THE HEART OF MAINE ONS CHAPTER WISHES YOU A

Merry Christmas & Happy New Year!

Winter 2023 Edition

What's Inside:

President's Message

Happy New Year,

I am excited about the ONS year ahead. We are excited to be holding our 2nd HOM Symposium at the Harraseeket Inn in Freeport on April 6, 2024. We have an exciting line up of speakers. Be sure to look for more information coming soon.

We have set our dates for the 2024 Chapter Engagements. Topics are still pending but please save the following dates to attend:

April 25th
May 16th
June 20th
September 19th
October 17th
November 7th.

These are great opportunities to meet other members, network and receive education! Remember we do have a ZOOM option so if you would like to attend a chapter meeting/engagement please reach out to Nicole Brown @ nicole.brown@mainegeneral.org and she can send you the link for you to use to join us for the engagement. Hope to see you there.

I would also like to take the opportunity to thank Lindsay Lapierre for agreeing to be the editor of our HOM newsletter. Thanks Lindsay and Welcome to Heart of Maine Chapter!!

I am looking forward to seeing many of you at the Symposium and our Chapter engagements in 2024!

Patty Brown
President of Heart of Maine ONS

WE LOOK FORWARD TO SEEING YOU IN THE NEW YEAR!

Save the Date!

April 6, 2024

Nursing Symposium | Harraseeket Inn in Freeport

Featuring national speakers:

- **Sage Bolte, PhD, LCSW, OSW-C**
  Sexuality, Intimacy and Cancer
- **Carey Cadieux PhD, RN, AHN-BC**
  Medical Cannabis use in Oncology (with a patient panel)
- **Leslie Bradford, MD**
  The Obesity-Cancer Connection
- **Laura Nelson, MD**
  Interpretation of Pathology Reports in Malignant Breast and Lung Neoplasms
- **Rev Valerie Lovelace, MS**
  Understanding the Maine Death with Dignity Act

A block of rooms has been reserved at a discounted rate. CEU's will be provided. Stay tuned for more details. We look forward to seeing you!

Upcoming Chapter Meetings & Engagements

April 25 | *Location TBD*

May 16 | *Location TBD*

June 20 | *Location TBD*

September 19 | *Location TBD*

October 17 | *Location TBD*

November 21 | *Location TBD*

Reminder:

Zoom is available for all chapter and board meetings. Please reach out to Coco Brown via Email if interested in this option at nicole.brown@mainegeneral.org.

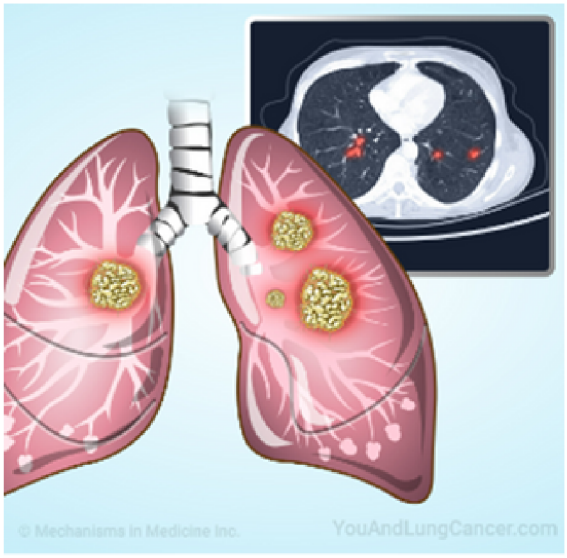
We want to hear your ideas!

Do you have an idea for a fun future ONS engagement? Email ideas to nicole.brown@mainegeneral.org

The Nurse Navigators Role in Genetic Biomarker Testing in Non-Small Cell Lung Cancer

Kerri Medeiros BSN, RN, OCN, ONN-CG

Nurse navigation is a dynamic level of oncology care. The concept of patient navigation was originally created in 1990 at the Harlem Hospital Center in New York City as an approach to help socially disadvantaged and vulnerable populations with timely access to breast cancer care. Since the mid-1990s, navigation programs have expanded to include many patient populations that require specialized management and timely access to diagnostic and clinical resources (Freund, et al.,2014). Nurse navigators are in an excellent position to facilitate efficient assessment and ensure timely results of molecular tests for first-line therapy with appropriately targeted agents in advanced non-small-cell lung cancer (NSCLC).



