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- **ODAC@fda.hhs.gov**

UGN-102 (mitomycin) Intravesical Solution for the Treatment of Adult Patients With Low-Grade, Intermediate-Risk, Non-Muscle Invasive Bladder Cancer (LG-IR-NMIBC)

US Food & Drug Administration
Oncologic Drugs Advisory Committee
May 21, 2025

Introduction

Mark Schoenberg, MD
Chief Medical Officer
UroGen Pharma

UroGen® Pharma

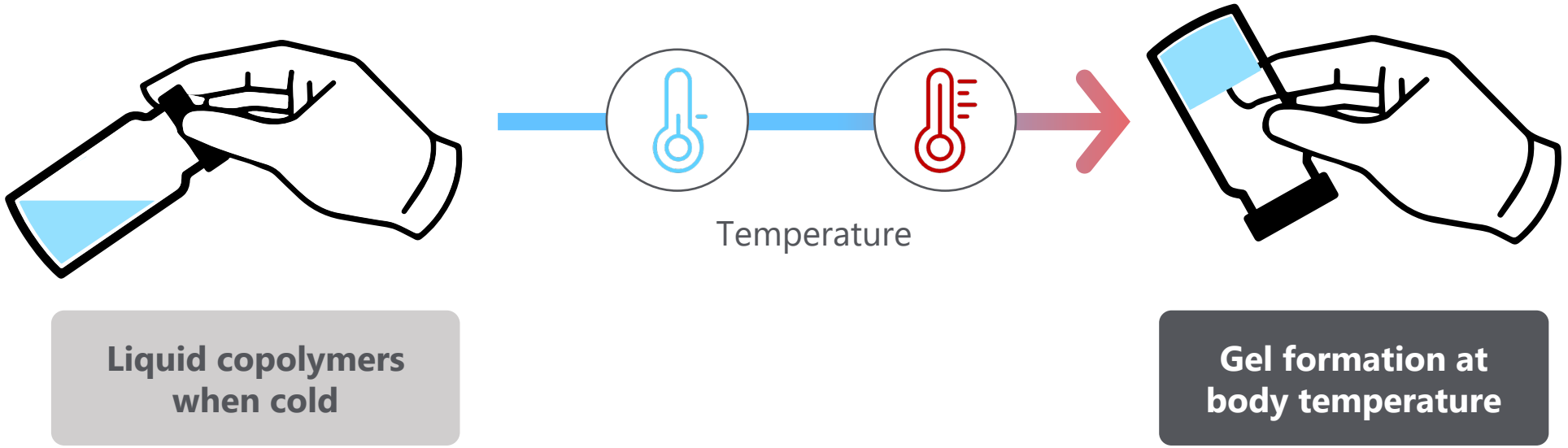
UGN-102 Offers an Office-Based, Chemoablative Alternative to TURBT for Selected Patients

- Primary, chemoablative alternative to surgery
  - Office-based
  - Administered by nurses
- For low-grade, intermediate-risk, non-muscle invasive bladder cancer (NMIBC)
  - High rate of recurrence
  - Low rate of progression
  - Elderly patients with comorbidities
- Valuable new treatment option
  - Decreased burden of repeated TURBTs

TURBT=transurethral resection of bladder tumor.

UGN-102 Is a Mitomycin-Containing Reverse Thermal Hydrogel

- Instilled as a chilled liquid that converts to solid gel drug depot at body temperature
- Achieves 6-hour dwell time in the bladder
- Local administration results in low systemic exposure to mitomycin



JELMYTO Is Breakthrough Therapy Approved in 2020 for Upper Tract Urothelial Cancer

- Same platform technology and active drug as UGN-102
- Different volume and drug concentration
- Approved based on a single-arm trial
- Median duration of response approximately 4 years[1]

1. Pierorazio PM, et al. *J Urol*. 2025;213:313-322.

Proposed Indication and Dosage for UGN-102

UGN-102 is indicated for the treatment of adult patients with recurrent, low-grade, intermediate-risk, non-muscle invasive bladder cancer (LG-IR-NMIBC)

Dosage:

75 mg

instilled once weekly for 6 weeks into the bladder

UGN-102 Clinical Development Program

Efficacy Established in 4 Late-Phase Clinical Trials

ENVISION (N=240)
Pivotal Phase 3, open-label, single-arm in **recurrent LG-IR-NMIBC**

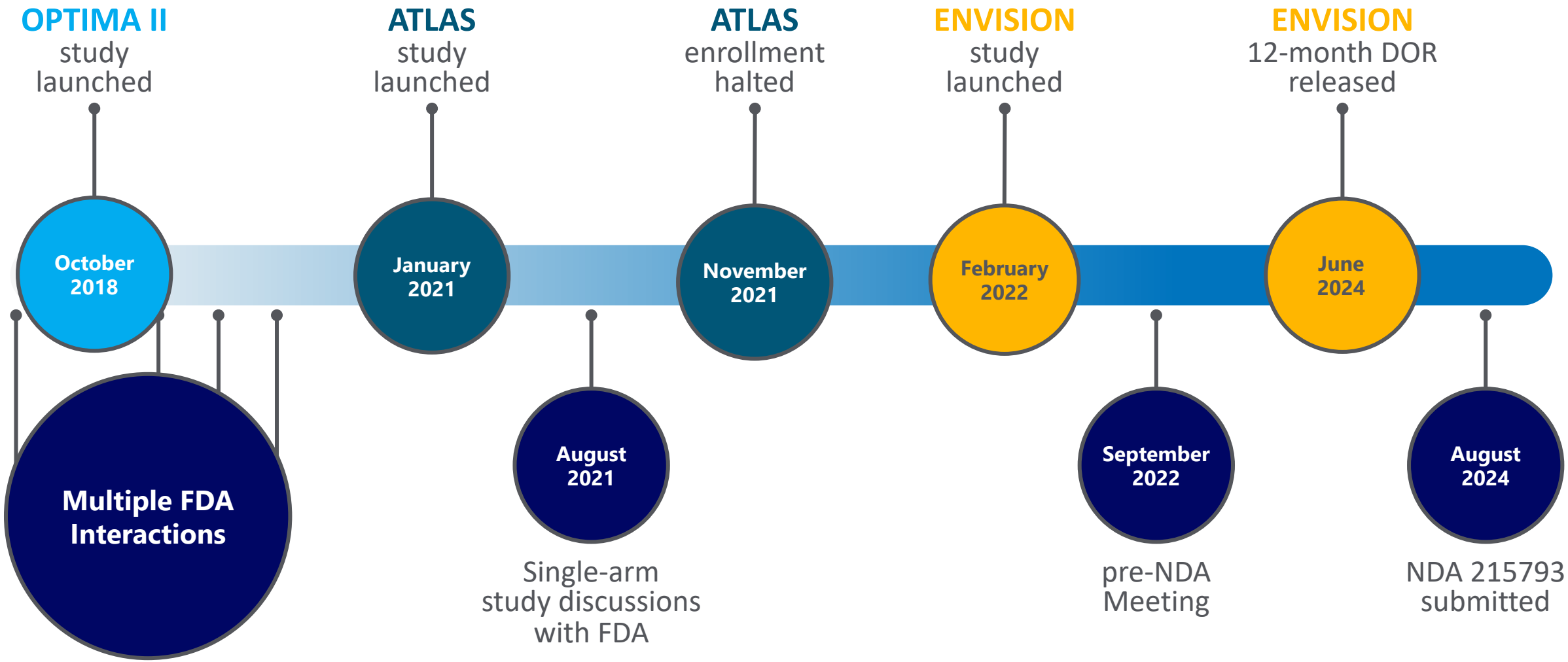
Supportive studies in newly diagnosed or recurrent LG-IR-NMIBC

OPTIMA II (N=63)
Phase 2b, open-label, single-arm

ATLAS (N=282)
Phase 3, randomized, open-label, controlled vs TURBT

Home instillation study (N=8)
Phase 3b, open-label, single-arm (feasibility of home instillation)

UGN-102 Development History



What We Will Show You Today

- Single-arm ENVISION trial establishes efficacy and safety of UGN-102
- Results can be reliably compared to natural “treated” history of LG-IR-NMIBC
- ATLAS provides supportive evidence
- Safety profile expected, acceptable, and manageable
- Totality of data demonstrates favorable benefit-risk profile
- UGN-102 breaks the cycle of repetitive TURBTs
  - Offers patients a non-surgical option

Agenda

Unmet Need
Sam S. Chang, MD
Chief, Division of Urologic Oncology
Chief Surgical Officer, Vanderbilt Ingram Cancer Center

- **Highly recurrent disease**
- **Need for a nonsurgical alternative to TURBT**

Efficacy
Michael J. Louie, MD, MPH, MSc
EVP, Clinical Development and Medical Affairs
UroGen Pharma

- **Clinically meaningful & durable complete response**
- **Results replicated across multiple studies**

Safety
Sunil Raju, MBBS, BSc
VP, Clinical Development
UroGen Pharma

- **Safety profile is acceptable and manageable**
- **Low-grade AEs localized to lower urinary tract**

Clinical Perspective
Max Kates, MD
Division Director, Urologic Oncology
Brady Urological Institute
Johns Hopkins Greenberg Bladder Cancer Institute

- **UGN-102 represents a much-needed treatment option**
- **Clear role for UGN-102 in clinical practice**

Unmet Need

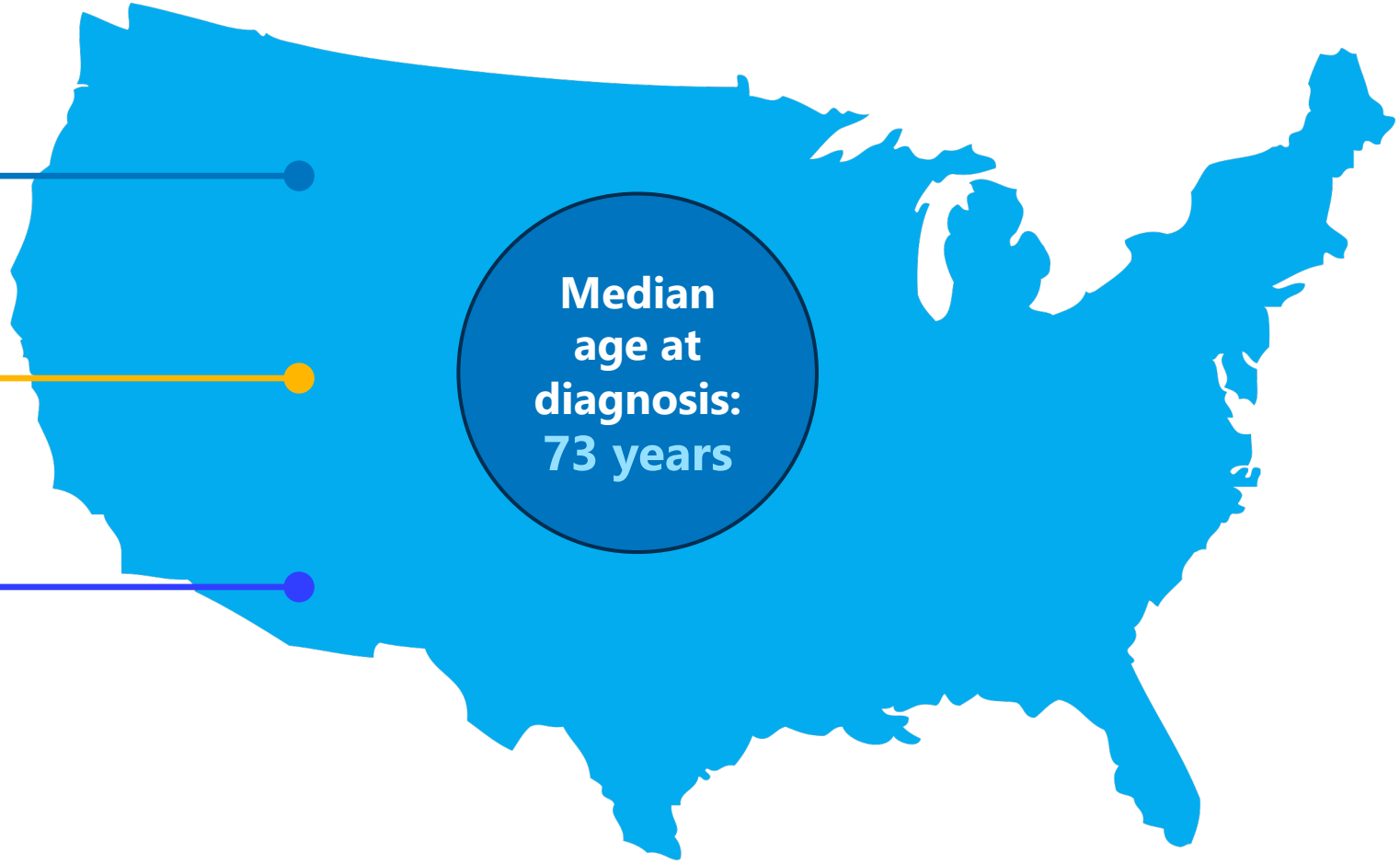
Sam S. Chang, MD
Chief, Division of Urologic Oncology
Chief Surgical Officer, Vanderbilt Ingram Cancer Center

