created as a method for receiving valuable input from the patients served. This Council's charter is to help the Comprehensive Cancer Center's leadership team ensure that all patients receive high quality, personalized care. The Council members serve as the voice of the Comprehensive Cancer Center's patients by expressing their concerns, needs and ideas.

The Comprehensive Cancer Center used the Patient Advisory Council's feedback to make improvements in these two main areas during 2011:

- **Service improvement:** To ensure all associates exhibit a welcoming spirit to all patients and guests at all times, the Comprehensive Cancer Center implemented a practice to greet everyone at the beginning of each phone or in-person encounter.
- **Effective communication:** To ensure that patients fully understand by whom they will be seen and what services will be rendered, the Comprehensive Cancer Center team implemented new "scripting" for communicating with patients regarding their future appointments.

Special thanks and recognition goes to the volunteer patient advisory council members for sharing their valuable feedback!

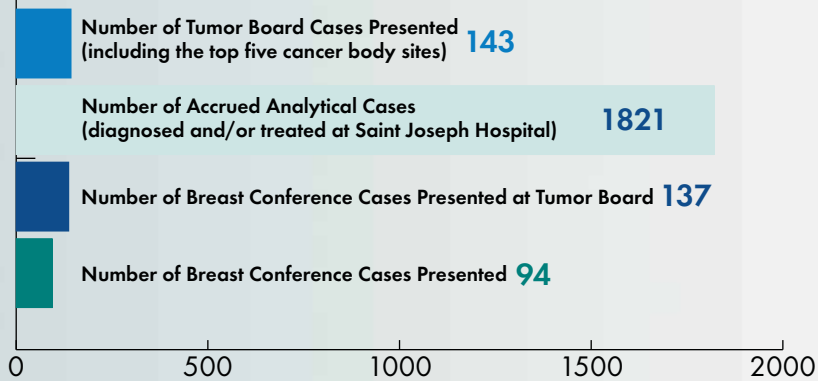


*"Even though you treat
so many people during the day
and all through the week, you
never failed to make me feel like I
was your number one concern."*

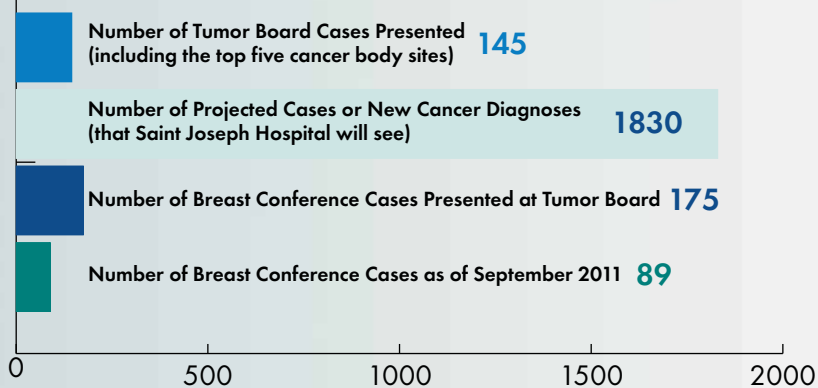
— Exempla Saint Joseph Hospital
Comprehensive Cancer Center Patient

Comprehensive Cancer Center Conference Schedule

2010



2011



The Master Tumor Board meets every Thursday at 7:00 a.m. The Multidisciplinary Breast Conference meets every Wednesday at 7:00 a.m.

The Comprehensive Cancer Committee physicians participate in head and neck conferences twice a month, weekly lung conferences and weekly neuro-oncology conferences – in addition to the conferences held at Exempla Saint Joseph Hospital.

Tumor Conferences

The multidisciplinary approach to modern cancer care integrates the expertise of surgeons, medical oncologists, radiation oncologists, radiologists, and pathologists, as well as other non-physician specialists such as research nurses, nutritionists, rehabilitation and physical therapists, medical physicists, radiation therapists, social workers, and members of the psychosocial support team. The Comprehensive Cancer Center offers multidisciplinary tumor conferences that convene regularly to review cases of newly diagnosed cancer patients. Then, in accordance with National Comprehensive Cancer Network (NCCN) Guidelines, the clinic physicians render a second opinion to guide care. The medical teams that participate in this multidisciplinary approach remain dedicated to continued improvement in the quality, efficacy and efficiency of patient care and services in 2012.



Radiation Oncology

- External Beam Radiotherapy (XRT)
- 3D Conformal Radiotherapy
- Intensity Modulated Radiation Therapy (IMRT)/Volumetric Arc Therapy (VMAT)
- Image Guided Radiation Therapy (IGRT)
- Stereotactic Radiotherapy (SRT)
- Stereotactic Body Radiotherapy (SBRT)
- High Dose Rate Brachytherapy (HDR)
- Low Dose Rate Brachytherapy (LDR)

Inpatient Care

Medical Oncology
Surgical Oncology

Clinical Research

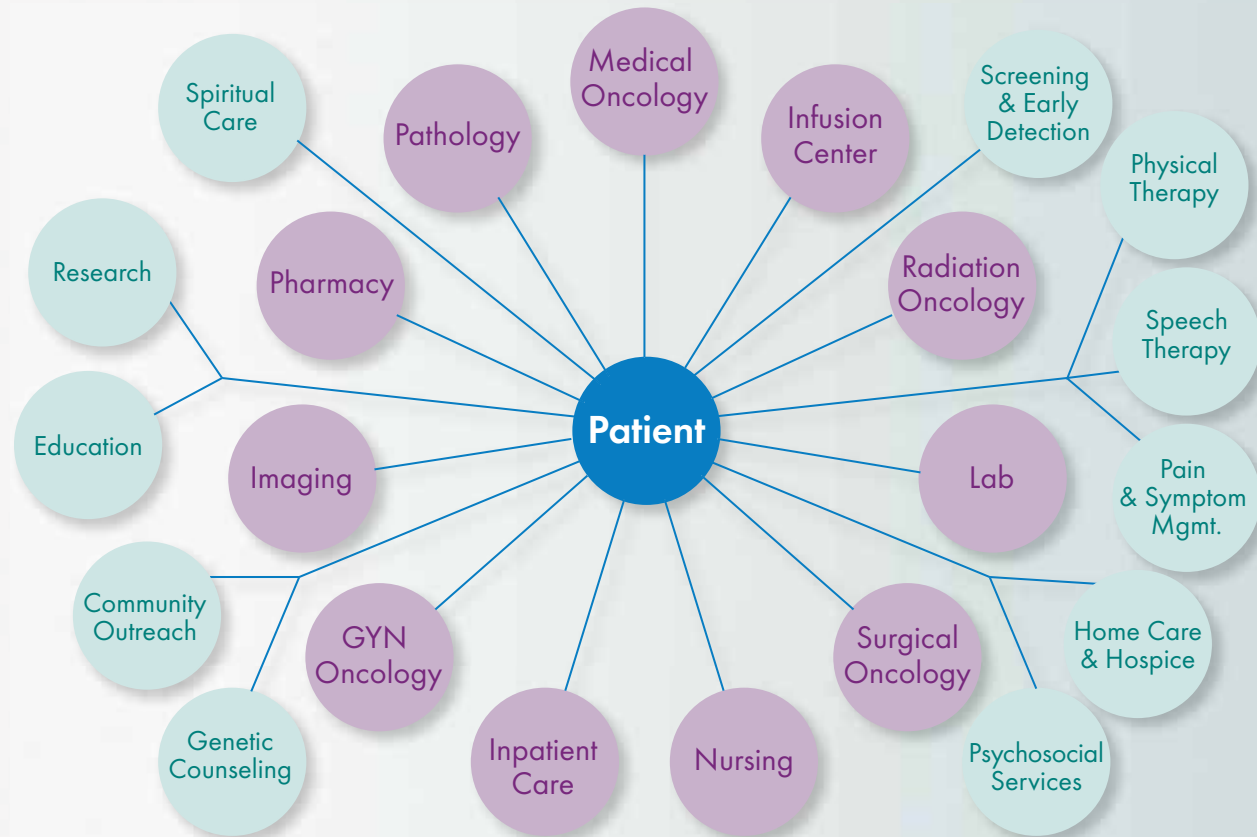
Psychosocial Services

Psychology
Spiritual Care
Social Work
Survivorship
ACS Patient Navigator
Dietician
Financial Counseling
Integrative Therapies
Community Organization
Support Groups for Selected Populations:
Patients, Survivors, Family, Caregivers

Education

Orientation Programs
Care Notebook
Personalized Patient Education for Care

Integration and Coordination of Comprehensive Cancer Services



Imaging

Diagnostic
Digital Mammography
Mobile Mammography
CT
MRI, Breast MRI
PET CT

Medical Infusion

Chemotherapy
Biological Agents
Infusion Therapies
Blood Therapies

Surgical Oncology

Intraoperative Specimen Imaging
Sentinel Node Biopsy
Surgical Resection
Reconstructive Surgery

Physical Medicine and Rehabilitation

Physical Therapy
Complete Decongestive Therapy
Lymphedema
Massage Therapy
Speech Therapy



Catherine Bieker, CTR, RHIT

*Exempla Healthcare – Quality Decision Support
Cancer Registrar/Oncology Data Consultant
Cancer Committee Quality Improvement
Coordinator*

The Cancer Registry at Exempla Saint Joseph Hospital abstracted 1,842 cases in 2010 with the top five cancer sites being breast, prostate, lung, colon and thyroid. There were 484 breast, 194 prostate, 145 lung, 117 colon and 78 thyroid cases diagnosed and/or treated at Exempla Saint Joseph Hospital.

The State of Colorado requires hospitals to report all new cancer cases to the Colorado Central Cancer Registry. By monitoring cancer cases and the treatments received, the Colorado Department of Public Health and Environment can develop prevention and screening programs for Colorado's residents. In addition, researchers can assess treatment for effectiveness with the goal of providing future cancer patients with improved treatments. At Exempla Saint Joseph Hospital, leaders use the Registry's data to ensure community and patient needs are being met. Patient privacy laws are strictly adhered to throughout the entire process.

The Cancer Registrars are responsible for identifying all eligible oncology cases seen at Exempla Saint Joseph Hospital through an extensive medical record review process called Case Finding. Once an eligible case is found, the Registrar abstracts all required information. The entire medical record is reviewed, including diagnostic images, pathology reports, consultation reports, treatment summaries and follow-up visits. The required information is entered into the Cancer Registry, checked for quality and reported to the Colorado Central Cancer Registry. As a Commission on Cancer (CoC) accredited cancer program, the Exempla Saint Joseph Hospital Registry exceeds the state's requirements in timeliness and accuracy and follows each patient annually for the rest of their life. Every Cancer Registrar receives education annually and is required to be a Certified Tumor Registrar (CTR).

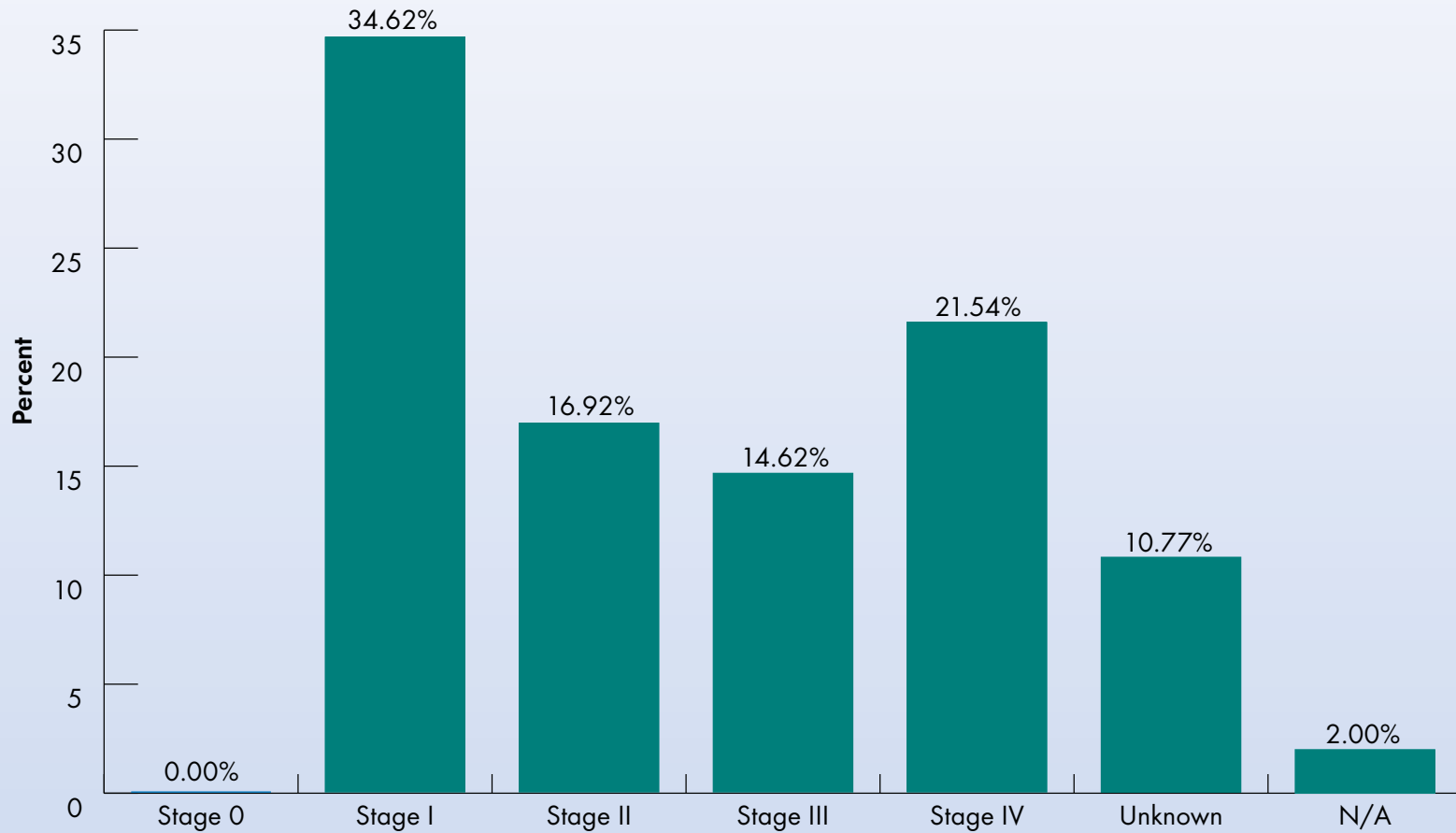


*In 2011, an estimated
52,140 people (37,870 men
and 14,270 women) will develop
head and neck cancer, and an
estimated 11,460 deaths
(8,300 men and 3,160 women)
will occur.*

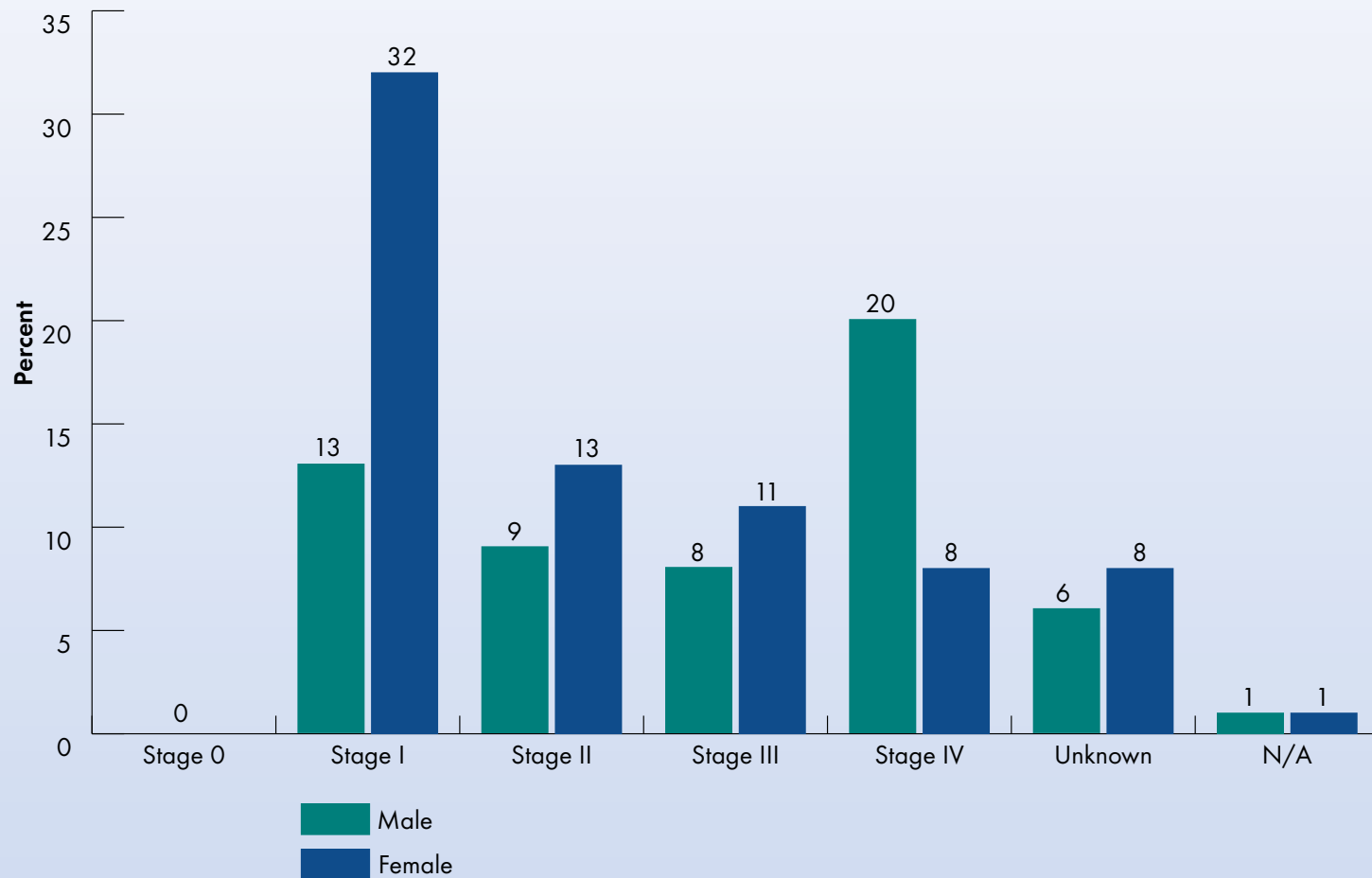
*American Society
of Clinical Oncology*

SUMMARY OF DATA

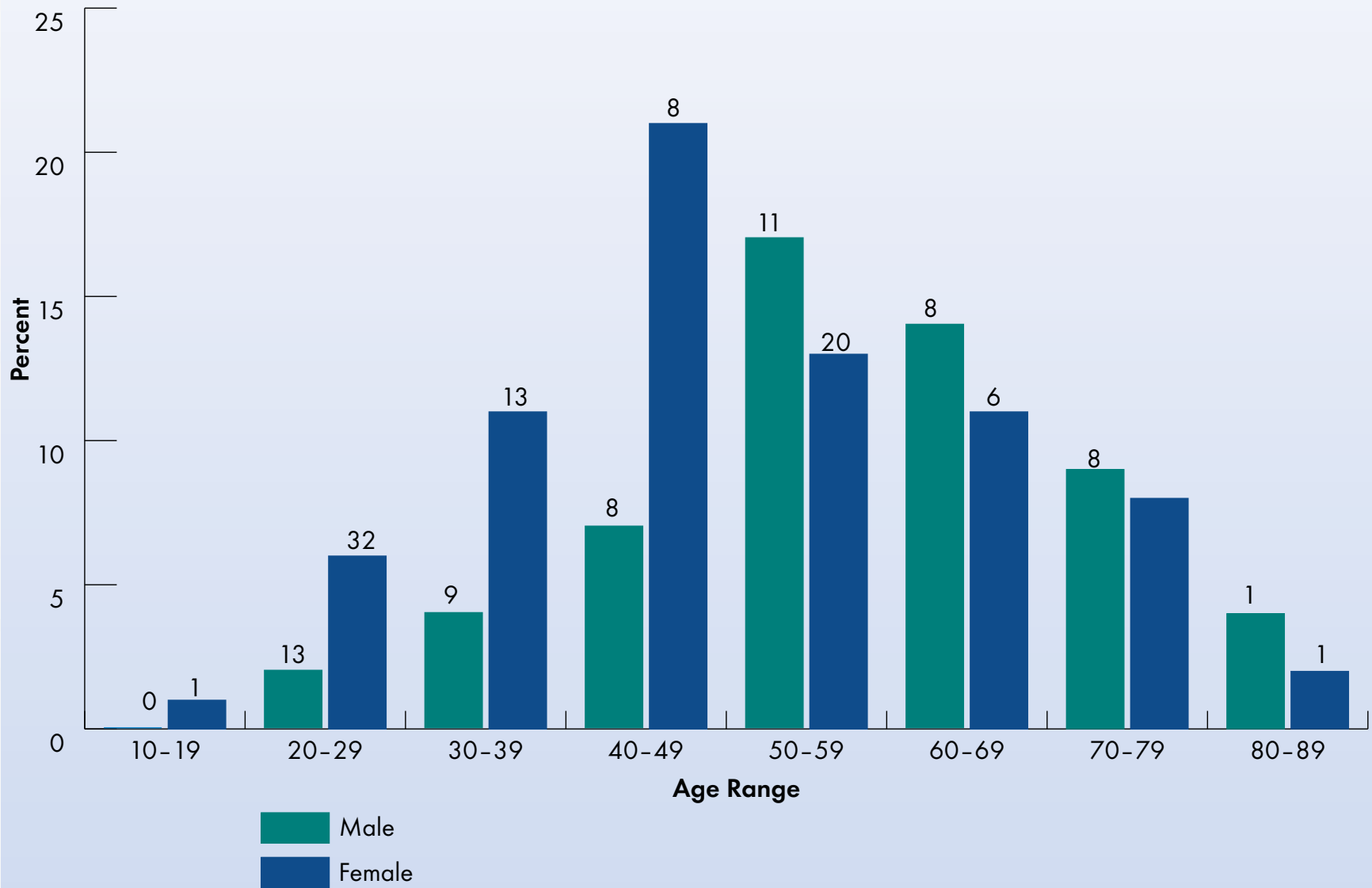
AJCC Collaborative Stage Group Distribution Graph – ESJH Combined Head and Neck Cases



