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Meet Susan

A Survivor's Journey Enabled through Early Detection

Susan is a survivor.

In 2020, Susan worked at Cookeville Regional Medical Center as a CT Technologist when a devastating F4 tornado struck her small town. Amid the chaos, Susan lost her house, suffered personal loss, and sustained injuries herself. While receiving treatment in the emergency department, Susan, displaying incredible resilience, even attempted to leave her room to help manage the influx of patients from the surrounding area.

After her release from the hospital and physical recovery, Susan worked to adjust to her losses and rebuild her life. Susan focused on her daughters, her career and her church.

Susan's next challenge in life came in 2023 when she was struggling with prolonged recovery from COVID-19. Even though she had quit smoking over 25 years ago, her status as a former smoker, combined with her difficult recovery, prompted her physician to order a CT scan of her lungs. The scan revealed a small indeterminate spot. To assess if it was metabolically active, her doctor referred her for a PET/CT scan on the Canon Cartesion Prime which led to a diagnosis of lung cancer.

While Lung Cancer is the Leading Cause of Cancer Deaths in the US, New Imaging Tools are Making an Impact

Lung cancer is the leading cause of cancer deaths for both men and women in the U.S., with 238,000 new cases diagnosed in 2022 and 357 patients dying every day from lung cancer.[1] Advances in imaging technology and expanded access to screenings are helping to shift the narrative.

238,000

new cases in 2022[1]

20.6%

go untreated in the US [1]

357

die from lung cancer every day [1]

The 5-year period ending in 2022 saw a significant increase in lung cancer survival. This progress is due to more effective treatment options and early detection enabled by cutting-edge imaging technologies.

For example, imaging technologies like PET/CT provide clearer images and to help improve the accuracy of diagnosis with more advanced imaging tools, which have been instrumental in increasing survival rates. These technologies, along with increased screening availability, are helping give patients like Susan a better chance at early diagnosis, curative treatment, and, ultimately, survival.

Advanced Imaging with Digital PET/CT to Assist with Early-Stage Detection

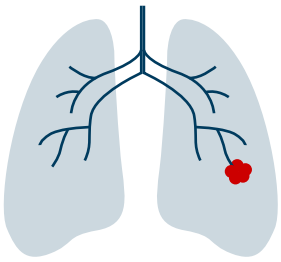
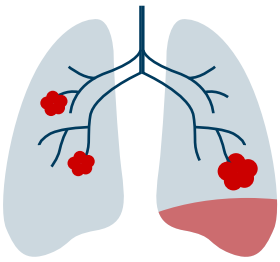
Susan was fortunate to receive her diagnosis and treatment at Cookeville Regional Medical Center which has the Cartesion Prime from Canon Medical, an advanced AI-enabled digital PET scanner. This cutting-edge technology combines Time-of-Flight (TOF) digital PET with the Aquilion Prime SP's premium CT features, offering a transformative approach to imaging.

Canon is dedicated to equipping healthcare providers with the most advanced imaging technology, such as Artificial Intelligence for both PET and CT, delivering detailed, fast, and accurate images. This may allow patients like Susan to benefit by showing the metabolic activity of her small lung lesion, possibly improving the accuracy and confidence of her diagnosis.

The Cartesion Prime improves image quality by reducing noise and enhancing clarity. It also provides faster patient throughput and may provide more confident diagnoses compared to analog PET systems. These technologies are important to help give patients like Susan, a better chance for early-stage diagnosis and treatment.

The Benefits of Early-Stage Diagnosis[1,2]

Earlier diagnosis comes with better survival rates and lower treatment costs

	EARLY-STAGE DIAGNOSIS	LATE-STAGE DIAGNOSIS
		
5-Year Survival Rate	**63%**	**8%**
Cost of Treatment for First Year	**$30,000*** **(approximate)**	**$100,000 or more**

*Cost of surgery

Canon's PET Technology: Precision Visualization of Small Lesions

Canon's digital Cartesion Prime PET technologies include the latest PET innovations and may support the assessment of disease pathology at an early stage. These advanced technologies deliver exceptional image quality, high-speed scanning, accurate quantification, and low radiation dose.

> A small lung nodule might look insignificant on a CT scan, but a PET/CT scan can reveal hidden disease, changing the course of treatment. Without it, we could miss critical sites of disease, leading to inadequate treatment.

—Algis Sidrys MD
Radiation Oncologist
Vanderbilt Integrated Providers, LLC

At Canon, we only offer digital PET scanners and configure every system with advanced tools and technologies. Our goal is for every patient like Susan that is imaged on Canon equipment to get the most accurate diagnosis possible in hopes of catching disease at the earliest stage.

All Digital Cartesion Prime

From fast patient throughput to detailed diagnostic scans, the Cartesion Prime AI-assisted PET/CT is a versatile system that supports the evolving needs of today's healthcare providers.

> Lung screening is very needed. We have a lot of lung cancer in this area.
>
> —**Amanda Bain**
> Director of Imaging
> Cookeville Regional Medical Center

Premium CT Performance: True Dual-Use Capabilities

What makes the Canon Cartesion Prime so powerful is its ability to go beyond what is needed for PET/CT. Unlike competing systems that rely on older or less powerful CTs, Canon integrates its premium Aquilion Prime SP CT into the Cartesion Prime PET/CT scanner. The robust 80/160-slice* CT system allows healthcare providers to expand their clinical capabilities by supporting overflow CT scans, lung screenings, and other imaging department needs.