US Epidemiology of Bladder Cancer

>83,000
new cases annually

~730,000
prevalence

~60,000
with recurrent LG-IR-NMIBC

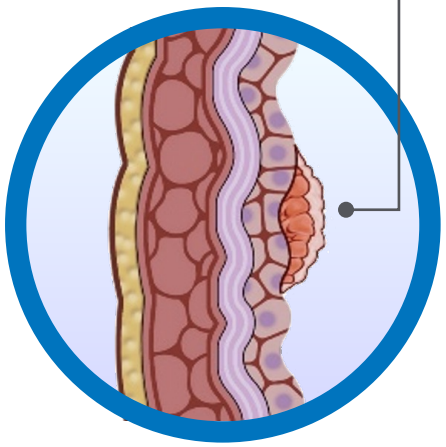


Siegel RL, et al. *CA Cancer J Clin*. 2024;74(1):12-49; National Cancer Institute. Surveillance, Epidemiology, and End Results (SEER) Cancer Stat Facts: Bladder Cancer. 2023. https://seer.cancer.gov/statfacts/html/urinb.html; Grabe-Heyne K, et al. *Front Oncol*. 2023;13:1170124.

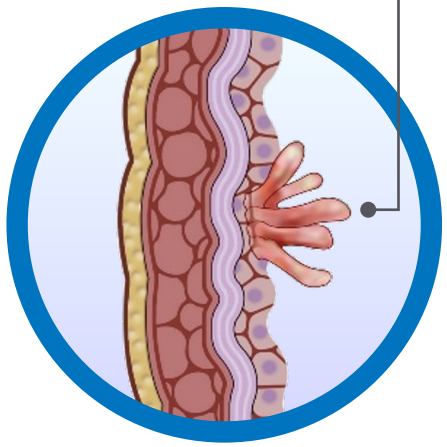
Determining Risk in NMIBC Based on Stage and Grade

Stage

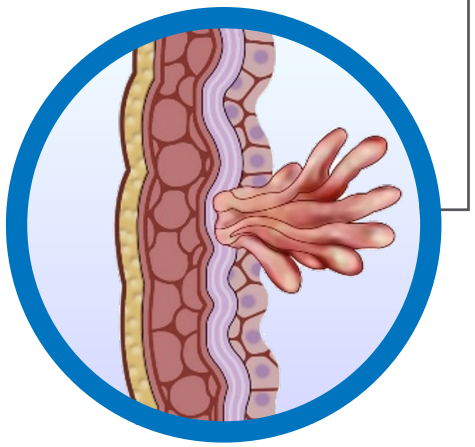
Tis
non-invasive



Ta
non-invasive



T1
invades
lamina propria



Low Grade

- 70% of all bladder cancers
- High risk of recurrence
- Low risk of progression

Intermediate Risk
(International Bladder Cancer Group)[1]

- Ta low-grade tumors that are large (>3 cm), multifocal, or recurrent
- T1 low-grade tumors

Ta non-invasive is most common presentation

1. Tan WS, et al. *Eur Urol Oncol*. 2022;5(5):505-516.
Image reprinted from Singh S. Bladder cancer stages and Types. Updated July 15, 2024. https://www.truemeds.in/blog/bladder-cancer-stages-and-types

Bladder Cancer Is Among Most Recurrent Cancers[1]

Risk of Recurrence Among Patients With Recurrent IR-NMIBC Over 5-Year Period

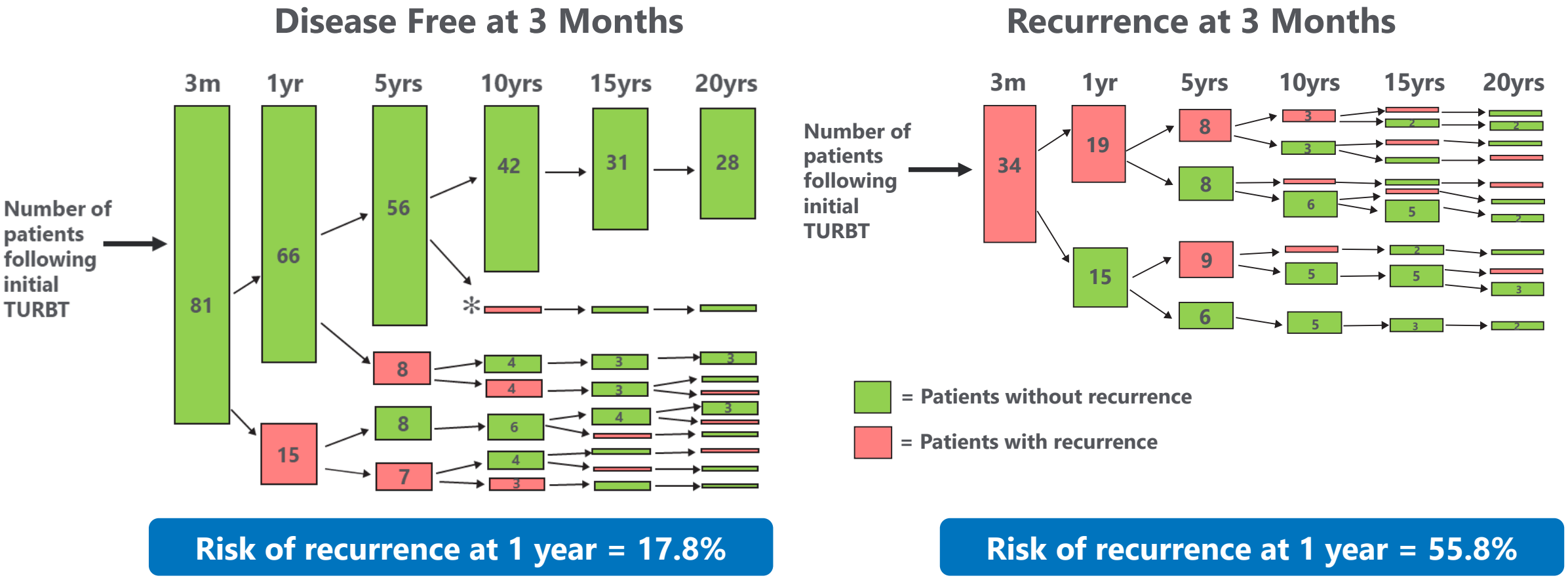
2 or more recurrences[a]

5 or more recurrences[a]

1. Blevins Primeau AS. Cancer Recurrence Statistics. Cancer Therapy Advisor. Published November 30, 2018. https://www.cancertherapyadvisor.com/home/tools/fact-sheets/cancer-recurrence-statistics/#:~:text=Some%20cancers%20are%20difficult%20to

[a] Projections based on SEER data[1] and on data from Babjuk M, et al. *Eur Urol*. 2019;76(5):639-657 and Simon M, et al. *PLoS ONE*. 2019;14(2):e0211721.