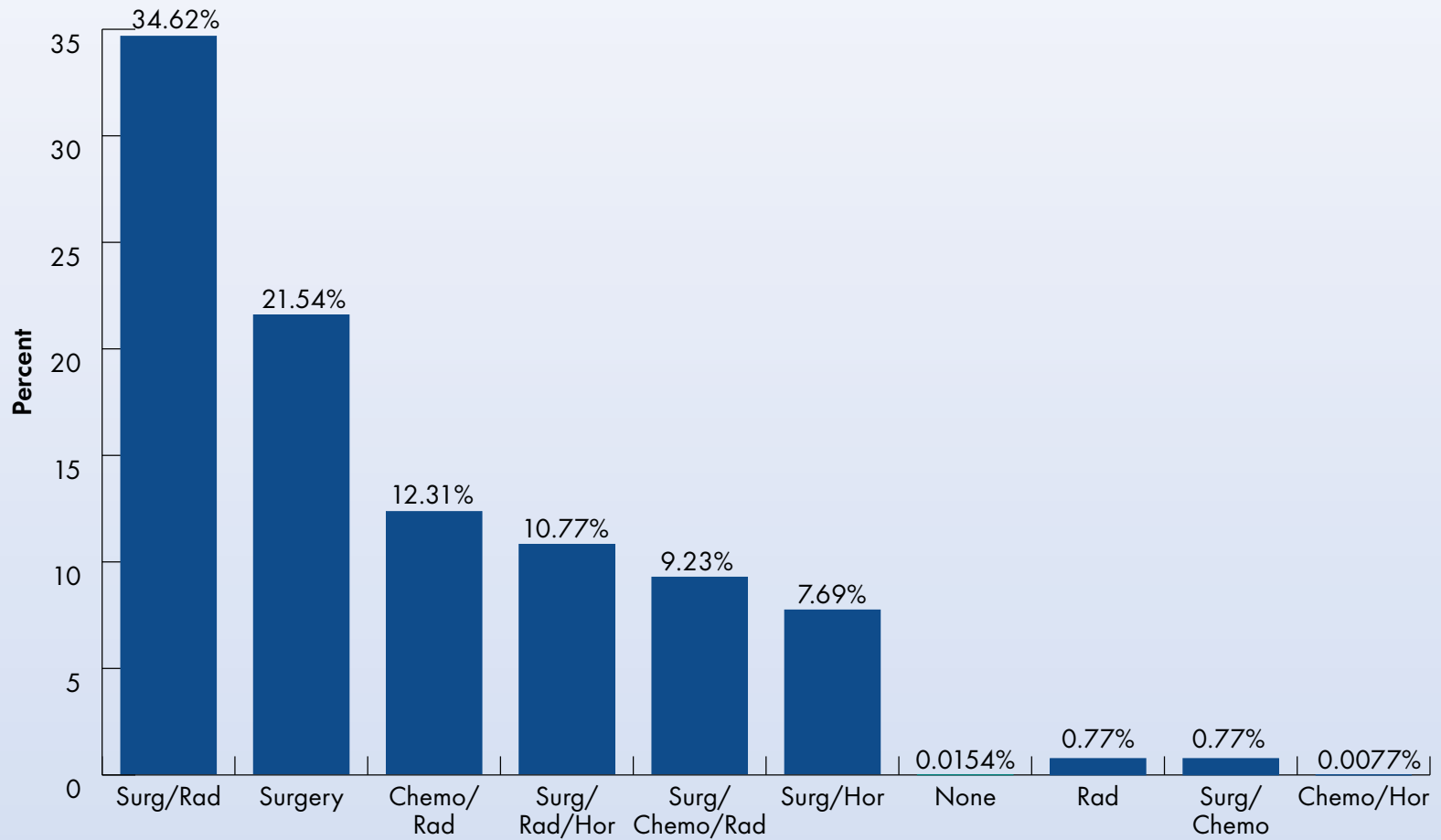
AJCC Collaborative Group Stage By Sex Graph – ESJH Combined Head and Neck Cases



Age By Sex Graph – ESJH Combined Head and Neck Cases



Treatment Combination Graph – ESJH Combined Head and Neck Cases



Surg = Surgery
 Rad = Radiation
 Chemo = Chemotherapy
 Hor = Hormone

Treatment Type

SUMMARY OF DATA, *continued*

Site By AJCC Stage Tabulation

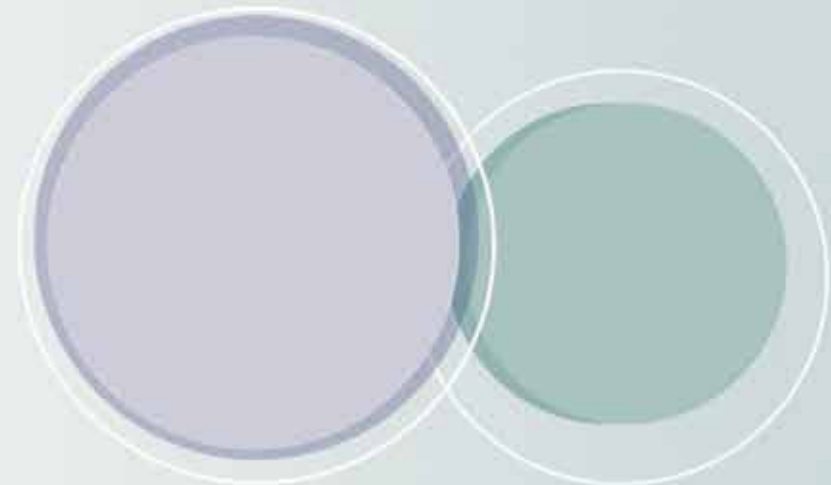
Site Name	# Cases	(%)
Lip	2	2
Base of Tongue	8	6
Other Parts of Tongue	8	6
Gum	3	2
Floor of Mouth	3	2
Other/Unspecified Parts of Mouth	1	1
Parotid Gland	7	5
Other Salivary Glands	1	1
Tonsil	11	8
Oropharynx	1	1
Nasopharynx	2	2
Pyriform Sinus	2	2
Hypopharynx	1	1
Other Oral Cavity	2	2
Thyroid Gland	78	60
Overall Totals	130	100

Number of cases excluded: 0

This report INCLUDES CA in-situ cervix cases, squamous and basal cell skin cases, and intraepithelial neoplasia cases

Exempla Saint Joseph Hospital 2010 Cases by Site Group

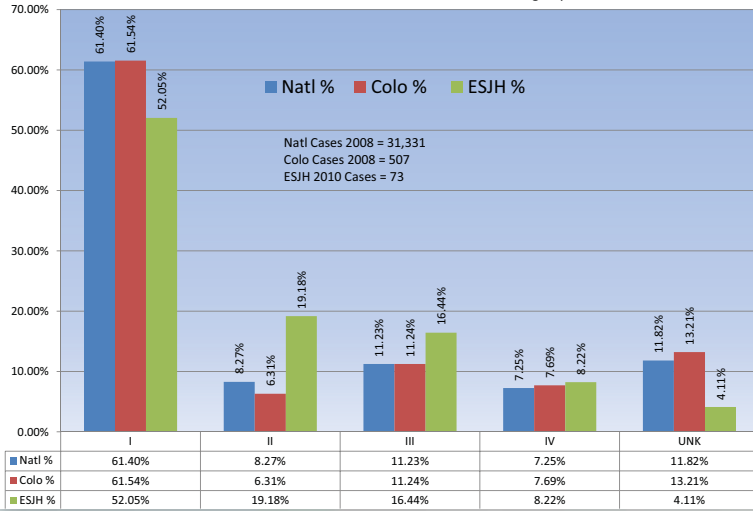
Primary Site Group	Total
Breast	484
Digestive System	302
Male Genital (Includes Prostate)	199
Respiratory System	160
Female Genital	154
Urinary System	112
Endocrine	93
Brain & Central Nervous System	76
Lymphatic System	72
Oral Cavity	53
Blood & Bone Marrow	47
Skin (Not Basal or Squamous Cell)	37
Primary of Unknown Origin	29
Connect/Soft Tissue	18
Other/III-Defined	6
Bone	0
All Sites	1842



Thyroid Cancer

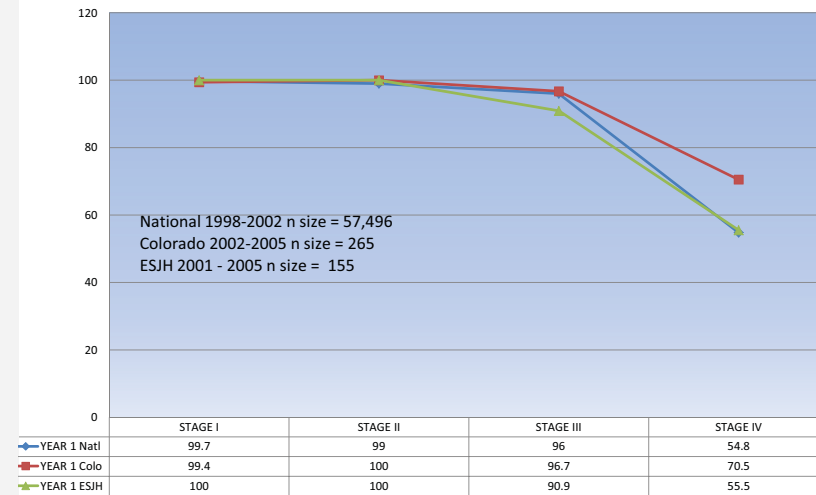
Thyroid - AJCC Stage at Diagnosis

Data Sources:
Colorado Central Cancer Registry
National Cancer Data Base and ESJH Cancer Registry



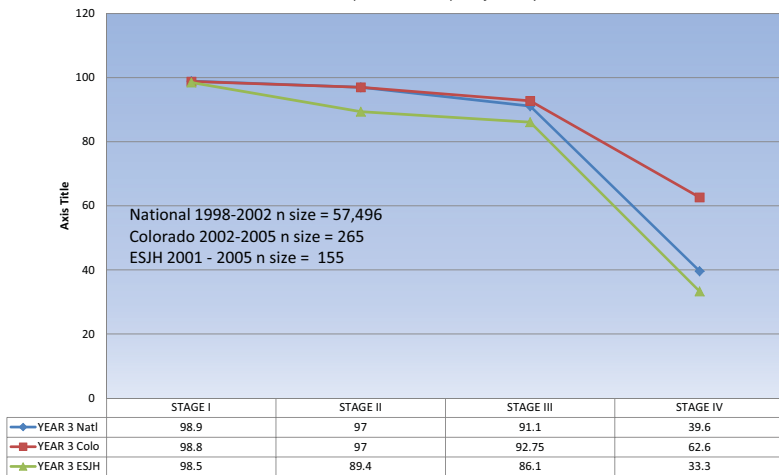
Thyroid Cancer - Overall Survival by Stage 1 Year

National, Colorado and Exempla Saint Joseph Hospital
Data Sources: National Cancer Data Base-Commission on Cancer
Colorado Central Cancer Registry and ESJH Cancer Registry
**Overall survival includes patients that expired from any cause.*



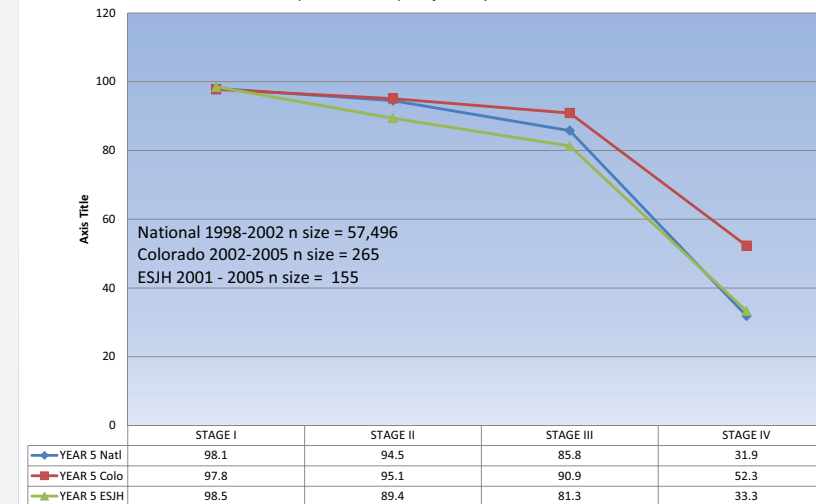
Thyroid Cancer - Overall Survival by Stage 3 Year

National, Colorado and Exempla Saint Joseph Hospital
Data Sources: National Cancer Data Base-Commission on Cancer
Colorado Central Cancer Registry and ESJH Cancer Registry
**Overall survival includes patients that expired from any cause.*



Thyroid Cancer - Overall Survival by Stage 5 Year

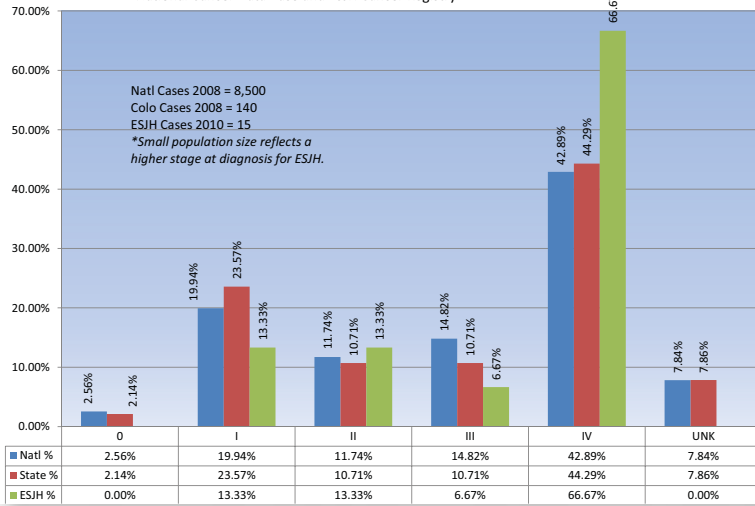
National, Colorado and Exempla Saint Joseph Hospital
Data Sources: National Cancer Data Base-Commission on Cancer
Colorado Central Cancer Registry and ESJH Cancer Registry
**Overall survival includes patients that expired from any cause.*



Tongue Cancer

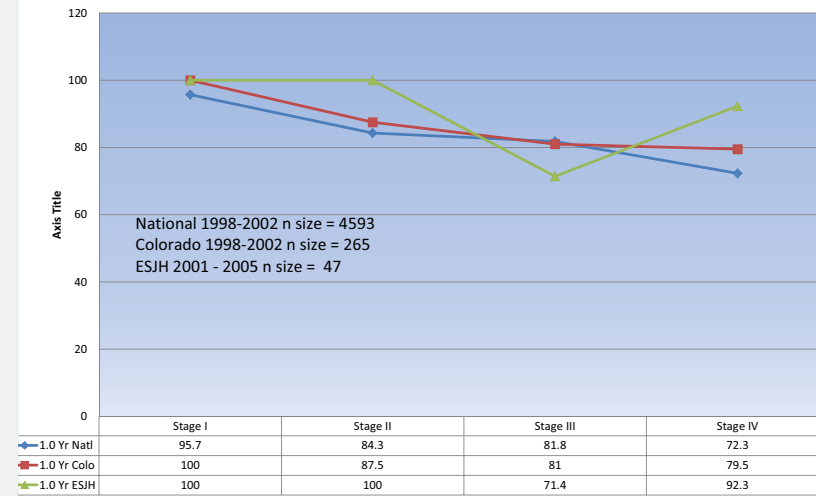
Tongue - AJCC Stage at Diagnosis

Data Sources:
Colorado Central Cancer Registry
National Cancer Data Base and ESJH Cancer Registry



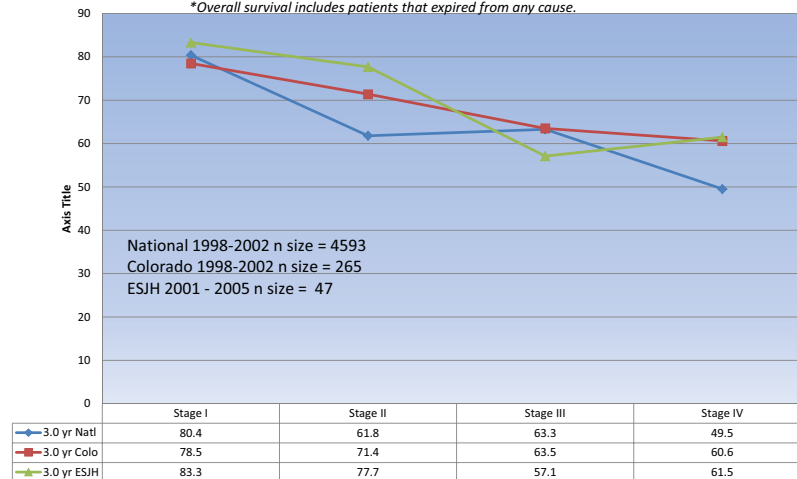
Tongue Cancer - Overall Survival by Stage 1 Year

National, Colorado and Exempla Saint Joseph Hospital
Data Sources: National Cancer Data Base-Commission on Cancer
Colorado Central Cancer Registry and ESJH Cancer Registry
**Overall survival includes patients that expired from any cause.*



