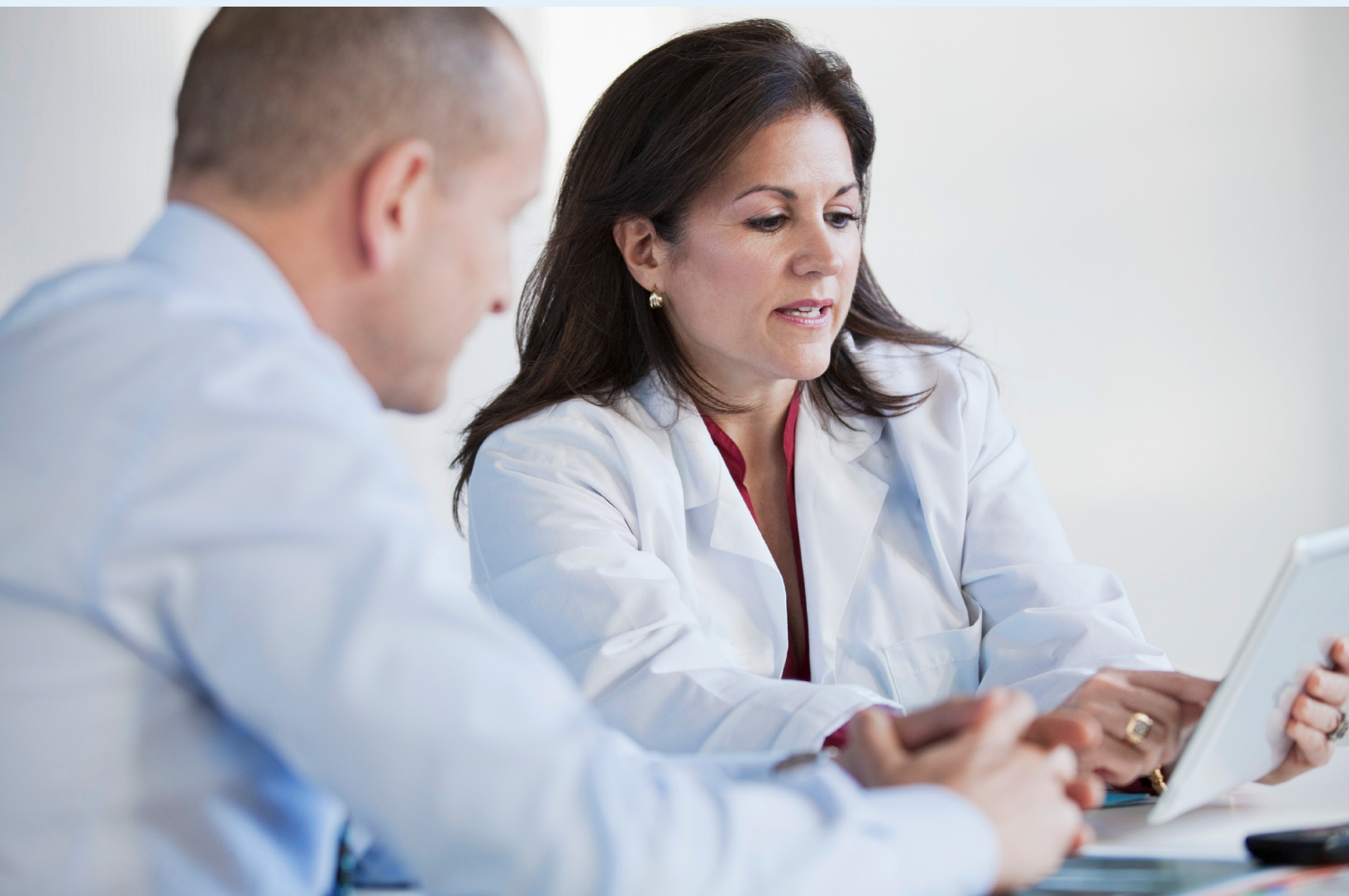


Systemic Immunotherapy for Non-Muscle Invasive Bladder Cancer: Current Practices and a Look to the Future



Developed in collaboration with the AUA and Pfizer Oncology



American
Urological
Association



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ROLE OF SYSTEMIC IMMUNOTHERAPY IN NON-MUSCLE INVASIVE BLADDER CANCER

Non-muscle invasive bladder cancer (NMIBC) accounts for approximately 80% of the roughly 84,530 new bladder cancer diagnoses annually in the United States.¹ Guidelines recommend the use of Bacillus Calmette-Guérin (BCG) after transurethral resection of bladder tumor (TURBT), which is instilled in the bladder where it stimulates the immune system to attack cancer cells, as first-line treatment of high-risk NMIBC, and as an option for intermediate-risk disease.¹⁻³ Although intravesical BCG can be curative, there is a risk of recurrence or progression to more advanced disease.²

Historically, radical cystectomy is the preferred treatment for NMIBC that is unresponsive to BCG therapy and for patients who cannot tolerate BCG.³ However, cystectomy is associated with substantial morbidity and impact on quality of life and may not be appropriate for all patients. Nevertheless, when compared with bladder-sparing therapy, radical cystectomy has been associated with favorable outcomes for several measures.⁴

According to guidelines from the American Urological Association (AUA), patients with persistent or recurrent high-grade NMIBC within 12 months of completion of adequate BCG therapy who are unfit or unwilling to undergo cystectomy should receive a recommendation for an alternative intravesical immunotherapy, alternative intravesical chemotherapy, systemic immunotherapy, or clinical trial enrollment. (Adequate BCG therapy is defined as high-grade disease recurrence [Ta/T1] within 6 months, persistent/recurrent CIS within 12 months, or high-grade T1 disease at the first evaluation after adequate BCG [at least 5/6 induction plus 2 maintenance/second induction doses]).^{1,5} Guidelines from the National Comprehensive Cancer Network® (NCCN®) list recommended alternative therapy options, including:³