Tumor Status at 3 Months Is Strongest Predictor of Disease Recurrence



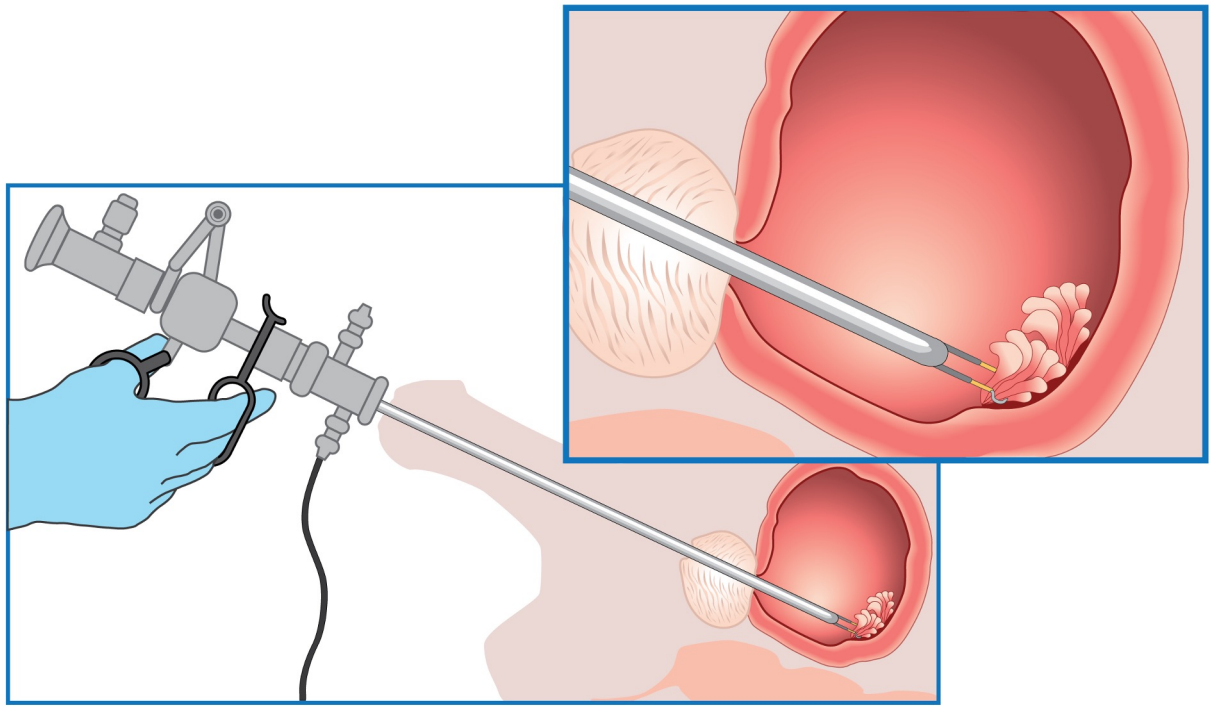
Risk of recurrence at 1 year = 17.8%

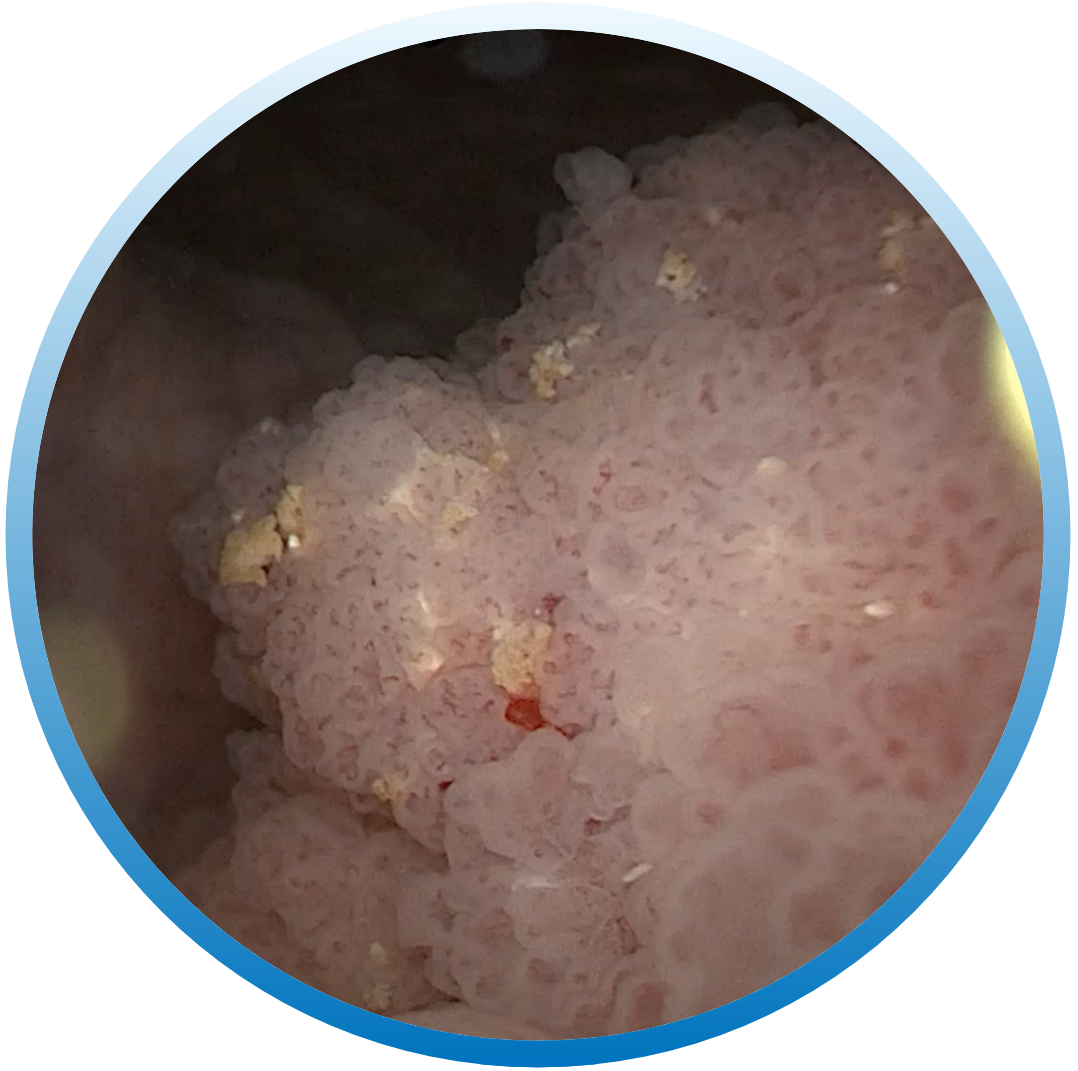
Risk of recurrence at 1 year = 55.8%

(P = 0.0007)

TURBT Procedure

Performed Under General Anesthesia via Rigid Endoscope





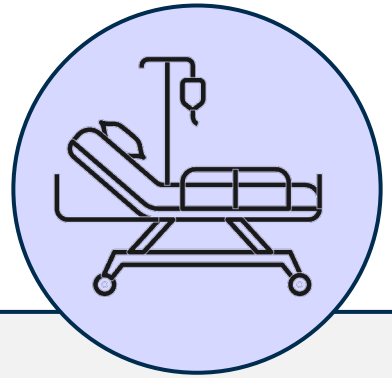
Video courtesy of Max Kates, MD.

Current Treatment Practice Has Major Limitations

- Often incomplete resection of tumors
  - Multifocal field defect is difficult to treat surgically
  - Normal-appearing urothelium shows evidence of malignant transformation
  - Residual tumor in 30% to 45% of cases after TURBT[1,2]
- Repeated TURBT carries risk for older patients
  - Multiple comorbidities in this population
  - Complications associated with surgery and general anesthesia
- Significant financial and social cost

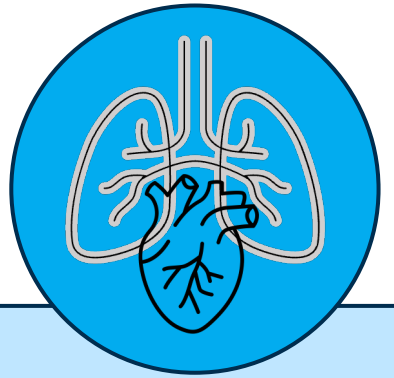
1. Daneshmand S, et al. *J Urol*. 2018;199(5):1158-1165.
2. Chang SS, et al. *J Urol*. 2016;196(4):1021-1029.

TURBT Comes With Risks



Procedure-related adverse events

- Hematuria
- Infection
- Injury to bladder
- Hospitalization
- Prolonged catheter drainage



Adverse events related to general anesthesia

- Cardiopulmonary complications
- Cognitive deficits

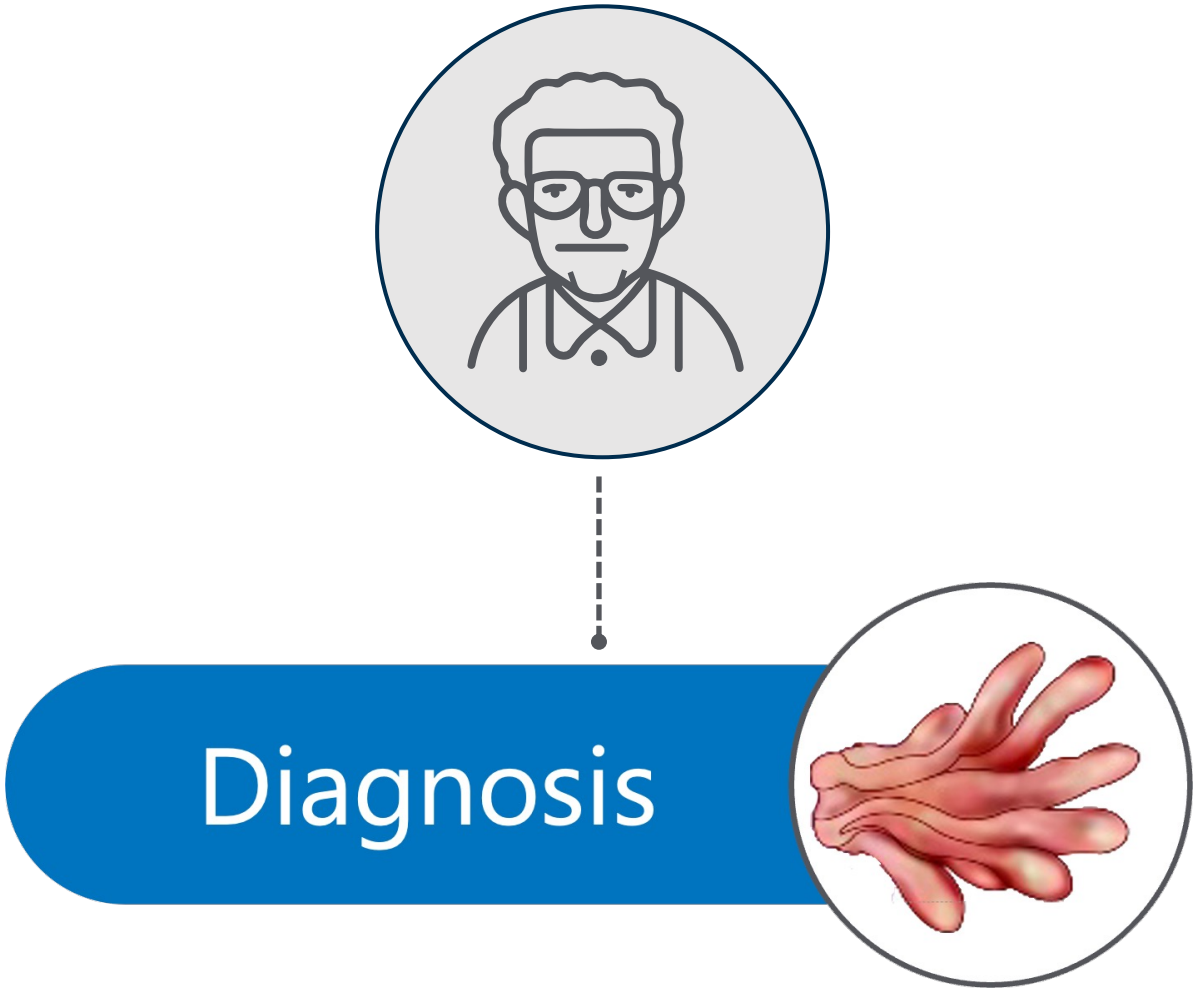
Pereira JF, et al. *Urology*. 2019;125:131-137; Vacas S, et al. *JAMA*. 2021;326(9):863–864.

Role of Post-TURBT Intravesical Chemotherapy in US Clinical Practice

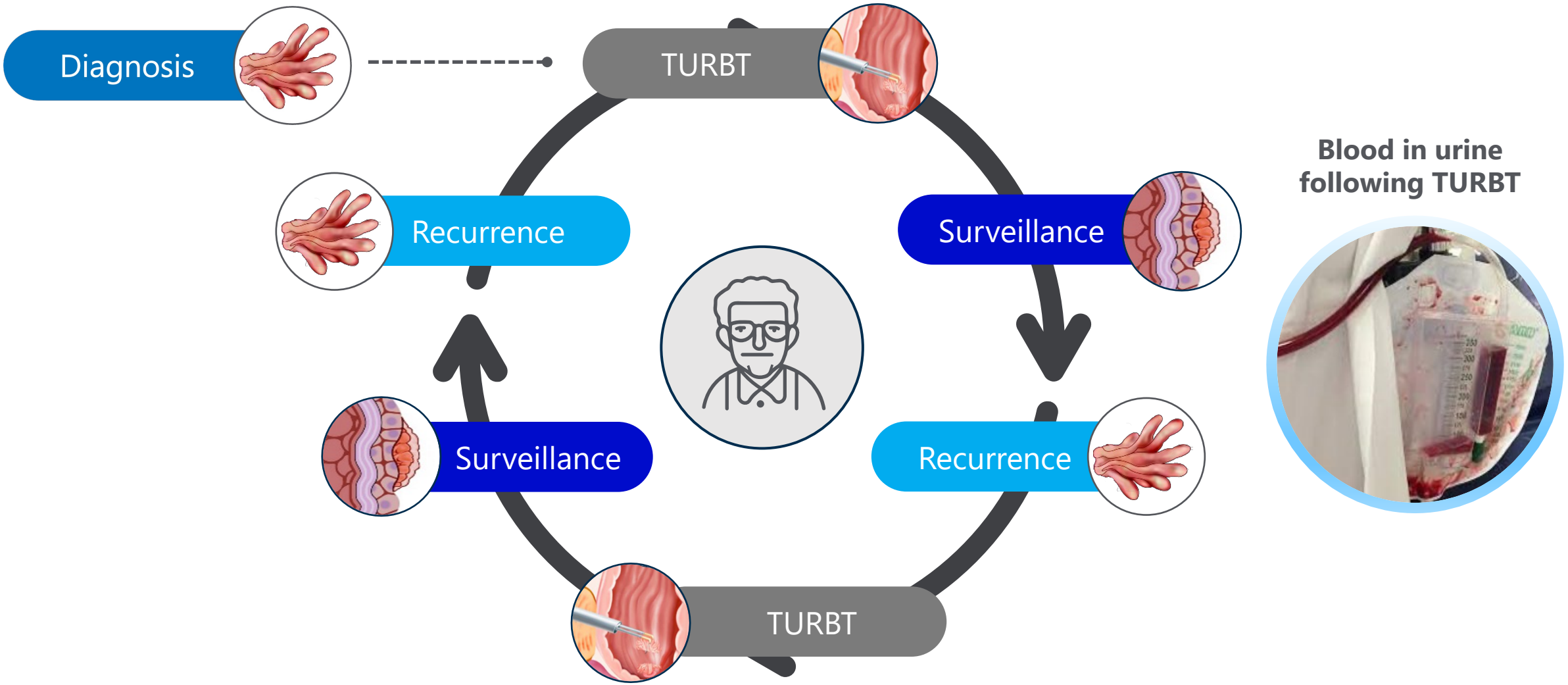
- AUA guidelines state for patients with low- or intermediate-risk NMIBC to "consider" a single dose of IVCT after TURBT[1]
  - Evidence of efficacy is mixed (Grade B)
  - Limited benefit in patients with recurrent or multifocal disease[2]
- Minimal use in US clinical practice
  - 18% of US patients receive IVCT post-TURBT (2015-2020)[3]
  - Primarily used in newly diagnosed patients

1. Holzbeierlein J, et al. *J Urol*. 2024;10.1097/JU.0000000000003846. https://www.auanet.org/guidelines-and-quality/guidelines/bladder-cancer-non-muscle-invasive-guideline
2. Sylvester RJ, et al. *Eur Urol*. 2016;69:231-244.
3. Lewicki P, et al. *JAMA Netw Open*. 2022;5(3):e220602.
AUA=American Urological Association.