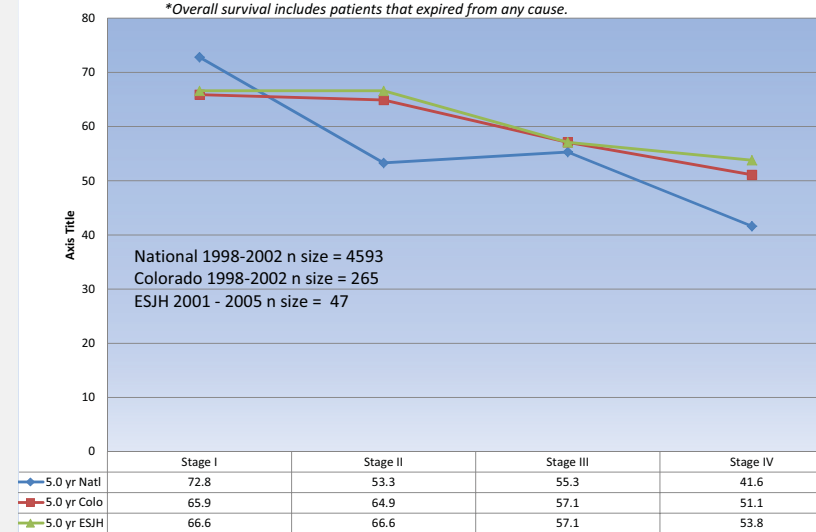
Tongue Cancer - Overall Survival by Stage 3 Year

National, Colorado and Exempla Saint Joseph Hospital
Data Sources: National Cancer Data Base-Commission on Cancer
Colorado Central Cancer Registry and ESJH Cancer Registry
**Overall survival includes patients that expired from any cause.*



Tongue Cancer - Overall Survival by Stage 5 Year

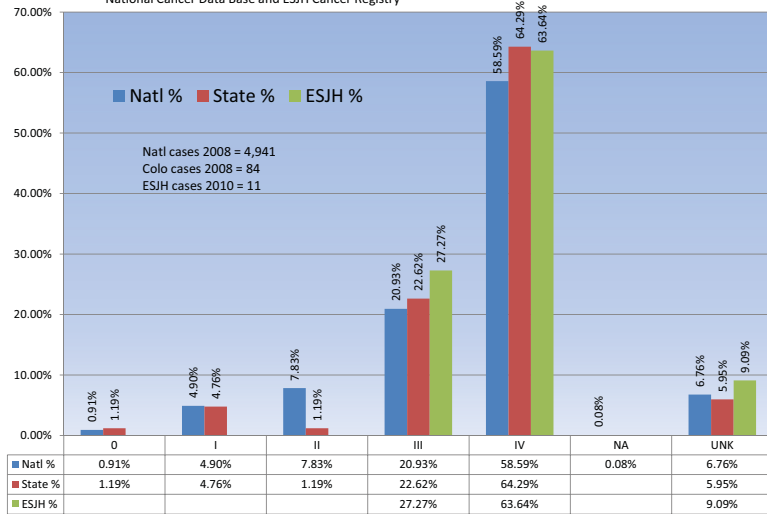
National, Colorado and Exempla Saint Joseph Hospital
Data Sources: National Cancer Data Base-Commission on Cancer
Colorado Central Cancer Registry and ESJH Cancer Registry
**Overall survival includes patients that expired from any cause.*



Tongue Cancer

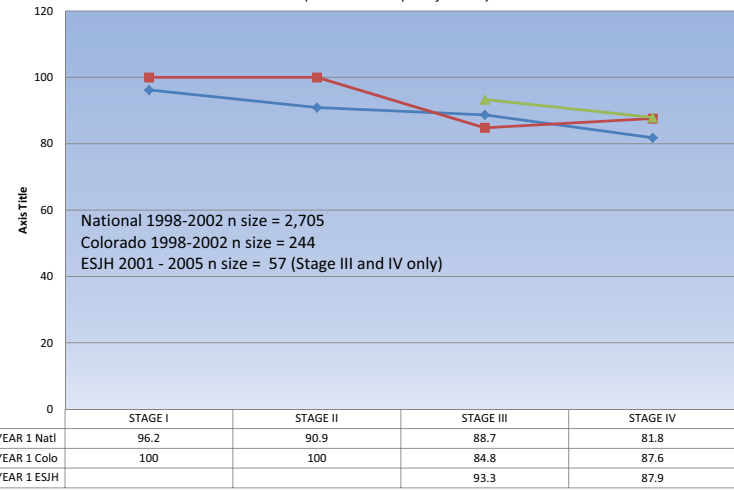
Tonsil - AJCC Stage at Diagnosis

Data Sources:
Colorado Central Cancer Registry
National Cancer Data Base and ESJH Cancer Registry



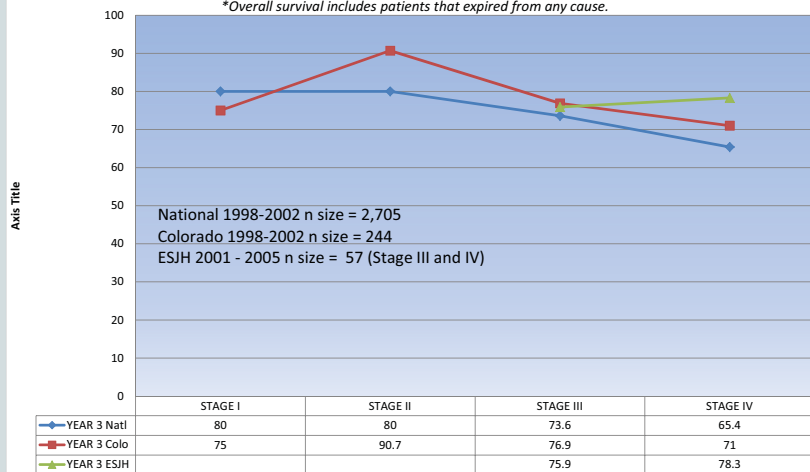
Tonsil Cancer - Overall Survival by Stage 1 Year

National, Colorado and Exempla Saint Joseph Hospital
Data Sources: National Cancer Data Base-Commission on Cancer
Colorado Central Cancer Registry and ESJH Cancer Registry
**Overall survival includes patients that expired from any cause.*



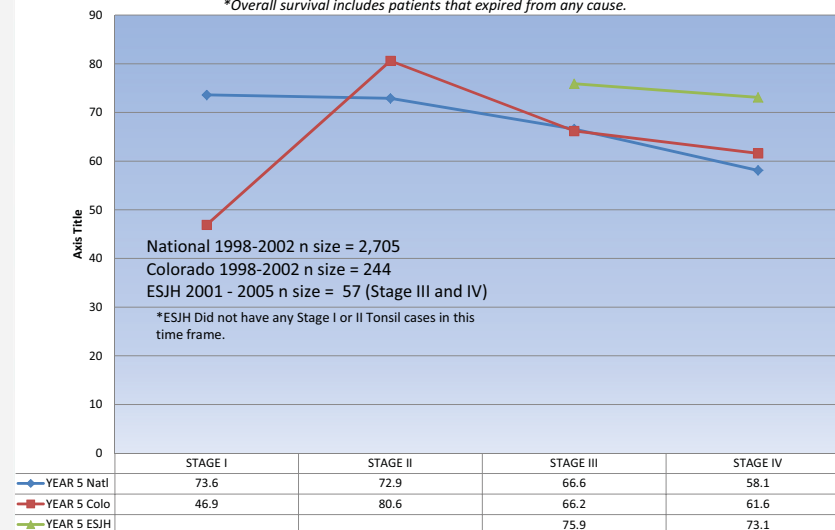
Tonsil Cancer - Overall Survival by Stage 3 Year

National, Colorado and Exempla Saint Joseph Hospital
Data Sources: National Cancer Data Base-Commission on Cancer
Colorado Central Cancer Registry and ESJH Cancer Registry
**Overall survival includes patients that expired from any cause.*



Tonsil Cancer - Overall Survival by Stage 5 Year

National, Colorado and Exempla Saint Joseph Hospital
Data Sources: National Cancer Data Base-Commission on Cancer
Colorado Central Cancer Registry and ESJH Cancer Registry
**Overall survival includes patients that expired from any cause.*



Goal

The goal of cancer screening is to reduce the number of people who develop and die from cancer. Scientists have developed, and continue to develop, tests that can be used to screen a person for cancer. Many people think that the main purpose of these screening tests is to look for cancer in people who don't have any signs of the disease, or to find cancer in an early, easily treatable stage. But the overall goals of cancer screening are to:

- Lower the number of people who die from the disease, or eliminate deaths from cancer altogether.
- Lower the number of people who develop the disease.

Types of Head and Neck Cancers

There are six main types of head and neck cancer, named by the part of the body where they begin.

- 1. Laryngeal and Hypopharyngeal Cancer** — The larynx (commonly called the voice box) is a tube-shaped organ in the neck that is important for breathing, talking and swallowing. It is located at the top of the windpipe, or trachea. Meanwhile, the hypopharynx (also called the gullet) is the lower part of the throat that surrounds the larynx.
- 2. Nasal Cavity and Paranasal Sinus Cancer** — The nasal cavity is the space just behind the nose where air passes on the way to the throat, while the paranasal sinuses are the air-filled areas that surround the nasal cavity.
- 3. Nasopharyngeal Cancer** — The nasopharynx is the air passageway at the upper part of the throat behind the nose.
- 4. Oral and Oropharyngeal Cancer** — The oral cavity includes the mouth and tongue, while the oropharynx includes the middle of the throat from the tonsils to the tip of the voice box.
- 5. Salivary Gland Cancer** — The salivary gland is tissue that produces saliva, which is the fluid that is released into the mouth to keep it moist and that contains enzymes that begin breaking down food.

- 6. Thyroid Cancer** — A sixth type of head and neck cancer occurs in the thyroid. The thyroid gland is under the thyroid cartilage (Adam's apple) in the front part of the neck. In most people, the thyroid cannot be seen or felt. It is butterfly shaped, with 2 lobes — the right lobe and the left lobe— joined by a narrow isthmus.

Head and Neck Cancers Symptoms

Early signs and symptoms of head and neck cancer are often vague and particularly belong to the site of the origin of the head and neck cancer. For example, in the case of nasopharyngeal cancer, it can present with a mass in the neck in up to 90% of cases, infection in the ear with associated tube obstruction, headache, and cranial nerve abnormalities. In the case of tongue and lip cancers, presentation may be a mass or associated pain and sometimes, a lymph node palpable in the neck. Below are typical symptoms of head and neck cancer cancers:

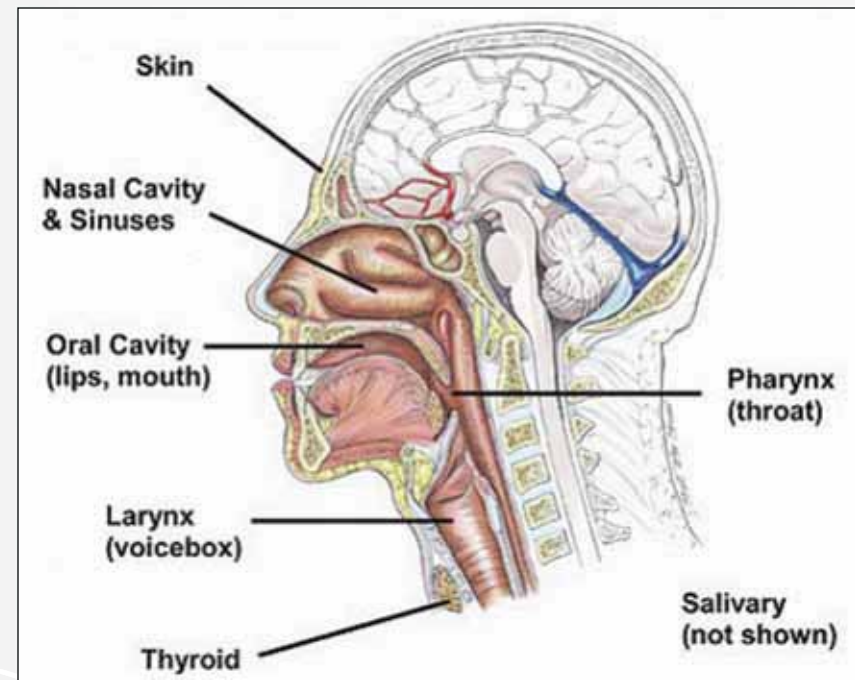
- **Oral Cavity** — pain, lump in the mouth, non-healing wound, difficulty speaking/swallowing/chewing, loose teeth, bleeding tissue.
- **Oropharynx** — lump on back of throat (base of tongue/tonsil), difficulty swallowing, pain.
- **Nasopharynx, paranasal sinuses** — difficulty breathing through nose, nosebleeds, pain in mid-face.
- **Hypopharynx** — throat pain, difficulty swallowing.
- **Larynx** — hoarseness, difficulty swallowing or breathing.
- **Salivary glands** — lump on side of face or under jaw bone, pain in glands, weakness or paralysis of face.
- **Thyroid** — neck mass, hoarseness, difficulty swallowing.
- **Skin** — growing lesion on skin surface.
- **Lymph nodes** — enlarging mass in neck, often painless.

Risk Factors

Lifestyle choices, heredity, family history and more are several of the risk factors that may cause cancers of the head and neck. General risk factors for cancer include older age, a personal and/or family history of cancer, using tobacco and alcohol, some types of viral infections (such as human papillomavirus or HPV), specific chemicals (such as benzene), and exposure to radiation. Tobacco exposure (all types) remains the number one cause of head and neck cancer.

Cancer prevention and risk-reduction strategies can greatly lower the physical, emotional and financial burden of cancer and improve the overall health of cancer survivors, including lowering the risk of the cancer coming back or the formation of a second cancer.

Source: American Society of Clinical Oncology. 2005-2011. 17 Dec. 2011
<<http://www.cancer.net>>.



Typical symptoms of head and neck cancer include a lump or sore (for example, in the mouth) that does not heal, a sore throat that does not go away, difficulty swallowing, and a change or hoarseness in the voice.

National Cancer Institute

The American Cancer Society recommends the following screening guidelines for most adults.

Site	Recommendation
<p>Breast Cancer</p>	<ul style="list-style-type: none"> ■ Yearly mammograms are recommended starting at age 40 and continuing for as long as a woman is in good health ■ Clinical breast exam (CBE) about every 3 years for women in their 20s and 30s and every year for women 40 and over ■ Women should know how their breasts normally look and feel and report any breast change promptly to their health care provider. Breast self-exam (BSE) is an option for women starting in their 20s. <p>The American Cancer Society recommends that some women – because of their family history, a genetic tendency, or certain other factors – be screened with MRI in addition to mammograms. (The number of women who fall into this category is small: less than 2% of all the women in the US.) Talk with your doctor about your history and whether you should have additional tests at an earlier age.</p>
<p>Colorectal Cancer and Polyps</p>	<p>Beginning at age 50, both men and women should follow one of these testing schedules:</p> <ul style="list-style-type: none"> ■ Tests that find polyps and cancer <ul style="list-style-type: none"> • Flexible sigmoidoscopy every 5 years,* or • Colonoscopy every 10 years, or • Double-contrast barium enema every 5 years,* or • CT colonography (virtual colonoscopy) every 5 years* ■ Tests that primarily find cancer <ul style="list-style-type: none"> • Yearly fecal occult blood test (gFOBT)** or • Yearly fecal immunochemical test (FIT)** or • Stool DNA test (sDNA), interval uncertain** <p><i>* If the test is positive, a colonoscopy should be done.</i></p> <p><i>** The multiple stool take-home test should be used. One test done by the doctor in the office is not adequate for testing. A colonoscopy should be done if the test is positive.</i></p> <p>The tests that are designed to find both early cancer and polyps are preferred if these tests are available to you and you are willing to have one of these more invasive tests. Talk to your doctor about which test is best for you.</p> <p>The American Cancer Society recommends that some people be screened using a different schedule because of their personal history or family history. Talk with your doctor about your history and what colorectal cancer screening schedule is best for you.</p>
<p>Cervical Cancer</p>	<ul style="list-style-type: none"> ■ All women should begin cervical cancer screening about three years after they begin having vaginal intercourse, but no later than 21 years old. Screening should be done every year with the regular Pap test or every two years using the newer liquid-based Pap test. ■ Beginning at age 30, women who have had three normal Pap test results in a row may get screened every two to three years. Women older than 30 may also get screened every three years with either the conventional or liquid-based Pap test, plus the human papilloma virus (HPV) test. ■ Women 70 years of age or older who have had three or more normal Pap tests in a row and no abnormal Pap test results in the last 10 years may choose to stop having Pap tests. ■ Women who have had a total hysterectomy (removal of the uterus and cervix) may also choose to stop having Pap tests, unless the surgery was done as a treatment for cervical cancer or pre-cancer. Women who have had a hysterectomy without removal of the cervix should continue to have Pap tests. <p>Some women, because of their history, may need to have a different screening schedule for cervical cancer.</p>

The American Cancer Society recommends the following screening guidelines for most adults.

Site	Recommendation
Endometrial (Uterine) Cancer	The American Cancer Society recommends that at the time of menopause, all women should be informed about the risks and symptoms of endometrial cancer. Women should report any unexpected bleeding or spotting to their doctors. Some women – because of their history – may need to consider having a yearly endometrial biopsy. Please talk with your doctor about your history.
Prostate Cancer	<p>The American Cancer Society recommends that men make an informed decision with their doctor about whether to be tested for prostate cancer. Research has not yet proven that the potential benefits of testing outweigh the harms of testing and treatment. The American Cancer Society believes that men should not be tested without learning about what we know and don't know about the risks and possible benefits of testing and treatment.</p> <p>Starting at age 50, talk to your doctor about the pros and cons of testing so you can decide if testing is the right choice for you. If you are African American or have a father or brother who had prostate cancer before age 65, you should have this talk with your doctor starting at age 45. If you decide to be tested, you should have the PSA blood test with or without a rectal exam. How often you are tested will depend on your PSA level.</p>
Cancer-Related Check-Up	For people aged 20 or older having periodic health exams, a cancer-related check-up should include health counseling and, depending on a person's age and gender, exams for cancers of the thyroid, oral cavity, skin, lymph nodes, testes, and ovaries, as well as for some non-malignant (non-cancerous) diseases.
Take Control of Your Health and Reduce Your Cancer Risk	<ul style="list-style-type: none"> ■ Stay away from tobacco. ■ Stay at a healthy weight. ■ Get moving with regular physical activity. ■ Eat healthy with plenty of fruits and vegetables. ■ Limit how much alcohol you drink (if you drink at all). ■ Protect your skin. ■ Know yourself, your family history, and your risks. ■ Have regular check-ups and cancer screening tests.