- Intravesical single or multi-agent chemotherapy
- Nadofaragene firadenovec-vncg
- BCG plus nogapendekin alfa inbakicept-pmln
- Gemcitabine intravesical system
- Pembrolizumab (select patients)

Treatment decisions for BCG-unresponsive NMIBC should be personalized based on patient-specific disease characteristics and patient preferences.¹

Pembrolizumab was the first systemic immunotherapy

(IO) to be approved for the treatment of NMIBC in 2020 and durvalumab was approved for NMIBC in May of 2026; other systemic IO agents are currently in clinical trials.^{6,7} Pembrolizumab is an immune checkpoint inhibitor that targets the PD-1/PD-L1 pathway and had previously been approved for the treatment of multiple other types of cancer. As a single agent, it is indicated for the treatment of patients with BCG-unresponsive high-risk NMIBC with carcinoma in situ with or without papillary tumors who are ineligible for or have elected not to undergo cystectomy.⁸

In the KEYNOTE-057 clinical trial for NMIBC, the complete response rate in patients receiving pembrolizumab was 41%. Among patients experiencing a complete response, the median duration of response was 16.2 months and 46% maintained a complete response for ≥ 12 months. The median duration of exposure was 4.3 months, with 11% of patients discontinuing treatment due to adverse reactions.⁸ Pembrolizumab is administered as an intravenous infusion every 3 or 6 weeks for up to 24 months, or until persistent or recurrent high-risk NMIBC, disease progression or unacceptable toxicity occurs.⁸

Durvalumab is a PD-L1 blocking antibody indicated in combination with BCG for the treatment of adult patients with BCG-naïve, high-risk NMIBC. Like pembrolizumab, durvalumab is approved for the treatment of several other types of cancers. In the POTOMAC study, patients with high-risk NMIBC treated with durvalumab plus BCG had significantly longer disease-free survival than those treated with BCG alone (hazard ratio 0.68; median disease-free survival not reached).⁹

Both pembrolizumab and durvalumab are associated with a range of potential adverse events, including immune-related adverse events (irAEs) that may be severe or fatal and can affect any organ system or tissue. Routine monitoring is essential for early identification and management of irAEs, including evaluation of liver enzymes, creatinine, and thyroid function at baseline and periodically during treatment. Depending on the type and severity of the reaction, treatment may need to be withheld or permanently discontinued.^{8,9}

Resources are available to guide the assessment and

management of irAEs. [The Common Terminology Criteria for Adverse Events \(CTCAE\)](#), originally published by the National Cancer Institute, is freely available online and provides a standardized framework for evaluating severity of irAEs, assigning a grade from 1 (mild) to 5 (death).¹⁰ Originally developed for use in clinical trials, CTCAE is also widely applied in clinical practice to support consistent clinical assessment and inform management decisions.

NCCN has developed the guideline, Management of Immune Checkpoint Inhibitor-Related Toxicities, which provides detailed recommendations regarding the evaluation, grading, monitoring and management of irAEs. This guideline is available through the Supportive Care section of [NCCN.org](#).¹¹

In addition, the American Society of Clinical Oncology (ASCO) has developed the Management of Immune-Related Adverse Events in Patients Treated With Immune Checkpoint Inhibitor Therapy guideline.¹² The

guideline provides evidence-based recommendations for the diagnosis and management of toxicities according to the affected organ system and aligns with the CTCAE grading system to determine adverse event severity. Recommendations based on adverse event grade address:¹²

- Patient and family caregiver education about systemic IO
- Monitoring for and recognizing irAEs
- Responding to irAEs, including when to hold or discontinue systemic IO, as well as when rechallenge may be appropriate

Detailed recommendations are provided in the guideline available through the Supportive Care and Quality of Life section on [ASCO.org](#).

SYSTEMIC IO PATIENT EDUCATION RESOURCES

Patient education resources related to bladder cancer treatment, including systemic IO, may be found by visiting the following websites.

AUA Urology Care Foundation™

<https://www.urologyhealth.org/educational-resources>

National Comprehensive Cancer Center® (NCCN®)

<https://www.nccn.org>

Oncology Nursing Society

<https://www.ons.org>

Several other systemic immunotherapies are undergoing clinical trials for treatment of NMIBC. Of these, atezolizumab and avelumab are administered intravenously; and sasanlimab is administered

subcutaneously.² All of these options target the PD-1 or PD-L1 pathway.² As more treatment options potentially emerge, systemic IO may have a growing role in the treatment of NMIBC.²

EXPLORING SYSTEMIC IO USE IN UROLOGY PRACTICE

To better understand current practice patterns for the implementation of systemic IO therapy across a variety of urologic practice settings, as well as the management of associated adverse events, AUA conducted two virtual focus groups (one focused on academic practice and one on community practice). The focus groups included a multidisciplinary mix of urologists, advanced practice providers (APPs), and practice managers. AUA also conducted a membership survey and interviews with practitioners at three practice sites.