Patients Need Another Option



Patients Need Another Option



Blood in urine following TURBT

Image courtesy of Sam Chang, MD.

Conclusions

- LG-IR-NMIBC is a highly recurrent disease
- Repeated TURBT is a significant burden to patients
  - Discomfort and complications
  - Social and financial cost
- Need a non-surgical alternative to repeated TURBT

Efficacy

Michael J. Louie, MD, MPH, MSc

Executive Vice President, Clinical Development and Medical Affairs

UroGen Pharma

UroGen® Pharma

UGN-102 Efficacy Assessed in 3 Late-Phase Trials by Complete Response Rate and Duration of Response

Study Population: LG-IR-NMIBC
Target Dose: 75 mg instilled intravesically once weekly for 6 weeks

ENVISION (n=240)
Pivotal Phase 3 Trial

Recurrent

Primary: **CRR** at 3 months
Key Secondary:
- **DOR**[a] after 3-month CR

Other Endpoints:
- QoL

Follow-up: Minimum of 18 months after 3-month CR

OPTIMA II (n=63)
Phase 2b POC Trial

Recurrent or Newly Diagnosed

Primary: **CRR** at 3 months
Secondary:
- **DOR**[a] after 3-month CR
- QoL

Follow-up: 9 months after 3-month CR

ATLAS (n=282)
Supportive Phase 3 RCT

Recurrent or Newly Diagnosed

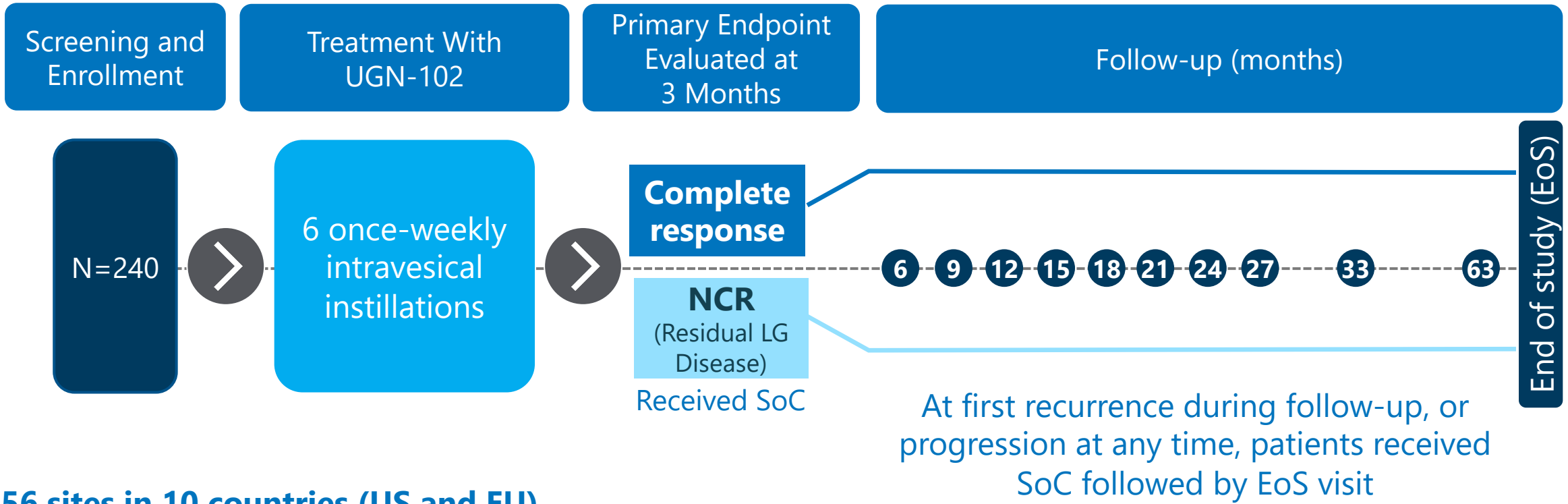
Primary: DFS[b]
Secondary:
- **CRR** at 3 months
- **DOR**[a] after 3-month CR
- QoL

Follow-up: Minimum of 12 months after 3-month CR

Efficacy results are presented in patients with recurrent LG-IR-NMIBC (FDA Analysis Population)

[a] Estimated by Kaplan-Meier (KM) method. Defined as time from 3-month complete response (CR) to first recurrence of LG disease, progression, or death due to any cause.
[b] Time from randomization to residual LG disease at 3 months in the TURBT arm, recurrence of LG disease after 3 months, progression at any time, or death due to any cause.
CRR=complete response rate; DFS=disease-free survival; DOR=duration of response; POC=proof of concept; QoL=quality of life; RCT=randomized clinical trial.

Pivotal ENVISION Trial in Recurrent LG-IR-NMIBC



- **56 sites in 10 countries (US and EU)**
- **Investigators instructed to document that residual tumor was present after diagnostic biopsy**
- **Tumor was present in all patients prior to being treated with UGN-102**

Complete response defined as negative white-light cystoscopy, negative urine cytology, and, when indicated, a negative for-cause biopsy.
Progression defined as an increase in grade or stage compared to baseline.
Standard of care (SoC) offered was investigator-designated.

ENVISION Designed to Serve as Basis for Approval

Criteria agreed upon with FDA:

- Study population: Patients with history of LG-NMIBC requiring TURBT
  - TURBT has failed in these patients
  - Greatest unmet need
- Enroll large number of patients
  - Largest registrational trial ever conducted in patients with LG-IR-NMIBC (n=240)
  - CRR and DOR considered in the sample size calculation per FDA advice
- Extended follow-up
  - Duration of response to UGN-102 will continue to be assessed for up to 5 years
- Assess outcomes of TURBTs performed after UGN-102 treatment

Key Inclusion and Exclusion Criteria

ENVISION

Inclusion Criteria

- **History of LG-NMIBC** treated with TURBT[a]
- **LG-NMIBC (Ta)** histologically confirmed by cold cup biopsy
- **Intermediate risk NMIBC**,[1] defined as having 1 or 2 of the following:
  - Presence of multiple tumors
  - Solitary tumor >3 cm
  - Early or frequent recurrence (≥1 occurrence of LG-NMIBC within 1 year of the current diagnosis)
- **Negative voiding cytology for HG disease**

Exclusion Criteria

- Received **BCG within the previous year** for urothelial carcinoma
- **History of HG bladder cancer in the past 2 years** (papillary or CIS)
- **Clinically significant urethral stricture**
- **Current T1 tumor**
- **Concurrent UTUC**
- **IVCT within 2 years**, except for a single dose post-TURBT

[a] Inclusion criterion only in ENVISION; refers to a previous episode(s) and not to the current episode to be treated in the study.

1. Kamat AM, et al. *J Urol*. 2014;192(2):305-315.

BCG=Bacillus Calmette-Guérin; CIS=carcinoma in situ; HG=high-grade; IVCT=intravesical chemotherapy; LG=low-grade; UTUC=upper tract urothelial carcinoma.

Baseline Demographics and Tumor Characteristics Consistent With US Recurrent LG-IR-NMIBC Population

ENVISION (FDA Analysis Population)

Characteristic	FDA Population (N=223)
Age, years	
Median (min, max)	70 (30, 92)
Sex, n (%)	
Male	139 (62.3)
Previous LG-NMIBC episodes, n (%)	223 (100)
Previous LG-NMIBC episodes within 1 year of current diagnosis, n (%)	122 (54.7)
Number prior NMIBC episodes, n (%)	
1	137 (61.4)
2	38 (17.0)
>2	48 (21.5)

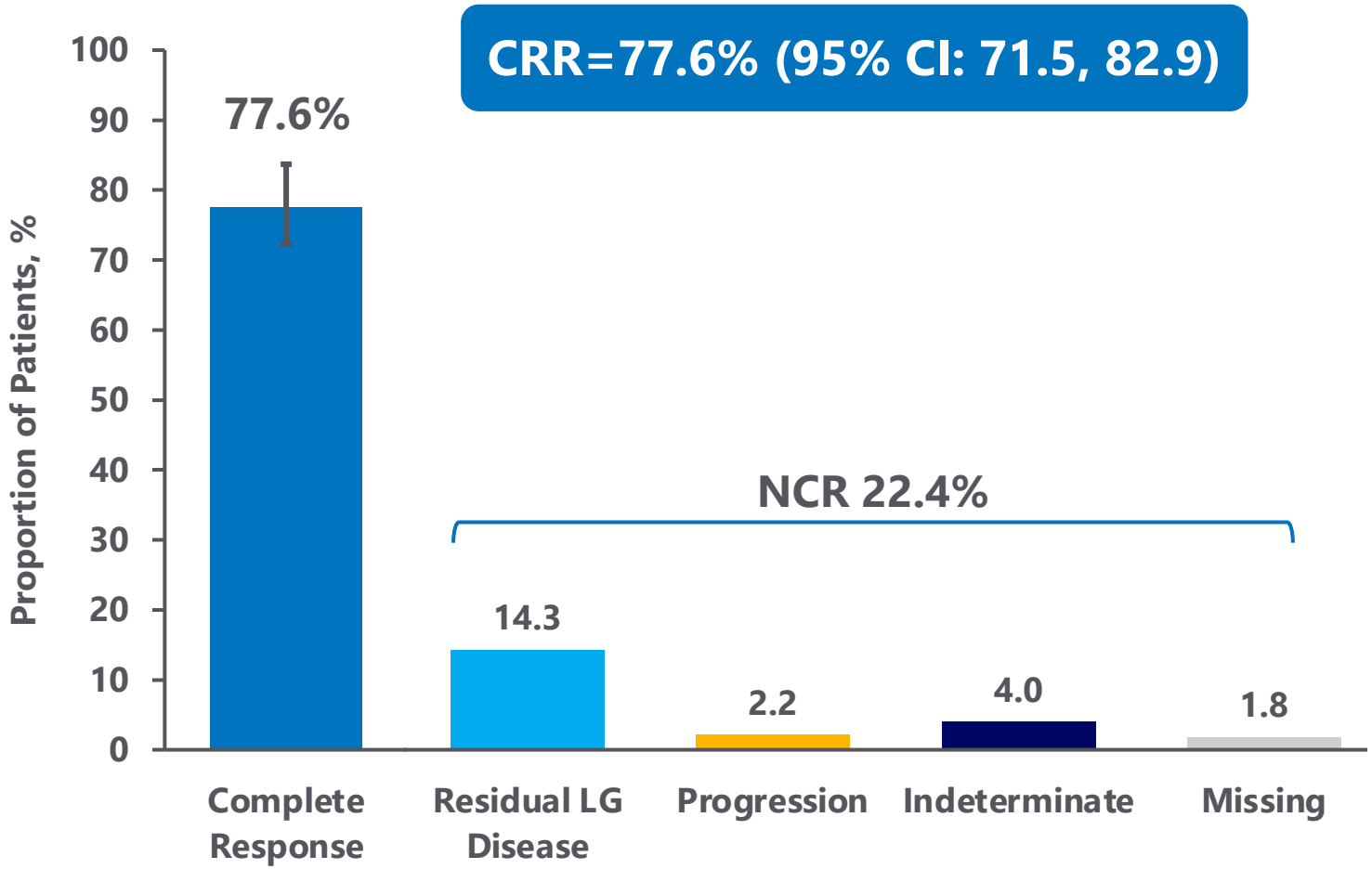
Characteristic	FDA Population (N=223)
Number of tumors, n (%)	
Single	34 (15.3)
Multiple	188 (84.7)
Missing	1 (0.4)
Tumor burden,[a] n (%)	
≤3 cm	169 (82.4)
>3 cm	36 (17.6)
Missing	18 (8.1)
Longest tumor diameter,[b] n (%)	
≤3 cm	204 (93.6)
>3 cm	14 (6.4)
Missing	5 (2.2)
EORTC recurrence risk score of 5-11	198 (88.8)

97% would have received TURBT (instead of surveillance or fulguration) if they had not enrolled in the study

[a] Calculated as the sum of the longest diameters of measurable lesions.
[b] Longest diameter among all measurable lesions.