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Larynx Staging

Primary Tumor (T)

- TX – Primary tumor cannot be assessed
- T0 – No evidence of primary tumor
- Tis – Carcinoma *in situ*

Supraglottis

- Tumor limited to one subsite of supraglottis with normal vocal cord mobility
- Tumor invades mucosa of more than one adjacent subsite of supraglottis or glottis or region outside the supraglottis (e.g., mucosa of base of tongue, vallecula, medial wall of pyriform sinus) without fixation of the larynx
- Tumor limited to larynx with vocal cord fixation and/or invades any of the following: postcricoid area, pre-epiglottic space, paraglottic space, and/or inner cortex of thyroid cartilage
- Moderately advanced local disease
Tumor invades through the thyroid cartilage and /or invades tissues beyond the larynx (e.g., trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)
- Very advanced local disease
Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

Glottis

- Tumor limited to the vocal cord(s) (may involve anterior or posterior commissure) with normal mobility
- Tumor limited to one vocal cord
- Tumor involves both vocal cords
- Tumor extends to supraglottis and/or subglottis, and/or with impaired vocal cord mobility

- Tumor limited to the larynx with vocal cord fixation and/or invasion of paraglottic space, and/or inner cortex of the thyroid cartilage
- Moderately advanced local disease
Tumor invades through the outer cortex of the thyroid cartilage and/or invades tissues beyond the larynx (e.g., trachea, soft tissues of neck including deep extrinsic muscle of the tongue, strap muscles, thyroid, or esophagus)
- Very advanced local disease
Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

Subglottis

- Tumor limited to the subglottis
- Tumor extends to vocal cord(s) with normal or impaired mobility
- Tumor limited to larynx with vocal cord fixation
- Moderately advanced local disease
Tumor invades cricoid or thyroid cartilage and/or invades tissues beyond the larynx (e.g., trachea, soft tissues of neck including deep extrinsic muscles of the tongue, strap muscles, thyroid, or esophagus)
- Very advanced local disease
Tumor invades prevertebral space, encases carotid artery, or invades mediastinal structures

Regional Lymph Nodes (N):

- Regional lymph nodes cannot be assessed
- No regional lymph node metastasis
- Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
- Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension, or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension, or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension

- Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension
- Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in a lymph node, more than 6 cm in greatest dimension

*Note: Metastases at level VII are considered regional lymph node metastases.

Distant Metastasis (M)

- No distant metastasis (no pathologic M0; use clinical M to complete stage group)
- Distant metastasis

Larynx Staging

Group	T	N	M
Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1	N1	M0
	T2	N1	M0
	T3	N1	M0
Stage IVA	T4a	N0	M0
	T4a	N1	M0
	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N2	M0
Stage IVB	T4b	Any N	M0
	Any T	N3	M0
Stage IVC	Any T	Any N	M1

Nasal Cavity and Paranasal Sinuses Staging

Primary Tumor (T)

- TX – Primary tumor cannot be assessed
- T0 – No evidence of primary tumor
- Tis – Carcinoma *in situ*

Maxillary Sinus

- Tumor limited to maxillary sinus mucosa with no erosion or destruction of bone
- Tumor causing bone erosion or destruction including extension into the hard palate and/or middle nasal meatus, except extension to posterior wall of maxillary sinus and pterygoid plates
- Tumor invades any of the following: bone of the posterior wall of maxillary sinus, subcutaneous tissues, floor or medial wall of orbit, pterygoid fossa, or ethmoid sinuses
- Moderately advanced local disease
Tumor invades anterior orbital contents, skin of cheek, pterygoid plates, infratemporal fossa, cribriform plate, sphenoid or frontal sinuses
- Very advanced local disease
Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than maxillary division of trigeminal nerve (V2), nasopharynx, or clivus

Nasal Cavity and Ethmoid Sinus

- Tumor restricted to any one subsite, with or without bony invasion
- Tumor invading two subsites in a single region or extending to involve an adjacent region within the nasoethmoidal complex, with or without bony invasion
- Tumor extends to invade the medial wall or floor of the orbit, maxillary sinus, palate, or cribriform plate
- Moderately advanced local disease
Tumor invades any of the following: anterior orbital contents, skin of nose or cheek, minimal extension to anterior cranial fossa, pterygoid plates, sphenoid or frontal sinuses
- Very advanced local disease
Tumor invades any of the following: orbital apex, dura, brain, middle cranial fossa, cranial nerves other than (V2), nasopharynx, or clivus

Regional Lymph Nodes (N):

- Regional lymph nodes cannot be assessed
- No regional lymph node metastasis
- Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
- Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension, or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension, or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension
- Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in a lymph node, more than 6 cm in greatest dimension

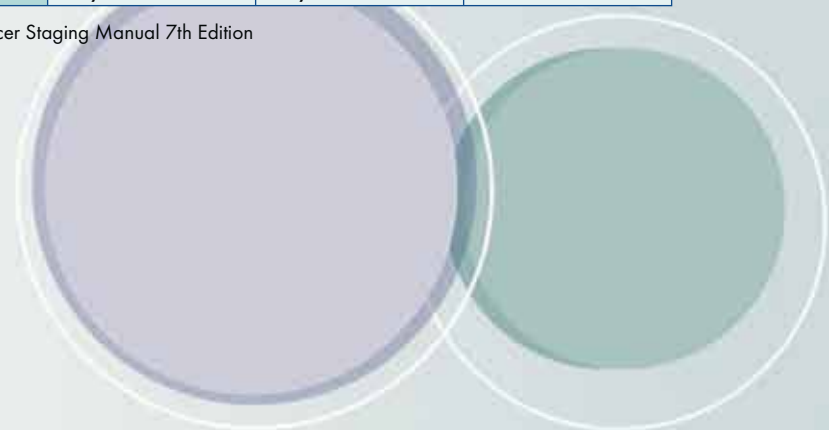
Distant Metastasis (M)

- No distant metastasis (no pathologic M0; use clinical M to complete stage group)
- Distant metastasis

Nasal Cavity and Paranasal Sinuses Staging

Group	T	N	M
Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1	N1	M0
	T2	N1	M0
	T3	N1	M0
Stage IVA	T4a	N0	M0
	T4a	N1	M0
	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N2	M0
Stage IVB	T4b	Any N	M0
	Any T	N3	M0
Stage IVC	Any T	Any N	M1

Source: AJCC Cancer Staging Manual 7th Edition



Pharynx Staging

Primary Tumor (T)

- TX – Primary tumor cannot be assessed
- T0 – No evidence of primary tumor
- Tis – Carcinoma *in situ*

Nasopharynx

- Tumor confined to the nasopharynx, or extends to oropharynx and/or nasal cavity without parapharyngeal extension*
- Tumor with parapharyngeal extension*
- Tumor involves bony structures of skull base and/or paranasal sinuses
- Tumor with intracranial extension and/or involvement of cranial nerves, hypopharynx, orbit, or with extension to the infratemporal fossa/masticator space

* Parapharyngeal extension denotes posterolateral infiltration of tumor.

Oropharynx

- Tumor 2 cm or less in greatest dimension
- Tumor more than 2 cm but not more than 4 cm in greatest dimension
- Tumor more than 4 cm in greatest dimension or extension to lingual surface of epiglottis
- Moderately advanced local disease
Tumor invades the larynx, extrinsic muscle of tongue, medial pterygoid, hard palate, or mandible*
- Very advanced local disease
Tumor invades lateral pterygoid muscle, pterygoid plates, lateral nasopharynx, or skull base or encases carotid artery

* Mucosal extension to lingual surface of epiglottis from primary tumors of the base of the tongue and vallecula does not constitute invasion of larynx.

Hypopharynx

- Tumor limited to one subsite of hypopharynx and/or 2 cm or less in greatest dimension
- Tumor invades more than one subsite of hypopharynx or an adjacent site, or measures more than 2 cm but not more than 4 cm in greatest dimension without fixation of hemilarynx
- Tumor more than 4 cm in greatest dimension or with fixation of hemilarynx or extension to esophagus
- Moderately advanced local disease
Tumor invades thyroid/cricoid cartilage, hyoid bone, thyroid gland, or central compartment soft tissue*
- Very advanced local disease
Tumor invades prevertebral fascia, encases carotid artery, or involves mediastinal structures

* Central compartment soft tissue includes prelaryngeal strap muscles and subcutaneous fat.

Regional Lymph Nodes (N):

Nasopharynx

The distribution and the prognostic impact of regional lymph node spread from nasopharynx cancer, particularly of the undifferentiated type, are different from those of other head and neck mucosal cancers and justify the use of a different N classification scheme.

- Regional lymph nodes cannot be assessed
- No regional lymph node metastasis
- Unilateral metastasis in lymph node(s), 6 cm or less in greatest dimension, above the supraclavicular fossa, and/or unilateral or bilateral, retropharyngeal lymph nodes, 6 cm or less, in greatest dimension*
- Bilateral metastasis in lymph node(s), 6 cm or less in greatest dimension, above the supraclavicular fossa*

- Metastasis in a lymph node(s)* >6 cm and/or extension to supraclavicular fossa
- Greater than 6 cm in dimension
- Extension to the supraclavicular fossa**

* Midline nodes are considered ipsilateral nodes.

**Supraclavicular zone or fossa is relevant to the staging of nasopharyngeal carcinoma and is the triangular region originally described by Ho. It is defined by three points: (1) the superior margin of the sternal end of the clavicle, (2) the superior margin of the lateral end of the clavicle, (3) the point where the neck meets the shoulder. Note that this would include caudal portions of Levels IV and VB. All cases with lymph nodes (whole or part) in the fossa are considered N3b.

Oropharynx and Hypopharynx

- Regional lymph nodes cannot be assessed
- No regional lymph node metastasis
- Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
- Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension, or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension, or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in a single ipsilateral lymph node more than 3 cm but not more than 6 cm in greatest dimension
- Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in a lymph node more than 6 cm in greatest dimension

* Metastases at Level VII are considered regional lymph node metastases.

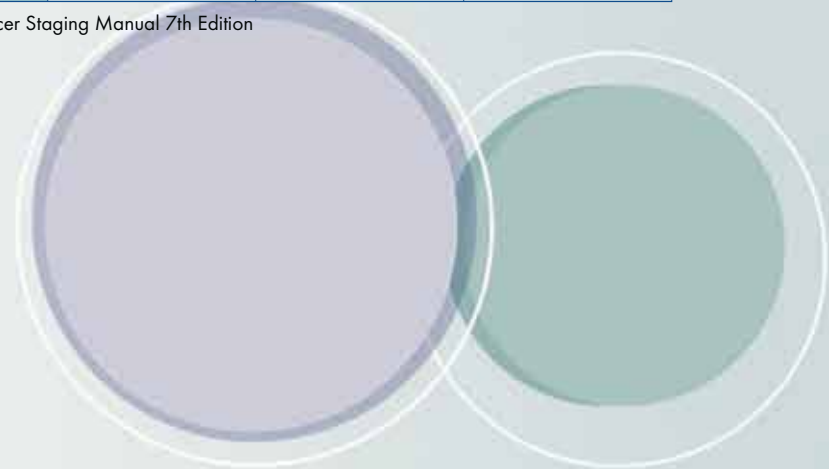
Distant Metastasis (M)

- No distant metastasis (no pathologic M0; use clinical M to complete stage group)
- Distant metastasis

Pharynx Staging

Group	T	N	M
Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T1	N1	M0
	T2	N0	M0
Stage III	T2	N1	M0
	T1	N2	M0
	T2	N2	M0
	T3	N0	M0
Stage IVA	T3	N1	M0
	T3	N2	M0
	T4	N0	M0
Stage IVB	T4	N1	M0
	T4	N2	M0
	Any T	N3	M0
Stage IVC	Any T	Any N	M1

Source: AJCC Cancer Staging Manual 7th Edition



Lip And Oral Cavity Staging

Primary Tumor (T)

- TX – Primary tumor cannot be assessed
- T0 – No evidence of primary tumor
- Tis – Carcinoma *in situ*
- Tumor 2 cm or less in greatest dimension
- Tumor more than 2 cm but not more than 4 cm in greatest dimension
- Tumor more than 4 cm in greatest dimension
- Moderately advanced local disease
 - (lip) Tumor invades through cortical bone, inferior alveolar nerve, floor of mouth, or skin of face, i.e., chin or nose
 - (oral cavity) Tumor invades adjacent structures only (e.g., through cortical bone, [mandible or maxilla] into deep [extrinsic] muscle of tongue [genioglossus, hyoglossus, palatoglossus, and styloglossus], maxillary sinus, skin of face)
- T4b Very advanced local disease
 - Tumor invades masticator space, pterygoid plates, or skull base and/or encases internal carotid artery

Note: Superficial erosion alone of bone/tooth socket by gingival primary is not sufficient to classify a tumor as T4.t.

Regional Lymph Nodes (N):

- Regional lymph nodes cannot be assessed
- No regional lymph node metastasis
- Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
- Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension; or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension; or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension

- Metastasis in single ipsilateral lymph node more than 3 cm but not more than 6 cm in greatest dimension
- Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in a lymph node more than 6 cm in greatest dimension

Distant Metastasis (M)

- No distant metastasis (no pathologic M0; use clinical M to complete stage group)
- Distant metastasis

Lip and Oral Cavity Staging

Group	T	N	M
Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1	N1	M0
	T2	N1	M0
	T3	N1	M0
Stage IVA	T4a	N0	M0
	T4a	N1	M0
	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N2	M0
Stage IVB	Any T	N3	M0
	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

Source: AJCC Cancer Staging Manual 7th Edition

Major Salivary Glands Staging

Primary Tumor (T)

- TX – Primary tumor cannot be assessed
- T0 – No evidence of primary tumor
- Tumor 2 cm or less in greatest dimension without extraparenchymal extension*
- Tumor more than 2 cm but not more than 4 cm in greatest dimension without extraparenchymal extension*
- Tumor more than 4 cm and/or tumor having extraparenchymal extension*
- Moderately advanced disease
Tumor invades skin, mandible, ear canal, and/or facial nerve
- Very advanced disease
Tumor invades skull base and/or pterygoid plates and/or encases carotid artery

*Note: Extraparenchymal extension is clinical or macroscopic evidence of invasion of soft tissues. Microscopic evidence alone does not constitute extraparenchymal extension for classification purposes.

Regional Lymph Nodes (N):

- Regional lymph nodes cannot be assessed
- No regional lymph node metastasis
- Metastasis in a single ipsilateral lymph node, 3 cm or less in greatest dimension
- Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension, or in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension, or in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in a single ipsilateral lymph node, more than 3 cm but not more than 6 cm in greatest dimension

- Metastasis in multiple ipsilateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in bilateral or contralateral lymph nodes, none more than 6 cm in greatest dimension
- Metastasis in a lymph node, more than 6 cm in greatest dimension

Distant Metastasis (M)

- No distant metastasis (no pathologic M0; use clinical M to complete stage group)
- Distant metastasis

Major Salivary Glands Staging

Group	T	N	M
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1	N1	M0
	T2	N1	M0
Stage IVA	T3	N1	M0
	T4a	N0	M0
	T4a	N1	M0
Stage IVB	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T4a	N2	M0
Stage IVC	T4b	Any N	M0
	Any T	N3	M0
Stage IVC	Any T	Any N	M1

Source: AJCC Cancer Staging Manual 7th Edition

Thyroid Staging

Primary Tumor (T)

All categories may be subdivided: (s) solitary tumor and (m) multifocal tumor (the largest determines the classification).

- TX – Primary tumor cannot be assessed
- T0 – No evidence of primary tumor
- Tumor 2 cm or less in greatest dimension limited to the thyroid
- Tumor 1 cm or less, limited to the thyroid
- Tumor more than 1 cm but not more than 2 cm in greatest dimension, limited to the thyroid
- Tumor more than 2 cm but not more than 4 cm in greatest dimension, limited to the thyroid
- Tumor more than 4 cm in greatest dimension limited to the thyroid, or any tumor with minimal extrathyroid extension (e.g., extension to sternothyroid muscle or perithyroid soft tissues)
- Moderately advanced disease
Tumor of any size extending beyond the thyroid capsule to invade subcutaneous soft tissues, larynx, trachea, esophagus, or recurrent laryngeal nerve
- Very advanced disease
Tumor invades prevertebral fascia or encases carotid artery or mediastinal vessels

All anaplastic carcinomas are considered T4 tumors

- Intrathyroidal anaplastic carcinoma
- Anaplastic carcinoma with gross extrathyroid extension

Regional Lymph Nodes (N):

Regional lymph nodes are the central compartment, lateral cervical, and upper mediastinal lymph nodes.

- Regional lymph nodes cannot be assessed
- No regional lymph node metastasis
- Regional lymph node metastasis
- Metastasis to Level VI (pretracheal, paratracheal, and prelaryngeal/Delphian lymph nodes)
- Metastasis to unilateral, bilateral, or contralateral cervical (Levels I, II, III, IV or V) or retropharyngeal or superior mediastinal lymph nodes (Level VII)

Distant Metastasis (M)

- No distant metastasis (no pathologic M0; use clinical M to complete stage group)
- Distant metastasis

*“A very special
and profound thanks
to the very caring and
highly professional
Comprehensive Cancer
Center team.”*

*Exempla Saint Joseph Hospital
Comprehensive Cancer Center Patient*

Thyroid Staging

Separate stage groupings are recommended for papillary or follicular (differentiated), medullary, and anaplastic (undifferentiated) carcinoma.

Papillary or Follicular (Differentiated)

Under 45 Years

Group	T	N	M
Stage I	Any T	Any N	M0
Stage II	Any T	Any N	M1

Papillary or Follicular (Differentiated)

45 Years and Older

Group	T	N	M
Stage I	T1	N0	M0
Stage II	T2	N0	M0
Stage III	T3	N0	M0
	T1	N1a	M0
	T2	N1a	M0
	T3	N1a	M0
Stage IVA	T4a	N0	M0
	T4a	N1a	M0
	T1	N1b	M0
	T2	N1b	M0
	T3	N1b	M0
	T4a	N1b	M0
Stage IVB	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

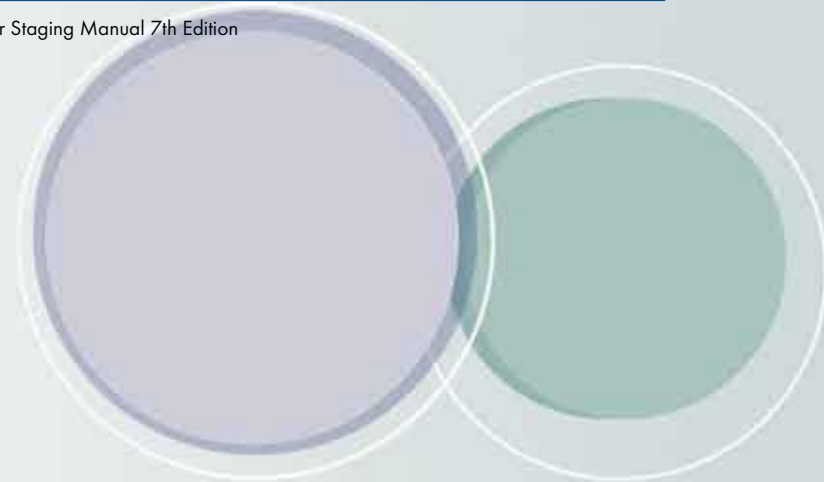
Medullary Carcinoma (All age groups)

Group	T	N	M
Stage I	T1	N0	M0
Stage II	T2	N0	M0
	T3	N0	M0
Stage III	T1	N1a	M0
	T2	N1a	M0
	T3	N1a	M0
Stage IVA	T4a	N0	M0
	T4a	N1a	M0
	T1	N1b	M0
	T2	N1b	M0
	T3	N1b	M0
	T4a	N1b	M0
Stage IVB	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

Medullary Carcinoma (All age groups)

Group	T	N	M
Stage IVA	T4a	Any N	M0
Stage IVB	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

Source: AJCC Cancer Staging Manual 7th Edition



Mucosal Melanoma of the Head and Neck Staging

Primary Tumor (T)

- Mucosal disease
- Moderately advanced disease
Tumor involving deep soft tissue, cartilage, bone, or overlying skin
- Very advanced disease
Tumor involving brain, dura, skull base, lower cranial nerves (IX, X, XI, XII), masticator space, carotid artery, prevertebral space, or mediastinal structures

Regional Lymph Nodes (N):

- Regional lymph nodes cannot be assessed
- No regional lymph node metastasis
- Regional lymph node metastasis present

Distant Metastasis (M)

- No distant metastasis (no pathologic M0; use clinical M to complete stage group)
- Distant metastasis

Mucosal Melanoma of the Head and Neck Staging

Group	T	N	M
Stage III	T3	N0	M0
Stage IVA	T4a	N0	M0
	T3 - T4a	N1	M0
Stage IVB	T4b	Any N	M0
Stage IVC	Any T	Any N	M1

Source: AJCC Cancer Staging Manual 7th Edition

Most head and neck cancers begin in the squamous cells that line the mucosal surfaces in the head and neck.