Academic Focus Group Key Points

- The greatest challenges that influenced whether practices offered systemic IO included: 1. costs associated with treatment, and 2. questions regarding whether administering systemic IO is within the scope of practice for a urologist, particularly in the context of safety concerns.
- Participants noted that medical oncologists and urologists often have effective collaborative relationships in academic medical centers; medical oncologists typically manage systemic IO for appropriate patients and patients subsequently return to urologists for surveillance.
- Participants indicated that they would like to receive additional education about treatment selection, approaches to collaboration among team members (APPs, urologists, medical oncologists), and systemic IO adverse event management.
- The decision to implement a new treatment option is made by an authoritative committee (e.g., the Pharmacy and Therapeutics committee) often with input from a urologist champion.

Private/Community Practice Focus Group Key Points

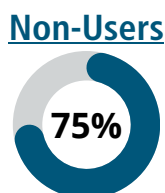
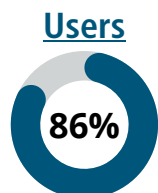
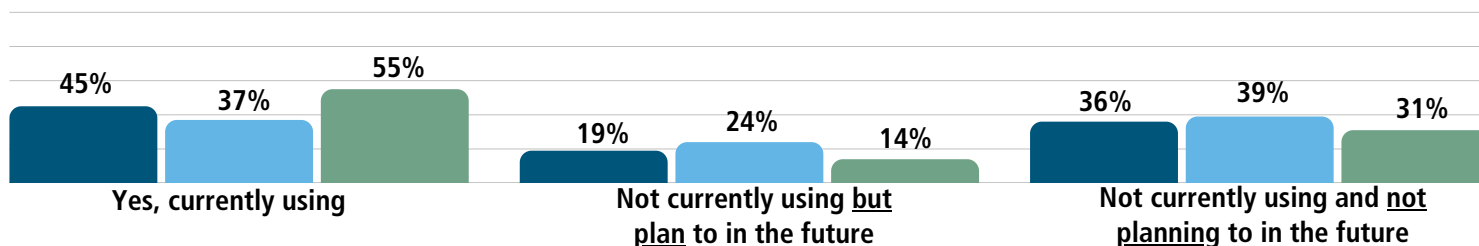
- The greatest challenges that influenced whether practices offered systemic IO included: 1. costs associated with treatment, 2. adverse event management and 3. limitations for staffing and space.
- Urologists typically make the decision to initiate systemic IO therapy; administering the medication and managing/monitoring the patient involves a team that may also include APPs, nurses, medical oncologists, and other specialists (e.g., dermatologists, cardiologists, and others as needed depending on adverse events).
- The decision to implement a new treatment option typically involves a formal, multidisciplinary process that includes physicians as well as staff developing clinical protocols and addressing logistical and reimbursement considerations such as coding, billing, and prior authorizations.

Survey results came from the 2025-2026 Systemic Immunotherapy (IO) in Non-Muscle Invasive Bladder Cancer (NMIBC) Needs Assessment survey. The survey was fielded from November 2025 through January 2026 and collected 540 domestic responses. The responses included 420 urologists, 84 Advanced Practice Providers (APPs), 30 Practice Managers, and 6 Other.

Current and Future Usage of Systemic IO

Current Usage of Systemic IO in NMIBC

● Total
● Private Practice
● Academic/Hospital

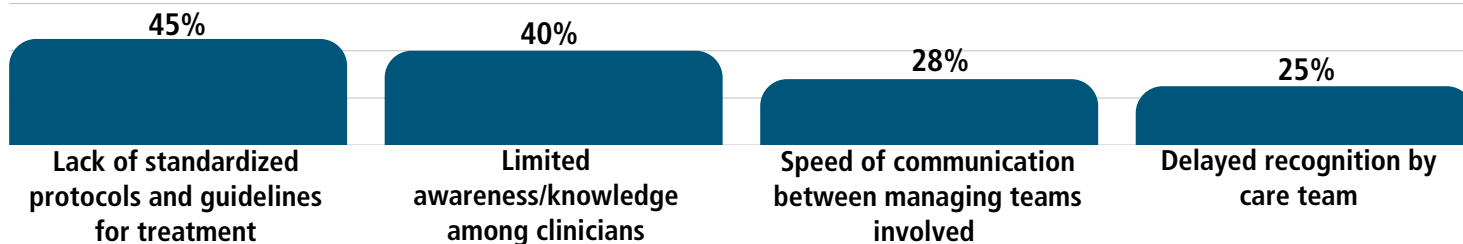


Both users and non-users of systemic IO foresee them becoming a **LARGER** part of the urology practice based on the number of clinical trials in urologic oncology and expansion to NMIBC

91% Just over 9-out-of-ten survey respondents indicated their practice/institution is adequately positioned to incorporate new systemic immunotherapies for NMIBC if they receive FDA approval. There was no significant difference in this by practice type.

Systemic IO Users & Adverse Event Management

Top Challenges in Managing Immune-Related Adverse Events (irAEs)



Confidence Levels of Systemic IO Users

Areas Most Confident (% very confident):

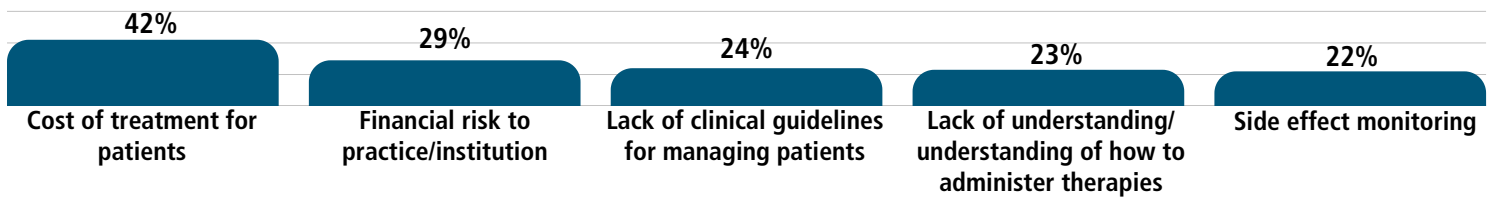
1. Selecting an effective drug regimen/treatment plan (57%)
2. Use of systemic immunotherapies (51%)
3. Adequate protocols and guidelines for treating patients (51%)

