



Gallium-68 is key

How thought leaders are unlocking advances in PET imaging and theranostics

The future is here

Gallium-68 (Ga-68) is a key radioisotope in nuclear medicine primarily used in positron emission tomography (PET) imaging for various medical conditions, including those within the oncology setting.

Ga-68 is largely employed in conjunction with specific ligands which target somatostatin receptors as a mechanism to accurately image neuroendocrine tumors (NET) as well as prostate specific membrane antigen (PSMA) in the imaging, diagnosis and staging of prostate cancer.

The isotope is making an impact: Data available for currently FDA-approved Ga-68 radiotracers showcases proven efficacy and accuracy to limit false positives, ultimately delivering confidence to both practitioners and their patients.¹

This confidence is helping to drive Ga-68 to the forefront of theranostics clinical trials. Ga-68 is playing a role in advancing personalized medicine and facilitating tailored diagnostic and therapeutic solutions for patients. Several FDA-approved imaging agents are already commercially available and hundreds of clinical trials are underway investigating the use of Ga-68 labeled radiopharmaceuticals for the diagnosis of various types of disease.²

Ga-68 can be radiolabeled to a variety of targeting molecules, making it an exciting isotope that is currently being studied across a broad range of indications and disease states,² including:

- Brain and CNS tumors
- Neuroendocrine tumors
- Colorectal cancer
- Pancreatic cancer
- Esophageal cancer
- Prostate cancer
- Head and neck cancers
- Sarcomas
- Kidney cancer
- Solid tumors
- Melanoma
- Other skin cancers

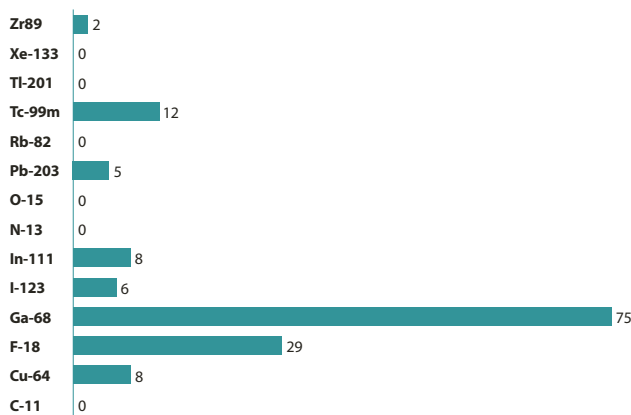
Today, Ga-68 is the most widely used diagnostic isotope in ongoing theranostic clinical trials.³

This highlights Ga-68's utility and critical role in spurring the future growth expected in the nuclear medicine industry — which is projected to triple between 2023 and 2030, largely driven by the growth of theranostics.⁴

Ga-68 has the potential to play a key and leading role in this growth.

Dx nuclides in recruiting theranostic trials (any phase)

Data as of October 2025³



Key facts about Ga-68

- ✓ Tracers with proven efficacy and accuracy to limit false positives¹
- ✓ Key isotope in developing radiotracers across a broad range of indications and disease states
- ✓ Most widely used diagnostic isotope in theranostic clinical trials³

We asked five leaders across the nuclear medicine industry to share their specific experiences with Ga-68 — including its impact on their facilities, patients and the future of theranostics.

These thought leaders include:



Jeremie Calais, MD, PhD

Nuclear Medicine Physician, University of California, Los Angeles

“We have adopted Ga-68 radiopharmaceuticals at UCLA primarily because they enable us to target well-established molecular structures such as PSMA, SSTR and others, which are relevant across multiple oncologic indications. In addition, there are already clinically proven PET tracers available for some of these targets using Ga-68, which facilitate rapid integration into clinical and research workflows,” Dr. Calais said.



Heather Kaplan, MHA, CNMT, ARRT (N)

Nuclear Medicine Technologist, Sarasota Memorial Hospital

Sarasota Memorial Hospital wanted to expand its PET program, and a radiologist became their physician champion in helping them adopt Ga-68. “We’re getting quality outcomes,” Kaplan said. “Also, patients are concerned about radiation exposure, and the shorter half-life of Ga-68 — compared to other isotopes — helps mitigate that.”