National Cancer Institute

MEDICAL IMAGING

Many people are affected by cancer each and every day. When this happens patients must trust in the effectiveness and efficiency of many health care disciplines working together to provide hope, healing and health. The Department of Medical Imaging at Exempla Saint Joseph Hospital contributes a comprehensive range of diagnostic and therapeutic services to the patient's course of treatment. Our interpreting radiologists are sub-specialized as well as fellowshipped trained – meaning the best, most conclusive interpretations are achieved. All of our advanced imaging modalities have received accreditation by the American College of Radiology (ACR). ACR accreditation means our equipment, along with our staff, maintain the utmost in quality imaging. Each of our staff members in all imaging modalities have attained advanced credentials in their areas of expertise, demonstrating their mastery of the skills required of their profession. In turn, this provides our patient and our physician confidence in imaging and therapies. Our imaging services include:

- General Radiology/Fluoroscopy
- Nuclear Medicine
- PET/CT
- MRI
- Ultrasound
- CT scan

In addition, our interventional oncologists offer a sophisticated and advanced interventional oncology service provided by some of Denver's top doctors in the discipline of interventional radiology. Our physicians provide both minimally invasive therapies and interventions that include, but are not limited to, the following procedures:

- Chemoembolization
- RF ablation
- CT scan guided biopsies
- Ultrasound guided biopsies
- Cryoablations
- Breast MRI
- Vascular Access
- Radioembolization (Y90)





Jerome Schroeder, MD
Breast Radiologist

Breast Care Center

The mission of the Breast Care Center is to provide a comprehensive approach to breast cancer screening and the imaging of breast cancer from detection and assessment of extent of disease to monitoring and assisting treatment and follow-up care. We accomplish this by providing all

aspects of breast cancer imaging entirely within one health care system, interpreted by radiologists dedicated to and specifically trained in the interpretation of breast imaging. This allows for the efficient and accurate flow of patients and information throughout the breast cancer detection, assessment and treatment process. Significant achievements occurring in 2011 included being designated as a Breast Center of Excellence by the American College of Radiology (ACR) and obtaining full accreditation from the National Accreditation Program for Breast Centers (NAPBC).



Breast Center Imaging

The Breast Care Center's mammography units are "fully digital" with full-field digital machines. These are in addition to the digital unit on our mobile mammography van. Partially funded by grants from the Denver Affiliate of Komen Race for the Cure®, the Saint Joseph Hospital Foundation and Safeway, the van travels throughout a 19-county region in and around Denver and beyond. Although it accepts most insurance plans, the main mission of the van reflects the mission and values of Exempla Saint Joseph Hospital and Komen which is to seek out uninsured and underserved women of mammography age to provide mammograms without regard to the ability to pay.





Shawn Young, MD
Surgeon

Head and neck cancers account for approximately three to five percent of all cancers in the United States. These cancers are more common in men and in people over age 50. It is estimated that about 39,000 men and women in this country will develop head and neck cancer annually.*

Background

Most head and neck cancers begin in the squamous cells that line the mucosal surfaces in the head and neck. Some of these cancers, however, begin in other glandular cells and are called adenocarcinomas.

Head and neck cancers may be identified by the area in which they begin: oral cavity, salivary glands, nasal cavity/sinuses, pharynx, or larynx. Tobacco and alcohol use are the most important risk factors. Typical symptoms include a lump or sore (for example, in the mouth) that does not heal, may cause difficulty swallowing, or may cause a change or hoarseness in the voice. The treatment plan for an individual patient depends on a number of factors, including the exact location of the tumor, the stage of the cancer, and the person's age and general health.

Treatment

Head and neck cancers are treated by either surgery, radiation therapy, chemotherapy, or a combination of these modalities. Often the mode of treatment selected depends on the location of the primary tumor, the anticipated post-treatment functional deficits, and the presence or absence of cervical lymph node metastases. An individually tailored approach is the optimal treatment plan.

In 2011, 60 patients with head and neck cancer and 80 patients with thyroid cancer were seen and treated at the Comprehensive Cancer Center. AJCC staging for the patient group as a whole included stage I (45%), stage II (22%), stage III (19%) and stage IV (28%). Treatment modalities utilized in patient care included surgery, radiation, and chemotherapy. An increasing number of patients are being treated by IMRT alone and state-of-the-art RapidArc IMRT technology is currently available on campus, as noted in the Radiation Oncology Report.

**National Cancer Institute information.*





T. W. Morgan, MD
Pathologist

Human Papillomavirus in Head and Neck Squamous Carcinoma

Squamous carcinoma of the head and neck remains an important problem in the United States with up to 50,000 new cases diagnosed annually, and approximately 10,000 deaths reported.

Historically, alcohol and tobacco are well established risk factors. But even as smoking rates have declined, the incidence of oropharyngeal squamous carcinoma has continued to increase, particularly in young males. Recent studies indicate that as many as one third of these are associated with human papillomavirus (HPV) infection, particularly HPV-16, and that this association correlates with an improved survival and response to therapy. Accordingly, the AJCC now recommends routine reporting of HPV status in squamous carcinoma of the head and neck, particularly oropharyngeal. This article will briefly outline the testing that is currently available at Exempla Saint Joseph Hospital through the Department of Pathology.

Detection and Testing

The methodology for the detection of HPV in tissue samples stems from earlier research in squamous carcinoma of the uterine cervix, which is now widely accepted to be caused, in most cases, by HPV infection. In fact, screening for HPV and, more recently, immunization against HPV, are now becoming standards of care for young women. The increasing demonstration of HPV in oropharyngeal carcinoma of young men has recently reanimated the discussion of immunizations for boys as well. This was the recent focus of an interesting tumor board presentation at Exempla Saint Joseph Hospital.

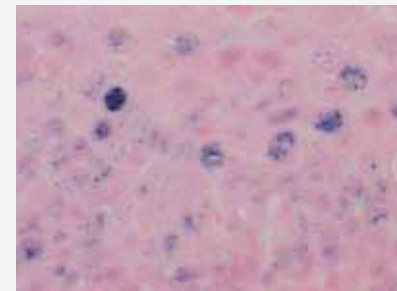
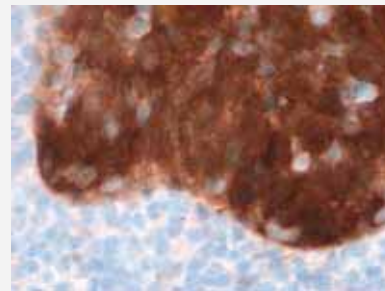
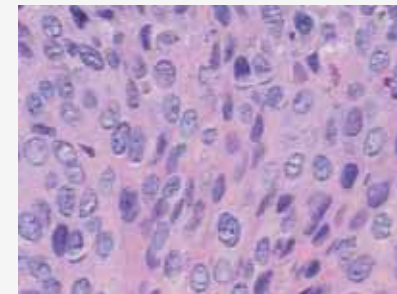
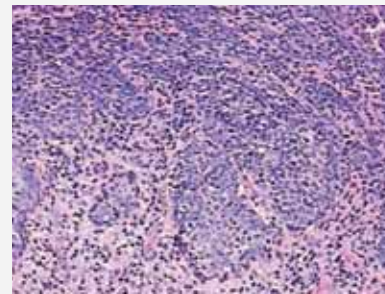
Southern blot methods and PCR remain the gold standards for research applications, but in clinical practice, in situ hybridization methods (ISH), performed directly on paraffin-embedded tissue, have become widely accepted as a validated technique. In our lab, known positive and negative controls are run in parallel with the tissue block, and separate

testing is done for both high and low risk serotypes of HPV. Results are reported as either positive or negative, based on the demonstration of dot-like staining of the nuclei in the neoplastic cells (see photo micrographs on this page).

Recommendations and More Information

Immunohistochemical staining (IHC) for P-16, a component of the retinoblastoma tumor suppression pathway, has been recommended as a surrogate marker for HPV infection. Studies have shown excellent sensitivity in screening for transcriptionally active HPV infection, particularly HPV-16, although false positives do occur. Current recommendations include testing for both HPV and P-16, subject to change as refinements and newer techniques evolve.

For further information, or to request testing on current or previous biopsy material, please call the Department of Pathology at 303-837-7760.



The photomicrographs represent histologic findings from a recent Exempla Saint Joseph Hospital patient, a 41-year-old male who presented with a lingual lesion, biopsy proven squamous carcinoma (fig. 1a, 1b.) positive for P-16 by IHC (fig. 1c.) and for high risk HPV by ISH (fig 1d.)



Deborah Cook, MD
Medical Oncologist
Quality of Cancer Registry Data Coordinator

Background

Head and neck cancers arise from the structures in the head and neck region, including the lips, mouth, tongue, throat, nasal cavity, sinuses and salivary glands. Worldwide, head and neck cancer is the fifth most common cancer. Most of these cancers come from the squamous cells lining the structures of the head and neck. Unlike skin cancers of the same histology, these cancers can be aggressive and spread to other areas, particularly the lymph nodes in the neck.

Risk factors for head and neck cancer include tobacco use, alcohol and radiation exposure. Human Papillomavirus (HPV) has been found to play a role in the development of certain head and neck cancers as well. Older males have the highest rate of head and neck cancer, but the incidence is increasing in women.

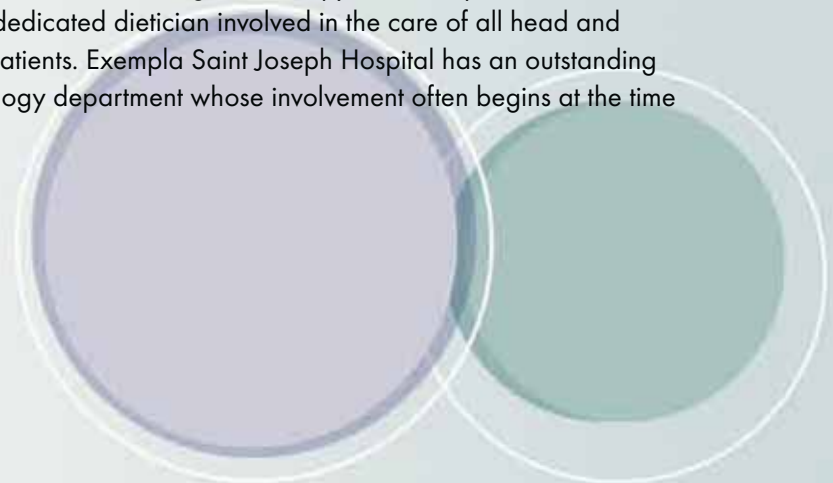
Treatment

Treatment of head and neck cancers is quite challenging given the anatomy of the structures and the desire to maintain function in the affected areas. Approximately 60-70 percent of patients with head and neck cancer have an advanced disease requiring a combination of treatment including radiation, chemotherapy and possibly surgery. Patients diagnosed with early disease may only need surgery or radiation therapy alone. The choice of therapy is often based on the location of the tumor and the likelihood that the surgeon can remove it all. Functional outcome is also a factor when deciding between surgery or radiation therapy as the primary treatment.

Several clinical trials have looked at the addition of chemotherapy administered with radiation therapy for patients with advanced disease. A Meta-Analysis of Chemotherapy on Head and Neck Cancer (MACH-NC) pooled patient data from 93 trials and 16,485 patients. The results showed concurrent chemotherapy significantly decreased cancer-related deaths.

Treatment with cetuximab, a monoclonal antibody inhibiting EGFR receptor activity, given with radiation therapy, also showed an improvement in overall survival when compared to radiation therapy alone for patients with advanced head and neck cancer. The benefit appeared greatest for patients under the age of 65 with an excellent performance status. The patients receiving cetuximab had a greater incidence of mouth sores, rash and weight loss. Treatment with cetuximab and radiation has not been directly compared with chemotherapy and radiation and, therefore, chemotherapy administered with radiation therapy remains standard of care.

Effective, comprehensive treatment for head and neck cancer requires a multidisciplinary team including surgeons, radiation oncologists, medical oncologists, dieticians and speech therapists. The physicians at Exempla Saint Joseph Hospital have extensive experience treating patients with all stages of head and neck cancer. Care plans are often generated at tumor conferences attended by all of the treating physicians with continued close communication throughout therapy. The Comprehensive Cancer Center has a dedicated dietician involved in the care of all head and neck cancer patients. Exempla Saint Joseph Hospital has an outstanding Speech Pathology department whose involvement often begins at the time of diagnosis.



Horse of a Different Color

Despite the strong association between head and neck cancer and tobacco and alcohol use, many patients develop this cancer without these associated risk factors. It is now thought that HPV may be the causative agent. This is the same virus that is known to cause cervical cancer. Patients with HPV-related head and neck cancers often have disease in the base of the tongue and in the tonsillar region. These patients are approximately 10 years younger than other head and neck cancer patients. They are more likely to present with an early stage primary tumor but increased lymph node involvement in the neck.

Patients with HPV-associated head and neck cancer have a significantly better prognosis and response to therapy than patients with HPV negative cancer. The job ahead is to determine if therapy for these patients can be attenuated with no loss in benefit.





Brandon J. Patton, MD
Radiation Oncologist

Dr. Patton completed a Brachytherapy fellowship at Beth Israel Medical Center in New York City. When Dr. Patton joined the Exempla Saint Joseph Hospital Radiation team in 2011 he began working to expand the Comprehensive Cancer Center's Brachytherapy program.

Radiation in the Treatment of Head and Neck Cancer

The treatment of head and neck cancers requires a multidisciplinary approach, and radiation plays an integral role in curing patients. Head and neck cancers include tumors of the oral cavity, oropharynx, larynx, nasopharynx, parotids and sinuses. By nature of their location, curative treatment has the potential to dramatically affect a patient's function and appearance. However, with our dedicated head and neck team we are able to minimize side effects and maximize cure rates. Our team includes surgical oncologists, medical oncologists, radiation oncologists, speech therapists, dieticians and dentists.

Imaging Studies

Radiation is a targeted, daily treatment aimed at the primary tumor (i.e. originating site of the cancer) and the lymph nodes in the neck. Imaging studies, including PET scans, play an important role in designing personalized treatment. PET scans can "light up," indicating areas of cancer spread which allows more accurate staging and improved treatment delivery. These PET scans are then fused with the radiation planning CT scan to design the patient's radiation plan. The planning CT scan is performed with a wax mask formed to the shape of the patient's head. It has hundreds of holes to allow the patient to breathe and see, but is also snug to allow reproduction of the patient's exact head position for daily radiation treatments. These treatments are delivered Monday through Friday for approximately seven weeks.

Intensity Modulated Radiation Therapy

External beam radiation delivery has rapidly evolved over the past ten years. Intensity modulated radiation therapy (IMRT), the technology utilized by our radiation oncologists, allows sparing of normal structures, such as the parotid glands. In other words, it allows the radiation oncologist to shape or bend the high dose regions of the radiation around normal tissue and focus it on the cancer. At many institutions, IMRT treatment time can last 15-20 minutes, but using volumetric arc (VMAT) technology, Exempla Saint Joseph Hospital is able to deliver a treatment in less than five minutes. This means less time for the patient on the treatment table and allows for precision and accuracy of treatment delivery.

Brachytherapy

The Comprehensive Cancer Center is also one of the few cancer centers in Colorado that offers brachytherapy for the treatment of head and neck cancers. "Brachy" is Greek for "short," hence, brachytherapy is a procedure where radioactive sources are placed into, or a short distance from, the tumor. By delivering radiation in this manner, the physician can avoid external beams penetrating normal tissue to reach the target. In essence, the physician places the radiation exactly where it needs to go.



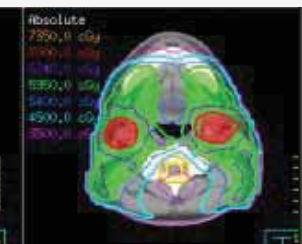
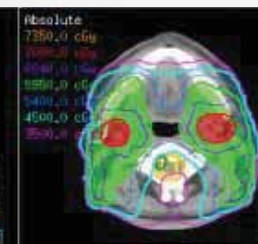
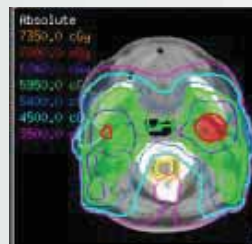
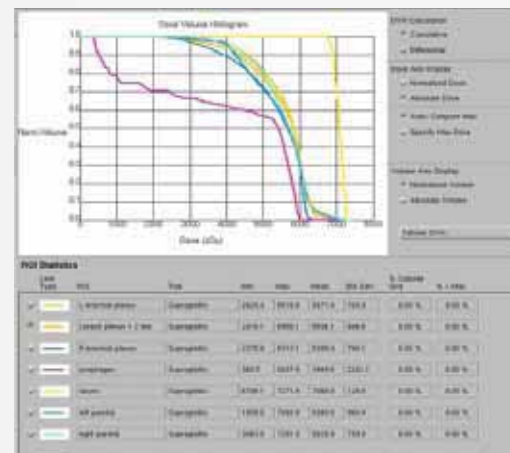
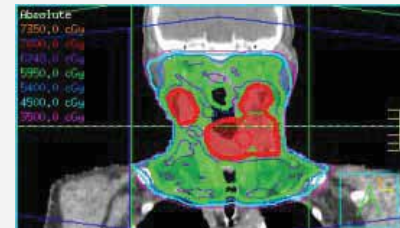
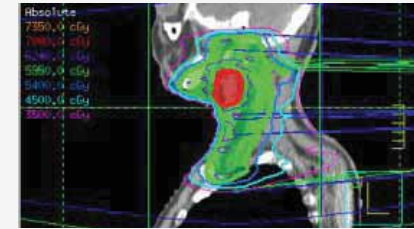
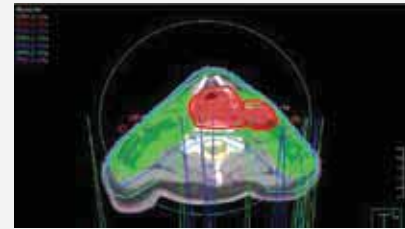
Brachytherapy procedures are often used in oral tongue, lip, and base of tongue cancers. The procedure is performed under general anesthesia, at which time needles are used to place catheters in the tumor bed. The catheters remain in place for the duration of the treatment which usually lasts three to five days. They are loaded with radiation sources for a few minutes each day, twice a day. Following completion of treatment the catheters are removed. Brachytherapy is often used in combination with a lower dose of external beam radiation with or without chemotherapy.

Skilled Team and Caring Staff

The diagnosis of head and neck cancer can be overwhelming, but the Comprehensive Cancer Center's skilled team and caring staff's goal is to achieve the highest rate of cure based on scientific data while using the latest technology to minimize side effects. Exempla Saint Joseph Hospital's multidisciplinary approach ensures all physicians work together to make sure the patient's experience is as seamless as possible.

Standards of Care and Services

The Department of Radiation Oncology at Exempla Saint Joseph Hospital is recognized not only regionally, but nationally, for providing the highest in standards of care and services. The radiation oncologists and the radiation therapy team offer the most comprehensive and cutting edge treatments to patients. This is made possible through the latest technologies available and the use of the latest treatment techniques: volumetric arc therapy (VMAT); image guided radiation therapy (IGRT); stereotactic radiotherapy (SRT); stereotactic body radiotherapy (SBRT); high dose rate brachytherapy; low dose rate brachytherapy; or "permanent seed implant" for the treatment of prostate cancer.



TrueBeam Technology

In early September 2010, Exempla Saint Joseph Hospital's Comprehensive Cancer Center clinically implemented the TrueBeam system, manufactured by Varian Medical Systems, and began using it to deliver radiotherapy treatments for head and neck, liver, brain, lung tumors, as well as for prostate cancer patients. The hospital became the first multi-vendor site in the United States to implement treatment on this new system.