Robust Complete Response Rate at 3 Months

ENVISION FDA Analysis Population (N=223)

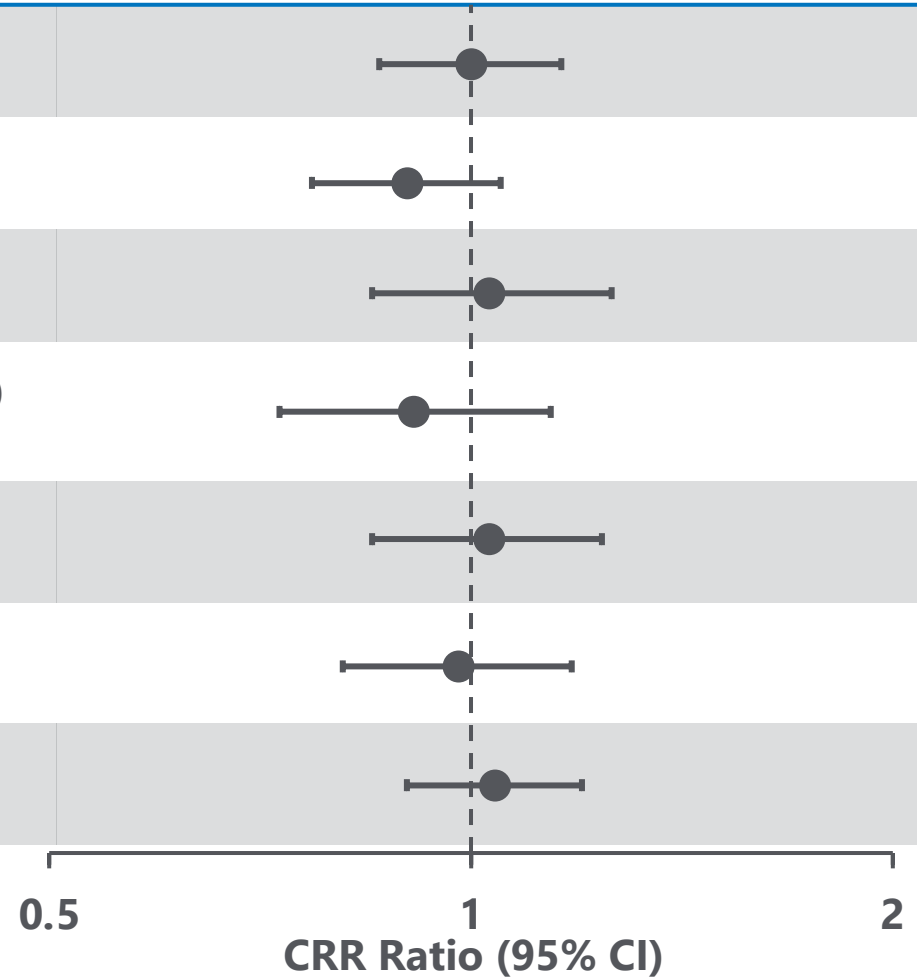


3-month CR rate (CRR) defined as the proportion of patients who achieved a CR at the 3-month Visit (3 months after the first instillation of UGN-102) as determined by cystoscopy, for-cause biopsy, and urine cytology.
NCR=non-complete response.

CRR Was Consistent Across Subgroups

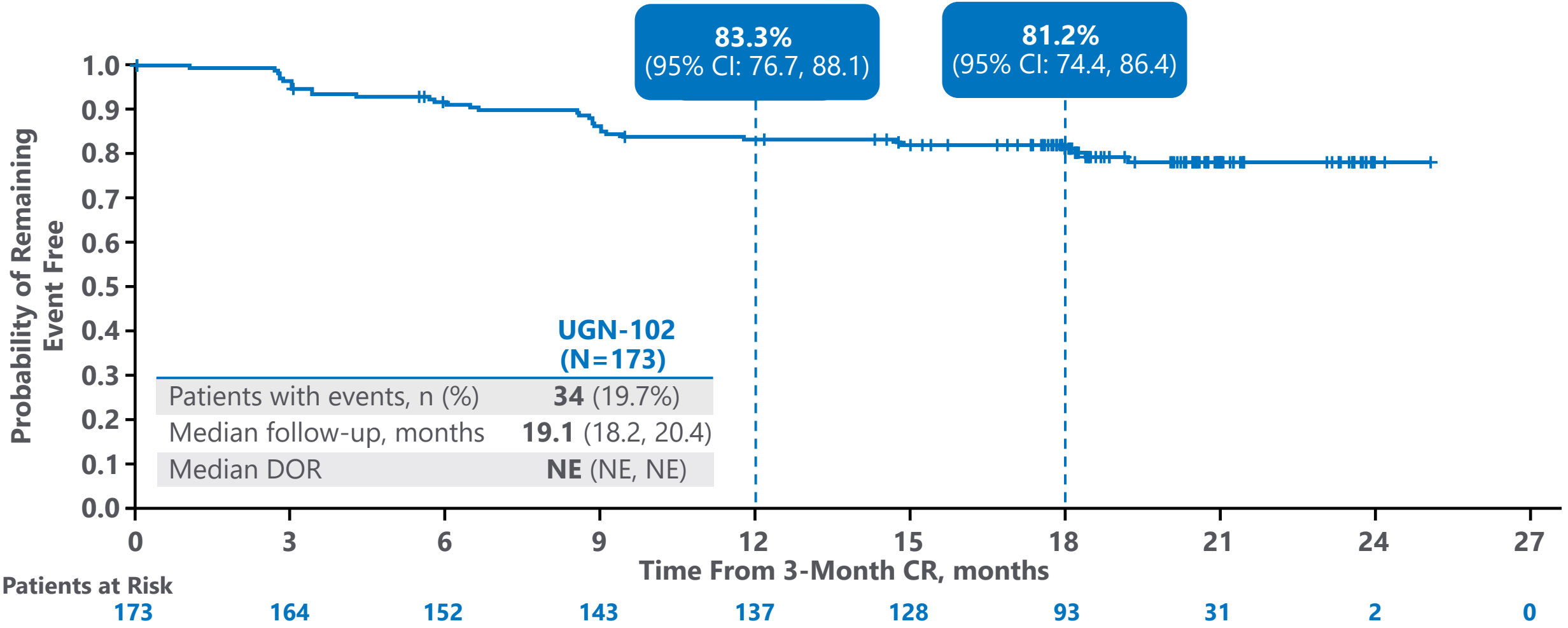
ENVISION FDA Analysis Population

	Subgroup	No. Events n/N (%)	CRR Ratio (95% CI)
Age	<65 ≥65	58/75 (77.3) 115/148 (77.7)	**1.00** (0.86, 1.16)
Sex	Female Male	61/84 (72.6) 112/139 (80.6)	**0.90** (0.77, 1.05)
Region	Non-US US	145/186 (78.0) 28/37 (75.7)	**1.03** (0.85, 1.26)
Tumor longest diameter	≤3 cm >3 cm	159/204 (77.9) 12/14 (85.7)	**0.91** (0.73, 1.14)
Tumor burden	≤3 cm >3 cm	135/169 (79.9) 28/36 (77.8)	**1.03** (0.85, 1.24)
Tumor count	Single Multiple	27/34 (79.4) 146/188 (77.7)	**0.98** (0.81, 1.18)
Previous NMIBC episode within 1 year	No Yes	80/101 (79.2) 93/122 (76.2)	**1.04** (0.90, 1.20)



Complete Response Was Highly Durable

ENVISION FDA Analysis Population



Duration of response (DOR) defined as the time from the first documented CR to the earliest date of recurrence or progression as determined using the date of cystoscopy, for-cause biopsy, or cytology, or death due to any cause, whichever occurred first.
NE=not estimable.

90% of Patients Recommend UGN-102 Over TURBT

ENVISION Participants in the US

In structured interviews[a] in 29 of 41 eligible US patients, 90% would recommend UGN-102 over TURBT, noting that UGN-102 was associated with:

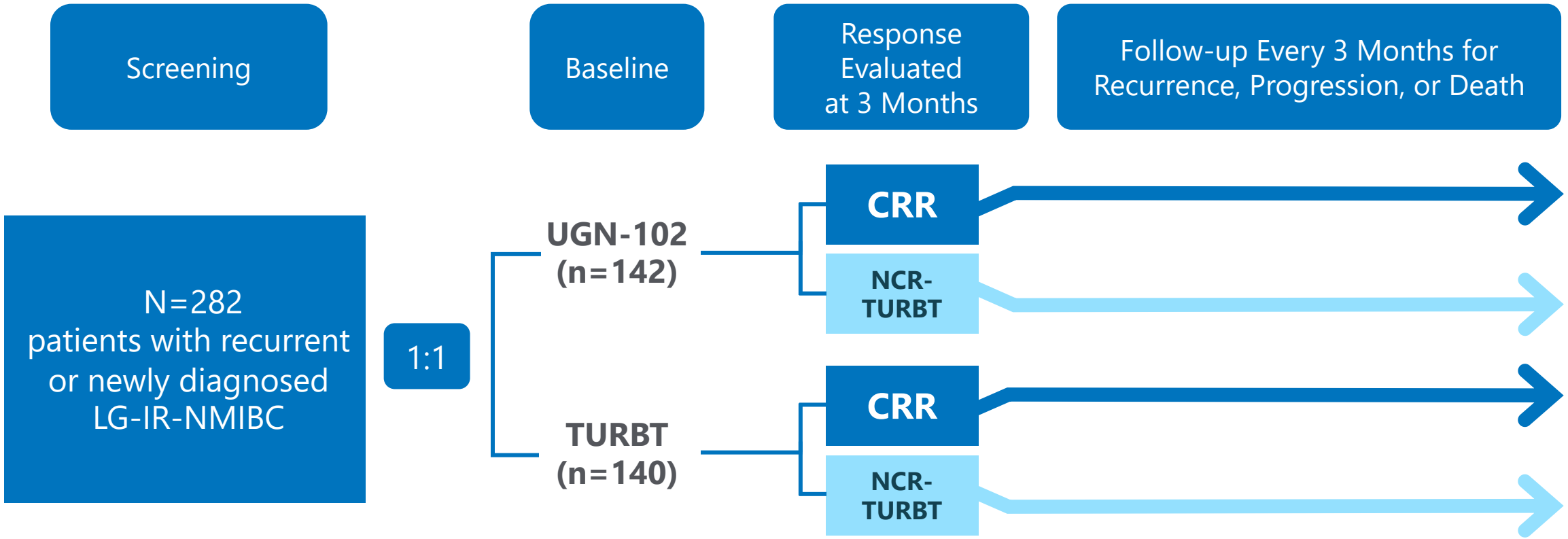
- Less impact on work, recreation, exercise, and sexual activity
- Less bleeding and shorter-lasting urinary catheter-related issues

Overall, UGN-102 was perceived to be a less-invasive, less-painful, and less–time-consuming treatment compared to TURBT

[a] Among 41 eligible US patients, 31 were interviewed at baseline and 32 were interviewed at 3 months; 29 patients were interviewed at both timepoints.
Stover AM, et al. *J Urol*. 2025. doi: 10.1097/JU.0000000000004511. Epub ahead of print.