Amir Lavaf, MD, DABR

Radiation Oncologist, Desert Regional Medical Center

Desert Regional Medical Center experienced some challenges when first screening prostate cancer patients. “When we began using Ga-68, our nuclear medicine physicians and radiologists noticed they were having fewer indeterminate readings, particularly indeterminate bone lesions,” Dr. Lavaf said. “So, they had more confidence in adopting the Gallium scan than remaining with the older ones.”



Jaideep Sohi, MD

Nuclear Medicine Physician, American Molecular Imaging

According to Dr. Sohi, what’s most important is how widely studied Ga-68 has been. “If we look at historical data, Ga-68 has been used for PSMA scans in Europe and Australia for almost a decade. So, we have a wealth of data and knowledge illustrating the successful use of this isotope in nuclear medicine,” he said.



Jeffrey Spier, MD

Urologist, Rio Grande Urology

“We want to keep up with the standard of care and provide patients in our region with everything that they would receive in a major metropolitan area or a major cancer center,” Dr. Spier said. “The ability to have Ga-68 available locally is very important, because it’s about maximizing patient access and throughput.”

Four key advantages of Ga-68:

According to clinicians experienced with Ga-68 PET imaging, the radioisotope offers four key advantages:

- 1 Clinical performance**
- 2 Availability** and reliable access on demand
- 3 Flexibility** in scheduling patients
- 4 Scalability** to meet growing patient demand



Ga-68 offers practical advantages in radiochemistry: It can be produced by a generator, allowing on-demand synthesis without the need for a cyclotron.”

Jeremie Calais, MD, PhD
University of California, Los Angeles

Here's a closer look at the experience of these five thought leaders across the four advantages of Ga-68:

clinical performance, availability/reliable access, flexibility and scalability.

Clinical performance

Delivering confidence for providers and patients alike: All five thought leaders have had a positive experience with the clinical performance of Ga-68 for several reasons:

- Image quality
- Reduced false positives and indeterminate findings
- Enhanced clinical decision-making

Image quality

"In my experience, Gallium-based PET scans offer substantial value over conventional imaging, providing superior specificity and sensitivity," Dr. Calais said.

For diagnosing prostate cancer, Dr. Spier compared Ga-68 PET imaging with his past experience using CT and bone scans. "In our view — and based on general consensus in the industry — these scans were nonspecific. So, we could have been over- or under-treating patients. With Ga-68, we believe we have a specific image modality that helps us more successfully treat patients."

Sarasota Memorial Hospital's experience with Ga-68 has been positive as well. "I've been approached to switch to other radioisotopes, but our radiologists are very happy with the image quality and signal-to-noise ratio — which helps limit false positives," Kaplan said. "They don't want to switch to anything else."

Reduced false positives and indeterminate findings

"Because Ga-68 has a robust signal and signal-to-noise ratio, we're able to reduce some false positives that you may see in other imaging modalities. This may result in fewer unnecessary procedures, such as biopsies or follow-up imaging studies," Dr. Sohi said.

"The impact of a false positive could be huge, because you're going to offer patients more aggressive treatments that they likely would not have needed or remove treatment options that would have been available to them," Dr. Lavaf added. "That's why you want to have confidence in your scan. Avoiding false positives helps prevent misdiagnosis, mis-staging and mistreatment of patients."

Enhanced clinical decision-making

In Dr. Spier's experience, "having Gallium-based PET scans creates a high level of confidence and certainty for not only the patient, but also the prescribing physician. It helps us be nimbler and personalize the treatment. And it provides relief for the patient to know that this is a specific study that can give them the confidence to go home and tell their family that their physicians have the information they need to make the right treatment plan."

According to Dr. Lavaf, "There's little ambiguity in what you're telling the patient and high confidence that we're giving the proper management options. The result is high satisfaction for the radiologist, urologist, radiation oncologist and medical oncologist."

Key advantages

- ✓ **Quality** of images compared to alternate imaging methods
- ✓ **Confidence** in guiding clinical decision-making and patient management decisions
- ✓ **Impact** on patient care



It can't be said how important it is to walk out of a room after counseling a patient and have a sense of security and confidence that you're making the correct clinical decision."