In 2020, an estimated 135,720 people will die from Lung Cancer in the United States (Siegel et al., 2020). Encouragingly, treatment advances have been promising in NSCLC. These advances are largely attributable to the identification of driver pathogenic variants in NSCLC. Identifying molecular alterations is crucial to prescribing therapies that can result in significant responses and long periods of disease control. Overall, targeted therapies play a substantial role in the clinical management of NSCLC (Nadler, Pavilack, Clark, Espirito, & Fernandes, 2019). However, the incidence of tumor genomic testing remains low, particularly in community practice (Mileham, et al., 2022). At the Harold Alfond Center for Cancer Care (HACCC) the oncologists have made biomarker testing priority, and have enlisted the help of the point of entry (POE) lung cancer nurse navigators in identifying patients that may benefit from genomic biomarkers testing. This allows patients tumors to be sent as soon as pathology is resulted and when appropriate liquid biopsy testing.

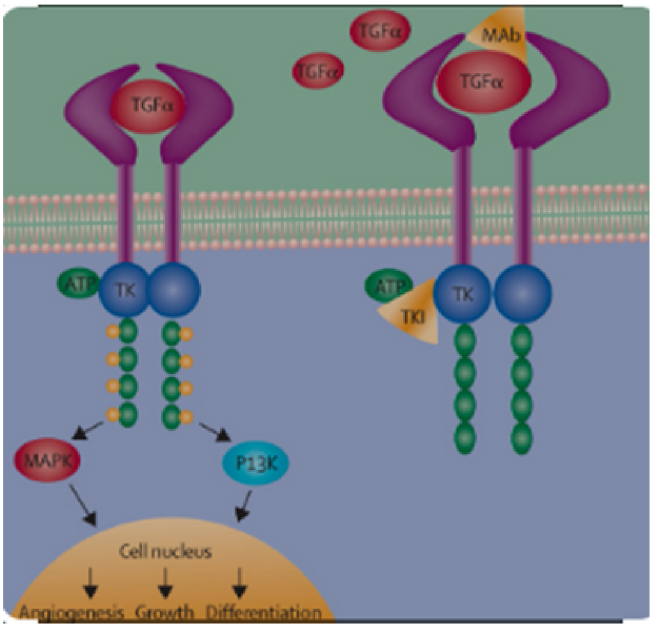
Newly referred patients with thoracic malignancies are contacted by POE lung cancer navigator within 24 hours of receiving the patient's referral. Patients can be referred to the POE lung cancer nurse navigator/ oncology as early as a suspicious lung nodule is seen on imaging. POE nurse navigators are responsible for ensuring that additional stage-appropriate exams—including radiologic, diagnostic, and molecular tests—are ordered prior to consultation. POE nurse navigators efficiently use the time between referral and oncology consultation to assess for barriers to care, provide education, and ensure appropriate work up is completed. This includes biomarker testing per the National Comprehensive Cancer Network (NCCN) guidelines.

The use of biomarker driven targeted therapies used in treating NSCLC, have shown superior efficacy compared with chemotherapy in several pivotal clinical trials. Studies have shown overall survival from the initiation of first line treatment of patients whose disease tested positive for a biomarker and were given a targeted therapy for first line treatment (27.7 months; 95% CI, 26.2–29.4 months) was significantly longer than those patients whose disease tested positive for a biomarker but received non- targeted first line therapy (19.5 months; 95% CI, 17.2–20.7 months (Nadler, Pavilack, Clark, Espirito, & Fernandes, 2019).

The Nurse Navigators Role in Genetic Biomarker Testing in Non-Small Cell Lung Cancer *Continued...*

Kerri Medeiros BSN, RN, OCN, ONN-CG

A survey response showed oncologist that initiated first line treatment prior to results has been secondary to turnaround time in biomarker testing, and learning quantity is insufficient for testing (Bhandari, Hess, He, & Peterson, 2023). At HACCC we are have put steps in place to improve the later issues.A work flow has been put in place so the POEN lung cancer navigator determines if diagnosis and staging meet criteria for biomarker ordering, and then arranges for the pathology to be sent out for testing. In addition, a liquid biopsy is also sent, so that "quantity insufficient" is not problematic. A survey went out to HACCC providers and the majority of oncologists agreed that POE lung cancer navigator initiated biomarker testing improves their workflow and they were satisfied with this new process.



As a point of entry navigator nurse, I want to improve workflows and help get patients to the right treatment at the right time. POEN lung cancer navigators provide education on biomarker testing and its ability to provide a targeted therapy. In addition, we discuss that biomarker testing typically occurs before beginning treatment, so the information obtained can help direct and individualize their treatment plan. We inform patients that biomarker testing gives us information specific to their tumor. Additionally, nurse navigators let patients know that not everyone will have an actionable variant in their report, but are able to offer hope by explaining new treatments are constantly being studied and a non-actionable variant today may have a treatment in the future. In conclusion POEN navigators are always looking for innovative ways to assist patients in getting to the right test and treatment at the right time.