The TrueBeam linear accelerator is the latest advancement in accelerator technology and is unlike any other system in the world. Exempla Saint Joseph Hospital is among the first in the world and is the only location in the Rocky Mountains to offer this progressive treatment for cancer patients in Denver and throughout this region. There's no need to travel outside Colorado to receive the best cancer treatment possible.

This technology opens the door to new possibilities for the treatment of lung, breast, prostate, abdomen, head and neck, as well as other types of cancers. Revolutionary benefits include:

- Accuracy to within less than one millimeter, minimizing radiation to nearby healthy organs.
- Many treatments can be completed within two minutes that formerly required from 10 to 30 minutes. Patients don't need to hold still for long periods of time, making treatments much more comfortable.
- Accurate tumor targeting, even for tumors that "move," such as with tumors of the lung.
- Images are generated using 25 percent less X-ray dose.

Since Exempla Saint Joseph Hospital's clinical implementation of the TrueBeam in 2010, over 30,600 treatments have been delivered to over 1,500 patients on the TrueBeam accelerator alone.



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*Among the first
in the world to
offer TrueBeam
technology.*

Jana Bolduan Lomax, PsyD

Director of Psychosocial Services

At Exempla Saint Joseph Hospital Comprehensive Cancer Center we work with patients to manage the psychological, dietary, social and financial issues that arise secondary to cancer through the efforts of the psychosocial oncology department. This department focuses on helping cancer patients and their families overcome all of the stressors that cancer brings into their lives. We have professionals from the fields of psychology, social work, pastoral care, nutrition and integrative therapies available to help patients and families when needed. We also collaborate regularly with our financial counselor. All of these professional services are available to patients and families at no charge as a complement to their care. For more information, call 303-318-1322.



Psychosocial Program Offerings

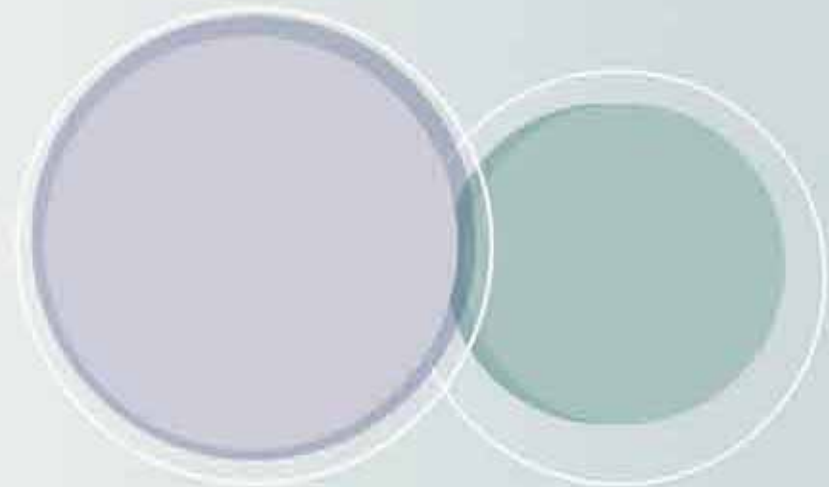
- **New 2011** — Managing Advanced Cancer Support Group
- **New 2011** — Cancer Transitions Cancer Support Community (six-week workshop)
- Yoga for Cancer Wellness
- Breast Cancer Support Group
- Restoring Balance and Managing Cancer Stress Support Group
- Massage Therapy
- Collaboration with the Cancer Support Community offering support groups, education groups, and yoga (regularly)
- Nutrition Education Series
- New Patient Orientation class and workbook (offered in English and Spanish)
- Look Good, Feel Better (by the American Cancer Society) at the Comprehensive Cancer Center
- Individual, couples, family, and group psychotherapy

- Resource referrals
- Social Work assistance for accessing financial, practical, and logistical resources
- A number of written and web-based local, regional, and national resources
- Inpatient consultations for supportive counseling and education

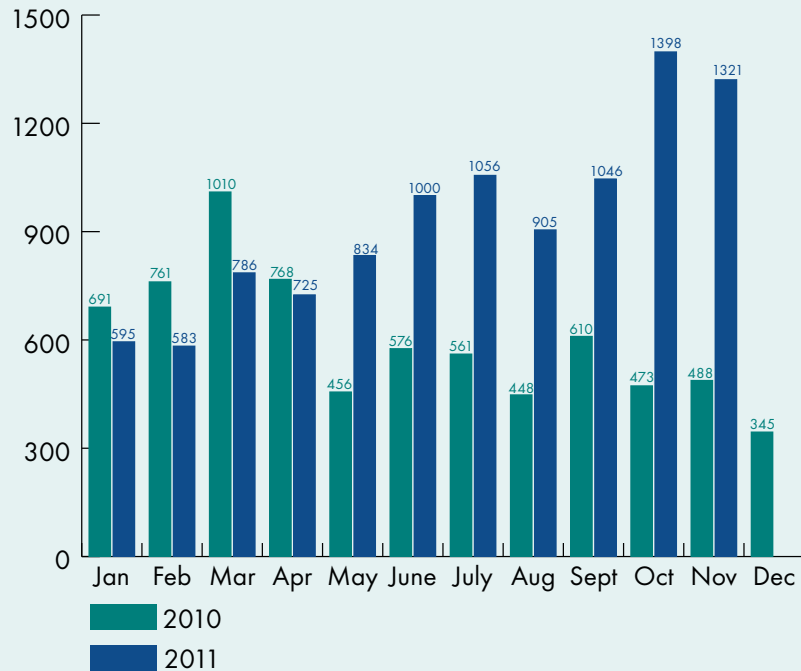
2011 Highlights

- In June 2011, Dr. Jana Bolduan Lomax and the Comprehensive Cancer Center were awarded a Community Initiated Program grant from the LiveSTRONG (Lance Armstrong Foundation) to offer a Spanish-language Cancer Survivorship Education Workshop called **Promotores**. Three staff members, Dr. Alice Luknic, Josue “Josh” Miranda, and Gladys Rivera-Kennel, have become certified LiveSTRONG **Promotores** and will be the trainers for the workshop. We will train at least 25 staff and community members to become **Promotores**. The workshop is scheduled for March 3, 2012 at Exempla Saint Joseph Hospital.
- In June 2011, the Comprehensive Cancer Center learned that the National Institutes of Health awarded a large, multi-year, multi-site grant award for a three-year program in which Comprehensive Cancer Center is a site. The program will examine the role and benefits of web-based support for women newly diagnosed with breast cancer. It was initiated by the University of Wisconsin’s evidence-based program called “Comprehensive Health Enhancement Support System (CHESSTM).” CHESSTM is a computer-based system of integrated services designed to help individuals cope with a health concern. More information on the history of this research project can be found here: <http://chess.wisc.edu/chess/home/home.aspx>. Kaiser Permanente Colorado is also a collaborating site in the program. Dr. Jana Lomax serves as the Principal Investigator and will work closely with all of the Exempla Saint Joseph Hospital teams and providers to contact women newly diagnosed with breast cancer.

- In June 2011, the Comprehensive Cancer Center launched its first multidisciplinary survivorship follow-up clinic called **SUCCESS**: Survivors of Cancer: Care, Education, Screening, and Support.
- In March 2011, Shari Oakland Schulze, RD, CSO, became one of seven Registered Dietitians in the state of Colorado to achieve Board Certification as a Specialist in Oncology Nutrition. Fewer than 500 dietitians in the U.S. have achieved this certification.
- In March 2011, Julie Smith, LSW, joined the Psychosocial Oncology team as the second full-time social worker.
- The Psychosocial Oncology program is an important training site for graduate students in the Denver-metro area. In 2011, three doctoral clinical psychology students participated in a full-year externship training program supervised by Jana Lomax, Psy.D. Four social work graduate students are participating in a nine-month externship training program supervised by Jeanice Hansen, LCSW, and Julie Smith, LSW.
- In December 2011, a research program studying the feasibility of touch-tablet technology for implementing a psychosocial distress screening tool came to a close at the Comprehensive Cancer Center Psychosocial department. The research program was a collaboration among the Cancer Support Community and Exempla Saint Joseph Hospital, as well as other community cancer centers in Iowa and Florida. A new web-based distress tool and a modified distress screening measure, SupportScreen, are in development resulting from the findings of the feasibility phase.
- Screening for Distress using a modified NCCN Distress Thermometer continues to be the consistent manner in which patients and families are connected with the psychosocial services program. Patients are requested to complete the screener at most of their visits to the Comprehensive Cancer Center.



Psychosocial Oncology Patient Contacts 2011



Exempla Saint Joseph Hospital Cancer Survivorship 2011

Recent research and publications point to the emotionally, socially and physically complex experience of each person and their loved ones as cancer treatment concludes and the resumption of “normal” begins. We understand cancer survivorship is a phase of the cancer journey that offers opportunity and motivation to make healthy lifestyle choices and changes. However, this phase can be confusing and overwhelming without education and guidance. At the Comprehensive Cancer Center, we help patients and families make meaningful lifestyle changes and find opportunities for growth and development after their treatments are complete. Programs offered include: the **SUCCESS** Clinic, which provides patients with an individualized Treatment Summary and Care Plan; Cancer Survivors’ education and support group series; individual counseling and support; and an interdisciplinary cancer survivorship steering committee involving team members from medical oncology, breast surgery, nursing, social work, dietetics and psychology to continue to expand programming.

Essential Elements of a Treatment Summary and Care Plan

- Specific tissue diagnosis and stage
- Treatment summary and dates of treatment
- Toxicities during treatment
- Expected short- and longer-term effects of treatment
- Surveillance recommendation for toxicity (post-treatment)
- Surveillance recommendations for recurrence or second cancer
- Who will take responsibility for survivorship care?
- Psychosocial and vocational needs
- Recommended preventative behaviors/programs

Source: Colorado Cancer Plan 2010-2015

SUCCESS

In June 2011, the Comprehensive Cancer Center launched its first multidisciplinary survivorship follow-up clinic called **SUCCESS**: Survivors of Cancer: Care, Education, Screening, and Support. It is offered twice monthly to people who have completed active cancer therapy. The first six months of the clinic were piloted with female survivors of breast cancer. The patient is evaluated and educated by the psychosocial oncology team, a specially trained nurse practitioner, and a medical oncologist. The goal and product of the clinic is to provide the patient with a written, thorough Post-Treatment Summary and Care Plan. This document is also shared with the patient's other healthcare providers. The patient receives education about healthy lifestyle choices to reduce cancer recurrence risk and improve quality of life. This clinic was developed by Mary Jane LaRoche, NP; Jana Lomax, Psy.D. and Shari Oakland Schulze, RD, CSO. As of December 2011, 15 women have been treated in the clinic. The goal for 2012 is to expand beyond breast cancer survivors and to increase referrals to the clinic, which has capacity for 8 patients per month.

The treatment plan for an individual patient depends on a number of factors, including the exact location of the tumor, the stage of the cancer, and the person's age and general health.

National Cancer Institute

Breast Cancer Treatment Summary

The Treatment Summary provides a brief record of major aspects of your breast cancer treatment. This is not a complete patient history or comprehensive record of intended therapies.

Patient name: DOE, JANE **Race:** Caucasian
Medical record number: 123456789 **Patient DOB:** (11/1/1950)
Patient phone: (303)555-1234 **Patient cell:** (303) 555-9876 **Patient email:** name@email.com
Support contact name: John Doe **Relationship:** Spouse **Support contact phone:** 303-555-0000

BACKGROUND INFORMATION

Age at diagnosis: 53 **Breast cancer site:** Left breast Right breast Bilateral Multicentric
Family history: None/unknown 1st degree relative 2nd degree relative Multiple relatives **BRCA 1** Pos Neg
Previous breast cancer: Yes (1999) No **Type:** Mastectomy/bilat br reduction **Breast Atypia:** Yes No
Definitive breast surgery: Date: (10/10/10) **Type:** Lumpectomy Mastectomy Mastectomy/Immediate reconstruction
Reconstruction: Yes No **L chest wall wide excision/R breast skin sparing mastectomy/reconstruction same day****
lymph nodes removed: 0 **# lymph nodes positive:** 0 **Biopsy Date:** (10/05/10)
Sentinel node biopsy: Yes (attempted) No **Axillary dissection:** Yes () No
Notable surgical findings/comments: suspicious LV invasion 1.8cm lesion **Surgical Margins Clear:** Yes No
Tumor type: Infiltrating ductal Infiltrating lobular Mixed lobular/ductal DCIS Other:
Tumor Size: 1. 1.8cm **Grade:** 2 2. 1.0 **Grade:** 2 3. **Grade:**
T stage: Tis T1 T2 T3 T4 **N stage:** N0 N1 N2 N3 **M Stage:** MO
Pathologic Stage: 0 I A II III IV **Stage Summary:** pT1cNXpT1bNX
Oncotype DX recurrence score (if applicable):
ER status: Positive Negative **PR status:** Positive Negative **HER2 status:** Positive Negative
 99 % 22 % %
Major comorbid conditions: HTN, thyroid cancer
HRT use: Yes No oophorectomy hysterectomy **Comments:** fibroids 1990, ovaries intact
Onset of Menses: **Onset of menopause:** No Yes 2011
Smoking history: No Yes/Current Yes/Past quit 1995/2nd hand smoke exposure
Other Comments:

ADJUVANT TREATMENT PLAN				ADJUVANT TREATMENT SUMMARY	
<i>White sections to be completed prior to chemotherapy administration, shaded sections following chemotherapy</i>					
Height: 68"	Pre-treatment weight: 200	Date last menstrual period: (1990)		Post-treatment weight: 180	
Pre-Treatment BSA: 2.24	Date last menstrual period: (1990)		Date last menstrual period: ()		
<input type="checkbox"/> Echocardiogram or <input checked="" type="checkbox"/> MUGA result prior to chemotherapy: EF = 58% Date: 12/12/10					
Name of regimen: Dose Dose Adriamycin and Cytosax x 4 cycles followed by weekly Taxol x 12 weeks					
Treatment on clinical trial: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Name of Clinical Trial(s):					
Start Date: (12/13/10)				End Date: (5/2/11)	
Chemotherapy drug name	Route	Dose	Schedule	Dose reduction needed	Number of cycles administered
Adriamycin	IV	60mg/m2	every 2 wks	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes % Reasons/comments:	4
Cytosax	IV	60mg/m2	every 2 weeks	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes % Reasons/comments:	4
Taxol	IV	80mg/m2	weekly	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes % Reasons/comments: 25% dose reduction neuropathy	12

Psychosocial Oncology Support Services Team

303-318-1322 or 303-318-3434



Jana Bolduan Lomax, PsyD, Health Psychologist

Dr. Lomax has specialized training to work with people who have cancer and their loved ones. Dr. Lomax works together with patients and their family members to improve coping, decrease stress, and relieve sadness, anxiety, or anger – all of which are associated with cancer and its treatments. She has a particular interest in

helping patients achieve their health and life goals as they face forward after cancer. Consider meeting with Dr. Lomax and the Psychology Residents if you are interested in learning how best to cope with the stressors of cancer.



**Jeanice Hansen, MSW, LCSW
Oncology Social Worker**

Jeanice has over 20 years of experience as a compassionate resource for emotional support and practical assistance. She can help you find the resources that are most helpful to address many of the new challenges imposed by cancer. Jeanice specializes in

helping to reduce stress, exploring integrative therapies, providing support for children affected by an adult's cancer, addressing workplace issues and understanding SSDI/SSI disability information.



Julie Smith, MSW, LSW, Oncology Social Worker

Julie has 14 years of experience working as a social worker in health care. She is available to assist patients and their caregivers with the needs and concerns related to their cancer experience. Julie has knowledge of local and national resources that are available to patients and their caregivers that have been proven helpful throughout

one's cancer journey. Contact Julie if you would like more information on where to access support groups, financial grants and community resources on a variety of topics.



**Shari Oakland Schulze, RD, CSO
Oncology Dietitian**

Shari is a dietitian and a certified specialist in oncology nutrition. She can help with the "kitchen therapy" part of your treatment in choosing the right foods to help fight cancer and deal with treatment-related side effects.

Shari can help answer your nutrition related questions, help you manage weight gain or weight loss, and she can help you improve your eating habits for overall good health. Shari can also provide information regarding nutritional supplements and their safety during treatment.

Roger Hernandez, Financial Counselor

Roger helps patients navigate through the financial aspect of their cancer care. He works with the insured, underinsured and uninsured population to locate resources that lessen the financial burden of treatment. He can provide you with an estimated treatment cost quote and he can explain costs and co-pay assistance. Roger works with both English and Spanish speaking patients.



Sandra Walters, RN, CBPN-IC
*Breast Educator/Navigator
Exempla Saint Joseph Hospital Breast Imaging
and Comprehensive Cancer Center*

The Comprehensive Cancer Center embraces a patient-centered care approach and continues program development with that goal at the heart of our efforts.

Patient Navigation Services

We believe that true patient-centered care requires a strong communication foundation for the necessary support to drive effective and efficient care coordination efforts. By embracing this model, patient navigation services can be taken to a higher level, one that ensures not only guidance for access, screening, diagnosis, treatment and survivorship, but also comprehensive psychosocial services which are explained in more detail in the psychosocial section of this report.

Patient navigation and care coordination have been a focus in health care for several years because of the fragmentation that commonly occurs among access, diagnosis and treatment. This strong, national movement has evidence-based research to support the need, which has led cancer program accrediting bodies to add patient navigation as a required standard.

Accreditation

In 2011, the Comprehensive Cancer Center received accreditation by both the American College of Surgeons Commission on Cancer and the National Accreditation Programs for Breast Centers. In both of the surveys, our patient navigation services were highlighted by the surveyor as being exemplary and showing a demonstrated commitment to improving care quality and the patient's overall experience.

Registered Nurses Guide Patients and Families

Exempla Saint Joseph Hospital employs two dedicated full-time Registered Nurse (RN) care coordinator/navigators for the Comprehensive Cancer Center program, and we are working on expanding our clinical navigation services to patients. Sandra Walters, RN, CBPN-IC, specializes in breast cancer and provides services from screening through diagnosis and treatment; she is a direct support to Jerome Schroeder, MD, breast radiologist, and Denise Norton, MD, breast surgeon. Dianna Fox, RN, BSN, is in a pilot program for care coordination in medical oncology; her position is focused on supporting the medical oncologists and cancer patients during and post-treatment. Both RN positions serve to guide patients and their families through their health care experience while supporting patient choice and removing barriers to timely care, offering clinical education and coaching patients through decisional conflict, encouraging strong relationships with their accountable care providers, and connecting patients to appropriate support services.

Program Development

The breast cancer program has been the model for implementing navigation services and offers direction as we move to develop services for other disease sites. Sandra Walters has spearheaded the effort in breast cancer and started with Exempla Saint Joseph Hospital in 2007 as a consultant and moved into an employed position in 2008. She brings experience in program development with two other community hospital systems and she has 12 years of experience in the breast cancer field. In addition, Sandra founded a state-wide community outreach non-profit called the Andre Center for Breast Cancer Education and Navigation and since its inception in 2006 it has provided services to over 600 women in Colorado. For her efforts she was recognized in 2007 by Yoplait and Susan G. Komen as a Yoplait Champion and, in 2008, was chosen by her peers as the National Community Service award recipient through Nursing Spectrum. Sandra was on the National Consortium of Breast Centers development committee for the Breast Patient Navigator certification exam, CBPN-IC, and continues to provide clinical content and guidance for that effort.

Care Coordination

During this year, the radiation oncology department implemented a multidisciplinary care coordination component for their head and neck cancers that involves an interdisciplinary consult prior to treatment planning with the inpatient and outpatient registered dietitians as well as a speech therapist. Head and neck will continue to be a priority disease site for patient education, care coordination, and navigation services to minimize side effects that the patient might potentially experience.