Jeffrey Spier, MD
Rio Grande Urology



We're no longer doing CT and bone scans for intermediate stage prostate cancer patients. In line with current SNMMI/EANM guidelines, we now use a Ga-68 PSMA PET scan as our standard of care."

Amir Lavaf, MD, DABR
Desert Regional Medical Center

Availability and reliable access on demand

There when you need it: Ga-68 can be obtained using compact and readily available generators, which makes the isotope locally accessible at hundreds of nuclear pharmacies across the country. As a result, providers can rely on dependable and convenient access when scheduling patients.

“The ease of scheduling is real: We can schedule our patients with the confidence that the product will be on-site on time,” Dr. Spier said. The key is having Ga-68 available locally instead of being shipped by air or ground from a major metropolitan area.



Overcoming cyclotron constraints

Dr. Sohi noted that cyclotron-based products have the potential to create scheduling challenges, such as needing to order well in advance of the scan. But with Gallium-based products produced on a local generator, American Molecular Imaging can order and often receive a dose within the same day.

“The local availability of Ga-68 enables us to fill gaps in our schedule, such as those caused by cancellations or patient add-ons,” Dr. Sohi said. “It’s also **more convenient for patients who need to schedule their scan at a particular time such as in the morning or on weekends** due to such things as work commitments or a lack of transport.”

Maximizing the use of PET/CT cameras

Sarasota Memorial Hospital has two PET/CT cameras that operate Monday through Friday. When it comes to scheduling Ga-68 scans, any challenges faced tend to be based on the availability of the scanner rather than the isotope.

“We have not experienced any restrictions on when we can order Ga-68 doses; we can typically get it when we need it, anytime of day,” she said. “There has never been a shortage or challenge getting a dose when needed as we’ve experienced in the past with other radioisotopes. The reliability is key.”

Key advantages

- ✓ **Reliability** of local production with generator
- ✓ Clinicians can receive doses when and where needed
- ✓ **Impact on patient experience:** reduced travel time and rescheduling due to cyclotron issues/constraints



At the end of the day, hospitals need to maximize the use of our cameras. The ready availability of Ga-68 helps ensure we can fill those time slots.”

**Heather Kaplan, MHA,
CNMT, ARRT (N)**
Sarasota Memorial Hospital

Flexibility

Because Ga-68 is frequently produced on a local generator, providers have more flexibility in scheduling patients than they might have when relying on isotopes restricted to cyclotron and/or central production. Thought leaders share how the ready availability of Ga-68 empowers them to schedule patients in the morning and over weekends, while ordering STAT doses as needed.

For patients traveling a long distance for care, the ability to schedule imaging scans precisely when needed is especially important. “Often, these patients will have a follow-up visit with their referring physician on the same day as their scan,” Dr. Sohi said. “So, it’s critical that they can be scanned in the morning. That way, they can plan on how to proceed before returning home.”

Key advantages

- ✓ Can **schedule and scan patients** in the morning, weekends and on demand
- ✓ **Ability** to order and access STAT doses

Scalability

As providers ramp up imaging volume, radiopharmacies can add or move generators within an existing network to increase access to more Ga-68 radiopharmaceuticals. Our five thought leaders agree this supports their ability to treat a growing number of patients for current and future indications.

At American Molecular Imaging, **the ability to rely on local generators instead of cyclotrons to produce Ga-68 helps them scale up quickly** to meet patient volume demands. “The potential ability to get expedited doses allows us to expand our service during the week and over the weekend as needed,” Dr. Sohi said. “So, we can take care of more patients — often with short notice given changes in patient schedules.”

Dr. Calais expects a significant increase in diagnostic PSMA PET scan volumes, as eligibility for radiopharmaceutical therapy is now tied to imaging confirmation. “This may not only affect patients in advanced stages but potentially those earlier in their disease course, depending on how practice patterns evolve,” he said.

How generators and cyclotrons work together to broaden access

As nuclear medicine continues to expand to serve more patients, Kaplan notes that both cyclotrons and generators will play a critical, complementary role in accelerating the availability of the entire spectrum of products, both now and in the future.