The Canon Cartesion Prime PET/CT scanner, known for its rapid scan times, plays a dual role at Cookeville Regional Medical Center. While primarily used for PET /CT imaging, its efficiency has allowed the facility to tackle the increasing demand for CT lung cancer screenings and help clear up the backlog which has developed since the program's inception in 2016.[3]

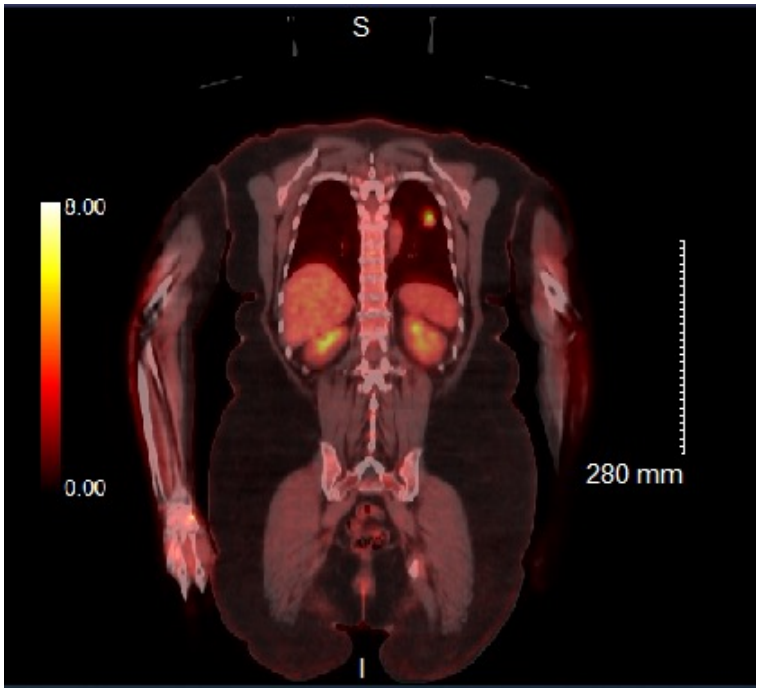
Even with the additional volumes of PET/CT and the addition of CT Lung Cancer Screenings, CRMC has been able to adjust its schedule. It dedicates two days a week to the scanner to handle CT overflow, easing the burden on its limited resources.

2023 Lung Cancer Screenings at Cookeville Regional Medical Center[3]

1700+

*with optional coneXact

Susan's Outcome: A Second Chance



Susan's Scan

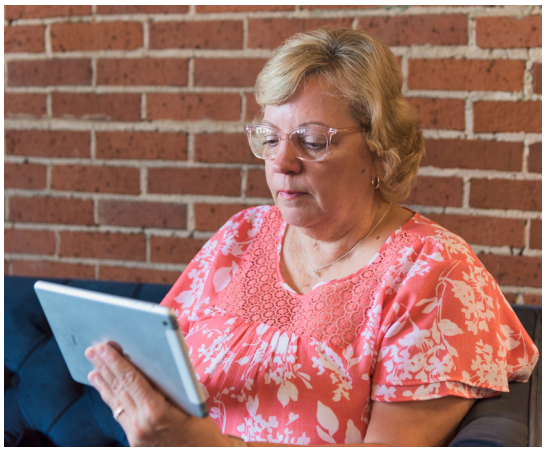
The PET/CT scan on the Cartesion Prime confirmed that the spot was highly active, with good target-to-background contrast, despite being very small.

Thanks to early detection and intervention, Susan's doctors determined that the small lung lesion could be treated surgically. This meant that Susan avoided more aggressive treatments like chemotherapy or radiation. The surgery alone was deemed sufficient, and she was able to resume her life cancer-free.

Susan was very lucky to be diagnosed early. Only **20.8%** of lung cancer cases are found early enough to undergo surgical treatment, which is most likely to be curative.[1]

Looking Ahead: Susan's New Chapter

Since Susan's lung cancer was detected early using powerful tools like the Cartesion Prime, she was able to continue her career as a CT Technologist at Cookeville Regional Medical Center, with the expectation of living a full life.



After an accomplished career in healthcare, Susan retired in 2023. Now, she enjoys a vibrant retirement, staying active in her church and local YMCA. Susan cherishes spending time with her daughters and is helping plan an upcoming wedding.

Susan's journey, marked by resilience in the face of personal loss and serious health challenges, is a testament to the power of early detection and advanced medical technology to change lives.

References

1. State of Lung Cancer 2023. 9American Lung Association, Chicago, IL). https://www.lung.org/getmedia/186786b6-18c3-46a9-a7e7-810f3ce4deda/SOLC-2023-Print-Report.pdf
2. Ernst, Rachel. How Much Does Lung Cancer Treatment Cost? 2024. (Lung Cancer Center) https://www.lungcancercenter.com/news/lung-cancer-treatment-cost/
3. Data on File

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