Areas Least Confident (% not confident):

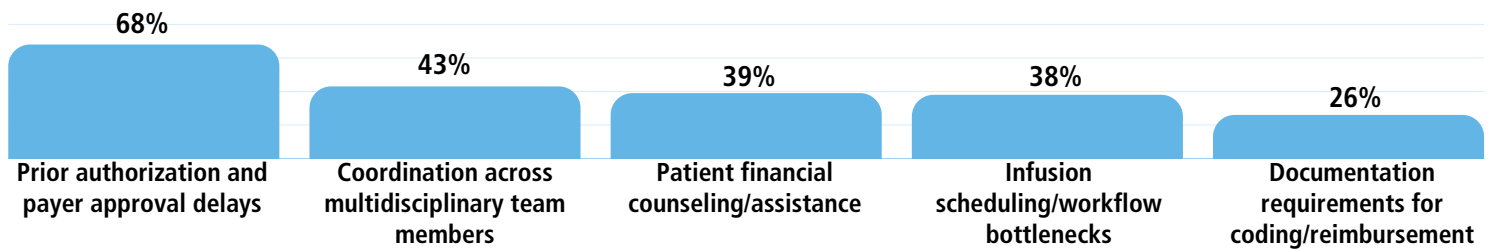
1. How to stop/restart systemic immunotherapy if interrupted by irAEs (44%)
2. Management of irAEs of systemic immunotherapies (42%)
3. Management of side effects (39%)

Challenges in Implementation of Systemic IO

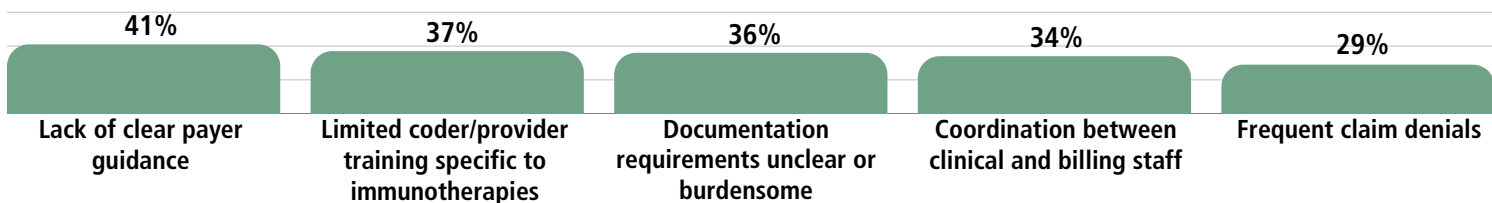
Top 5 Practice/Institution Challenges Experienced



Top 5 Operational Challenges

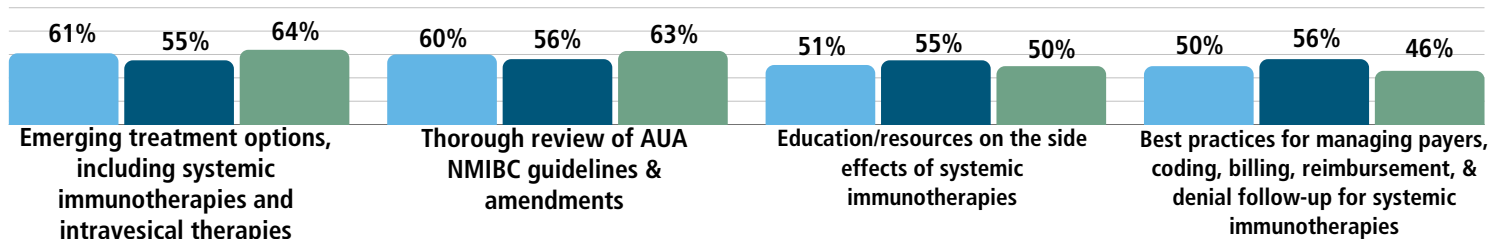


Top 5 Coding/Billing Barriers



Greatest Educational Needs of Systemic IO Users

● Total ● Private Practice ● Academic/Hospital

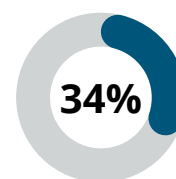
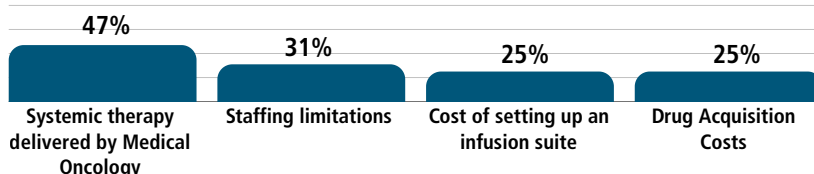


Top 3 Resources Needed by Practices/Institutions that Would be Helpful to Share with Patients

1. Patient education materials on systemic therapy options and adverse events - 81%
2. Standardized patient handouts on monitoring and follow-up care - 62%
3. Visual aids or infographics explaining treatment mechanisms and timelines - 51%

Assessing Non-Usage of Systemic IO

Top Reasons Practice/Institution Does Not Offer IO



Over one-third of non-users indicated they are interested in receiving education on how to successfully set up an infusion suite to administer IO.