“The key is maximizing the efficient use of both instruments,” she said. “Using a generator for Ga-68 production frees up cyclotron time to produce isotopes that can’t be created on a generator.”

Driving growth in theranostics

The trend is clear: Ga-68 is the most commonly used diagnostic isotope in theranostics clinical trials today. Many clinical trials investigating Ga-68 use in fibroblast activation protein inhibitors (FAPIs) are currently underway. And numerous Ga-68 radiopharmaceuticals and theranostic pairs using novel ligands are under investigation for a wide array of cancers.

“Ga-68 has become common in theranostic trials because of its practical radiochemistry,” Dr. Calais said. “Ga-68 is generator-produced, readily available and compatible with DOTA-based ligands. These features make it ideal for early-stage development and proof-of-concept studies.”

He added that Gallium’s versatility as a diagnostic isotope, particularly when paired with DOTA-conjugated ligands, could support theranostic applications and potentially be a key driver of future clinical adoption. “We anticipate continued growth, especially within precision oncology and theranostics,” he said.

Dr. Sohi cited additional advantages of Ga-68 in theranostic clinical trials, including the isotope’s ideal half-life for peptide imaging, quantitative PET imaging capabilities and compatibility with therapeutic pairs such as Lu-177. “Precision medicine has been a buzzword in the past,” he said. “But now we can use imaging and therapeutics at the same time. We are truly talking about precision imaging in oncology.”

At Sarasota Memorial Hospital, **Kaplan has seen firsthand** how a Ga-68 theranostic pairing can impact a patient’s quality of life. “We had a patient who had been dealing with prostate cancer for 10 years,” she said. “Ga-68 diagnostic imaging played a key role in qualifying the patient for Lu-177 therapy. After just four treatments — he’s now in remission.”

What is the role of Ga-68 as the future of theranostics continues to unfold? “I believe Gallium is the new standard of care,” Dr. Spier said. “This is due to the clinical benefits of potentially discovering disease not only at an earlier stage — but also for helping to identify patients with late-stage disease who may be candidates for metastatic directed therapy for curative potential.”

Key advantages

- ✓ **Manage** the increasing volume of patients being referred for PSMA and NET scans
- ✓ Generator-produced Ga-68 **works in conjunction** with cyclotrons to increase access for more patients to the broad spectrum of radioisotopes available



As we continue to grow, we’ve never had a situation when we couldn’t get Gallium on time.”

Amir Lavaf, MD, DABR
Desert Regional
Medical Center



I believe Gallium is the new standard of care — giving us the confidence of having consistent reads.

Jeffrey Spier, MD
Rio Grande Urology



Taking the next step

All five thought leaders reported having a positive experience with Ga-68 PET imaging. From becoming the isotope of choice in theranostic clinical trials to becoming the new standard of care in a practice setting, Ga-68 is making an impact. And the opportunity has just begun.

Dr. Calais shared that he is aware of more than 60 Ga-68 assets currently being tested in various clinical trials for more than 25 different types of cancer.

"Additionally, Ga-68 tracers could be developed for non-oncologic conditions, including immune-mediated inflammatory diseases, infectious pathologies and cardiovascular disorders. The clinical utility of Ga-68 PET imaging could broaden beyond cancer care and into systemic disease evaluation."

The future is here. And Ga-68 is key.



To learn more, scan QR code
or visit gallium68.com

Note: The views and opinions expressed in this piece are based on the physicians' individual clinical experiences. However, results may vary for individual physicians and patients. This material is intended for informational purposes only and should not be construed as medical guidance.

Safety statement: Gallium-68, when paired with a variety of targeting molecules (ligands), is a radioactive agent and should be handled by or under the control of qualified and licensed physicians with appropriate safety measures to help minimize radiation exposure. Any radiation-emitting product may increase the risk for cancer, especially in pediatric patients. Adhere to the respective dose recommendations for specific Ga-68 products and ensure safe handling to minimize the risk for excessive radiation exposure to either patients or healthcare workers.

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What excites me about theranostics is the ability to personalize treatment by linking diagnostic imaging with targeted therapy. This is a powerful clinical shift that enables more informed decisions and potentially better outcomes.”

Jeremie Calais, MD, PhD
University of California, Los Angeles