ATLAS Study Design

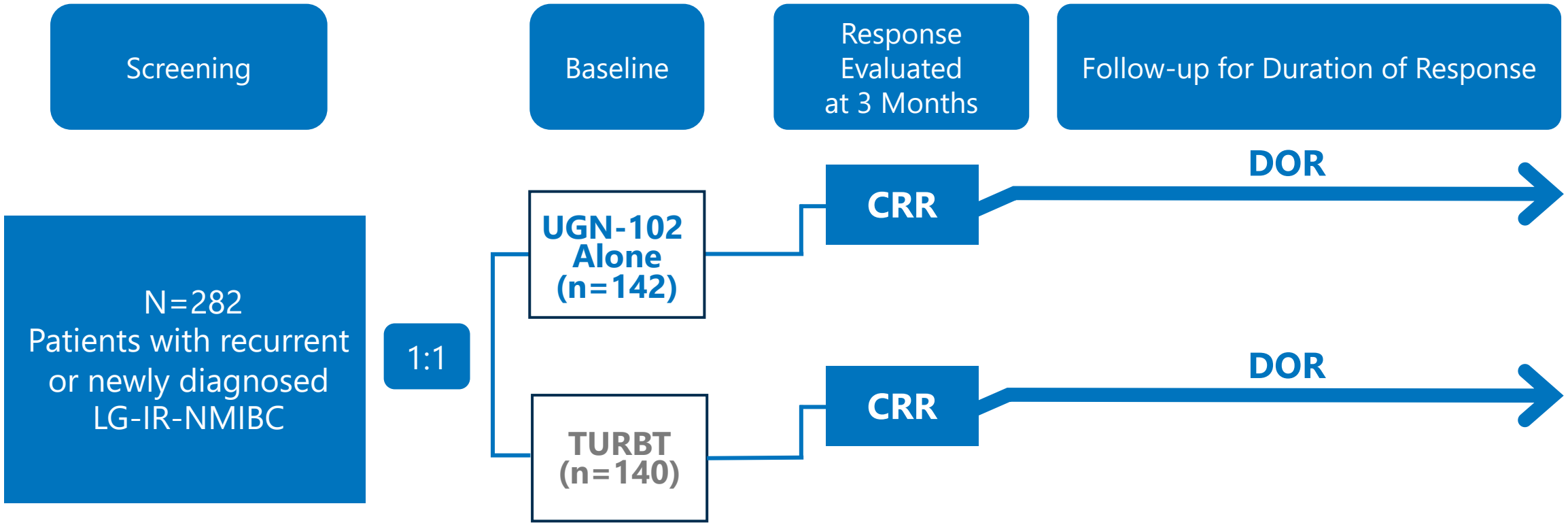
Supportive Phase 3 Randomized Controlled Trial



Complete response was defined as negative white-light cystoscopy, negative urine cytology, and, when indicated, a negative for-cause biopsy.
Progression was defined as an increase in grade or stage compared to baseline.
Reprinted from Prasad SM, et al. Treatment of low-grade intermediate-risk nonmuscle-invasive bladder cancer with UGN-102 ± transurethral resection of bladder tumor compared to transurethral resection of bladder tumor monotherapy: a randomized, controlled, phase 3 trial (ATLAS). *J Urol*. 2023;210(4):619-629. Available at https://journals.lww.com/auajuro/fulltext/2023/10000/treatment_of_low_grade_intermediate_risk.20.aspx
CRR=complete response rate; NCR=non-complete response.

CRR and DOR Reflect Impact of UGN-102 Alone vs TURBT

ATLAS

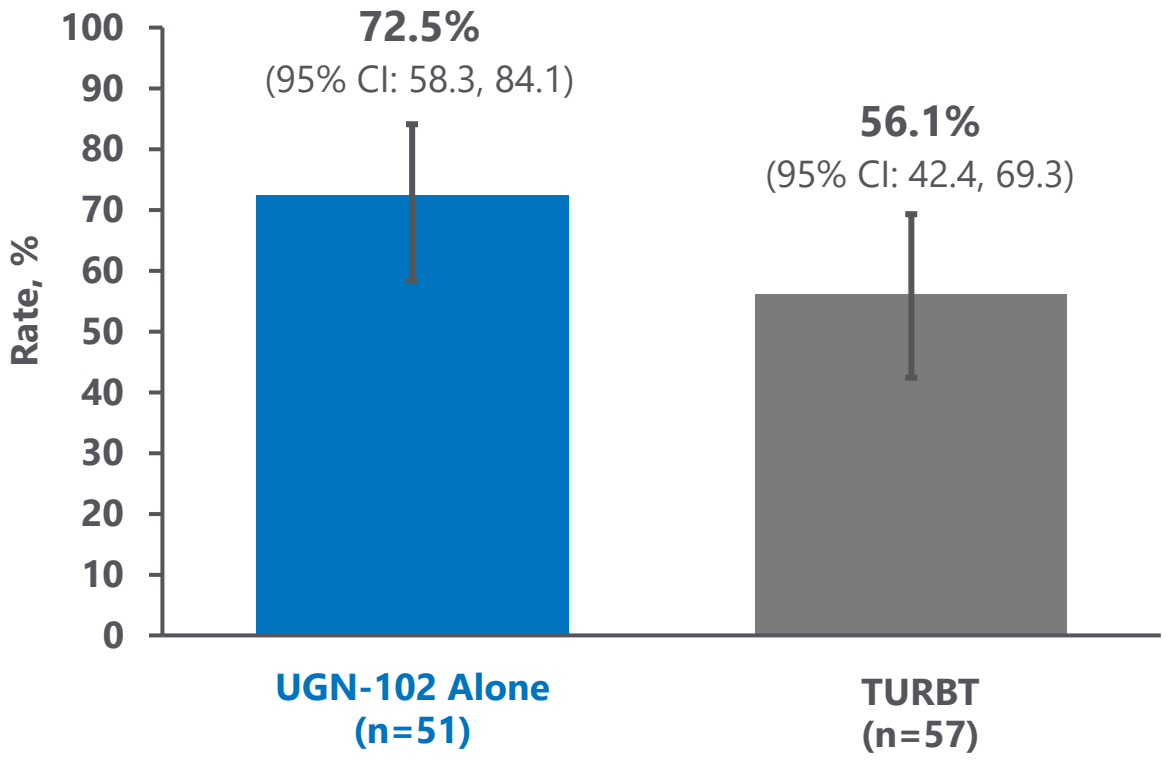


Complete response was defined as negative white-light cystoscopy, negative urine cytology, and, when indicated, a negative for-cause biopsy.
Reprinted from Prasad SM, et al. Treatment of low-grade intermediate-risk nonmuscle-invasive bladder cancer with UGN-102 ± transurethral resection of bladder tumor compared to transurethral resection of bladder tumor monotherapy: a randomized, controlled, phase 3 trial (ATLAS). *J Urol*. 2023;210(4):619-629. Available at https://journals.lww.com/auajuro/fulltext/2023/10000/treatment_of_low_grade_intermediate_risk.20.aspx
CRR=complete response rate; NCR=non-complete response.

UGN-102 Alone Resulted in Higher Complete Response Rate

ATLAS FDA Analysis Population

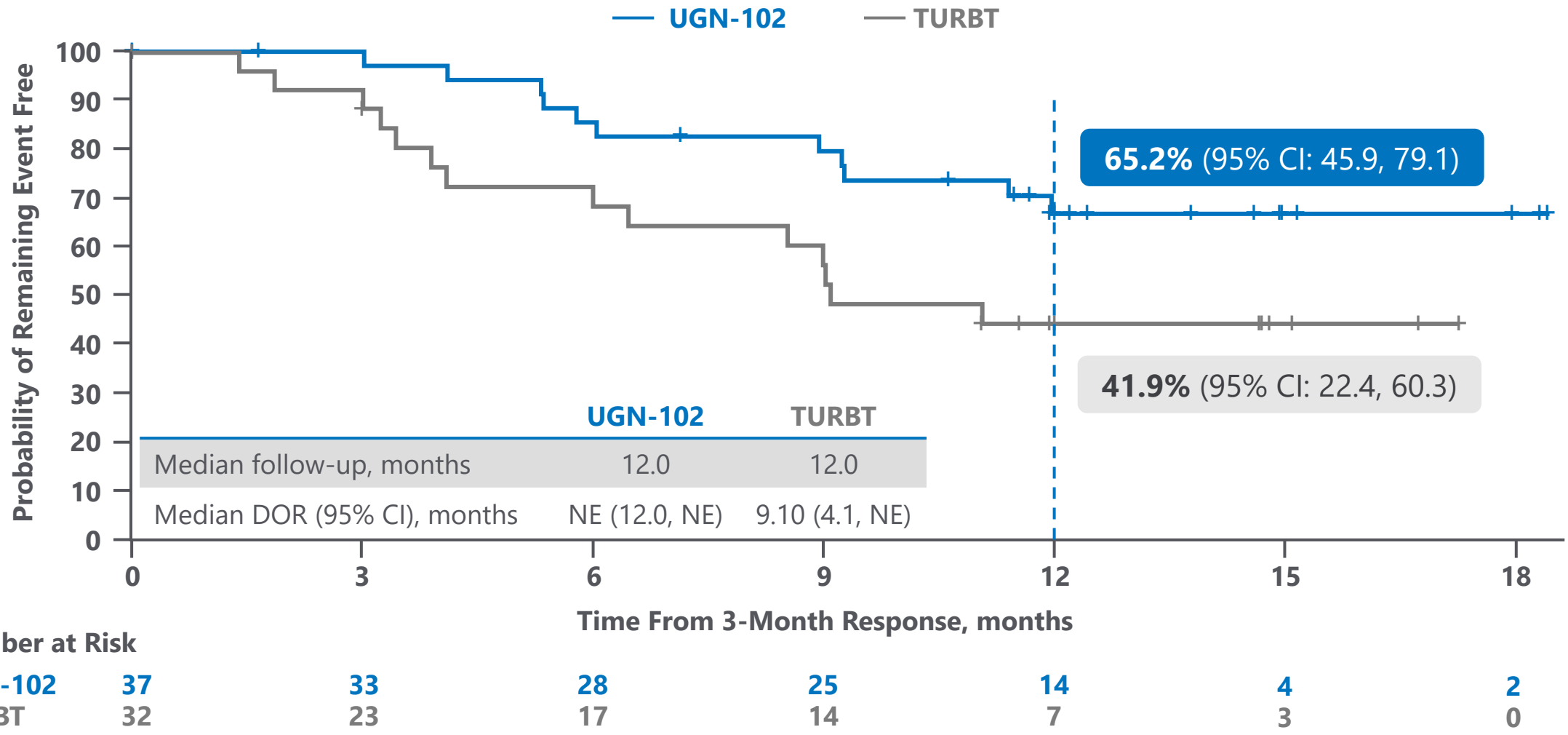
CR Rate at 3 Months[a]



[a] Direct comparison of initial treatment with UGN-102 vs TURBT, not impacted by any TURBTs done at 3 months for residual LG disease.