This survey was conducted by the American Urological Association (AUA) in collaboration with Pfizer via an electronic survey administered from November 2025 to January 2026.

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A DEEPER DIVE: CONVERSATIONS WITH PRACTITIONERS

AUA conducted interviews with three practice sites to gain a deeper understanding of the strategies and processes in place to support the use of systemic IO, as well as each site's preparedness to integrate new such therapies should they be approved in the future.

Key Findings

- All three practice settings (including a large private urology group, a National Cancer Institute-designated academic medical center, and a community-based urology practice) offered systemic IO for patients with BCG-unresponsive NMIBC, using careful patient selection consistent with AUA and NCCN guideline recommendations.
- A multidisciplinary care model involving practitioners such as urologists, medical oncologists, APPs, infusion nurses, nurse navigators, and specialists collaborate to monitor patients and manage irAEs.
- All practices recognize that irAEs may affect virtually any organ system, and early recognition is critical to preventing more serious outcomes.
- Administrative systems are necessary to handle prior authorizations, reimbursement complexities, and to ensure that patients are educated about any financial obligations.
 - o Manufacturer support programs may reduce some burden, but out-of-pocket costs can still influence decision-making.
- Patient education is critical to support shared decision making and to ensure that patients understand when and how to report symptoms that may arise during treatment.
- Clinical trials may be an option for patients who are unable to access systemic IO due to financial barriers.
- Looking ahead, clinicians express cautious optimism regarding emerging agents and alternative delivery methods, including subcutaneous formulations that may reduce logistical burden and improve access.
 - o However, they all note that a change in the route of administration does not reduce the need for ongoing irAE monitoring, multidisciplinary coordination and patient education.
 - o Practices must also carefully assess reimbursement feasibility and administrative capacity before offering a new treatment.

CASE STUDY 1. CHESAPEAKE UROLOGY

Interviewees

Rian J. Dickstein, MD

Urologist

*Medical Director, Bladder Cancer Program,
Chesapeake Urology*

Michael Adashek, DO

Medical Oncologist

*Director of Genitourinary Medical Oncology,
Chesapeake Urology*

Practice Organization

Chesapeake Urology is a large private urology practice with more than 80 urologists, explains Dr. Dickstein, a urologic oncologist and the medical director of the practice's bladder cancer program. The practice has an on-site infusion center, which allows for the administration of systemic IO.

For many years, the practice generally partnered with medical oncologists in the community for the administration of pembrolizumab. (In select cases, urologists administered pembrolizumab in-house.) Dr. Adashek, a medical oncologist and the director of genitourinary (GU) medical oncology for the practice, joined in 2025 and has further streamlined the delivery of systemic IO therapy. "Now that we've brought medical oncology in-house, it has certainly helped us broaden our horizons in terms of our comfort level of treating patients with systemic IO therapy and managing toxicities," states Dr. Dickstein.

Identifying Patients for Systemic IO

Dr. Dickstein points out that the practice follows treatment recommendations from the AUA and NCCN and offers systemic IO treatment for appropriate patients. "Patients with NMIBC most commonly receive systemic IO treatment if they are unable to tolerate intravesical therapy, are not appropriate candidates for cystectomy or decline cystectomy," he explains. "Many of these patients have attempted intravesical therapy but are not able to tolerate it."

Urologists typically present all treatment options to patients who are BCG-unresponsive, including clinical trial enrollment where appropriate. "We now have a menu of options and work to figure out what would be best for each individual patient," explains Dr. Dickstein. After the initial patient education about

available options, those who are interested in pursuing systemic IO treatment are referred to medical oncology for administration and toxicity management.

For patients who are interested in systemic IO, Dr. Adashek provides more detailed education including a review of efficacy data, discussion of adverse event risks, what to expect during administration, and education about side effect management. "Educating patients about things to be aware of and when to call and report an adverse event is really important," he observes. Dr. Adashek works with the infusion center to oversee the administration of systemic IO and manage the patient throughout their course of treatment.

The patient care team also includes infusion nurses who administer the infusions and are trained in evaluating patients for irAEs, including a GU medical oncology nurse navigator and a medical oncology nurse practitioner. The practice has an in-office dispensary for providing the medication and also has a team that works to obtain prior authorization from third-party payers.

Managing irAEs

Common toxicities reported by patients receiving pembrolizumab include fatigue, diarrhea, rash, pneumonitis, hepatitis, and endocrine dysfunction. "While most adverse events are manageable and often reversible with corticosteroids, grade 3 or 4 toxicities require rapid recognition and escalation," notes Dr. Adashek.

Patients can report adverse events directly through the online patient portal or by calling the GU nurse navigator. Depending on the severity of the reported adverse events, patients may be managed virtually, advised to schedule an appointment within the next 48 hours, or directed to an emergency room.

To assess the severity of irAEs, the practice follows the CTCAE criteria. "The toxicity grade determines whether we continue treatment, hold therapy, or admit the patient," explains Dr. Adashek. Once the severity of the adverse event has been evaluated, the practice follows the NCCN guidelines on the Management of Immune Checkpoint Inhibitor-Related Toxicities, often in collaboration with other specialists.

"Immunotherapy is well tolerated in the vast majority of individuals who receive it, but there are some

patients who develop severe toxicity and require a team-based approach for management,” notes Dr. Adashek. “One of the biggest challenges isn’t the initial management, it’s knowing which specialist to call when you urgently need dermatology, pulmonology, or gastroenterology.” He explains that when patients experience severe irAEs, it is important to have relationships with various specialists who can offer consultations to help determine the most appropriate course of action. “As a urologist, our scope includes GU issues, but when someone presents with an adverse event such as hypothyroidism, another specialist might be the best person to treat it,” agrees Dr. Dickstein.