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Genetics in Breast Cancer

Nicole Brown RN, OCN, ONN-CG

Breast cancer is the most common malignancy in women and the second leading cause of death in women. In fact, one in eight women will be diagnosed with breast cancer in their lifetime ("Breast Cancer Facts: The National Breast Cancer Foundation," 2012). Approximately 15% to 20% of these breast cancers are familial and of those 5% to 10% can be linked to an inherited germline genetic mutation called BRCA1 and BRCA2 (Smith, 2012). This article will discuss BRCA1 and BRCA2 inherited breast cancers and some of the genomics behind them.

Advances in genomic diagnostics help to predict prognosis and allow for potential personalized treatments and possible improved quality of life for those diagnosed with cancer. As an oncology nurse the genomics of breast cancer is of interest to me.

Hereditary breast cancer runs in families where many generations can be affected. Most of these breast cancers are linked to mutations in the high penetrance genes BRCA1 and BRCA 2 (Groep, Wall & Diest, 2011). BRCA1 and BRCA2 mutations are high penetrance autosomal disorders (Smith, 2012). Women with BRCA mutations are associated with an increased risk of breast cancer. In fact, it is estimated that women with BRCA mutations hold a 56% to 84% lifetime risk at developing breast cancer. This is about 12% higher than the general population of women (Smith, 2012).

According to Groep, Wall and Diest (2011) " Both BRCA genes bear rather complex genomic structures. BRCA1 is composed of 24 exons and BRCA2 of 27 exons. They both encode very large proteins: BRCA1 consists of 1,863 amino acids and BRCA2 of 3,418 amino acids" (p. 73). The BRCA1 and BRCA2 are involved in DNA repair and pathways that are responsible that are responsible for chromosomal stability and genome integrity (Groep, Wall & Diest, 2011). BRCA mutations tend to be equally spread across the coding sequence. Most mutations found in hereditary breast cancer are thought to truncate the protein product, which leads to nonfunctioning BRCA1 and BRCA 2 proteins. The most frequently observed mutations are small frameshift insertions or deletions, non-sense mutations or mutations that affect splice sites. Theses mutations are found in 70% of BRCA1 mutations and 90% of BRCA2 mutations.

The gene expressions profiles for BRCA1 and BRCA2 mutations differ and therefor management for theses hereditary breast cancers can also differ. BRCA1 mutations are often estrogen negative. BRCA2 mutations are often estrogen positive. BRCA1 mutations also carry an increased risk of developing ovarian cancer compared to BRCA2 mutations. The lifetime risk of developing ovarian cancer with a BRCA1 mutation is estimated to be between 40% o 60%, and the estimated lifetime risk for ovarian cancer with a BRCA2 mutation is estimated at 15% (Silva et al., 2008). Management with an anti-estrogen therapy in the estrogen positive tumor is a treatment option that is more likely available to patients with BRCA2 mutations verses patients with BRCA1 mutations. It is also compelling to integrate the knowledge of increased risk of ovarian cancer when considering a prophylactic oophorectomy in the premenopausal patient.

Genetics in Breast Cancer *Continued...*

Nicole Brown RN, OCN, ONN-CG

Cost and availability of genetic counseling as well as the maintenance of privacy and potential discrimination in regards to testing for BRCA mutations is a bioethical concern. The cost genomic testing can range from $1900 - $4860. Reimbursement or lack of health insurance has the potential to be a barrier in assessing genetic risk (Lieberthal, 2013). Those who are tested are at risk of their genomic information being leaked and used against them when they seek health insurance or employment. The United States of America instituted The Genetic Information Nondiscrimination Act (GINA) in 2008 to offer protections against employers and insurance companies ("Genetic Information Nondiscrimination Act of 2008," 2012). However, in today's world there is the ability to share, store and steal information found in electronic medical records. GINA is a law but not a guarantee.

Genetic testing does have pros and cons therefore it is important to have a conversation with a geneticist or genetic counselor to discuss all aspects of testing and whether or not it is right for the individual.