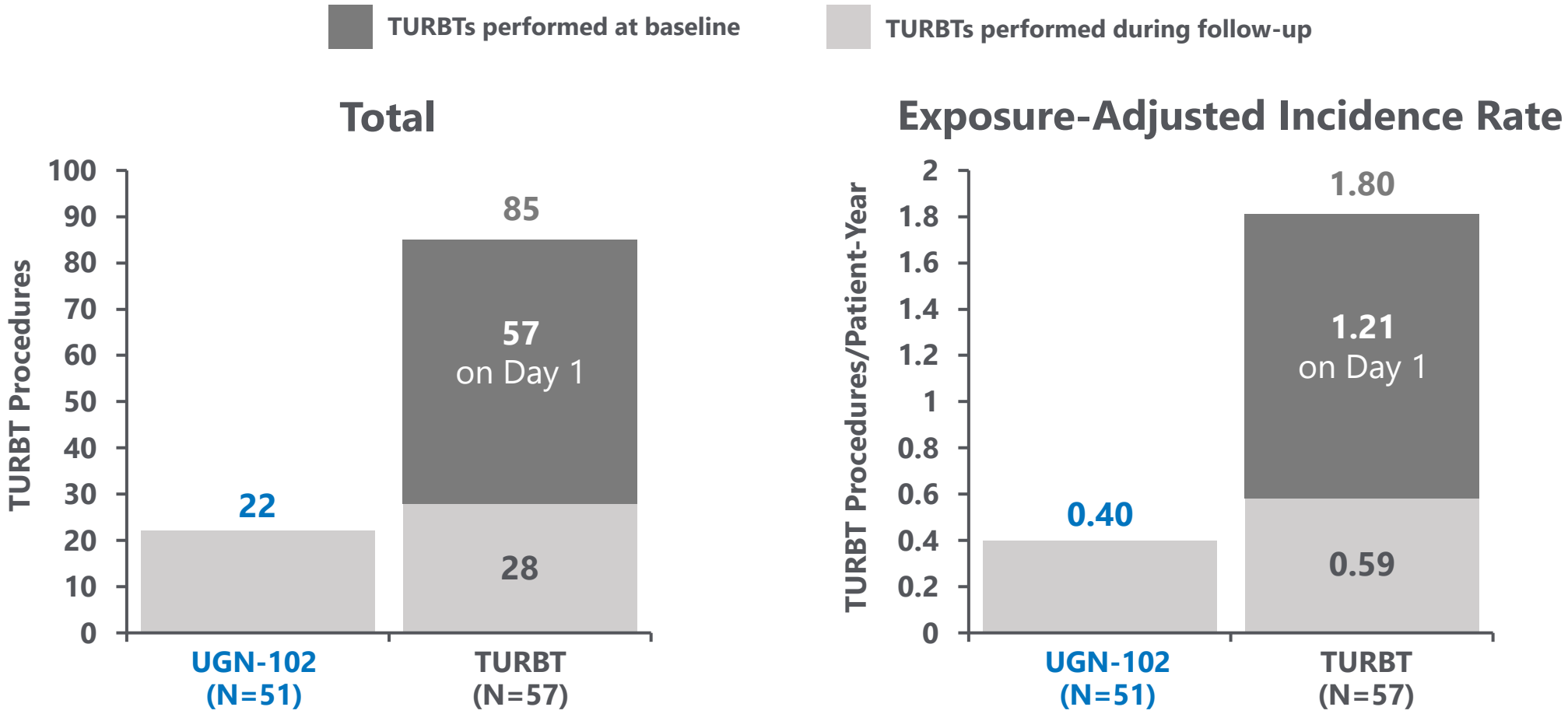
UGN-102 Alone Resulted in Longer Duration of Response

ATLAS (FDA Analysis Population)



Chemoablation With UGN-102 Reduced TURBT Burden

ATLAS FDA Analysis Population



Reduction in TURBTs under general anesthesia is a meaningful outcome in this elderly comorbid population

Exposure-adjusted incidence rate calculated as the number of TURBTs divided by the total patient study duration (years).

CRR and DOR With UGN-102 Consistent Across Trials and Compare Favorably to SoC

FDA Analysis Population

3-Month CRR

	N	Patients, % (95% CI)
ENVISION	223	**77.6** (71.5, 82.9)
OPTIMA II	47	**74.5** (59.7, 86.1)
ATLAS UGN-102 arm	51	**72.5** (58.3, 84.1)
ATLAS TURBT arm	57	**56.1** (42.4, 69.3)
Pedersen et al[c]	101	**49.0** (NR, NR)

Percentage of Patients

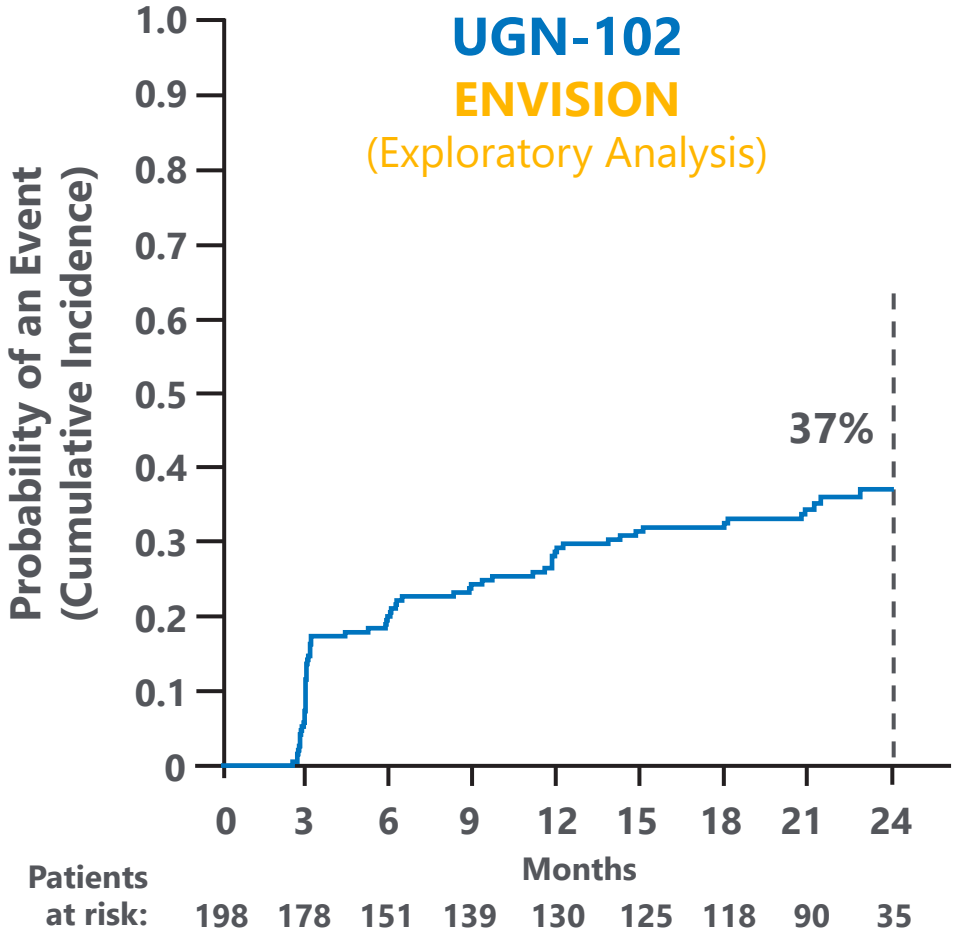
DOR[a] 12 Months After 3-Month CR

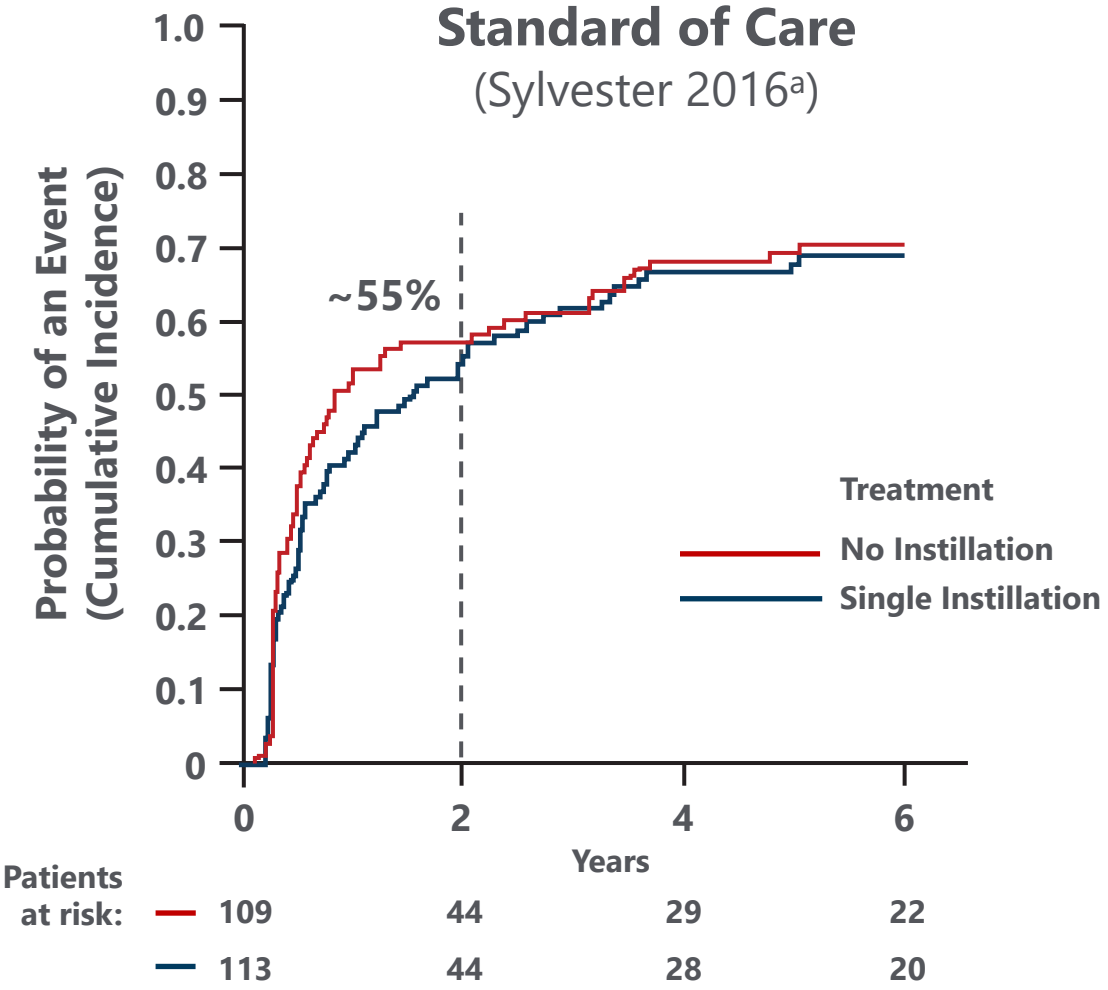
N	Patients, % (95% CI)
173	**83.3** (76.7, 88.1)
32	**71.5**[b] (50.5, 84.8)
37	**65.2** (45.9, 79.1)
32	**41.9** (22.4, 60.3)

KM Probability of Remaining Event Free, %

[a] Kaplan-Meier estimate.
[b] 9-months after 3-month CR.
[c] Recurrence-free survival at 4-months from Pedersen GL, et al. *Eur Urol*. 2023;83(2):125-130 in patients with recurrent IR-NMIBC.

Probability of Recurrence in Patients With IR-NMIBC (EORTC Risk Score 5-11)





[a] Original figure truncated to 6 years for purposes of comparison.

UGN-102 Is Highly Efficacious in Recurrent LG-IR-NMIBC

Pivotal Phase 3 ENVISION trial demonstrated robust and clinically meaningful efficacy

3-month CRR

77.6% (71.5, 82.9)

18-month DOR

81.2% (74.4, 86.4)

Phase 3 RCT ATLAS demonstrated:

1) Higher CRR and longer DOR achieved with UGN-102
2) Reduction in TURBT burden with UGN-102

- **90%** of patients would recommend UGN-102 over TURBT
- QoL not adversely impacted by UGN-102

Efficacy results consistent across late-phase trials (n=329) and compare favorably to SOC with TURBT ± IVCT

Safety

Sunil Raju, MBBS, BSc
Vice President, Clinical Development
UroGen Pharma

UroGen® Pharma

Intravesical Administration of UGN-102 Results in Minimal Systemic Exposure to Mitomycin

At 75 mg target dose:
Mean C_{max} = 2.3 ng/mL (range, 0.2 to 8.9 ng/mL)

<1%

Expected C_{max} after IV administration of mitomycin

Mitomycin plasma concentration associated with myelosuppression (400 ng/mL)

Pool 2 Is a Robust Safety Dataset in LG-IR-NMIBC

ENVISION (N=240)
Recurrent

ATLAS (N=138)
Newly diagnosed or recurrent

OPTIMA II (N=63)
Newly diagnosed or recurrent

Home instillation study (N=8)
Newly diagnosed or recurrent

Pool 2
(N=449)

All patients treated with UGN-102

Most Patients Received All 6 Planned Instillations

Number of UGN-102 Instillations Received	Pool 2 (N=449) n (%)
6	**423 (94.2)**
5	14 (3.1)
4	4 (0.9)
3	1 (0.2)
2	5 (1.1)
1	2 (0.4)

Overall Summary of Adverse Events

Pool 2 (UGN-102)

	Patients, n (%)		
	Overall (N=449) n (%)	**Up to 3 Months (N=449) n (%)**	**Post 3 Months (N=409) n (%)**
Any TEAEs	**306 (68.2)**	**274 (61.0)**	**147 (35.9)**
Treatment-related	176 (39.2)	174 (38.8)	15 (3.7)
Procedure-related	131 (29.2)	122 (27.2)	27 (6.6)
Any TEAEs leading to treatment discontinuation	19 (4.2)	19 (4.2)	0
Any TEAEs leading to study discontinuation	13 (2.9)	7 (1.6)	6 (1.5)
Any Grade 3 or higher TEAEs	52 (11.6)	26 (5.8)	27 (6.6)
Any serious TEAEs	49 (10.9)	25 (5.6)	26 (6.4)
Treatment-related[a]	2 (0.4)	2 (0.4)	0
Procedure-related	5 (1.1)	4 (0.9)	1 (0.2)
Any TEAEs leading to death[b]	4 (0.9)	1 (0.2)	3 (0.7)
Any TEAEs of special interest (AESIs)	232 (51.7)	213 (47.4)	66 (16.1)

[a] Treatment-related serious TEAEs occurred in 2 patients in the UGN-102 arm (urethral stenosis and urinary retention) and both resolved.
[b] Four deaths occurred in the UGN-102 arm (cardiac disorder, death, pneumonia, and cardiac failure). No deaths were considered related to study treatment or procedure.