Addressing Financial Barriers

Costs associated with systemic IO can present barriers for patients and should be addressed early in the shared decision-making process when selecting treatment approaches. Although manufacturer assistance programs are available, financial gaps may still remain, particularly for patients with high coinsurance responsibilities, stresses Dr. Dickstein. Financial counseling prior to treatment initiation is essential to help patients anticipate and prepare for out-of-pocket expenses and avoid unexpected costs. If the cost of the treatment is not manageable, appropriate patients may be referred to a clinical trial, which offers another avenue for obtaining treatment with fewer financial burdens.

When identifying specialists to collaborate with to manage irAEs, it is important to consider whether they accept the same insurance types as the practice to help avoid unexpected bills for patients. “Sometimes we have to have patients admitted to the hospital if we are unable to get them scheduled in a timely manner with a covered provider,” explains Dr. Dickstein. If there are barriers to scheduling a patient with a covered specialist, the patient may be referred to a university hospital or large tertiary care institution that is part of the patient’s network and will have the necessary specialists available for consultation.

Looking to the Future

Because the practice participates in clinical trials, Dr. Dickstein and Dr. Adashek feel well-prepared to integrate newly approved therapies. “If we have been involved with a trial for a medication, and it is approved, then we can feel more comfortable bringing it to the practice because we already have experience with it,” remarks Dr. Dickstein.

Emerging treatment options, particularly injectable therapies, may reduce some logistical burdens and may make systemic IO therapy feasible for practices that do not have infusion centers. However, these approaches do not eliminate all challenges. “It’s logistically easier than an infusion, but you still have the same toxicity profile and the same access challenges,” reports Dr. Adashek. Additional resources and support regarding irAE management could help improve confidence among urologists for the integration of systemic IO therapy. However, they observed that it will be important for other practices to build patient care teams that are prepared to manage irAEs if they decide to offer systemic IO treatments.

CASE STUDY 2. UNIVERSITY HOSPITALS CLEVELAND MEDICAL CENTER/CASE WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE

Interviewees

Adam C. Calaway, MD, MPH

*Associate Professor of Urology
Division Chief of Urologic Oncology
Co-Lead of the Genitourinary Disease Team*

Jason R. Brown, MD, PhD

Medical Oncologist, Division of Solid Tumor Oncology

Kara Richey, MSN, APRN, AGNP-C, AOCNP

Genitourinary Oncology Nurse Practitioner

Approach to Patient Identification for Systemic IO

As part of a large academic center in an urban setting, the University Hospitals system brings together urologic and medical oncologists, pathologists, radiologists, and supportive care teams that routinely collaborate to guide treatment for patients with NMIBC. When patients are identified as appropriate candidates for systemic IO, they are referred to medical oncology for further management.

In alignment with national treatment guidelines, systemic IO is utilized in BCG-unresponsive disease as an alternative for patients who are not candidates for surgery or who decline cystectomy after thorough counseling. Shared decision-making is central to this process, particularly given the tradeoffs between bladder preservation, durability of response, and the risk of irAEs. Dr. Calaway, a urologic oncologist, explains that most people favor bladder preservation but emphasizes that the decision-making process should include thorough discussion about which factors are most important to patients such as quality of life and anticipated outcomes. He also highlights the need to carefully weigh the long-term disease-free response rates and weigh them against the likelihood of developing toxicities that cause long-term adverse events, as well as the small but real risk of fatal toxicities.

“Radical cystectomy still offers the best cancer control, but there is a subset of patients for whom that is simply not an option,” observes Dr. Calaway. “The patient population who could potentially benefit from systemic immunotherapy includes those with hostile bladders, where giving a drug intravesically is very

poorly tolerated,” he continues. Patients referred for systemic IO tend to be older, medically complex, or have already exhausted intravesical options. “These are often patients who have failed multiple intravesical regimens and are either poor surgical candidates or unwilling to accept the morbidity of cystectomy.”

If systemic IO is considered as a treatment option, Dr. Calaway will collaborate with Dr. Brown, a medical oncologist in the practice, and other colleagues to coordinate the delivery of treatment. Medical oncologists typically oversee systemic IO administration and toxicity management, while urologists remain actively involved in ongoing patient care. “We continue to co-manage these patients, particularly when it comes to cystoscopic follow-up and determining when immunotherapy is no longer sufficient,” explains Dr. Calaway. The team also considers clinical trials for appropriate patients with BCG-unresponsive NMIBC.

Ms. Richey, a GU oncology nurse practitioner, works with the GU medical oncologists to care for patients who are receiving treatment. For patients receiving systemic IO, the medical oncologist initiates treatment, and then she manages future visits that do not require major treatment decisions.

irAE Management

Dr. Brown emphasizes that it is very important to educate patients about symptoms of adverse events and to provide clear guidance about how to report those symptoms. He provides this education during the initial consultation for systemic IO, and other providers review this information with patients at subsequent appointments. While many toxicities can be managed effectively with prompt intervention, delayed recognition may lead to hospitalization or permanent organ dysfunction. “Early recognition is everything. A mild symptom today can become a serious problem very quickly if it’s missed,” observes Dr. Brown.

The health system uses a standardized approach for adverse event grading and follows NCCN guidelines for managing irAEs. “Standardization helps take the emotion out of decision-making. Grade the toxicity, follow the algorithm, and escalate when needed,” he explains. The practice follows both the NCCN guidelines and the ASCO guidelines for managing adverse events.