Shauna McIntosh, MS, CCC/SLP
Speech Therapist

“Why do I need to see a speech therapist? I talk just fine.”

This is a statement frequently heard at the start of speech therapy services; however, speech therapy is much more than the correct pronunciation of words. A speech therapist can play a vital role in the treatment of patients with head and neck cancer, with the prevention of speech and swallowing problems being the ultimate goal.

Goal

Patients undergoing radiation therapy, with or without chemotherapy, can experience changes to the oral mucosa, saliva production, and the swallow musculature. The goal of speech therapy is to provide education to the patient and to develop an individualized home exercise program including an oral hygiene program to prevent mucositis, an oral motor exercise program to prevent loss of strength in the oral musculature, and a swallow maintenance plan to preserve swallow strength and function. Oral and pharyngeal musculature, like any other muscle group, benefits from continued use and strengthening; “if you don’t use it, you may lose it.”

To round out our navigation services, each surgical, medical and radiation oncology treatment physician works with a RN and/or a medical assistant who facilitates additional communication to the patient regarding physician recommendations, coordination/scheduling of labs, imaging, medications and treatment as well as the connection to support resources and, of course, triaging patient questions regarding their care.

SPEECH THERAPY

Treatment

Optimally, the speech therapist will meet with the patient at the start of treatment to assess oral structures and swallow function in order to develop the home program. As the impact of treatment begins to cause changes to the oral mucosa, the patient and speech therapist will meet again to assess the patient’s status and to make changes to the home program as needed.

At the completion of treatment, the patient and speech therapist will assess the patient’s swallow function and advance the home program to facilitate the patient’s return to being able to enjoy a regular oral diet. Speech therapy at this point may include a videofluoroscopic swallow study (completed in diagnostic radiology), neuromuscular electrical stimulation to improve strength and timing of the swallow, and training regarding use of compensatory swallow strategies. The goal would be that the need for extensive speech therapy services at the conclusion of radiation therapy would be mitigated by following the home exercise program during the radiation therapy process.

Speech Therapy Team

At Exempla Saint Joseph Hospital, oncology speech therapy services are led by Shauna McIntosh, MS CCC/SLP, and Julie Page, MA CCC/SLP.



Shari Oakland Schulze, RD, CSO
Oncology Dietician

Role of Nutrition in the Treatment of Patients with Head and Neck Cancer

Estimates indicate that up to fifty percent of patients with head and neck cancer exhibit malnutrition at the time of diagnosis. Malnutrition is defined as weight loss greater than ten percent of Ideal Body Weight (IBW) that is associated

with muscle mass. Alcohol and tobacco use frequently exacerbates this problem. Moreover, head and neck cancers may cause significant difficulty with other physical changes that have an effect on overall oral intake.

Treatment for head and neck cancer may include radiation, chemotherapy and/or surgery. Each of these treatments has their own set of side effects that contribute to a decline in a patient's nutrition status. Thus, it is especially important that patients with head and neck cancer partner with a dietitian to undergo pre-treatment nutritional assessment, appropriate nutritional supplementation, and to receive continued attention for nutrition during and after treatment.

Assessing Nutrition

Patients can meet with a dietitian by a physician, nurse, or self-referral using the Comprehensive Cancer Center's Distress Screening Tool. A complete nutritional assessment includes an analysis of current nutrition needs, taking into account the increased nutrition losses, increase in nutrition demand, and tumor induced metabolic dysfunction. A person's calorie and protein needs may be two times the normal intake. Not getting enough nutrients can result in depressed immune function, treatment delays, increased costs and a decreased quality of life.

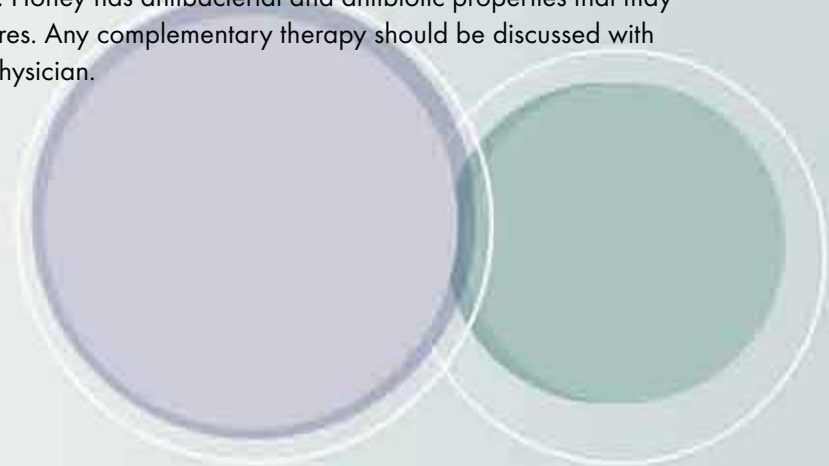
Treating Side Effects

The side effects of treatment can make achieving adequate nutrition difficult. Surgical treatments result in alteration of anatomy that may cause temporary or permanent changes in chewing and/or swallowing. Radiation and chemotherapy commonly cause mucositis, dysgeusia, anosmia, xerostomia, nausea and vomiting. Poor dentition and radiation-induced dental disease increases difficulties with chewing.

When oral intake is possible, it is important to eat a balanced diet with high protein and high calorie foods. Patients need to have a clear understanding how future treatments will have an effect on intake of food and fluids. Changing food textures and avoiding acidic foods may be necessary due to mouth soreness. To help them return to a normal diet quicker and to have fewer food aversions, patients are encouraged to avoid their favorite foods during treatment. Nutritional supplements are commonly used to increase calorie and protein intake and are easy to drink when chewing more solid foods is difficult. Use of protein powders can be used to meet protein intake goals.

Managing Side Effects

Complementary therapy can be used in conjunction with traditional therapy in managing side effects. Low dose ginger can be used along with anti-emetics in enhancing their effect in controlling nausea and vomiting. Glutamine, an amino acid, can be used to improve mouth sores and Mucositis. Honey has antibacterial and antibiotic properties that may help mouth sores. Any complementary therapy should be discussed with the patient's physician.



Meeting Nutritional Needs

When oral measures are insufficient in meeting nutritional needs, patients are provided extensive support in choosing to receive nutrition with a feeding tube. A feeding tube is placed to bypass the most common area of feeding difficulty. This provides access to take in food and fluids to maintain weight and hydration status while still staying on schedule with the treatment schedule. Some of the issues requiring discussion and counseling from a dietitian are feeding tube selection and placement, developing a schedule to best meet needs, how to administer the feedings, obtaining the necessary supplies, problem-solving issues that may arise with a feeding tube, and transitioning back to oral feedings.

Nutritional Therapy Team

At the Comprehensive Cancer Center, a dietitian who is board certified as a specialist in oncology nutrition is involved in the patient's care from the time of diagnosis. Dietitians counsel patients with head and neck cancer regarding the unique nutritional challenges they may experience and offer suggestions for problem solving such as maintaining adequate calorie, protein, and fluid intake, weight maintenance, symptom management, and appropriate supplement choices.

*"I truly thank each
of you so very much for
making this time in my
life as pleasant
as possible."*

*Exempla Saint Joseph Hospital
Comprehensive Cancer
Center Patient*



Mercedes Dombi, Pharm.D.

Pharmacy Manager

Drug Quality and Safety

At the Comprehensive Cancer Center, clinical pharmacists regularly assist physicians and other health care professionals in the management of drug therapies for oncology patients. Two oncology clinical pharmacists verify each cancer patient's chemotherapy orders by

including maximum daily doses, renal and hepatic dosing, and drug interactions. The pharmacists coordinate at-home medications for antiemetic and pain medications. To protect clinicians and family members who provide care to cancer patients, all chemotherapy and monoclonal antibodies are compounded under the direct supervision of a pharmacist, USP (United States Pharmacopeia) 797 guidelines, and with the use of a closed system transfer device (PhaSeal was implemented in 2009).

Current Services

The Comprehensive Cancer Center Pharmacy offers many services including: timely delivery of medications, superb clinical support, a wealth of educational resources, and help with co-pay assistance services. While the MOSAIQ Electronic Medical Record pharmacy module was implemented in 2009 to provide a paperless environment in the clean room, ongoing improvements in functionality continue to date.

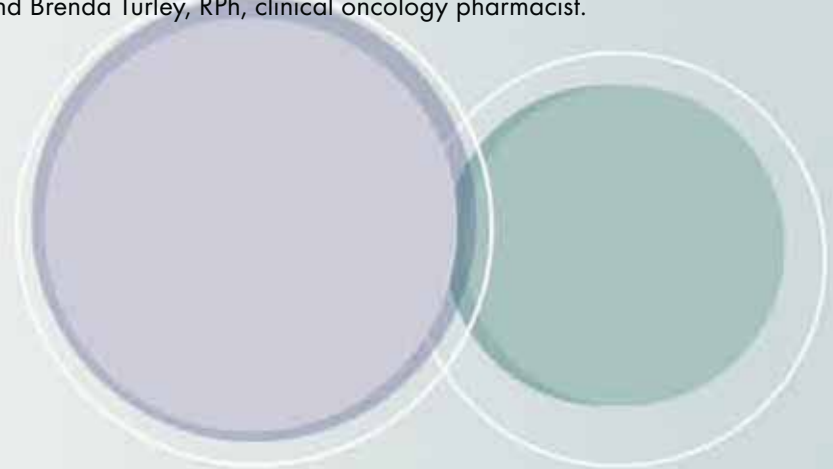
This allows for all compounding records, including waste documentation, to be completed electronically while maintaining a chemotherapy turn-around time of less than 25 minutes. In 2011, Med Data Solutions software was implemented to maximize the ability to offer medication assistance through co-pay assistance programs and grants to all cancer patients. If the patient qualifies, all insured and uninsured patients are connected with co-pay assistance. In 2010 the Comprehensive Cancer Center Pharmacy team was able to provide \$2.1 million in drug replacement co-pay assistance.

Future Services

In 2012, we will begin to offer retail/specialty pharmacy service to complete our comprehensive approach to cancer care. We will begin serving retail pharmacy needs for oncology patients at four of eleven hospitals within the Sisters of Charity of Leavenworth Health System (SCLHS), in addition to meeting the specialty pharmacy needs of all SCLHS associates.

Oncology Pharmacy Team

Due to the continued growth of the Comprehensive Cancer Center and to help with the 2012 implementation of the retail pharmacy, a third clinical oncology pharmacist was added to the team in 2011. The Oncology Pharmacy Team is led by Mercedes Dombi, Pharm.D., pharmacy manager; and Krista Voytilla, PharmD, BCOP clinical oncology pharmacist; and Brenda Turley, RPh, clinical oncology pharmacist.



PALLIATIVE CARE SERVICE

Palliative Care is a service that provides specialized care for patients and their families. When patients are diagnosed with cancer, they seek help with pain and symptom management. Patients and their families also seek support when making difficult decisions which includes assistance with identifying the various resources available for necessary care as well as assistance with advanced directives.

Palliative Care coordinates a team of specialists and the patient's primary care physician to improve the patient's quality of life. Palliative Care is available any time during a patient's illness and it can be provided along with curative treatments. The purpose of palliative care is to help patients clarify their "**GAPS:**"

G – Goals or preferences for treatment

A – Advance care planning

P – Psychosocial and spiritual support

S – Symptom management

The Comprehensive Cancer Center's Palliative Care team consists of a physician, registered nurse, pharmacist, social worker and a chaplain. This team is structured so that the consult includes this team, along with the patient and family members, all meet at the same time to discuss issues pertinent to the "GAPS."

Palliative Care is available while patients are receiving care at Exempla Saint Joseph Hospital and at home.

SPIRITUAL CARE

If there's one constant in life, it's change. When there's a change in your health status, it can be unsettling – both for you and your family. While such change can be a call for acceptance, for strength and for growth, it can also be difficult to handle. At the Comprehensive Cancer Center, we understand that, and we don't want you to have to handle it alone.

Support and Spiritual Resources

While you may have your own personal resources in a pastor, rabbi, or spiritual community to turn to in transition times, we would also like to offer you the support and spiritual resources provided by our chaplains. They can be an enormous comfort and a compassionate presence for you and your loved ones when you face difficult paths and transitions.

You can reach a chaplain anytime, 24/7, by calling our pager at 303-897-2629.



GENETIC COUNSELING

The Genetic Counseling program provides genetic counseling and testing for patients with a personal or family history of cancer. A patient may be referred to genetic counseling if there is a chance they were born with (or inherited) a genetic tendency that puts them at higher risk of developing cancer. Genetic counseling usually starts out with a conversation between the patient and a genetic counselor. During this conversation, a very detailed family history on both the patient's mother and father's side will be taken. They will be asked about the history of cancers in family members spanning multiple generations. The Comprehensive Cancer Center empowers patients to use their genetic information to be proactive with their health.

"Thank you for your wonderful care, concern and professionalism during my radiation sessions."

*Exempla Saint Joseph Hospital
Comprehensive Cancer
Center Patient*

Cancer touches so many lives. We all seem to know and love someone who has been touched by cancer. The Comprehensive Cancer Center not only gives patients the best medical care possible, it offers patients the education and support they need.

Educational Presentations at Exempla Saint Joseph Hospital and in the Community

Topic	2011 Date
Frankly Speaking About Side Effects	January 20
Health Fair	January 30
Health Expo – Diabetes	March 5
Professional Boundaries	March 17
Professional Boundaries	March 26
Psychological Issues in Oncology Medical Residents	April 5
Living with Uncertainty (Blood Cancer Conference)	April 9
Regis 9 News Health Fair	April 9
9 News Health Fair	April 16
Psychosocial Impact of Chronic Illness	June 8
Let's Talk About Sarcopenia	June 16
Professional Boundaries - "Boomers"	July 28
Reasons to Love Chocolate and Other Super Foods	August 15
Get Back to Wellness: Take Control of Your Survivorship	August 18
Exercise for Wellness Customized Exercise	August 25
Services de la Raza Health Fair	August 27

Topic	2011 Date
Nutrition Beyond Cancer	September 1
Living Well with Cancer	September 7
Emotional Health and Well-Being from Patient to Survivor	September 8
Broomfield Days	September 17
Medical Management Beyond Cancer	September 22
Life Beyond Cancer	September 29
Cancer Survivorship	September 24
Professional Boundaries	October 18
9 News Health Fair	November 5 - 9
Healthy Eating for the Holidays Community Class	November 14
Professional Boundaries	November 15

Survivorship Day

The National Coalition for Cancer Survivorship defines a survivor as, "From the time of diagnosis and for the balance of life, a person diagnosed with cancer is a survivor." On June 17, 2011 with the help of our patient advisory board, we celebrated our first survivorship day. The caveat to this celebration was that our patients told us they did not want a fundraiser, they did not want a picnic in the park, they wanted to be with the staff they had come to love. So, on this sunny afternoon in June, we honored our patients' wishes and closed the Comprehensive Cancer Center early - staff, patients, survivors and families came together to celebrate life, normalcy and the very special relationship that we all have. More than 350 patients, families and oncology associates attended this wonderful celebration filled with laughter, music and face painting.



Journey's Boutique/Gift Shop

The Comprehensive Cancer Center's Patient Advisory Council's input was invaluable when planning for the Journey's Boutique/Gift Shop, located in the Exempla Saint Joseph Hospital Comprehensive Cancer Center. The Journey's Boutique/Gift Shop provides products such as cards, gifts and books that our patients, family members, caregivers and visitors may enjoy browsing and purchasing while visiting the Comprehensive Cancer Center. Half of the Journey's Boutique/Gift Shop proceeds are given back to the Saint Joseph Hospital Foundation to support our cancer fund.

The Comprehensive Cancer Center is committed to providing high-quality education programs to faculty, associates and patients.

Professional Activities

- Michele Carey, CEO, CCC, served on the Cancer Support Community Colorado.
- Mercedes Dombi, PharmD, was elected to the Colorado Pharmacists' Society Board of Directors.
- Jana Lomax, PsyD, was invited to participate on the Advisory Board for the Colorado Cancer Registrar's CDC-funded Treatment Summary and Care Plan Project.
- Karen McGraner, RTT, was invited to participate on American Society of Therapeutic Radiology Oncology's (ASTRO) BlueBook Intersociety Summit.
- Karen McGraner, RTT, was invited to participate on the ASTRO Workforce Study (workforce committee sub-chair for the practice managers' survey).
- Karen McGraner, RTT, participated on the Society of Radiation Oncology Administrators (SROA) Chair, Benchmarking and Best Practices Committee.
- Shari Oakland Schulze, RD, CSO, became one of seven board certified specialist in oncology nutrition in Colorado.
- Nick Erikson, Project Manager, Oncology, addressed the Elekta Medical Oncology Summit, Friday, September 30, "Harnessing HITECH Mandates to Become a Change-Driven Practice."
- Nick Erikson, Project Manager, Oncology, addressed the Elekta Medical Oncology Summit, Friday, September 30, "Paperless Beyond Charting: Methods to Improve Practice Management in Our Clinics."
- Nick Erikson, Project Manager, Oncology, addressed the Elekta 2011 Spring MOSAIQ Symposium Series, April 2011, "Developing (And Perfecting) an Electronic Practice."

Community Outreach and Affiliations

- Jana Bolduan Lomax, PsyD, was named as an advisory board member for the Colorado Central Cancer Registry.
- Jana Bolduan Lomax, PsyD, was named as a member of the board of directors for the Children's Treehouse Foundation.
- Jana Bolduan Lomax, PsyD, and Jeanice Hansen, LCSW are active participants on the Quality of Life Task Force for the Colorado Cancer Coalition.
- Jeanice Hansen, LCSW, serves as a consultant with the nationally-recognized Patient Navigator Training Collaborative and provides training workshops on the topic of Professional Boundaries to community health workers (locally and nationally).
- Shari Oakland Schulze, RD, CSO, was named as a member of the Advisory Committee for the "Establishing and Improving Cancer Nutrition Programs in the Community Cancer Setting" education project for the Association of Community Cancer Centers (ACCC).

Publication References

- Kendall, J., Hansen, J., Oakland, S., Collins, L., Parry, C. Building a Menu of Integrative Therapies within a Community Cancer Program. *Oncology Issues*. July/August 2011: 26-31.
- Kendall, J., Glaze, K., Oakland, S., Hansen, J., Parry, C. What do 1281 distress screeners tell us about cancer patients in a community cancer center? *Psycho-Oncology*. February 2011: 594-600.
- Itani, D., McShane, P., Wang, S., Lomax, J., McBreen, C., & Schlaff, W. (2011): "Demonstration of Effective Oocyte Vitrification (OV) for a Fertility Preservation Program Under IRB Guidance." Poster Presentation October 2011 American Society of Reproductive Medicine.

Programs to be Launched in 2012 and Areas of Continued Focus

- Open a outpatient retail pharmacy.
- Develop the Integrative Medicine program.
- Develop Endoscopic Ultrasound.
- Develop the Neuro-Oncology program.
- Acquire a PET CT to be located in the Russell Pavilion.
- Focus on disease-specific program development using cutting-edge treatments, availability of clinical trials, and comprehensive support for patients and families facing cancer.
- Participate in The Heritage Project planning for the new Exempla Saint Joseph Hospital campus.



The Exempla Saint Joseph Hospital Inpatient Oncology department recently expanded to 22-bed all-private room units, located on the 10th floor of the Exempla Saint Joseph Hospital towers North and South wings. This location serves our patient population that primarily consists of individuals 18 years of age and older with oncologic/hematologic diagnosis and the myriad of accompanying conditions that occur in patients with a diagnosis of cancer. Specifically, the medical-oncology patients that we care for include those with leukemia, lymphoma, and hematological disorders such as ITP, myelodysplasia and other anemias. Surgical oncology patients that we will care for include those with breast, colon, GI, ovarian and uterine cancers. We provide care for radiation oncology patients and symptom management of those patients. While the unit specializes in oncology, we occasionally care for patients with varying medical-surgical diagnoses and serve as a medical-surgical overflow unit when our census allows.