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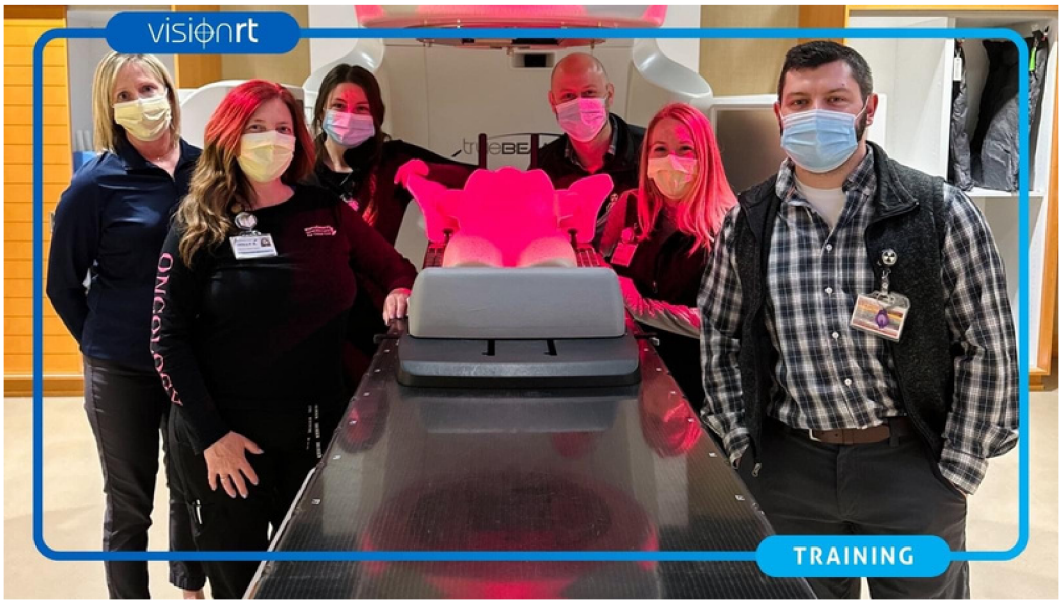
Using SGRT to Reduce Radiation Induced Side Effects

Holly Andrews, RT(T)



Radiation Therapy is very effective in treating breast cancer. However, treating the left breast can affect the heart and lead to complications. When treating the left breast, the desire is to minimize radiation to the heart. When a patient takes a deep breath, the heart is pulled away from the chest wall and protects it from unnecessary radiation exposure. This technique can be inconsistent as the Radiation Therapists have no way of knowing if the patient is taking the same depth of breath each time, or if the breath is being released as the beam is delivering the dose. To make this technique more consistent, many clinics are using surface guidance for these patients.

Surface Guided Radiation Therapy (SGRT) is a system that uses 3D cameras to track patients' external anatomy to ensure accurate setup, and monitors patient movement during radiation treatments. There are a couple providers of SGRT systems, but VisionRT is the most prevalent, with their AlignRT system. The Harold Alfond Center for Cancer Care implemented this technology in April 2023. SGRT is a rapidly growing technology and VisionRT's AlignRT software suite is being used in more than 2400 clinical sites around the world. The system provides accurate, real-time monitoring of motion, which is especially beneficial for left breast treatments when using the Deep Inspiration Breath Hold (DIBH) technique. With AlignRT for SGRT, the computer screen in the treatment room provides a live video feed of the patients' current position overlaid with body contours from the planning simulation to accurately position the patient before imaging and treating. The Radiation Therapists use the system to perfectly align the patient before stepping out of the room. This can reduce the amount of images that need to be taken to verify and correct the setup, resulting in less overall radiation to the patient. At the treatment console with Beam Control enabled, the system provides real-time monitoring of the patient and will automatically pause the beam when the patient falls out of tolerance. The treatment will automatically resume when the patient falls back into the correct position.

Studies indicate that 27% of patients treated to the left breast developed cardiac defects within 6 month after treatment. A study at the University of North Carolina showed that using the DIBH technique along with AlignRT resulted in 0% of patients showing cardiac effects 6 months after treatment. This allows for a better quality of live for the patient.
SGRT can be used for many other sites as well, with similar results. The Radiation Oncology team at the Harold Alfond Center for Cancer Care is also using this technology for treatments to extremities, stereotactic treatments to the brain and chest and other areas where patient motion needs to be monitored.

Our December Networking Event at Kume and Hatchet House was a blast! Thanks to all who attended!

Join us!

Tell your friends and colleagues!

Why join ONS and attend local chapter meetings?

Local Heart of Maine Chapter Benefits:

- Anyone who has been an ONS member for at least 1 year and attends 75% of the Heart of Maine programs is eligible for a $500 scholarship each year to use towards a conference or other approved educational offerings. Talk to a board member for more information!
- All attendees are entered to win a $25 Amazon gift card that is drawn at the end of each meeting.
- Those that attend 4 of the 6 chapter meetings will receive a **FREE ONS MEMBERSHIP**!

ONS National Membership Benefits:

- ONS members save $120 on all ONCC certifications
- ONS members save $150 on ONS Congress
- ONS members have access to discounted and free CEU's through www.ons.org
- ONS offers scholarships towards bachelors and masters degrees.
- Free subscription to ONS journals including CJON
- Student Nurses are eligible for **FREE ONS MEMBERSHIP!**

Upcoming Board Meetings

March 7 | *Location TBD*

May 2 | *Location TBD*

September 5 | *Location TBD*

November 7 | *Location TBD*

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