Clinic nurses serve as the first point of contact for patients reporting adverse events. Any concerns are forwarded to the urologist, APP, and medical oncologist. Depending on the nature and severity of the adverse event, they may work together collaboratively to determine the best course of action for managing the patient. “In some cases, it can be tricky to determine if an adverse event is immune-mediated,” observes Dr. Brown. For example, he notes that adrenal toxicities may present as tiredness, which can have multiple causes. Routine laboratory monitoring is essential for identifying these toxicities, although monitoring may not always be conducted at the ideal time of day and can require careful consideration when interpreting lab results.

Establishing Processes to Support Systemic IO

The practice had an existing infusion center when pembrolizumab was first approved, which helped to facilitate its implementation. As part of the process to implement pembrolizumab, the practice developed an order set that includes details about which labs are required and the schedule to comply with required lab monitoring for pembrolizumab. Physicians collaborated with the IT department to develop digital processes that support adherence to recommended safety and monitoring practices.

Because pembrolizumab is used to treat a wide range of cancers, monitoring protocols were already established when it was approved for treating NMIBC. However, Dr. Brown notes that monitoring patient responses to systemic IO in NMIBC presents unique challenges because, unlike with metastatic disease, responses are often assessed through cystoscopy, urine cytology, and biopsies rather than cross-sectional imaging alone. In addition, patient monitoring requires close communication between urologists and medical oncologists.

Addressing Financial Toxicity

The practice has a structured process for seeking third-party reimbursement. “When I write the orders, a message automatically goes to the pre-certification department to investigate the patient’s insurance coverage and obtain prior authorization,” explains Dr. Brown. If a patient does not have coverage for treatment, the pre-certification department and pharmacy specialists seek other options, such as patient assistance programs from manufacturers, and help patients enroll in those programs. Dr. Calaway stressed the importance of transparency and early involvement of financial counselors to ensure patients understand any financial responsibility they might incur as

part of treatment.

Because systemic IO is administered repeatedly over time, rather than as a one-time treatment, the practice continuously monitors insurance coverage for each infusion. For example, patients often experience insurance changes in January, and new third-party payers typically require a new pre-authorization process. Patients also often have large deductibles that reset each January, which can change the financial situation for patients and may require additional conversations. Patient assistance programs and eligibility criteria may also change each year.

However, although institutional resources may help navigate insurance coverage, out-of-pocket costs associated with systemic IO can still pose a burden for patients. “Just because we’re an academic center doesn’t mean cost isn’t an issue — it absolutely factors into these decisions.” In some cases, if a prior authorization request is denied, the insurance company indicates that another treatment is covered. The team responds by evaluating the appropriateness of the covered treatment, and in some cases pursues that treatment. In other cases, an appeals process is initiated.

Looking to the Future

Dr. Calaway, Dr. Brown, and Ms. Richey expressed optimism about emerging therapies, including novel immune agents and alternative routes of administration, but cautioned that new drugs will not eliminate the need for education and infrastructure. They also noted that it will be important to evaluate the magnitude of any benefits associated with new medications, including efficacy outcomes, toxicity profiles, and financial costs, when deciding whether to implement a new therapy.

They noted that novel injectable immunotherapies could create new opportunities for practices that do not have an infusion center, but that practices would need to be prepared to manage irAEs. Dr. Calaway recommends that practices that are considering incorporating systemic IO treatments pay careful attention to establishing infrastructure, including partnering with an infusion center with experience managing irAEs, identifying standardized toxicity monitoring protocols, and ensuring access to specialists. “The systems have to be in place before you start — once a patient develops a grade 3 toxicity, you don’t have time to build the plane while you’re flying it,” he cautions. Education for both providers and patients was identified as an ongoing need to support the use of systemic immunotherapies.

CASE STUDY 3. UROLOGY ASSOCIATES P.C., NASHVILLE

Interviewees

Gautam (Tom) Jayram, MD

*Urologic Oncologist
Director, Advanced Therapeutics Center*

Aaron Mankin, PA-C

Director of Advanced Practice Providers

Anna Plowman, RN

Oncology Nurse

Patient Selection for Systemic IO

Urology Associates is a large group private practice in central Tennessee. Patient selection for systemic IO therapy is conducted carefully in alignment with AUA and NCCN treatment guidelines for patients with BCG-unresponsive NMIBC. (The practice also uses systemic IO as adjuvant treatment for high-risk renal cell carcinoma and high-risk urothelial cancer post-resection.)

The availability of systemic IO allows providers to offer multiple treatment options to patients. “For a long time, the conversation was essentially: ‘Your best treatment alternative is a radical cystectomy.’ Now, we actually have meaningful alternatives to discuss with patients,” observes Dr. Jayram. However, given the risks associated with systemic IO, shared decision-making is critical when discussing treatment options with patients who are potential candidates.

Providers thoroughly educate patients on both the potential benefits and limitations of systemic IO treatment. Ms. Plowman and Mr. Mankin play key roles in educating and supporting patients who receive systemic IO. “I teach them not only the infusion process, but also how to be a core team member and collaborate in their own care,” reports Ms. Plowman.

Patient education includes setting realistic expectations around response durability, surveillance requirements, and the possibility of progression and further cancer therapies. Dr. Jayram notes that patient education includes a discussion of the treatment schedule, including frequency of infusions and frequency of cystoscopies. The practice utilizes patient education materials that are available from the Oncology Nursing Society website to reinforce educational messages.