Common TEAEs (>5%) Mostly Localized to Urinary Tract, Low Grade, and Resolved

Pool 2 (UGN-102)

System Organ Class Preferred Term[a]	Patients, n (%) (N=449) All Grades	 Grade ≥3
Renal and urinary disorders	**208 (46.3)**	**10 (2.2)**
Dysuria	124 (27.6)	1 (0.2)
Pollakiuria	52 (11.6)	0
Micturition urgency	43 (9.6)	0
Hematuria	40 (8.9)	1 (0.2)
Nocturia	33 (7.3)	0
Infections and infestations	**105 (23.4)**	**9 (2.0)**
Urinary tract infection	32 (7.1)	1 (0.2)
General disorders and administration site conditions	**56 (12.5)**	**1 (0.2)**
Fatigue	27 (6.0)	0

Lower urinary tract symptoms
Median time to onset = 17 days Median duration of first event = 8 days

[a] TEAEs (all grades) reported in >5% of patients in Pool 2.

Low Incidence of Grade ≥3 and Serious Renal and Urinary Disorders

Pool 2 (UGN-102)

Category Preferred Term	Patients, n (%) (N=449)
Any Renal and urinary disorder	**208 (46.3)**
Grade ≥3	**10 (2.2)**
Urinary retention	3 (0.7)
Urethral stenosis	2 (0.4)
Dysuria	1 (0.2)
Hematuria	1 (0.2)
Urethral pain	1 (0.2)
Acute kidney injury	1 (0.2)
Anuria	1 (0.2)
Serious	**6 (1.3)**
Urinary retention	3 (0.7)
Urethral stenosis	2 (0.4)
Hematuria	1 (0.2)

Overall Summary of Adverse Events

ENVISION (Safety Population)

	Patients, n (%)		
	Overall (N=240)	**Up to 3 Months (N=240)**	**Post 3 Months (N=235)**
Any TEAEs	**137 (57.1)**	**119 (49.6)**	**75 (31.9)**
Treatment-related	81 (33.8)	80 (33.3)	9 (3.8)
Procedure-related	64 (26.7)	58 (24.2)	17 (7.2)
Any TEAEs leading to treatment discontinuation	7 (2.9)	7 (2.9)	0
Any TEAEs leading to study discontinuation	6 (2.5)	2 (0.8)	4 (1.7)
Any Grade ≥3 TEAEs	33 (13.8)	15 (6.3)	19 (8.1)
Any serious TEAEs	29 (12.1)	14 (5.8)	16 (6.8)
Treatment-related	2 (0.8)	2 (0.8)	0
Procedure-related	3 (1.3)	3 (1.3)	0
Any TEAEs leading to death	3 (1.3)	1 (0.4)	2 (0.9)
Any TEAEs of special interest (AESIs)	100 (41.7)	91 (37.9)	32 (13.6)

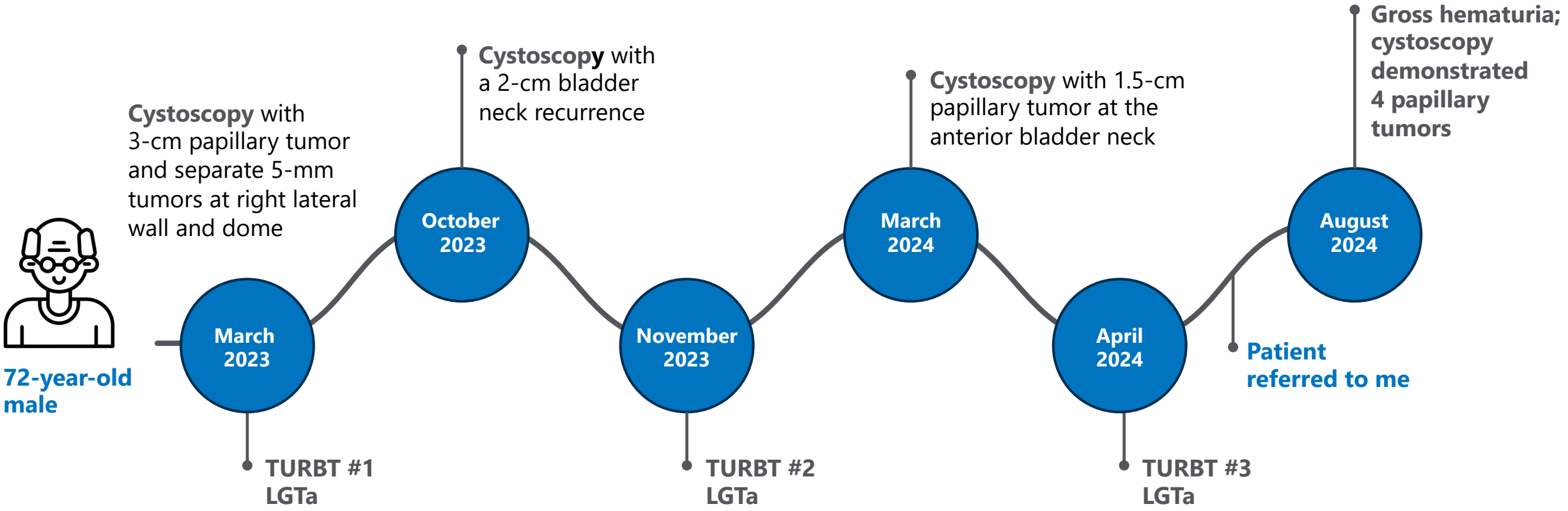
UGN-102 Safety Summary

- Treatment-emergent AEs mostly low grade and localized to urinary tract
  - Majority occurred in first 3 months and were reversible
  - Did not adversely affect QoL or symptom burden
- Low incidence of Grade ≥3 AEs and SAEs in renal and urinary disorders SOC
- Minimal systemic absorption of mitomycin
  - No clinically meaningful risk of bone marrow suppression
- Overall safety profile is acceptable and manageable

Clinical Perspective

Max Kates, MD
Division Director, Urologic Oncology
Brady Urological Institute
Johns Hopkins Greenberg Bladder Cancer Institute

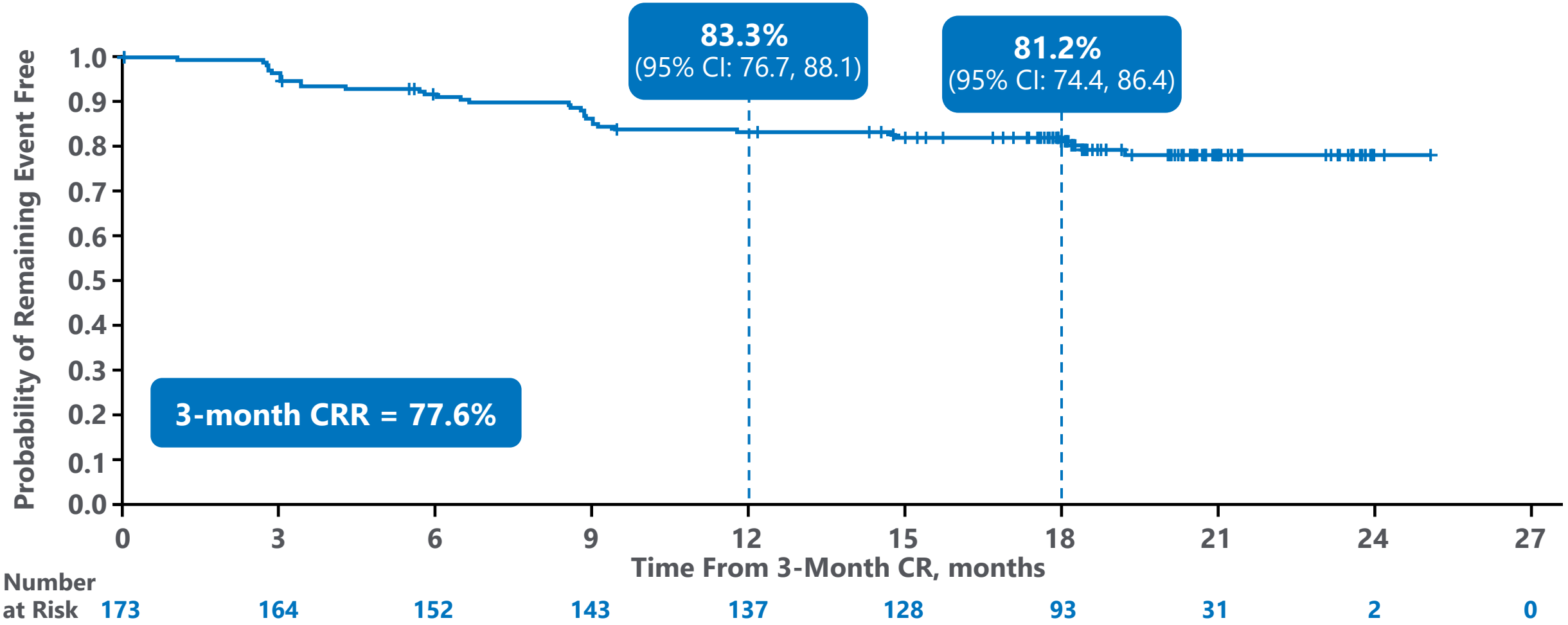
Why We Need UGN-102 as an Option



LGTa=low-grade, Ta disease.

UGN-102 Can Potentially Break the Cycle of Recurrences and Provide a Medical Alternative to Repeated TURBT

ENVISION Duration of Response[a]



[a] FDA Analysis Population.

UGN-102 Provides an Effective Alternative to TURBT With a Positive Benefit-Risk

Benefits Observed in ENVISION

78%
CRR

>80%
DOR
at 18 months

What I can tell my patients

70%
Avoid TURBT in first year

63%
Avoid TURBT in first 2 years

Risks

- As expected for intravesical chemotherapy
- Low-grade AEs localized to urinary tract
- Manageable

Administration of UGN-102 Versus TURBT

	UGN-102	TURBT
Location	Urology office	Hospital/surgery center
Time	<1 hour	4-6 hours
General anesthesia	No	Yes (+pre-op clearance)
Resume normal daily activities	Immediately	2-3 days, sometimes longer

When I Would Choose to Use UGN-102

- **Patients I would treat with UGN-102**
  - Recurrent LG-IR-NMIBC, especially those with
    - Rapidly recurrent disease
    - Multiple comorbidities or moderate/high risk from general anesthesia
    - Innumerable multifocal papillary tumors

- **Patients I would not treat with UGN-102**
  - Newly diagnosed
  - Healthy with infrequent small recurrences
  - Disease can be managed with in-office fulguration or active surveillance

Conclusions

- My patients with recurrent low-grade bladder tumors are suffering
- Repeated TURBTs are a burden to patients and do not effectively control their cancer
- UGN-102 provides durable disease control and can delay or avoid TURBTs
- UGN-102 gives us a safe and effective nonsurgical option

Conclusion

Mark Schoenberg, MD
Chief Medical Officer
UroGen Pharma

UroGen® Pharma

UGN-102 Represents a Paradigm Shift in Management of LG-IR-NMIBC

78%
CRR

>80%
DOR
at 18 months

Risks
- Low-grade AEs
- Localized to urinary tract
- Manageable

90% of patients recommended UGN-102 over TURBT