We provide a variety of services that are unique to the oncology area. They include but are not limited to: chemotherapy, radiation therapy, pain control and blood transfusions. The average length of stay on oncology is 5.64 days.

On the inpatient unit a sepsis nursing surveillance was implemented during 2011. Early diagnosis and appropriate treatment of sepsis are crucial to improving patient outcomes. The surveillance program focuses on early identification and appropriate treatment, with the goal of stopping the progression of sepsis into severe sepsis or septic shock. We are focusing on sepsis as:

- Patients with a diagnosis of sepsis account for approximately 75% of ICU patients and occur in 2% of all hospitalizations.
- The current rate of sepsis at Exempla Saint Joseph Hospital is 13.9%
- The national mortality incidence with sepsis is 20-50% and currently ranks as the 10th leading cause of death.

The inpatient nurses are keenly aware of the signs and symptoms of sepsis and can start treatment immediately to ensure patient survival.

You will find that our oncology unit is staffed with one of the highest percentages house-wide of BSN prepared and certified nurses. The

evidence in recent studies is clear that outcomes are improved significantly when patients are cared for by nurses with higher education levels and certification competency validation.

We encourage and promote education and professionalism by all our nursing staff. Education specific to oncology is ongoing and also encompasses new patient populations. Compassionate, professional and proficient care and treatment of our oncology patient populations is the expectation and not exception.

Sources:

Niebuhr, B., 2006. *American Board of Nursing Specialties (ABNS) issues findings from the value of specialty nursing certification study.* American Board of Nursing Specialties.

Robert Wood Johnson Foundation. 2005. *Nursing care quality at NQF.* Nursing Quality Forum.

ONCOLOGY CERTIFIED NURSES

It is proven that patients have better outcomes when nurses have advanced certifications. Congratulations to the Exempla Saint Joseph Hospital Comprehensive Cancer Center Oncology Certified Nurses (OCNs) for their dedication to oncology and their high level of professionalism.

- Kim Andrews, RN, Infusion Center
- Jennifer Anthony, RN, Infusion Center
- Elyse Bowman, RN, Inpatient Unit
- Kim Bradway, RN, Inpatient Unit
- Becky Brown, RN, Infusion Center
- Shelley English, RN, Inpatient Unit
- Helen Gebre, RN, Inpatient Unit
- Lucy Gorman, RN, Radiation Oncology
- Rosemary Hensley, RN, Radiation Oncology
- Jane Kindvall, RN, Radiation Oncology
- Ashley Lamkin, RN, Inpatient Unit
- Joe Pumo, RN, Inpatient Unit
- Cheri Rice, RN, Inpatient Unit
- Julie Sestak, RN, Infusion Center
- Cindy Shryock, RN, Infusion Center
- Joan Wolf, RN, Inpatient Unit

SAINT JOSEPH HOSPITAL FOUNDATION

Saint Joseph Hospital Foundation

Exempla Saint Joseph Hospital is building on our legacy of nearly 140 years of health and healing in our community, as well as on the highest level of excellence in care we provide every day. The Heritage Project – the building of the new Saint Joseph Hospital – will revitalize our downtown Denver campus and create the newest, most modern hospital in Colorado. Our new facility will open in late 2014 and ensure the best in quality, affordable health care for our community for generations to come. The Heritage Project serves as the cornerstone of Saint Joseph Hospital Foundation’s programs, projects and opportunities at every level. Building on our primary objectives of providing support to Saint Joseph Hospital and preserving the long tradition of quality health care, the Foundation’s focus is to maximize every opportunity hospital-wide to find and cultivate donors and to creatively care for and grow those relationships in to ongoing support for Saint Joseph Hospital. The vision of Saint Joseph Hospital Foundation is to provide the resources necessary to move Saint Joseph Hospital into the future as an exemplary Hospital serving the health care needs of the Denver community, regardless of race, color or creed. The Heritage Project allows the Foundation to achieve our vision by building on community support in the tradition and spirit of the Sisters of Charity of Leavenworth Health Systems.

Komen Affiliation

The Denver Metropolitan Affiliate of Susan G. Komen for the Cure® has supported Exempla Saint Joseph Hospital in its mission since 2000 by providing funding for breast cancer treatment services for low-income and uninsured members of the community; in 2011, the Komen Denver Affiliate granted approximately \$400,000 for patient treatment services. In 2005, with support from the Affiliate, Exempla Saint Joseph Hospital developed a Mobile Mammography Program at the Comprehensive Cancer Center. The Affiliate continued to fund nearly \$350,000 in screening and follow-up diagnostic services in 2011 for uninsured and low-income patients throughout its 19-county service region.



2011 CANCER PROGRAM MEMBERS

Coordinators

Leo Alfaro, MD	Cancer Liaison Physician
Catherine Bieker, RHIT, CTR	Performance Improvement
Deborah Cook, MD	Quality of Cancer Registry Data
Richard Hesky, MD	Cancer Committee Chairperson
John Moore, MD	Cancer Conference
Ann Wilcox, RN	Community Outreach

Physicians

Leo Alfaro, MD	General Surgeon
Ari Ballonoff, MD	Radiation Oncologist
Wilson Bourg, MD	Medical Oncologist
Mark Chidel, MD	Medical Director, Radiation Oncology
Deborah Cook, MD	Medical Oncologist
Deborah Davis-Merritt, MD	General Surgeon
Steven Gunberg, MD	Radiologist
Richard Hesky, MD	Medical Director, Comprehensive Cancer Center
James Jacobs, MD	Radiation Oncologist
Michelle Klem, MD	Radiation Oncologist
Alice Luknic, MD	Medical Oncologist
Daniel Maher, MD	General Surgeon
Denise Norton, MD	General Surgeon
Steven Panian, MD	Kaiser Permanente General Surgeon
Jerome Schroeder, MD	Breast Radiologist
Cathy VanBlerkom, MD	Pathologist

Multidisciplinary (Non-Physician) Membership

Shelly Franca, RN, OCN	Oncology Nurse
Jeanice Hansen, Oncology MSW	Social Worker/Case Manager
Heather Harsh RN, BSN, MSPH, OCN	Oncology Nurse

Certified Tumor Registrar

Catherine Bieker, RHIT, CTR	Supervisor, Cancer Registry
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Performance Improvement Professional

Catherine Bieker, RHIT, CTR	Performance Improvement
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Oncology Pharmacy

Mercedes Dombi, PharmD	Pharmacy Manager Comprehensive Cancer Center
Linda Iriye, RPh	Manager, Pharmacy

Psychiatric Professional

Jana Bolduan Lomax, PsyD	Director of Psychosocial Oncology, Comprehensive Cancer Center
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Radiation Oncology

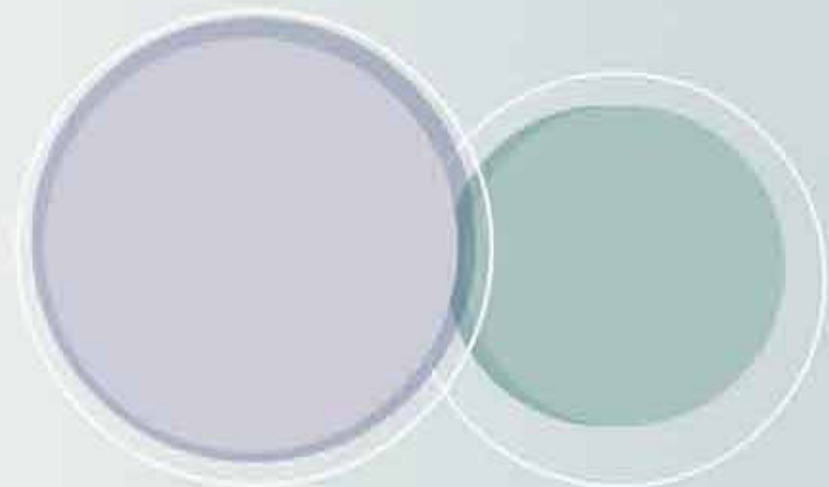
Karen McGraner, RTT	Director, Radiation Oncology
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Administration

Michele Carey, RN	Executive Director, Comprehensive Cancer Center
Barb Jahn, BSPT, MHS, NHA	Vice President, Operations
Mary Shepler, RN, BSN, MA	Vice President Chief Nursing Officer
Ann Wilcox, RN	Director of Business Development, Comprehensive Cancer Center

Additional Committee Members

Joan Berry, RT	Director, Breast Center
Patricia Bourie, RN	Kaiser Permanente Research Program
Emily Cohen, RN	Stomal Care
Joanne Hindle, RN	Colorado Cancer Research Program
Michelle Markley, RHIT	Cancer Registrar
Kathy Molloy, RHIT	Clinical Research Coordinator
Shari Oakland Schulze, RD, CSO	Nutrition
Sarah Rickel, PT-CLT	Rehabilitation Services
Cindy Shryock, RN	Director of Clinical Operations, CCC
Nancy Wagner	Cancer Registrar
Debi Wallace	Cancer Registrar


























PHONE NUMBERS AND THE COLORS OF CANCER AWARENESS

The Comprehensive Cancer Center is dedicated to providing state-of-the-art cancer care based on the latest medical knowledge. We also provide patients and their loved ones a full complement of support services. We have centralized a vast array of outpatient services under one roof, making care more convenient, efficient and effective.

In addition to the highest standards of medical care, we will improve the health of our community by educating about cancer prevention, early detection, risk reduction, and the promotion of healthy lifestyles.

Comprehensive Cancer Center, ESJH Main	303-318-3434
Breast Care Center, ESJH Main	303-318-3400
Cancer Center Inpatient 10 N Unit, ESJH	303-837-7080
Cancer Center Inpatient 10 S Unit, ESJH	303-837-7090
Cancer Registry	303-837-6866
Clinical Research	303-318-3434
Diagnostic Imaging Service, ESJH	303-837-6800
Infusion Center, ESJH	303-318-3434
Lymphedema Services, ESJH	303-837-7125
Nutritional Counseling, ESJH	303-318-1304
PET/CT, ESJH	303-837-6800
Pharmacy, ESJH Oncology	303-318-3434
Physical Medicine and Rehabilitation	303-837-7125
Psychosocial Oncology, ESJH	303-318-1322
Radiation Oncology, ESJH	303-837-6860
Speech Therapy	303-837-7125
Spiritual Care	303-897-2629

The Colors of Cancer Awareness

Breast	 Pink
Ovarian	 Teal
Leukemia	 Orange
Melanoma	 Black
Liver	 Emerald Green
Cervical	 Teal and White
Colon	 Dark Blue
Childhood	 Gold
Kidney	 Kelly Green
Pancreatic	 Purple
Leiomyosarcoma	 Purple
Lymphoma	 Lime
Lung	 Pearl
Uterine	 Peach
Brain	 Gray
Prostate	 Blue
Bladder	 Yellow
Sarcoma/Bone	 Yellow
Esophageal	 Periwinkle Blue
Stomach	 Periwinkle Blue
Thyroid	 Teal and Pink and Blue
Head and Neck	 Burgundy and Ivory
Multiple Myeloma	 Burgundy
General	 Lavender

WEB RESOURCES

These Web sites range from the general – providing overview information – to the specific, including sites dealing with specific cancers and support as well as health and wellness.

All Cancers

Exempla Saint Joseph Hospital Comprehensive Cancer Center	www.SaintJosephCancerCenter.org
Association of Cancer Online Resources (ACOR)	www.acor.org
American Cancer Society	www.cancer.org
American College of Radiology	www.radiologyinfo.org
American Society of Clinical Oncologists (ASCO)	www.asco.org
American Society of Clinical Oncology	www.plwc.org
Cancer Care.org	www.cancercares.org
Cancer Health Online	www.cancerhealthonline.com
Cancer Help	www.cancerhelp.8m.com
Cancer Research and Prevention Foundation	www.preventcancer.org
Cancer Source.com	www.cancersource.com
National Cancer Institute, NIH	www.cancer.gov
National Library of Medicine	www.medlineplus.gov
National Institutes of Health	www.nlm.nih.gov
Palliative Care	www.getpalliativecare.org
The Wellness Community	www.thewellnesscommunity.org

Brain Cancer

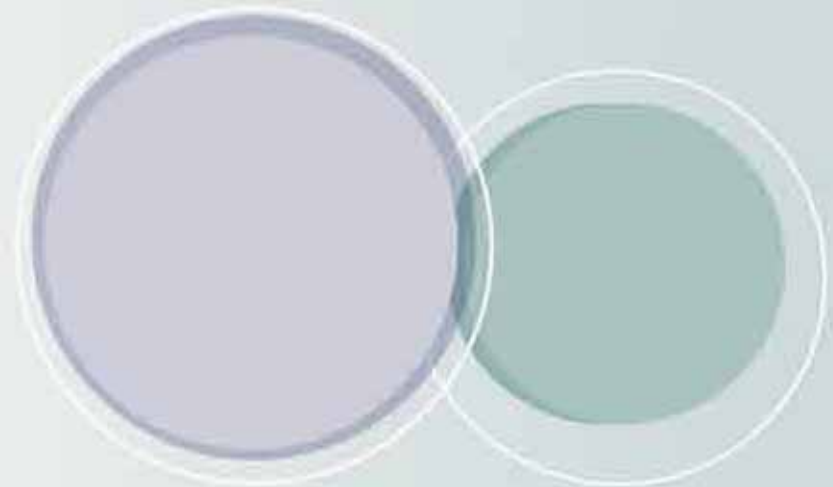
The American Brain Tumor Association	www.hope.abta.org
National Brain Tumor Foundation	www.braintumor.org

Breast Cancer

Living Beyond Breast Cancer	www.lbbc.org
National Breast Cancer Coalition (NBCC)	www.stopbreastcancer.org www.natlbcc.org
Susan G. Komen Breast Cancer Foundation	www.komen.org
Mothers Supporting Daughters with Breast Cancer	www.mothersdaughters.org
National Alliance of Breast Cancer Organizations (NABCO)	www.nabco.org
SHARE: Self-help for Women with Breast or Ovarian Cancer	www.sharecancersupport.org
Y-Me National Breast Cancer Organization	www.y-me.org

Colon Cancer

Colon Cancer Alliance (CCA)	www.ccalliance.org
Colorectal Cancer Patient Education Center	www.medscape.com



Gynecological Cancer

American College of Obstetrics and Gynecology	www.acog.org
Gilda's Club	www.gildasclub.org
Gilda Radner Ovarian Cancer Familial Registry	www.ovariancancer.com
Gynecologic Cancer Foundation	www.wcn.org
National Cervical Cancer Coalition	www.nccc-online.org
National Ovarian Cancer Coalition (NOCC)	www.ovarian.org
Ovarian Cancer National Alliance	www.ovariancancer.org
SHARE: Self-help for Women with Breast or Ovarian Cancer	www.sharecancersupport.org
Women's Cancer Network: Gynecologic Cancer Foundation (GCF)	www.wcn.org

Leukemia and Lymphoma

Lymphoma Research Foundation of America	www.lymphoma.org
The Leukemia & Lymphoma Society	www.leukemia.org

Lung Cancer

American Lung Association of the District of Columbia	www.aladc.org
Alliance for Lung Cancer Advocacy, Support, and Education (ALCASE)	www.alcase.org
Lung Cancer Alliance	www.lungcanceralliance.org
Lung Cancer Online	www.lungcanceronline.org

Prostate Cancer

Zero: The Project to End Prostate Cancer	www.zerocancer.org
Us Too International, Inc.	www.ustoo.com

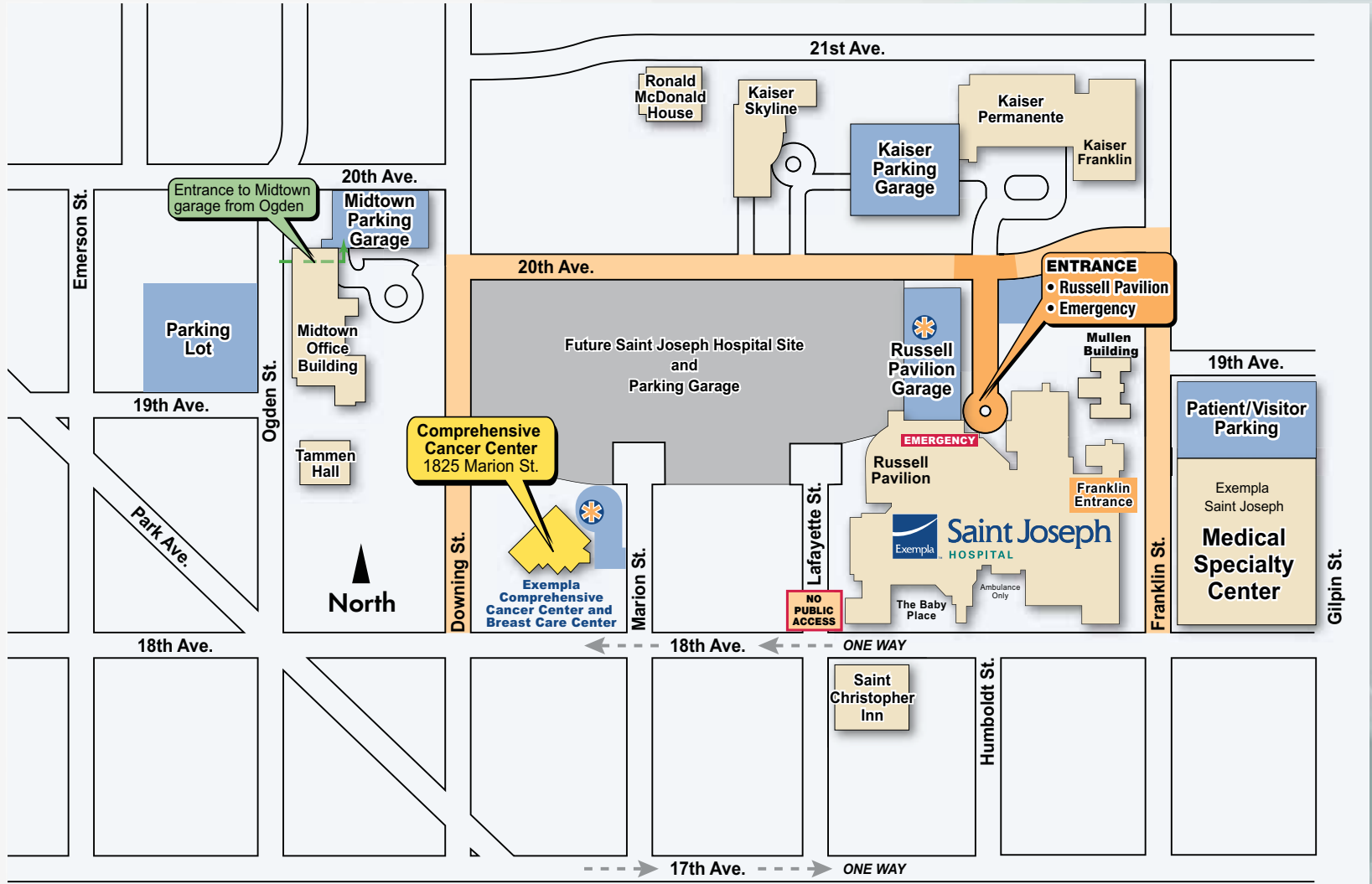


Comprehensive Cancer Center

at SAINT JOSEPH HOSPITAL

A member of Sisters of Charity of Leavenworth Health System

1825 Marion Street
 Denver, CO 80218
www.SaintJosephCancerCenter.org



☼ Complimentary valet parking is available at both the Russell Pavilion Garage and the Comprehensive Cancer and Breast Care Center.