Costs associated with systemic IO and insurance coverage were cited as a challenge. Thus, even when treatment is clinically appropriate, financial barriers

can influence patient decisions. Early involvement of financial counselors and transparent discussions about cost are essential to maintaining trust with patients during the decision-making process. “It’s better to have the hard conversation up front than to surprise a patient later with unaffordable costs,” reports Dr. Jayram.

irAE Management

Systemic IO requires comprehensive education about irAEs for both patients and providers, along with well-defined structures and processes to monitor for and manage these events throughout treatment. “You can’t just write the order and hope for the best. The systems have to be in place before the first patient starts,” emphasizes Dr. Jayram.

Protocols for administering systemic IO and monitoring for adverse events are modeled on those that were used in clinical trials for pembrolizumab. In addition, the practice follows treatment guidelines from AUA and NCCN for bladder cancer as well as guidelines from NCCN for managing adverse events. Treatment approaches can be individualized based on individual patient characteristics.

As the oncology nurse, Ms. Plowman is responsible for administering the infusions. All team members assess patient responses to treatment and monitor patients for adverse events. Regular communication between urology and oncology teams supports rapid response to adverse events, including how to recognize when symptoms may represent immune-related toxicity rather than routine complaints. “If a patient calls with symptoms, everyone needs to know who’s responsible and how fast we need to act,” notes Mr. Mankin.

Education focuses not only on severe toxicities, but also on recognizing subtle early symptoms that warrant escalation. “The biggest fear is missing something early that turns into a serious problem,” notes Dr. Jayram.

Developing ongoing relationships with patients is also important for effective patient management. As the oncology nurse who administers infusions, Ms. Plowman meets with patients most frequently. She also provides follow-up care that includes regular touch points with the patient. “Building those relationships is important for catching toxicities early,” reports Ms. Plowman. “If they’re seeing familiar faces every time, it gives them more ease in knowing what to expect and comfort in discussing their symptoms with me.”

The team also maintains collaborations with specialists

including endocrinologists, ophthalmologists, and gastroenterologists who are willing to see patients if symptoms of concern emerge during the course of systemic IO.

Looking Ahead

Dr. Jayram, Mr. Mankin, and Ms. Plowman expressed cautious optimism about emerging immunotherapies and alternative delivery methods but stressed that new drugs will not simplify all aspects of care. They observed that subcutaneous treatment delivery can be an important benefit for patients because it reduces the amount of time that they need to spend receiving an infusion. Subcutaneous treatment options might also help improve access for patients who have transportation challenges or live far from the infusion center as they can be administered more easily in a wider range of settings. However, they noted that while the route of administration may alleviate some logistical challenges, practices will still need to implement an infrastructure to monitor for and respond to irAEs.

Importantly, many urologists have not received formal training in the use of systemic immunotherapies nor have experience managing irAEs and will need to explore educational opportunities. In addition to engaging in continuing education on these topics, practices ideally will be able to collaborate with other practitioners who are experienced in managing and administering systemic IO and to identify mentors who can offer support as they gain confidence with providing these treatments. “The best approach for a practice that is considering this would be to speak with practices that are already offering immunotherapy for guidance,” notes Ms. Plowman.

If systemic IO products receive approvals for expanded indications, such as for BCG-naïve patients, it may increase demand for the treatment and offer opportunities for more practices to become involved with offering systemic IO. However, an expanded patient population in need of extensive education can strain existing resources and more providers may begin offering systemic IO. “As indications expand and more patients become eligible, it becomes more important in a busy urological practice to have non-physicians who can provide patient education,” observes Dr. Jayram.

For practices that have been involved with clinical trials for a new product, the implementation of the product is streamlined because they already have experience with it. For other practices, manufacturers can be very helpful in providing resources such as treatment

protocols and patient education materials. However, before integrating a new treatment, it is important to consider whether the practice has the resources and/or partnerships necessary to offer appropriate patient monitoring and management for irAEs. Some practices may be best able to offer systemic IO to patients through partnerships with outside medical oncology practices. Referring appropriate patients to other practitioners allows patients to have access to a wider range of treatments rather than trying to offer it themselves without the right supports in place.

Finally, Dr. Jayram noted that the decision to introduce a new treatment into practice typically involves careful evaluation of both clinical and financial factors. In addition to assessing the risks and benefits for patients, practices must also consider whether reimbursement will adequately cover the costs of drug acquisition and administration.

Conclusion

Systemic IO is an important treatment option for certain patients with BCG-unresponsive NMIBC who are not candidates for, or who decline, cystectomy. However, findings from AUA surveys and focus groups reveal that while most urologists manage NMIBC, fewer currently administer systemic IO, citing barriers such as toxicity management, infrastructure requirements, and financial complexity.

Currently, systemic IO requires repeated infusions and monitoring for irAEs, which can affect nearly any organ system and may be severe or fatal. Therefore, appropriate use requires careful patient selection, thorough patient education, and a robust infrastructure for irAE management, including strong multidisciplinary partnerships.

Treatment guidelines from AUA and NCCN provide detailed recommendations for patient selection, monitoring, and management of irAEs, including laboratory assessment, routine surveillance, and protocols for treatment interruption or discontinuation. Practices that currently offer systemic IO for NMIBC stress that successful treatment delivery requires preparedness, teamwork, and ongoing education to ensure safe use.

Looking ahead, clinicians are optimistic about emerging agents and alternative routes of administration, including subcutaneous formulations. However, they emphasize that these new therapies will not reduce the need for practice infrastructure, thorough patient education, and a clinical framework that supports irAE management.

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